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VOLUMES I & II OF III
FOLDER 1 OF 2

FINAL PHASE II REMEDIAL INVESTIGATION REPORT

NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

VOLUME I

June 2, 2000

Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract Number N62474-94-D-7609
Contract Task Order 112

Prepared for

Department of the Navy
Ms. Michelle L. Gallice Sondrup, Remedial Project Manager
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California

FINAL PHASE II REMEDIAL INVESTIGATION REPORT NAVAL FUEL DEPOT POINT MOLATE RICHMOND, CALIFORNIA

June 2, 2000

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San Diego, California 92132-5181

CLEAN Contract Number N62474-94-D-7609
Contract Task Order (CTO) 112

Subject: NFD Point Molate Final Phase II Remedial Investigation Report

Dear Ms. Sondrup:

Enclosed are nine copies of the Naval Fuel Depot (NFD) Point Molate Final Phase II Remedial Investigation Report.

If you have any questions, please call me at (303) 312-8834.

Sincerely,

Gary Miller

Gary Miller
Project Manager

GM/rkr

Enclosures

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ACRONYMS AND ABBREVIATIONS

1,2-DCE	1,2-Dichloroethene
AAL	California Applied Action Level
API	American Petroleum Institute
ARAR	Applicable or relevant and appropriate requirements
AST	Aboveground storage tank
ASTM	American Society for Testing and Materials
atm m^3/mol	Atmospheres per cubic meter per mole
BCT	Base closure team
BEC	Base Environmental Coordinator
BEDM	Bechtel Environmental, Inc. and Dames and Moore
bgs	Below ground surface
BOA	Basic ordering agreement
BOD	Biological oxygen demand
BRAC	Base realignment and closure
BTAG	Biological technical advisory group
BTEX	Benzene, toluene, ethylbenzene, and xylene
BTU	British thermal unit
Cal/EPA	California Environmental Protection Agency
CAP	Corrective Action Plan
CAS	Chemical abstract service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
Chevron	Chevron U.S.A. (Richmond Refinery)
Cl	Chloride
CLEAN	Comprehensive Long-term Environmental Action Navy
CLP	Contract laboratory program
cm/s	Centimeters per second
cm^2	Square centimeter
CME	Central mine equipment
CNPS	California Native Plant Society
COPC	Chemical of potential concern
cP	Centipoise
CRQL	Contract-required quantitation limit
CSM	Conceptual site model
cSt	Centistokes
CTE	Central tendency exposure
CTO	Contract task order
CV	Coefficient of variation
DHS	California Department of Health Services
DL	Detection limit
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DQA	Data quality assessment
DQO	Data quality objective
DTSC	California Department of Toxic Substances Control
DVCC	Disease Vector Control Center

ACRONYMS AND ABBREVIATIONS (Continued)

EBS	Environmental Baseline Survey
EE/CA	Engineering evaluation and cost analysis
EFA West	Engineering Field Activity West
EM	Electromagnetic
EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
ERA	Ecological risk assessment
F-76	Marine diesel fuel
FPALDR	Fuel product action level development report
FS	Feasibility study
FSAP	Field sampling and analysis plan
ft/yr	Feet per year
FWP	Field work plan
g	Grams
g/day	Grams per day
gpm	Gallons per minute
GPR	Ground penetrating radar
GSA	Geological Society of America
h/day	Hours per day
HDPE	High density polyethylene
HEAST	Health Effects Assessment Summary Tables
HELP	Hydrologic Evaluation of Landfill Performance
HHRA	Human health risk assessment
HI	Hazard index
HLA	Harding Lawson Associates
HQ	Hazard quotient
HSA	Hollow stem auger
ID	Inside diameter
IDW	Investigation derived waste
IEUBK	Integrated Exposure Uptake Biokinetic Model
IR	Installation restoration
IRIS	Integrated Risk Information System
IRP	Installation Restoration Program
J	Estimated
JP-5	Jet petroleum fuel
K	Hydraulic conductivity
kg	Kilogram
KJms	Cretaceous/Jurassic mudstone and sandstone
KJsh	Cretaceous/Jurassic shale
KJss	Cretaceous/Jurassic sandstone
km	Kilometer
km/hr	Kilometers per hour
K_{oc}	Organic carbon partition coefficients

ACRONYMS AND ABBREVIATIONS (Continued)

LOAEL	Lowest-observed-adverse-effects level
LNAPL	Light non-aqueous phase liquids
LSA	LSA Associates, Inc.
µg/dL	Micrograms per deciliter
µg/kg	Micrograms per kilogram
µg/L	Micrograms per liter
$\mu g/m^3$	Micrograms per cubic meter
µg/mg	Micrograms per milligram
µm	micron
m/sec	Meters per second
m^3	Cubic meter
m^3/d	Cubic meter per day
m^3/hr	Cubic meter per hour
m^3/kg	Cubic meter per kilogram
m^3/mol	Cubic meter per mole
MCL	Maximum contaminant level
MDRD	Minimum detectable relative difference
mg	Milligram
mg/cm^2	Milligrams per square centimeter
mg/day	Milligrams per day
mg/kg	Milligrams per kilogram
mg/kg-d	Milligrams per kilogram per day
mg/L	Milligrams per liter
mg/m^3	Milligrams per cubic meter
mHg	Meters of mercury
mL/g	Milliliters per gram
mm	Millimeter
mmHg	Millimeters of mercury
MS/MSD	Matrix spike and matrix spike duplicate
MTBE	Methyl tertiary butyl ether
Na	Sodium
N/A	Not applicable
NAPL	Nonaqeuous phase liquid
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEESA	Naval Energy and Environmental Support Activity
NFD	Naval Fuel Depot
NOAEL	No-observed-adverse-effects level
NPT	National pipe thread
NTU	Nephalomeric turbidity units
OD	Outside diameter
OEHHA	Office of Environmental Health Hazard Assessment
ORS	Oily-water recovery system
PA	Preliminary assessment
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated biphenyl
PCE	Tetrachloroethene

ACRONYMS AND ABBREVIATIONS (Continued)

PDF	Probability density function
PEF	Particulate emission factor
PID	Photoionization detector
PP	Proposed plan
PPT	Parts per thousand
PRC	PRC Environmental Management, Inc.
PRG	Preliminary remediation goal
PVC	Polyvinyl chloride
QA	Quality assurance
QAPP	Quality assurance project plan
QC	Quality control
R	Rejected
RAB	Restoration advisory board
RAGS	Risk Assessment Guidance for Superfund
RCRA	Resource Conservation and Recovery Act
RfC	Reference concentration
RfD	Reference dose
RI	Remedial investigation
RL	Reporting limit
RME	Reasonable maximum exposure
RNSI	Rational National Standards Initiative
ROD	Record of decision
RPD	Relative percent difference
RPM	Remedial Project Manager
RWQCB	Regional Water Quality Control Board, San Francisco Bay Region
SAP	Sampling and analysis plan
SCAPS	Site Characterization and Analysis Penetrometer System
SCCWRP	Southern California Coastal Water Research Project
SF	Slope factor
SFEP	San Francisco Estuary Plan
SI	Site inspection
SOP	Standard operating procedures
SVOC	Semivolatile organic compound
T&E	Threatened and endangered
TARA	Technical Approach for Risk Assessment
TCE	Trichloroethene
TCLP	Toxicity characteristic leaching procedure
TDS	Total dissolved solids
TIC	Tentatively identified compound
TOC	Total organic carbon
TPH	Total petroleum hydrocarbons
TPH-e	Total petroleum hydrocarbons - extractable
TPH-p	Total petroleum hydrocarbons - purgeable
TRPH	Total recoverable petroleum hydrocarbons
TtEMI	Tetra Tech EM Inc.

ACRONYMS AND ABBREVIATIONS (Continued)

UCL_{95}	95 percent upper confidence limit on the arithmetic mean
UST	Underground storage tank
VB	Valve box
VF	Volatilization factor
VOC	Volatile organic compound
VSI	Visual site inspection
WESTDIV	Western Division

EXECUTIVE SUMMARY

Naval Fuel Depot (NFD) Point Molate is located on the San Pablo Peninsula approximately 1.5 miles north of the Richmond-San Rafael Bridge in Richmond, California. NFD Point Molate covers approximately 412 acres in the Potrero Hills, along the northeastern shore of San Francisco Bay. The San Pablo Peninsula is the dividing point between San Pablo Bay and San Francisco Bay (see Figure 1-1). The depot occupies approximately 1.6 miles of shoreline, and its property extends into adjacent hillsides characterized by steeply eroded ravines.

NFD Point Molate is a former bulk fuel storage and transfer facility that was capable of storing more than 40 million gallons of fuel. Fuel was transferred to and from the facility by off- and on-loading ships and barges at the depot fuel pier as well as through the Santa Fe Pacific Pipeline Transfer Station. Fuel storage and transfer operations at the facility ceased in May 1995, and NFD Point Molate became a closing base under the Base Realignment and Closure (BRAC) IV program on September 30, 1995. The base officially closed on September 30, 1998.

NFD Point Molate was included in the Installation Restoration (IR) Program in September 1987. By 1994, four IR sites had been recognized. These four sites are:

- IR Site 1, the Waste Disposal Area
- IR Site 2, the Sandblast Grit Disposal Areas
- IR Site 3, the Treatment Ponds Area
- IR Site 4, Drum Lot No. 1 and the Shoreline Areas

The four IR sites have been investigated both individually or in combination by several characterization efforts. Most of the basic characterization investigation was performed prior to 1995. From 1995 to the present, the site efforts have been focused on removal and interim actions.

The Phase II RI was scoped to update the understanding of the nature and extent of contamination, especially in groundwater. Additional data collection was focused on providing better baseline data for screening remedial options, searching for evidence of potential sources of contamination, performing a human health risk assessment for an area of shoreline currently open to the public, and performing an offshore ecological risk assessment.

This Final Phase II RI Report presents the results of the on-shore portion of the Phase II RI field activities. This report documents the current site status and nature and extent of contamination at each of these IR sites. Investigation activities completed at each of these sites is addressed in this report as follows:

- IR Site 1, the former Waste Disposal Area - The Navy is proceeding with a removal action at IR Site 1, the Waste Disposal Area, under U.S. Environmental Protection Agency (EPA) landfill presumptive remedy guidance (EPA 1993c, EPA 1993d, EPA 1996e, and EPA 1997b) and under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (EPA 1990d). Data collected previously and during the Phase II RI were used to evaluate options in an engineering evaluation and cost analysis (EE/CA). The proposed options evaluated were: capping under a presumptive remedy or removal under a removal action; and evaluation for no further action. The Draft Site 1 EE/CA was submitted to the BCT in October 1999 (TtEMI 1999e). A presumptive remedy was selected that consisted of a single-layer soil cap, drainage controls, and monitoring. Comments on the draft Site 1 EE/CA were received and a final Site 1 EE/CA is being prepared.

- IR Site 2, Sandblast Grit Disposal Areas - A removal action has been completed and EPA Region 9 has approved the Sandblast Grit Areas (Site 2) Removal Action Final Completion Report (TtEMI 1998). A Proposed Plan for Site 2 that selects the no-further-action alternative was released April 30, 1999. The 30-day public comment period for the proposed plan was held from May 5, 1999 to June 5, 1999, and a public meeting to discuss the proposed plan was held on May 19, 1999. No comments were received from the public on the proposed plan and the Draft Record of Decision (ROD) for IR Site 2 was sent to the regulatory agencies June 25, 1999. A Final ROD was issued on December 30, 1999 (TtEMI 1999f). The Final ROD for IR Site 2 awaits the agency's final approval at the time of this Final Phase II RI.

- IR Site 3, Treatment Ponds Area - A pilot test was conducted for petroleum product removal and limited investigations were completed to support these tests and to evaluate remedial options in an EE/CA. A bench-scale test was conducted in July 1999 to further evaluate the potential use of thermal desorption and extraction of viscous fuels from IR Site 3 soils. Pipeline removals were conducted through IR Site 3 from 1998 to present. A Draft EE/CA for IR Site 3 is being prepared and will be submitted in 2000. The EE/CA includes a screening level risk assessment.

- IR Site 4, Drum Lot 1 and the Shoreline Areas - Sampling at the NFD Point Molate Public Beach was performed to support a human health risk assessment. Sediment, bioassay, and toxicity testing in the offshore areas of the shoreline were performed to support an ecological risk assessment (this proposed work was detailed in a separate work plan, the Final Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan [TtEMI 1998i]). The results of the offshore ecological risk assessment have been presented in a separate document (Entrix, Inc. and TtEMI 1999b). Preferential migration pathways for hydrocarbons along the shoreline were investigated. The interior area of Drum Lot No. 1 was also explored for sources of hydrocarbons. Pipeline removal was performed along the South Shoreline during 1999 and 2000 in the Drum Lot Number 1 area from 1998 to 1999, and in the North Shoreline Area from 1999 to 2000. An HHRA and an Ecological Risk Assessment (ERA) are being scoped for IR Site 4. The field work for the HHRA and ERA are scheduled for the second quarter of 2001.

Investigation results for this Final Phase II RI report are described in eight sections plus references. The Phase II RI investigations have supplemented earlier work, and the findings of this report are summarized as follows:

- The investigations met or exceeded the scope of the Final RI Field Work Plan. Data Quality Objectives (DQO) presented in the Final RI Field Work Plan were met. Discrepancies between proposed and actual field activities are listed in Section 2.7 of this report.

- The geologic information gathered confirmed the geologic portion of the conceptual site model for NFD Point Molate, and an expanded discussion of geology is provided as EPA requested during the RI Work Plan scoping. Results of aquifer testing indicated limited permeability in fractured bedrock. Water levels in well pairs indicate an upward groundwater gradient in all three IR sites.

- The nature and extent of contamination results are as follows:

  - IR Site 1, the Waste Disposal Area. The volume of fill material in IR Site 1 is less than previously estimated. Wastes are generally inert, consisting of construction or demolition type debris except for lenses of weathered petroleum hydrocarbon saturated soil. Petroleum hydrocarbon saturated materials constitute approximately 30 to 40 percent of the fill. Sources of petroleum hydrocarbons within the Waste Disposal Area fill causing groundwater impacts are weathered and depleted of highly mobile petroleum compounds. Bedrock wells up- and downgradient do not indicate significant contamination in bedrock groundwater.

  - IR Site 3, the Treatment Ponds Area. The occurrence of free product has diminished over time and through removal actions. Product has been successfully contained by the Site 3 containment wall and extraction trench. The overall impacts to groundwater appear to be decreasing.

  - Bedrock well BR11-96 had a total petroleum hydrocarbon (TPH) detection of 0.19 milligrams per liter (mg/L) as gasoline range organics. Chloroform (0.6 micrograms per liter [µg/L]), vinyl chloride (3 µg/L), and total xylene (1 µg/L) were also detected in samples from well BR11-96. This indicates some impact to the bedrock.

  - IR Site 4, The Shoreline Areas. The Final Offshore Ecological Risk Assessment (Entrix, Inc. and TtEMI 1999b), indicates no negative impacts to offshore biological receptors. The Onshore Human Health Risk Assessment for the Point Molate Public Beach found no risk to recreational users of the Point Molate Public Beach area. The investigations for the remainder of the South Shoreline found no new sources and substantiated that TPH concentrations were decreasing in the shoreline monitoring wells. The Drum Lot No. 1 investigation confirmed petroleum hydrocarbon impacts to groundwater and soil including gasoline and methyl tertiary butyl ether (MTBE). Samples from bedrock well BR11-90 had minor indications of TPH groundwater contamination. Diesel-range TPH was detected at 0.22 mg/L. Gasoline-range TPH was detected at 0.13 mg/L, and all benzene, toluene, ethylbenzene and xylene (BTEX) compounds were detected. However, no primary source of any of the petroleum was found and the source of modern gasoline (identified by MTBE) is still unknown. The North Shoreline was not investigated further under this investigation.

- Background polycyclic aromatic compounds (PAH) analysis detected few PAH compounds; most data were nondetect.

- Based on the results of the HHRA, no cleanup action is necessary at the IR Site Public Beach area. There is also no significant risk from ingestion of shellfish collected along the NFD Point Molate shoreline. This is because cancer risk estimates and hazard indices were less than or at the lower end of EPA's risk management level for protection of human health.

The conclusions and recommendations for the Final Phase II RI are as follows:

- IR Site 1, the Waste Disposal Area. A removal action under an EE/CA is currently proceeding.

- IR Site 2, the Sandblast Grit Disposal Areas. The Final ROD for no further action at IR Site 2 was submitted for regulatory review December 30, 1999, and the Navy is awaiting agency approval.

- IR Site 3, the Treatment Ponds Area. Proceed with a removal action option screening under an EE/CA. A limited bench-scale test of soil heating and product recovery was conducted under this Phase II RI to support an EE/CA. The EE/CA for IR Site 3 is scheduled for 2000. The EE/CA will include screening level risk assessment.

- IR Site 4, the Shoreline Areas. Possibly include the North Shoreline Area in the EE/CA for IR Site 3. An HHRA and terrestrial ERA are being scoped. A Draft Work Plan will be submitted the last quarter of 2000. Field work is scheduled for the second quarter of 2001.

1.0 INTRODUCTION

Naval Fuel Depot Point Molate is a former bulk fuel storage and transfer facility operated by the United States Navy. The facility was built in 1942 during World War II and operationally functional from 1943 until May 1995 when operations ceased. The facility was capable of storing more than 40 million gallons of fuel.

During the 1980s the facility was reviewed for potential environmental problems. The Navy initiated remedial measures to remove floating petroleum hydrocarbons from the groundwater in the Treatment Ponds Area. Other environmental investigations were conducted during the late 1980s and extensive investigations were conducted during the 1990s (see Table 1-1).

The Phase II Remedial Investigation (RI) was scoped to: (1) update groundwater information; (2) obtain current data and fill data gaps to support the Engineering Evaluation and Cost Analysis at Installation Restoration (IR) Sites 1, the Waste Disposal Area and 3, the Treatment Ponds Area; (3) perform a human health risk assessment focused on the Public Beach Area; and (4) perform an offshore Ecological Risk Assessment. This Phase II RI Report describes the site investigations and the findings from the field investigations. Data from the field investigation and the three semiannual groundwater sampling events are presented and integrated with the previously generated data for IR Site 1, IR Site 3, and IR Site 4. This Final Phase II RI Report updates the status of these sites and refines the previously presented conceptual models (TtEMI 1998k).

The Final Phase II RI Report provides interpretations and conclusions based upon recent Phase II RI field data as well as historical IR data. All analytical data generated during IR investigations are presented in Appendix A2. These data are arranged by the respective IR Site 1, 3, or 4. These data are further subdivided by matrix and analyte. Detections are in bold font. These data are also included in statistical summary tables in Section 4.0, and divided by IR site. The other appendices supply supporting data and are included for completeness. Not all these data are referenced in this report, but the intent is to provide a single compilation to support future actions and base transfer. New appendices in this Final Phase II RI Report include well construction summary tables, and comprehensive water-level and product thickness measurement tables.

Plates provided with this report show the geography and distribution of sample points and analytical detections within each IR site. All historical and recent data are posted for these sample points. Extensive data sets required posting only detections on most maps. In some cases, nondetects are shown to substantiate decreasing contaminants after previous detections of indicator analytes, such as total petroleum hydrocarbons as petroleum-extractable (TPH-e) and total petroleum hydrocarbons as petroleum-purgeable (TPH-p). Some areas with extensive data, like the Drum Lot No. 1 area required posting historical data on one plate and

recent data on another plate. Review of these plates is necessary in interpreting the spacial and temporal distribution of data at Point Molate.

1.1 PURPOSE OF THIS RI REPORT

This section presents the purpose of this report and introduces the strategies for each IR site as scoped by the Base Closure Team (BCT). This section also gives a site historical background and a summary of previous investigations.

Cleanup and closure work at NFD Point Molate is carried out under two primary programs. The first is the compliance program, which addresses cleanup and closure of the former fuel system (underground storage tanks [USTs] and pipelines), buildings containing asbestos, and electrical systems with outdated transformers. The second is the Installation Restoration Program (IRP), which addresses sites that have been identified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Four sites have been identified through the IRP: Site 1 - the former Waste Disposal Area; Site 2 - Sandblast Grit Disposal Areas; Site 3 - the Treatment Ponds Area; and Site 4 - Drum Lot 1 and the Shoreline Areas. Site 2 was remediated through a removal action in 1997 and a Final Record of Decision (ROD) was submitted for agency approval December 30, 1999. This site will not be further evaluated in this report. The remaining sites are the focus of this Final Phase II RI Report. All IR sites are shown on Plate 1.

On June 8 and 9, 1998, the Navy held strategy meetings with the BCT to develop overall site objectives and expedite early actions at each of the four IR sites. The meetings resulted in refocused investigation and cleanup efforts. The following bullets summarize the revised approach to the Phase II RI process and site strategies discussed during the meetings and incorporated into the Phase II RI process. Beneficial use of groundwater issues will be addressed during the Corrective Action Plan (CAP) for the UST sites.

- Site 1- Former Waste Disposal Area. In order to expedite closure and as a result of the Navy June meetings, the Navy proposed collection of data sufficient to evaluate the site for a U.S. Environmental Protection Agency (EPA) landfill presumptive remedy. Presumptive remedies fall into two categories, removal or capping/control. (A no-action alternative is always considered.) Rather than collect extensive chemical characterization data and conduct detailed human-health and ecological risk assessments at the site, the Navy has evaluated closure alternatives (such as capping or removal) that eliminate all potential contaminant pathways. The Navy prepared a streamlined EE/CA to identify and evaluate these potential presumptive remedies. The preferred alternative identified in the EE/CA will be implemented as a removal action to expedite construction. Once the action has been completed, a proposed plan (PP) and ROD will be prepared to document the action and specify any remaining regulatory requirements at the site (such as long-term monitoring). Data were generated during the Phase II RI field work to support evaluation of potential presumptive remedies in the EE/CA. Chemical data was collected for basic waste characterization for comparison to previous data; to provide a baseline for further reference;

and to provide data for evaluating disposal alternatives. This report summarizes all these data for IR Site 1 and presents an updated interpretation of the area.

- Typically, a risk assessment is not prepared for a removal action, although risks are discussed in the context of identifying the need for the removal action and establishing removal action objectives. The EE/CA for IR Site 1 includes an exposure pathway assessment that uses a conceptual-site-model approach to identify sources, release and transport mechanisms, affected media, exposure routes, and potential receptors. A Final EE/CA for IR Site 1 is in preparation. Capping is the selected remedy. Streamlined risk assessments will be prepared consistent with EPA guidance on presumptive remedies for landfill sites (EPA 1993b and 1996e). Streamlined risk assessments are target specific exposure pathways based on projected future land-use scenarios provided in the planning documents (City of Richmond 1997). Applicable or relevant and appropriate requirements (ARARs) will be addressed during preparation of the remedial documents.

- Site 2 - Former Sandblast Grit Disposal Areas. This site underwent a removal action during 1997. The Removal Action Final Completion Report (TtEMI 1998l) documents the action and results. Recommendations are for no further action since all of the sandblast grit was removed and there are no significant health risks remaining. No additional data collection was necessary during the Phase II RI and no additional risk assessments will be conducted. The Final Record of Decision (ROD) for IR Site 2 was submitted to the regulatory agencies on December 30, 1999, and is awaiting regulatory approval. Upon approval of the Final ROD, IR Site 2 will have achieved a final no further action conclusion. This report does not provide data for IR Site 2.

- Site 3 - Treatments Ponds Area. Site 3 has undergone several investigations, as well as a removal action to prevent free product from migrating toward San Francisco Bay. A pilot test was conducted to evaluate techniques for enhancing product removal. Additionally, several closure actions have been or will be performed so this site may be closed. Three ponds have been used to treat stormwater from the oily-water recovery system (ORS) and must be closed; numerous pipelines in the area must be removed for closure; and free product is currently being removed from the subsurface. These actions have and will result in extensive disturbance of surface soil across the entire site and will change the nature and extent of any potential contamination that remains. A removal action under an EE/CA is being scoped and will be implemented in 2000 through 2001. Therefore, the Navy is proposing to defer evaluation of human and terrestrial ecological risks until after the actions have occurred. This timing will allow for more accurate evaluations of potential risks from the site to potential receptors. In general, there are sufficient data to support closure. Additional data may be collected, if needed, during the closure actions; therefore minimal data were collected during the Phase II RI. Data collection was limited to four borings, one to evaluate bedrock under the site, two borings to evaluate conditions close to the ponds, and one upgradient boring to examine potential for other sources of petroleum hydrocarbons.

- Site 4 - Drum Lot No. 1 and Shoreline Area. Numerous pipelines that run along the Shoreline Area have been or will be removed by the Navy. Removal of the pipelines will cause extensive disturbance of surface soil along the shoreline area and will change the characteristics of any potential contamination that remains. Therefore, the Navy deferred evaluation of human and terrestrial ecological risks until after the pipelines have been removed. This delay will allow for more accurate evaluation of potential risks from the site to potential receptors. Therefore, during the Phase II RI, the ecological risk assessment at Site 4 only focused on aquatic receptors. Results of this ecological risk assessment work is described in the Final Ecological Risk Assessment Report (Entrix, Inc. and TtEMI 1999a).

A human health risk was conducted for the NFD Point Molate Public Beach area. An HHRA and a terrestrial ERA will be performed in IR Site 4. These risk assessments will be scoped and work plans will be developed in summer and fall of 2000. The field work is scheduled for spring 2001.

1.2 REPORT ORGANIZATION

This Final Phase II RI Report contains nine sections. The introduction in Section 1.0 describes the site, the site history, and previous investigations. Section 2.0 chronicles the field work performed during Phase II. Section 3.0 provides the physical and natural history characteristics of Point Molate. Section 4.0 describes the nature and extent of contamination for the three IR sites, and is the synthesis of the investigative findings of current studies. Contaminant fate and transport is described in Section 5.0 and is focused on petroleum hydrocarbon characteristics. Section 6.0 is the Baseline HHRA for the Point Molate Public Beach. The background soil investigation for PAHs is presented in Section 7.0. Section 8.0 presents the summary and conclusions of the Phase II RI. References are listed in Section 9.0.

Tables and figures follow each respective section. The reader should note the tables in Section 6.0 supporting the HHRA follow the most recent EPA guidance (EPA 1998a). The plates provided give detailed plan maps and cross sections of the IR sites, and present current data as well as historical data. The plates are critical to understanding the spatial relationships of contaminant distribution. Note that the plates are grouped sequentially by IR Site, not in order of text reference. Therefore, references to plates in the text are not numerically sequential in all cases. Appendix A1 contains the Data Quality Assessment (DQA) and data validation summaries. Appendix A2 includes the database tables of all analytical data generated for IR Sites 1, 3, and 4. These data are arranged by IR site and matrix. The borelogs and monitoring well completion forms are also arranged by IR site. Other supporting data are also included in the appendices.

1.3 BACKGROUND

This section describes the facility background, IR site designations, environmental settings and resources, the history of IR sites being investigated under the IRP, and a summary of previous and current investigations under the Comprehensive Long-term Environmental Action Navy (CLEAN) I and II programs.

1.3.1 Site Description and Regulatory Stakeholders

This report presents the results of remedial investigations at three IR sites at NFD Point Molate. NFD Point Molate is located on the San Pablo Peninsula, in Contra Costa County, approximately 1.5 miles north of the Richmond-San Rafael Bridge (Figure 1). The facility covers approximately 412 acres in the Potrero Hills, along the northeastern shore of San Francisco Bay.

NFD Point Molate is a former bulk storage and transfer facility capable of storing more than 40 million gallons of fuel in 24 large-capacity USTs. Fuel was delivered to and from the facility by off- and on-loading ships and barges at the depot fuel pier and through the Santa Fe Pacific Pipeline Transfer Station. Fuel storage and transfer operations at the facility ceased in May 1995, and NFD Point Molate became a closing base under the Base Realignment and Closure (BRAC) IV program in September 1995, and officially closed on September 30, 1998.

Remedial investigation and design, removal actions, and closure activities under the IR program at NFD Point Molate are being conducted under the CERCLA. Development of a base closure team (BCT) for NFD Point Molate has been a component of IR activities. The BCT, consisting of representatives from the Navy, EPA, and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), and the City of Richmond, is the decision making body for IR activities. The Navy is the lead agency for the CERCLA cleanup process. The RWQCB is the lead regulatory agency for the oversight of IR activities. RWQCB issued Board Order 97-124 specifying site cleanup requirements and Board Order 97-125 specifying the cleanup schedule. The BCT management support team includes the city, the Restoration Advisory Board (RAB), other regulatory agencies, and the Navy's consultants. The BCT has been the primary mechanism for scoping the investigations for the site.

During the May 5, 1998 BCT meeting, several potential actions at the IR sites were discussed that changed the scope of the Phase II RI. The BCT identified the necessity of performing a future removal action at Site 1 to mitigate potential off-site releases from the area. Additional plans for pipeline removal for Site 4 were presented, and the Navy's desire to expedite a final cleanup remedy for Site 3 was reiterated. These potential future removal actions marked a revision in the scope and focus of the proposed RI work. The focus shifted from a conventional CERCLA RI and Feasibility Study (FS) path to a expedited path of removal actions and presumptive remedies. The work performed under the Phase II RI was designed to support this updated approach.

1.3.2 Site History

Prior to becoming a naval fuel depot, the Point Molate lands were first used by early Native Americans, then were a part of a Mexican land grant, a Chinese fishing camp, and a winery.

Native Americans inhabiting the San Francisco Bay Area and the coast as far south as Monterey were historically referred to as Costanoans. The term Ohlone is generally preferred by contemporary Native Americans. Radio carbon dating of material from nearby archeological sites indicates that prehistoric occupation of this area may have begun as early as 8000 B.C. and become widespread by 2000 B.C. Native

inhabitants of these sites were hunters and gatherers who relied on the abundant natural resources of the area for survival. Settlement of the Bay Area by the Spanish in the late 18th century resulted in the decimation of Native American populations due to their lack of immunity to introduced diseases and crowded living conditions in the missions (PRC 1996c).

NFD Pt. Molate was once part of a 17,983-acre Mexican land grant known as Rancho San Pablo. In 1817, Francisco Maria Castro petitioned for a large tract of land which included the study area. However, the area was claimed by the Franciscan Fathers of Mission San Francisco de Assisi and his petition was denied until the mission relinquished the land. Although he petitioned again in 1823 and the grant was approved by the governor of Alta California, Francisco Castro died prior to issuance of the title. His estate divided the Rancho, leaving one-half to his wife and the other to his children. Disagreements among family members, problems with securing the title after the Mexican War, and land sales by family members complicated property ownership until 1894. In 1894, the Superior Court of San Francisco partitioned Rancho San Pablo into 285 parcels among numerous litigants. Anthony Maraschi, Richard O'Neill, and E.S. Tewksbury were among those receiving title to land in the northern Potrero Hills (PRC 1996c.)

A Chinese shrimp fishing village was present at what is now Point Molate Beach Park from the late 1860s to approximately 1912. The Chinese shrimp fishermen trawled the waters of San Francisco Bay for native shrimp to sell in local markets. Increasing pollution of the bay and legislation restricting net fishing led to the village's abandonment between 1912 and 1915 (PRC 1996c.)

Examination of early maps of the United States Geological Survey indicated a quarry was in operation on Point Molate itself in 1899 (Lawson 1914). The quarry symbol still appeared on the 1915 topographic map and the elevations on the point appeared reduced, although the scale of the map makes definitive measurements of the topography difficult. Quarrying operations are not otherwise documented, but they appear to have greatly reduced the topography in the area of Drum Lot No. 1 (see Plate 1).

In 1906, the California Wine Association purchased 48 acres between Molate Point and San Pablo Point and constructed a winery. Winehaven was described in 1908 as "the largest winery in the world." The complex of buildings, constructed between 1907 and 1919, included a winery, distillery, bottling facilities, housing for the workers, a hotel, and an 1,800-foot wharf. The winery benefited from available transportation systems, the ships on San Francisco Bay, and the Belt Line Railroad, which provided direct access from Winehaven to the larger railroad systems of the state. Once the Volstead Act passed in 1919, production at the winery was limited to grape juice, sacramental wine for churches, and prescription wine for drugstores. However, the demand for grape juice was not great and Winehaven could not effectively complete with the smaller wineries. Production ceased shortly thereafter (PRC 1996c.)

The property was subsequently leased to the Healy-Tibbets Company for quarrying, which took place northeast of the Drum Lot No. 1 quarry. Other rock quarry operations included those of the San Pablo Quarries Company, which purchased the property south of Point Molate where the Chinese shrimp fishing village was once located. The quarry on the promontory of Point Molate was further developed between 1924 and 1939. The Winehaven lands were acquired by Santa Cruz Oil Company in October 1941, for the intention of warehousing; however, the Navy acquired the land only eight months after Santa Cruz Oil Company (PRC 1996c).

Point Molate was acquired by the Navy by an order for immediate possession on June 25, 1942, for fuel storage and transfer operations. Most of the existing buildings on the site were put to immediate use and the fuel pier was immediately constructed. NFD Point Molate was commissioned on April 12, 1943 (WESTDIV 1988).

Four underground steel tanks were built in 1942 (Tanks 21 through 24) on lands leased by the Navy from the Chevron U.S.A. Richmond Refinery (Chevron). In 1943, 22 underground concrete tanks were built (Tanks 1 through 20, B, and C). Five underground welded steel tanks were added in 1951 (Tanks DFP 1 through 5), along with four above-ground welded steel tanks in later years (two in 1956 and two in 1979 - Tanks D, E, F, and G) (WESTDIV 1988).

NFD Point Molate was used from 1943 until May 1995 as a fuel storage and transfer facility that was capable of storing more than 40 million gallons of jet petroleum fuel (JP-5) and marine diesel fuel (F-76). Other fuels have historically been stored at the depot as well, including bunker fuel, gasoline, and aviation gasoline. NFD Point Molate officially closed September 30, 1998 and the Navy and the City of Richmond have a cooperative agreement for caretaker services. The base is currently awaiting transfer.

1.3.3 Chronology of Previous Investigations

The following sections summarize IR investigations completed under the Navy CLEAN I and II programs. It also describes current investigations and non-IR investigations conducted by ERM-West, the Basewide Environmental Baseline Survey (EBS) investigations and a Site Characterization and Analysis Penetrometer System (SCAPS) investigation by the Navy Public Works Center, Environmental Department. All investigations (previous and current) and the resulting reports are identified in Table 1-1. Data for all IR investigations of IR Sites 1, 3, and 4 are in Appendix A2.

1.3.3.1 Chevron Richmond Investigations (1989-present)

Chevron has conducted several hydrogeologic investigations of its Richmond, California, refinery and associated tank farms. This work was conducted in accordance with work plans submitted to the California RWQCB, San Francisco Bay Region; reports of the findings are on file in the RWQCB library. The Chevron facility borders NFD Point Molate except on the western side facing San Francisco Bay.

Bechtel Environmental, Inc. and Dames and Moore (BEDM) conducted several of these investigations, which included review of pre-existing data, aerial photo review, geologic mapping, seep sampling, drilling (including bedrock coring and packer testing), monitoring well installation, groundwater and soil sampling, slug testing wells, and surveying. Geologic mapping and lithologic descriptions from the drilling program are consistent with previous data collected at NFD Point Molate. BEDM reports (BEDM 1991, BEDM 1992, BEDM 1993) identify the same sedimentary lithologies as previously found at NFD Point Molate. Minor amounts of hydrocarbons were found in the bedrock at the Chevron facility during sampling in 1991 (BEDM 1991).

Bedrock data were collected at the Chevron refinery in areas where extensive exposed bedrock was present. These areas included the S.P. Hill Tank field and Quarry Tank field. Information on the lithologic and structural characteristics of the Chevron bedrock data were incorporated in Section 3.0 of this Phase II RI.

1.3.3.2 ERM-West Soil Investigation (1990)

ERM-West investigated soils in the vicinity of valve boxes (VB), known pipeline leaks, or within known spill areas. No ERM-West soil borings were installed in the Treatment Ponds Area. Targeted analytes for ERM-West borings were limited to total petroleum hydrocarbons - extractable (TPH-e), or in some cases benzene, toluene, ethylbenzene, and xylene (BTEX).

The site-specific stratigraphy and structure were described within the ERM-West (1990) report with the use of several geologic cross sections. Generally, the stratigraphic profile above bedrock consists of clays, sands, and gravels, with occasional peaty lenses. These sediments, interpreted to be alluvial/ colluvial in nature, thicken downslope. This interpretation is applicable to the hillside areas at NFD Point Molate, where the majority of ERM's study was conducted. Alluvial and colluvial sediments were also encountered within the Treatment Ponds Area, as was artificial fill.

ERM-West groundwater sampling was limited to the three monitoring wells installed during its investigation. Only JP-5, F-76, and volatile aromatic hydrocarbons were targeted analytes in groundwater samples

collected from these wells. Samples from ERM-West well MW-3, located north of the Treatment Ponds Area along the shoreline, contained BTEX; only the concentration of benzene, 62 micrograms per liter (μg/L), exceeded the existing California Department of Health Services (DHS) action level of 1 μg/L for this compound.

Soil sampling results at several locations investigated by ERM-West indicated TPH-e contamination, although the extent was not defined laterally or vertically in some cases. Vertical characterization of petroleum contamination was limited to colluvial or alluvial materials existing above bedrock. TPH-e was present in concentrations above reporting limits in soil samples from 37 borings, and was detected in concentrations greater than 1,000 milligrams per kilogram (mg/kg) in soil samples from 25 of these borings. According to ERM-West (1990), further investigation of 19 of these boring locations was not warranted because TPH-e concentrations were found to decrease with depth to below 1,000 mg/kg. Of these, TPH-e concentrations decreased to below laboratory detection limits in samples from nine borings. BTEX was detected in samples from five borings. According to ERM-West (1990), exact fuel types contained in soil samples could not be identified because of the diversity of fuel types historically stored at the site, as well as degradation of these fuels with time. Additionally, laboratory analyses were conducted for volatile aromatic hydrocarbons (EPA Method 8020) in JP-5 and F-76 fuel samples. According to ERM-West, the analysis indicated that volatile aromatic hydrocarbon concentrations were low enough that they should not pose a risk to field personnel or be a significant problem in soils on site.

1.3.3.3 Site Inspection (1990)

The site inspection (SI) completed under contract task order (CTO) 0010 was tailored to areas of concern identified in the preliminary assessment (PA). The following section summarizes the SI findings and characterization efforts.

Soil samples were obtained from three of five soil borings at IR Site 1, the Waste Disposal Area. Grab samples of groundwater were obtained from two augered borings. Two hand auger soil borings were performed and one sampled. Seepage-related sediment was also sampled.

Analytical results from the SI in IR Site 1 indicated that JP-5, BTEX, and polycyclic aromatic hydrocarbon (PAH) contaminants were present in both soil and groundwater.

Soil and groundwater samples collected in Site 3, the Treatment Ponds Area were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs); inorganic compounds; pesticides; polychlorinated biphenyls (PCBs); BTEX; and TPH. The results of soil samples and for groundwater samples are in Appendix A2. TPH-extractable (TPH-e) concentrations in soil in the diesel range (F-76) were reported as high as 3,630 mg/kg, with associated values in groundwater of 2.4 milligrams per liter (mg/L). Numerous SVOCs, indicative of heavier oils, were detected in some Treatment Ponds soil samples; however, these compounds were not detected in associated groundwater samples. The concentrations of benzene detected in the groundwater sample from monitoring well PRC No. 3 exceeded both the maximum contaminated level (MCL) for this compound and the DHS action level. Also apparent, after monitoring well PRC No. 2 was installed, was the presence of floating hydrocarbons (bunker fuel) directly downgradient of existing Navy extraction wells.

As a result of the SI, the Treatment Ponds Area was recognized as having an impact on groundwater and possibly on San Francisco Bay. Two samples obtained in beach and tidal flats sediments near the Treatment Ponds Area contained TPH-e in the diesel (F-76) and motor oil ranges at concentrations ranging from 129 mg/kg to 4,710 mg/kg. Toluene, ethylbenzene, and xylene were detected in these sediment samples at concentrations below water quality criteria for the protection of saltwater aquatic life or California Applied Action Levels (AALs) in water for saltwater species, with the exception of toluene in one sample. The extent and concentration of hydrocarbon constituents within the tidal flats sediments were not determined as a result of this investigation. The sample results are presented in Appendix A2.

1.3.3.4 IR Site 3 Treatment Ponds Site Characterization (1992)

The Treatment Ponds Area characterization completed under CTO 0143 included the following:

- The drilling of 65 soil borings from which 102 discrete soil samples were obtained and analyzed for chemical constituents
- The analysis of 12 soil samples for physical and hydraulic properties
- The analysis of 16 soil samples for biochemical properties
- The installation of 42 monitoring wells and 10 piezometers from which 35 groundwater samples were obtained
- The installation of seven coreholes and the performance of in situ permeability (packer) tests in these coreholes
- The performance of five aquifer (pumping) tests
- The collection of 19 near-shore beach sediment samples

- The monitoring of water levels and hydrocarbon thickness on four occasions between May 1992 and September 1993
- The performance of independent tidal surveys, including 11 different monitoring wells with simultaneous monitoring at the NFD Point Molate fuel pier.

The investigation was targeted at (1) assessing the nature and extent of hydrocarbons and other potential contaminants within the Treatment Ponds Area, (2) assessing the potential impact of these contaminants to San Francisco Bay, (3) assessing hydraulic and hydrogeologic parameters in both unconsolidated sediments within the water table aquifer and in underlying native materials including bedrock, and (4) evaluating interim remedial actions appropriate to the Treatment Ponds Area.

The contaminants within the Treatment Ponds Area are predominantly fuels, constituents of these fuels, and some chlorinated solvents. Solvents detected at one discrete location included trichloroethene (TCE), tetrachloroethene (PCE), and 1,2-dichloroethene (1,2-DCE). Fuel types found present in soil, groundwater, or near-shore sediments were bunker fuel, motor oil, diesel (F-76), JP-5, and some gasoline. Constituents of these fuels, including volatile components such as BTEX, and semivolatile components such as 2-methylnaphthalene, pyrene, chrysene, and phenanthrene, were also detected in soil, sediment, and groundwater samples. Sources of these fuels are primarily related to the former sump pond, which was located beneath the current Treatment Ponds Area. An unexpected discovery during the course of this investigation was the detection of JP-5 and lighter fuel constituents (BTEX) in a separate source area south of the Treatment Ponds Area, within Drum Lot No. 1. Diesel and JP-5 were detected as floating product at monitoring well MW11-22 within Drum Lot No. 1. Other sources of fuels at IR Site 3 include residual hydrocarbons in soil upgradient of the shoreline at locations of historical spills or leaks.
As a result of the Treatment Ponds Area characterization, the significance of areas contaminated with bunker fuel and diesel mixtures (along Diesel Road and at the southern end of the Treatment Ponds Area), and other areas exhibiting contamination from lighter fuels, such as JP-5 (Drum Lot No. 1), were emphasized. The impact to groundwater in the vicinity of these fuel plumes resulted in the additional characterization and the interim remedial design (source control measures) included in CTO 0248.

1.3.3.5 IR Sites 1 and 4 Shoreline and Landfill Investigations and Quarterly Groundwater Sampling (1994)

This investigation, completed under CTO 248, was titled Shoreline and Landfill Investigations and Quarterly Groundwater Sampling according to the Navy's scope of work, but included several other design and construction components listed below. This CTO was conducted between 1993 and 1997. This CTO served as follow up to the prioritized investigation (site characterization) of the Treatment Ponds Area (Site 3) under CTO 143.

A final field work plan (FWP) sampling and analysis plan (SAP) was released on January 27, 1994. The FWP and SAP targeted the Phase I RI of Site 1 (Waste Disposal Area) as a follow up to the original investigation in 1990 under CTO 010. The FWP and SAP also included Site 4 (Shoreline Areas), the area immediately south of the Treatment Ponds Area and the facility's entire south shoreline. The shoreline investigation encompassed both on- and off-shore components, including quarterly groundwater sampling in existing and new near-shore monitoring wells, and collection of 76 sediment samples along 13 sediment transects up to 400 feet offshore. Sediment results are presented in Appendix A2.

At Site 1, seven new soil borings were drilled (SB02-01 through SB02-07), four of which were completed as monitoring wells (MW02-1, MW02-04, MW02-06, and MW02-07). Analytical results for the soil samples collected from Site 1 borings and groundwater samples collected from new Site 1 monitoring wells (and one existing well, ERM-EW2) are presented in Appendix A2, and presented on Plates 11 and 12.

After six new soil borings/monitoring wells in Drum Lot No. 1 (MW11-54 through MW11-57 and SB11-58) and 16 new soil borings/monitoring wells in the south shoreline (MW10-02 through MW10-16) were installed, quarterly groundwater sampling was conducted in March, June, September, and December 1994 at a selected series of 22 to 26 near-shore monitoring wells. The results of quarterly groundwater sampling are presented in Appendix A2.

In January 1995, PRC assisted NFD Point Molate in investigation of a fuel seep occurring near Tank E within Site 3. PRC collected sediment chemistry and bioassay samples within tidal flats sediment directly downgradient of the fuel seep. These samples were collected at increasing distances from the shoreline, and two reference locations away from facility property were also chosen. Results from the chemistry analysis indicated a poorly-developed SVOC concentration gradient with increasing distance from the shoreline. Concentrations did not correlate well with the toxicity exhibited in the bioassays. This investigation was reported in the January 1995 Fuel Seepage Response and Assessment (PRC 1995b).

Design and specifications were also prepared in late 1994 and 1995 for the Treatment Ponds Area extraction trench and containment wall. Installation of the Site 3 containment wall proceeded through the later part of 1995 and was completed in January 1996. In April 1996, PRC prepared a performance evaluation report for the Site 3 extraction trench and containment wall (PRC 1996b). As part of the evaluation, two new piezometers were installed downgradient of the containment wall to monitor residual occurrence of floating product.

Also included under CTO 248 was design and construction of a Site 3 groundwater treatment plant. This plant was designed to treat effluent water from the Site 3 extraction trench. It is currently operating.

1.3.3.6 IR Sites 1, 3, and 4 SCAPS Investigation (1995)

A preliminary site characterization using the Site Characterization and Analysis Penetrometer System (SCAPS) was conducted in October and November 1995 by Navy Public Works Center, Environmental Department, Underground Storage Tank Removal and Site Assessment and Remediation Division. SCAPS investigations were completed in 41 locations, including Site 3 and the adjacent Site 4 Drum Lot No. 1, Site 4 south shoreline locations, Site 1 downgradient of the Waste Disposal Area, and at several locations within the hillside or industrial areas of NFD Point Molate. Data were collected by a hydraulically-pushed probe that uses an ultraviolet light source on a modified cone penetrometer system to measure in situ hydrocarbon fluorescence. This work was a field test, and no interpretive report of this investigation was produced. (calibration curves were not provided). Data were mostly generated in areas already known to have hydrocarbon contamination and the penetration logs generally confirm some nonquantifiable petroleum hydrocarbon staining at the capillary fringe. Previous and subsequent soil borings, groundwater analyses, and free-product measurements have provided a more reliable quantification for the nature and extent of petroleum hydrocarbon contamination at the IR sites.

1.3.3.7 Basewide Environmental Baseline Survey (1996)

Pursuant to the Base Closure and Realignment (BRAC) Acts of 1995, planning and implementation of environmental restoration is being performed at NFD Point Molate. The goal of the BRAC program is to transfer the property and facilities of the closing installations to the community as expeditiously as possible. To facilitate BRAC, the Navy has initiated the Environmental Baseline Survey (EBS) process at NFD Point Molate to assess environmental concerns. The purpose of the EBS is to determine the environmental condition of property (ECP) categories for the EBS parcels and to identify Community Environmental Response and Facilitation Act (CERFA) clean parcels at NFD Point Molate. The basewide EBS was conducted from March through June 1996. Relevant and available documents were reviewed at the facility, Fleet Industrial Supply Center Oakland (FISCO), and EFA West. A visual site inspection was performed and past and current employees of the base were interviewed to gather information for use in determining the environmental condition of the property.

The facility was divided into 37 environmental parcels. Originally 17 parcels at NFD Point Molate received ECP Category 7, areas that require further evaluation. Category 7 was assigned to 17 parcels because the

potential for releases and migration of fuel products from underground tanks and pipelines had not been completely evaluated.

The IR sites are included in either part or all of the EBS parcels. IR Site 1 is within Parcel 7. IR Site 3 approximately coincides with Parcel 25. IR Site 4 is within several parcels; 33 and 20 at the North Shoreline, Parcel 32 in Drum Lot Number 1, and Parcels 28 and 31 in the South Shoreline. Parcel 30, containing Building 87, is adjacent to the Point Molate Public Beach and South Shoreline. These parcels are shown on Figure 1-3.

The basewide Environmental Baseline Survey Final Report, (PRC and MK 1996.), provided a comprehensive review of the environmental conditions basewide. All parcels were given environmental categories and general recommendations for further sampling needs at all parcels were identified. Recommended response actions included UST closure, addressing free-product removal, sand blast grit, and the Waste Disposal Area tasks in the RWQCB Order 95-235.

1.3.3.8 IR Site 4 Shoreline Areas Removal Action (1996-1998)

Predesign field activities were conducted under CTO 039 in October 1996 to support the time-critical removal action at Site 4, specifically within Drum Lot No. 1. The purpose of the action was to contain and remove free product on the water table. The investigations were scoped to define the hydraulic effects from pumping groundwater in this area, including groundwater chemistry changes, free product manipulation, hydraulic conductivity, salt water intrusion, and gradient changes. New piezometers were installed in nine borings. No soil samples were collected from these borings. These piezometers, PZ-11-70 through PZ-11-79, were monitored during pumping tests. Pumping tests were conducted at three wells, MW11-57, MW11-19, and MW11-20. Pumping test results showed variable hydraulic conductivity in the area and indicated that pumping caused salt water intrusion from gradient reversal. These data are in Appendix G.

New groundwater quality samples and water level measurements were collected from Drum Lot No. 1 monitoring wells and from some of the newly installed piezometers. These data indicated the continued presence of hydrocarbon contamination, including a previously defined BTEX plume.

The Site 4 removal action consisted of an extension of the existing Site 3 containment wall. Its purpose is to prevent floating product in the vicinity of monitoring well MW11-54 from migrating to San Francisco Bay, particularly during seasonal high rainfall periods when several feet of product have typically accumulated in

this location. Sheet piling was attached to the south end of the Site 3 containment wall and extended parallel to the shoreline 140 feet before turning inland along an 80-foot wing wall. A product removal system was installed in monitoring well MW11-54. Approximately 20 gallons of product had been removed from monitoring well MW11-54 as of December 1999. Construction activities for the containment wall and product removal systems were completed in June 1998.

Measurements of water levels and free product both upgradient and downgradient of the containment wall extension indicates the wall is functioning as designed. Free product has not been measured in monitoring well MW11-22 since 1992 indicating that the LNAPL has been effectively contained by the wing wall extension.

1.3.3.9 IR Site 2 Sandblast Grit Removal Action (1996-1998)

CTO 040 field investigations supported the Site 2 sandblast grit removal action, completed in 1997. A total of 14 soil samples were collected to confirm removal of the sandblast grit. These samples were analyzed for indicator metals only. The Sandblast Grit Areas (Site 2) Removal Action Final Project Completion Report (TtEMI 1998l) has been approved by RWQCB and USEPA. A proposed plan was issued in May 1999. The Final Record of Decision (ROD) for IR Site 2 is expected to be signed and final during the year 2000.

1.3.3.10 IR Sites 1, 3, and 4 Phase II RI Semi-annual Groundwater Sampling (1997-1999)

Semi-annual groundwater sampling of 22 wells at Site 1, Site 3, and Site 4 was conducted in October and November 1997 (Event No. 1); a second event was completed in April 1998, and a third was completed in January 1999. Data are presented in Appendix A2 for all events. Product thickness and water level measurements were also taken at all NFD Point Molate monitoring wells that were accessible.

1.3.3.11 Rational National Standards Initiative—An Evaluation of Preexisting Data (1997)

The Rational National Standards Initiative (RNSI) (Radian International LLC 1997) was prepared as a prototype risk management tool. This evaluation of pre-existing NFD Point Molate data was intended to:

- Evaluate current land use and future reuse options for IR sites
- Develop conceptual site models (CSM) for IR sites that define on- and off-site exposure pathways for various land uses
- Select exposure equations and default assumptions for each pathway based on land use

- Calculate screening levels based on equations and default exposure assumptions selected
- Identify chemicals of potential concern (COPC) that may drive risks at IR sites where analytical data exist
- Evaluate and select potential remedial technologies to establish risk-based screening levels
- Estimate costs to remediate each IR site for each probable land use

This document summarized data collected under early investigations, formulated CSMs, and applied a risk analysis for human health and ecological risk under various land use scenarios. The risk analysis used various state and federal risk-based standards, default parameters, and algorithms.

Other U.S. Department of Defense (DoD) and U.S. Department of Energy (DOE) guidance was used as well. COPCs were screened for all four IR sites. Preliminary remedial options were selected and costs were estimated.

One of the remedial options proposed in the RNSI report was the option the Navy selected for IR Site 2. This option has been implemented, and a project completion report was submitted. IR Site 2 awaits regulatory sign-off on the Final ROD. No other recommendations from this report have been implemented.

1.3.3.12 Facility-wide Environmental Baseline Survey Sampling (1998)

Field investigations for CTO 148, the Phase I EBS, were performed in May and June 1998. This field work investigated potential contaminant source areas in five parcels. These investigations were adjacent to or upgradient from the four existing IR sites.

Soil gas screening samples, soil samples, and groundwater samples have been collected from approximately 48 locations. These data will be used for human health and ecological risk assessments, if relevant and applicable.

Of the parcels investigated, Parcel 30 has been of particular interest because it is adjacent to IR Site 4 the South Shoreline and the Public Beach. TPHs, VOCs, SVOCs, and pesticides were detected in groundwater and soil in Parcel 30. Several of the contaminants detected exceeded residential PRGs for soil or tap water. These detections are associated with the drain in the building, the pesticide rinse area, the septic tank, and maintenance activities that have contaminated groundwater in the northeastern portion of the parcel. These sources were recommended for further sampling to evaluate the vertical and horizontal extent of contamination. A Phase II EBS investigation was conducted in late 1999 at Parcel 30. The findings will be

presented in the Draft Phase II EBS Field Summary Report (TtEMI 2000c). Data for the Phase I EBS investigation are presented on Plate 27C.

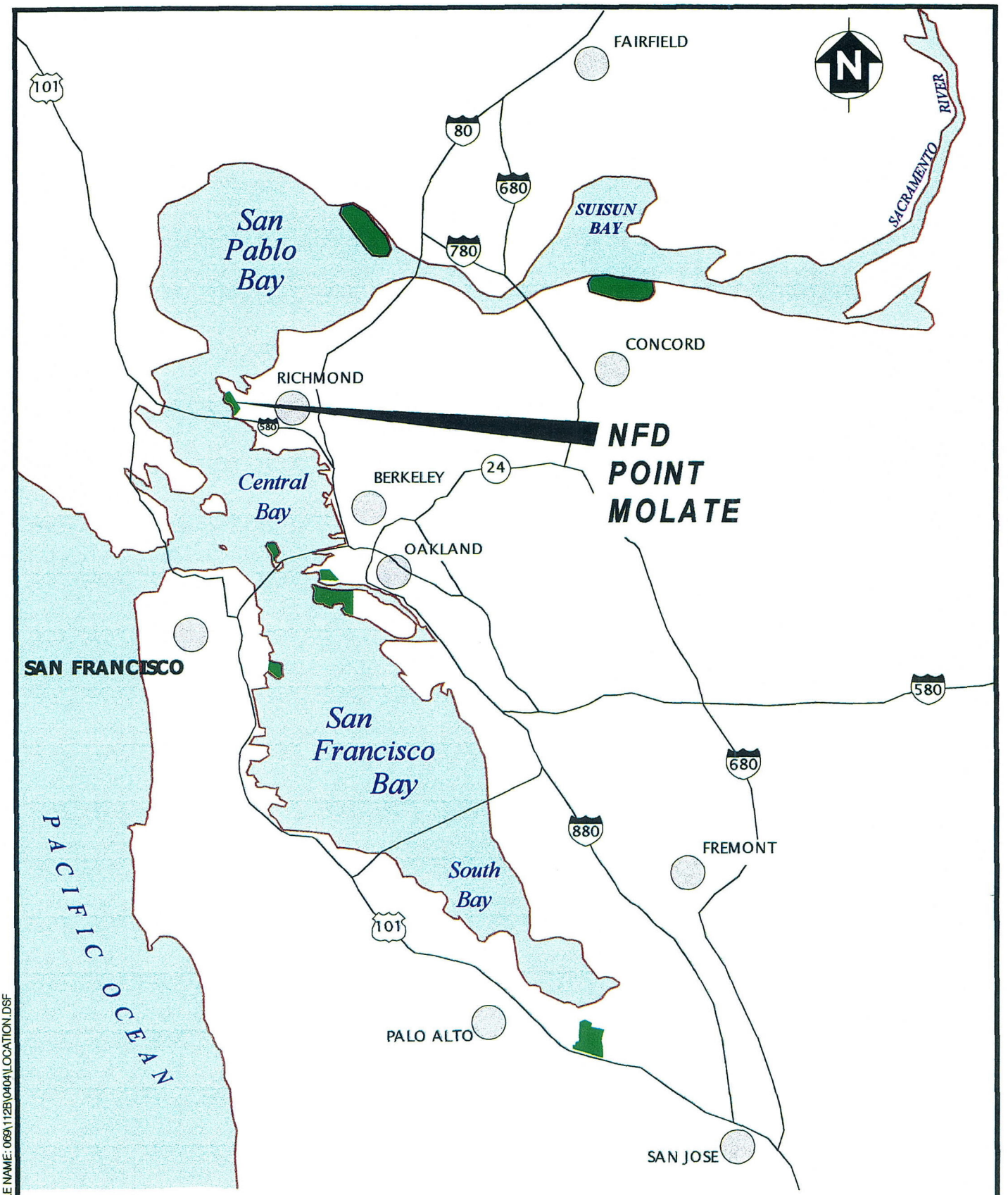
1.3.3.13 UST Characterization Phase I and Phase II and ORS Closure (1999-Present)

The underground storage tanks and pipelines have been investigated in two phases from 1998 to the present. The Phase I UST investigation was conducted November 1998 to May 1999, nearly concurrent with the Phase II RI investigations. The Phase II program was conducted in November 1999. Data collected from December 1998 through August 1999 were evaluated and reviewed in the Phase I Interim Summary Memorandum (September 1999); the scope of work for Phase II activities was also developed in this document. The Phase I and II activities are summarized as follows:

- A Phase I drilling program was conducted, including 78 soil borings (three at the perimeter of each UST) and installation of 21 groundwater monitoring wells adjacent to USTs where groundwater was encountered, drilling 10 soil borings, and installation of six monitoring wells in drainage areas downgradient of the USTs.
- Surface water was sampled at nine seeps in February 1999 and seven seeps in February 2000; these seeps were located in drainage ravines or at the bottoms of slopes where ephemeral seepage was observed.
- Groundwater sampling was conducted initially during drilling of specific soil borings and subsequently over three sampling events (March and September 1999 and February 2000); these events included sampling at UST perimeter wells, drainage area wells (located downgradient of the USTs), and specific wells, also located in drainage areas, installed under the Phase I or II Remedial Investigation (RI).
- Fuel pipelines and valve boxes were investigated in March and April 1999, which involved excavating 77 trenches adjacent to these structures; also completed in March and April was collection of 26 surface soil samples (0 to 2 feet) in areas of historical fuel releases and at seep locations.
- Groundwater level and product thickness monitoring and product removal were initiated monthly beginning in August 1999 at all UST wells, drainage area wells, and at specific Phase I or II RI wells; routine product removal was completed at seven UST wells initially and two additional UST wells were added to the removal program more recently.
- Additional subsurface investigation was conducted under Phase II activities at five USTs where consistent product recharge was observed; additional trenching was conducted adjacent to fuel pipelines and valve boxes and additional surface soil locations were sampled.
- Monthly monitoring (water level and product thickness measurements) has been completed to date at all UST wells, drainage area wells, and specific RI wells; monthly product removal has also been completed to date at nine UST wells and at seven RI wells; another wet-season groundwater sampling event is planned at specific UST and drainage area wells.

The Phase II UST draft report was released May 1, 2000 (TtEMI 2000b).

The ORS system was also closed under CTO 212. The perimeter drains at tank skim pits were plugged as were the valve box drains. This work was performed in October and November 1999. Evaluation of the effects of these closures are being monitored. An ORS Closure Interior Summary Report was released in March 2000 (TtEMI 2000a).



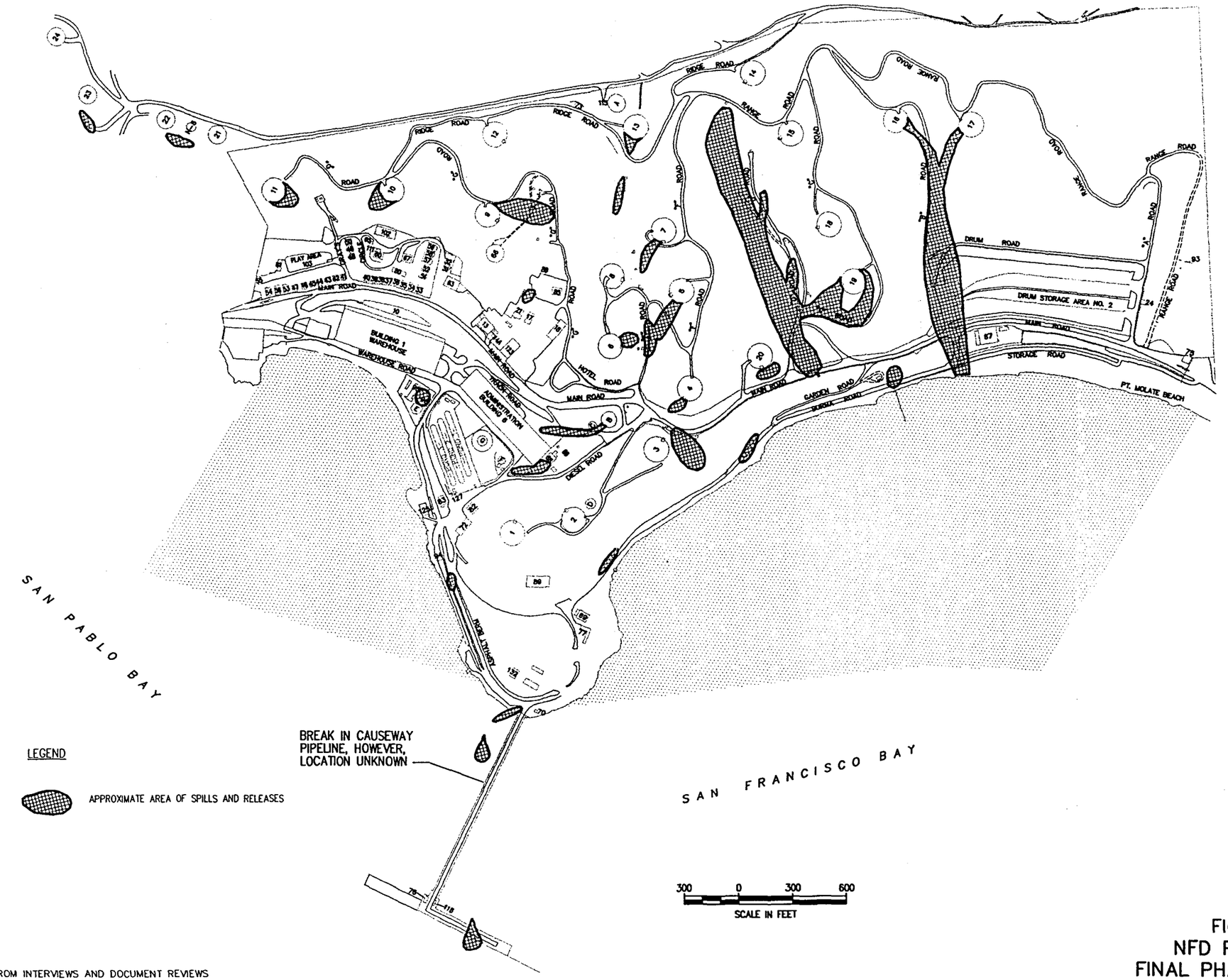
LEGEND

BAY AREA NAVAL INSTALLATIONS

NOT TO SCALE

FIGURE 1-1
NAVAL FUEL DEPOT POINT MOLATE
FINAL PHASE II RI REPORT
FACILITY LOCATION

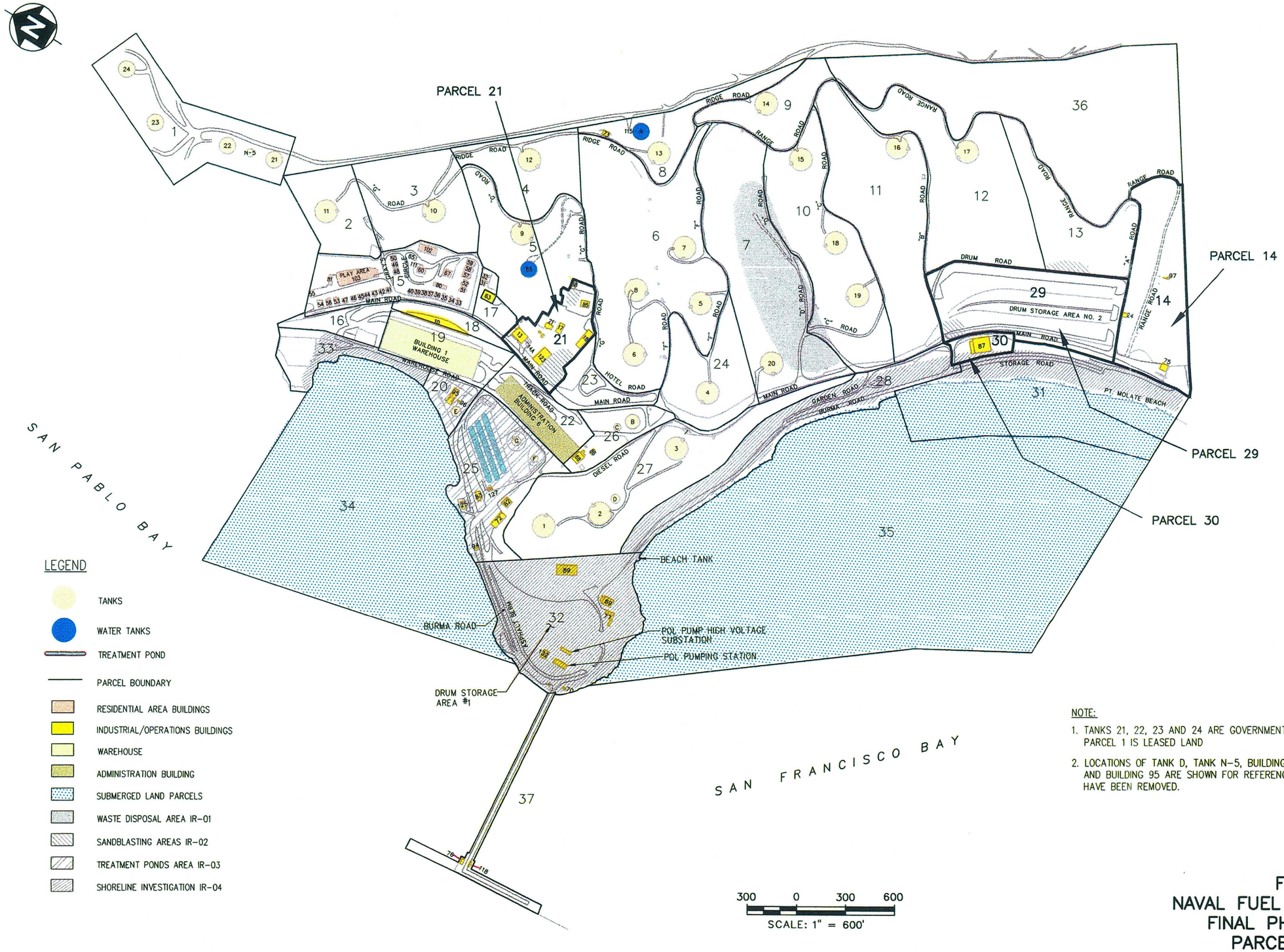
DATE: 04/25/00 MVT DN FILE NAME: 069\112B\0404\LOCATION.DSF



NOTES:
1. SPILLS AND RELEASES INFERRED FROM INTERVIEWS AND DOCUMENT REVIEWS DO NOT REFLECT CONFIRMED OCCURRENCE OR EXTENT OF CONTAMINATION.
2. LOCATION OF TANK D, TANK N-5, BUILDING 72, BUILDING 75, AND BUILDING 95 ARE SHOWN FOR REFERENCE, BUT THE STRUCTURES HAVE ALL BEEN REMOVED.

FIGURE 1-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
APPROXIMATE AREAS OF
KNOWN FUEL LEAKS AND SPILLS

R:\069\1128\02\ FIGURE2.dwg 04/25/2000 TURONEM DN



PARCEL NO.	ACRES
1	10.4
2	4.8
3	8.4
4	6.2
5	9.3
6	22.3
7	16.7
8	4.8
9	4.7
10	13.2
11	14.9
12	14.4
13	7.5
14	9.7
15	4.8
16	2.3
17	1.4
18	1.7
19	4.4
20	1.6
21	4.4
22	4.0
23	2.8
24	7.0
25	9.4
26	3.3
27	15.4
28	7.4
29	11.6
30	1.3
31	18.2
32	14.3
33	3.4
34	42.8
35	91.5
36	26.1
37	2.7

NOTE:

1. TANKS 21, 22, 23 AND 24 ARE GOVERNMENT OWNED. PARCEL 1 IS LEASED LAND
2. LOCATIONS OF TANK D, TANK N-5, BUILDING 72, BUILDING 75, AND BUILDING 95 ARE SHOWN FOR REFERENCE, BUT THEY ALL HAVE BEEN REMOVED.

FIGURE 1-3
NAVAL FUEL DEPOT POINT MOLATE
FINAL PHASE II RI REPORT
PARCEL DELINEATIONS

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TABLE 1-1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SUMMARY OF PREVIOUS INVESTIGATIONS

CTO NO.	NAME OF INVESTIGATION (IR SITE)	DATE OF INVESTIGATION	REPORT TITLE (DATE)	MEDIA
NA	ERM-West UST Shallow Soil Investigation (Facility Wide)	1989-1990	ERM-West Shallow Soil Investigation Report (September 1990)	Soil Groundwater
10	Site Inspection (Sites 1, 2, 3)	1990	Site Inspection Final Summary Report (August 26, 1992)	Soil Groundwater Sediment
80	UST Removal and Preliminary Investigation	1990	Draft Underground Storage Tank Removal Summary Report (November 16, 1990)	Soil
143	Treatment Ponds Area Characterization (Site 3)	1992	Treatment Ponds Area Final Site Characterization Report (July 29, 1994)	Soil Groundwater Sediment
248	Shoreline/Landfill Investigations and Quarterly Groundwater Sampling (Sites 1, 4)	1994	Shoreline Investigation Soil and Phase I Sediment Data Summary (August 15, 1994)	Soil Sediment
	Waste Disposal Area Phase I RI	1994	Waste Disposal Area Draft Phase I RI Report (October 7, 1994)	Soil Groundwater
	Quarterly Groundwater Sampling	1994	March 1994 Quarterly Report (June 24, 1994) June 1994 Quarterly Report (September 27, 1994) September 1994 Quarterly Report (December 19, 1994) December 1994 Quarterly Report (March 14, 1995)	Groundwater
	Emergency Fuel Seepage Response	1995	January 1995 Fuel Seepage Response And Assessment (April 21, 1995)	Sediment Bioassays
	Biopad Baseline Monitoring	1995	Reported via letter summary (late 1995) Transmittal of Biopad Baseline Soil Samples Letter (November 18, 1995)	Groundwater Soil
NA	Preliminary Site Characterization Using the SCAPS	1995	Results of Preliminary SCAPS Investigation at Naval Fuel Depot Point Molate	Soil
39	Shoreline Areas Removal Action (Site 4)	1996	Final Time-Critical Removal Action Memorandum (April 14, 1997)	Groundwater
40	Sandblast Grit Removal Action (Site 2)	1998	Sandblast Grit Areas (Site 2) Removal Action Final Completion Report (November)	Soil
112	Phase II Remedial Investigation (Sites 1, 2, 3, 4)	1997 1998 1999	Semiannual Groundwater Sampling Event No. 1 Data Summary (March 1998) Semiannual Groundwater Sampling Event No. 2 Data Summary (July 1998) Semiannual Groundwater Sampling Event No. 3 Data Summary (July 1999)	Groundwater
148	Facility-Wide EBS Sampling	1998	Draft Phase I Environmental Baseline Survey, Field Summary Report (December 1998)	Soil Groundwater Soil Gas

Notes:

NA : Work was not completed by PRC Environmental Management, Inc. (Tetra Tech EM Inc.) under the CLEAN I or II contract.

2.0 STUDY AREA INVESTIGATION

The following subsections describe the Phase II RI study tasks and the field methods or procedures implemented to complete each task. Field procedures included utilities survey and clearance; soil sampling; groundwater monitoring well installation, development, and sampling; water level measurement; aquifer testing; and investigation derived waste (IDW) disposal. The field procedures were based on Tetra Tech EM Inc. (TtEMI) standard operating procedures (SOPs) as modified for site-specific conditions at NFA Point Molate. In addition, deviations from the Final Phase II RI FWP (TtEMI 1998k) are identified and discussed.

2.1 UTILITIES SURVEY AND CLEARANCE

Several methods were used to determine the presence of utility lines and other subsurface structures at proposed soil boring or monitoring well locations. These include reviews of existing utilities distribution maps, performance of an electromagnetic survey and associated pipeline survey, and hand augering at specific locations. Utility surveys were completed prior to initiation of subsurface characterization activities.

Utilities Distribution Maps

Several active and inactive utilities within IR Sites 1, 3, and 4 required identification and clearance. These included water distribution piping, hot water and return lines (abandoned in place), telecommunications lines, steam and condensate lines (abandoned in place), storm sewer lines, sanitary sewer lines, gas lines, fire lines, fuel product lines, and electrical lines. Utility systems maps obtained from NFD Point Molate provided the most complete source of utilities information. Updated utilities maps or as-built information have not been located and it is assumed they are not available.

Electrical Conductivity

This method employed electromagnetic identification of buried ferrous metallic objects. A direct reading was provided at the instrument while sweeping the area of concern with several passes above or at the ground surface (along a grid). Electromagnetic fields were induced into the ground surface via a transmitter and detected by an aboveground receiver. Generally, conductive underground materials such as metal pipelines will generate localized magnetic fields. These field readings are typically proportional to the depth and size of the subsurface anomaly. Several sample locations identified in the work plan were moved in response to the utility survey.

Hand Augering

In areas where subsurface features were suspected or where extensive subsurface utility lines are located, the survey could not resolve a clear area for drilling. In these areas, hand augering was used to clear soil boring or well locations.

2.2 SOIL SAMPLING

Soil samples were collected from both surface locations and subsurface soil borings. The following subsections describe sampling methods and analytical parameters for soil.

2.2.1 Grab Soil Sampling

Surface soil samples were collected from the 0.0 to 1.0-foot interval as part of soil sampling for TPH-e and low level PAHs at the Point Molate Public Beach and for background PAH sampling. Before each sample was collected, all vegetation was removed. Samples were collected with stainless steel spoons. Soil was collected from the entire 1-foot interval, if possible. Much of the soil encountered was extremely stony and required much effort to reach the 1-foot depth with hand trowels. All tools that came into direct contact with soil used for the sample were decontaminated according to procedures detailed in the FWP. Samples were placed directly in clean 8-ounce sample jars provided by the laboratory, packaged, and shipped according to the procedures detailed in the FWP.

2.2.2 Hollow Stem Auger Borehole Soil Sampling

Soil borings were drilled at the IR sites to assess the vertical and horizontal extent of hydrocarbon contamination in soil or fill material, to install monitoring wells, and to provide data on the thickness of fill in the Waste Disposal Area. Table 2-1 provides a detailed summary of information on the drilling program. Table 2-2 indicates which borings had monitoring wells installed, their screened intervals and the purge volumes. Note that some wells were screened in more than one geologic unit. A summary table of well construction is presented in Appendix E. Table 2-3 is a summary of soil samples taken and the analyses performed in the drilling program. Specific locations were chosen in the field following the utility surveys based on access restraints. Where visible evidence or field screening methods indicated contamination within specific horizons, samples were collected. Many areas showed only limited horizons with potential petroleum hydrocarbon contamination. Generally, these were the only horizons sampled to provide optimal information the contaminant concentrations present, and reduce the number of nondetect sample results.

These borings were drilled with hollow stem auger (HSA) drilling methods. Most soil borings were drilled approximately 15 to 30 feet below ground surface (bgs) or to refusal. Soil borings were drilled with a track-mounted central mine equipment (CME) 850 HSA drill rig using 4-1/4-inch inside diameter (ID) by 7-7/8-inch outside diameter (OD) auger flights. Soil samples in unconsolidated materials were collected in a 3-inch ID by 5-foot long CME split spoon barrel that was advanced with the lead auger. The CME sampler was locked into position several inches ahead of the lead auger to allow collection of representative (undisturbed) soil samples. Generally, the HSA was advanced until refusal was encountered. This was done to define the depth to bedrock surface at each location, if possible. Samples were collected where field screening methods (described below) indicated contaminated intervals within the 5-foot CME samples. In the absence of visible and detectable indications of contamination, samples were generally not taken, thereby reducing the number of nondetections and reserving the analytical budget for analysis of the most contaminated materials. Each boring was logged by a TtEMI geologist. A Geological Society of America (GSA) soil color chart was used to describe soil color.

Field screening was conducted as follows. Upon opening the split spoon or after the sample was extruded from a core barrel, the material was immediately screened with a photoionization detector (PID) and visually examined for hydrocarbon staining. Material exhibiting elevated PID readings or obvious staining was quickly transferred to wide-mouth sample bottles with minimum agitation. Where PID readings were not elevated or soil staining was not evident, a sample was not collected. Material collected from the CME sampler was selected to avoid slough or other nonrepresentative materials within the sampler. Much of the RI field work was carried out during the rainy season and the moisture caused the PID to malfunction much of the time. Therefore, PID readings were only available when the instrument was working.

The sample collection methods used were designed to minimize the loss of volatile components. This method may risk a slight loss of volatile organic compounds, but it is also designed to select sample aliquots that exhibit elevated PID readings or visual presence of hydrocarbon staining. Consequently, this sampling protocol will tend to collect the sample aliquots biased toward higher contaminant concentrations. Future groundwater sampling in the boreholes converted to monitoring wells will yield amore representative indication of VOC content. Selected soil samples were designated and prepared for laboratory analysis as described in the FWP and SAP. Many boreholes were converted to monitoring wells after soil samples were collected.

Boreholes that were not completed as monitoring wells were backfilled after samples were collected. Backfill material consisted of either bentonite slurry, or grout composed of cement mixed with approximately 5 percent powdered bentonite.

2.2.3 Mud Rotary Borings

Mud rotary methods were used to core bedrock at six sites to characterize bedrock lithology, assess the presence and migration of contaminants within bedrock, and perform in situ permeability testing to determine hydraulic conductivity. In addition, groundwater monitoring wells were installed in these coreholes to evaluate the presence of groundwater, and to monitor groundwater quality within bedrock.
Before bedrock coring operations began, drilling of unconsolidated overburden was conducted using a HSA (8" diameter) advanced from the ground surface into competent bedrock. The augers were left in place to temporarily seal off the overburden. The mud rotary core bit and sampler were advanced inside the augers.

Coreholes were advanced into bedrock with a CME 850 track-mounted rig equipped with a 3 7/8-inch OD standard drill rod size (HQ) diamond impregnated core bit. The core samples were retrieved using a wireline system attached to the core barrel. Each corehole was advanced 10 to 15 feet into bedrock. Water was pumped through the drill string during core drilling to lubricate and cool the core bit. A minor amount of polymer mud additive was used to enhance removal of cuttings. This material did not contain any hydrocarbon products. The coreholes were flushed with clean water to remove the drilling fluids. The coring equipment was steam cleaned before drilling and between each corehole.

Detailed field logs of bedrock encountered in each corehole were prepared by TtEMI geologists. The logs include sample depth, percent of core recovered, fracture attitude, visual classification, and a detailed description of the bedrock. A summary of this information is presented in Section 3.6. The field borelogs are presented in Appendix B.

2.2.4 Trenching

Trenching was conducted at IR Site 1, the Waste Disposal Area, December 7 through 9, 1998. A Case 580 extendahoe was used to excavate 11 trenches. The trench locations are shown on Plate 4 and logs of the trenches are presented on Plates 5 and 6. The trenches were approximately 36 inches wide and excavation reached a maximum depth of approximately 11 feet bgs. Bedrock was encountered at shallow depths in several places and hampered excavation. Trenches ranged from about seven feet to 60 feet in length. Most trenches began at the slope change at the edge of the ravine containing the Waste Disposal Area. The trenching proceeded toward the center of the Waste Disposal Area to determine the contact between native material and fill. In most cases, this was visually discernible. In one trench at the upgradient end of the area, trench TR1-4, native soil had apparently been bulldozed into the ravine, and possibly mixed with clean fill. A definitive contact between soil and fill was difficult to discern in trench TR1-4.

All trenches were logged and measurements taken with a tape from the surface. No one entered the excavation due to the possibility of trench collapse. When materials were encountered that indicated any waste other than debris such as wood or pipe, a sample was taken. Samples were taken from the backhoe bucket and chosen to represent the most potentially contaminated interval. The samples were immediately bottled and handled in accordance with the RI FWP and SAP.

All trenches were backfilled with their respective excavated material. The backhoe bucket and wheels were used to compact the backfilled material. All trenching was completed according to the RI FWP and SAP.

2.3 GROUNDWATER MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

The following sections discuss methods used to install, develop, and sample groundwater monitoring wells base wide.

2.3.1 Monitoring Well Installation

Groundwater monitoring wells were installed along the shoreline, in IR Site 3 the Treatment Ponds Area, at the Drum Lot Number 1, and at the Waste Disposal Area during this field effort. Table 2-2 provides a detailed summary of monitoring well screened intervals, development and recharge characteristics, and sampling dates. The following sections discuss field methods employed for monitoring well installation.

Monitoring Well Installation in Unconsolidated Material

New monitoring wells were installed along the shoreline to monitor the presence of floating hydrocarbons, aqueous phase (dissolved) constituents, and general water quality and hydrologic conditions. Since the majority of the contaminants previously detected were hydrocarbons, the well screens were positioned to permit light non-aqueous phase liquids (LNAPL) (also called free product) to enter the casing and the thickness of the LNAPL hydrocarbons to be measured. Product migration can be detected and predicted by monitoring changes in product thickness over a period of time. The exact placement of the screen above the top of the water table depended on expected product thickness and historical water level fluctuations.

Variations in the water table were expected adjacent to the shoreline in direct response to tidal fluctuations. Monitoring wells near shoreline areas were installed so that screened intervals bracket tidal variations of the water table. Water level measurements collected at the shoreline monitoring wells have previously indicated vertical changes up to 0.5 feet throughout a 24-hour period.

Well screens are generally limited to 10-foot lengths to allow representative sampling at discrete intervals. This design permits monitoring of the entire floating product thickness and groundwater in the contaminated interval directly beneath it. The on-site geologist selected the appropriate screen length based on information obtained during the drilling of each boring and following subsequent observation of water levels within each boring or at adjacent monitoring wells.

Groundwater monitoring wells were constructed with 4-inch diameter screen and blank casing with threaded and flush joints. The screen and blank-casing material are polyvinyl chloride (PVC).

The monitoring wells were installed in unconsolidated alluvium, fill material, and marine sediments using HSA drilling methods. Wells were installed in boreholes used as soil borings and were reamed to a larger diameter (at least 10-inches) prior to the installation of the monitoring wells.

All wells were installed with the top of the screen placed no less than 1 foot but no more than 2.5 feet above the static water level. All casing and down hole materials were steam cleaned prior to installation. Casing lengths were measured to the nearest 0.05 foot prior to installation. Screen slot size was selected in the field and based on the observed size and grading of formation material adjacent to the monitored interval. Similarly, the filter pack (sand pack) was placed throughout the screened interval and sized appropriately for both the adjacent formation and the slot size chosen. The filter pack extends approximately 2 feet above the top of the screen. A seal of bentonite pellets, between 1.5 to 2 feet thick, was placed above the filter pack and then hydrated. The remaining annular space was filled with a cement grout containing 5 percent powdered bentonite or with a bentonite slurry. A tremie pipe was used to place the filter pack or grout where caving or sloughing of formation materials was anticipated. The depths from ground surface to the top of the filter pack and the top of the bentonite seal were verified with a weighted measuring tape.

The wells were completed above ground where possible or flush mount with traffic rated well boxes where vehicular traffic was anticipated. For above-ground completions, 8-inch diameter surface casing was installed at least 24 inches below ground surface and anchored with aggregate concrete. The concrete was finished so that it slopes away from the surface casing for a minimum distance of 2 feet with the exception of several wells in Drum Lot No. 1 which are truly flush. The surface casing extends approximately 24 to 36 inches above ground surface, was painted, and completed with weep holes (water drainage holes) near the base. Bollards were installed around the surface casing where necessary to protect the wellheads from vehicular damage.

Flush mounted boxes were anchored in aggregate concrete and with stickup approximately 1 inch above ground surface. The concrete slopes away from the top surface of the box lid. Grout was added inside the box to assure the well annular space is sealed from the surface contamination. Above ground wells were secured with locking caps. The wells installed in flush mounted boxes were secured with a water tight (expanding) locking cap. All construction details for each monitoring well were documented on a monitoring well installation record (see Appendix C).

Bedrock Monitoring Wells

Following performance of bedrock permeability tests, PVC monitoring wells were installed at each bedrock monitoring well location. Surface casing, or temporary HSA was drilled to bedrock prior to well installation. Two-inch diameter PVC well casing and screen were installed in the coreholes. Sandpack was placed around well screens during installation. Screen slot size used was 0.010 inches (10-slot). Blank casing extends approximately 2 feet above the ground surface, and was completed as an above-ground installation. Total lengths of screen, end cap, and casing were measured during installation, and the top of PVC casing was surveyed for vertical reference.

2.3.2 Monitoring Well Development

The monitor wells installed under this investigation were developed to maximize the flow of formation water into the well casing; to remove any fluids introduced during drilling; to allow the groundwater and potential contaminants to equilibrate following the disturbance during drilling; and to create representative aquifer conditions near the monitoring well prior to sampling. Various established development techniques were utilized including bailing, surging, and pumping.

Groundwater within bedrock monitoring wells was developed and sampled using normal protocol for unconsolidated monitoring wells. All bedrock wells sustained recharge sufficient for development, purging, and sampling.

Initially, the wells were developed using a large capacity bailer supplied by the drilling contractor. Development began no sooner than 24 hours after well installation was complete. The pH, temperature, electrical conductivity, and nephelometric turbidity units (NTU) of the development water were monitored at an approximate rate of one measurement of each parameter for each five gallons of water removed. These measurements were used as indications of formation groundwater stability. Where these measurements did not stabilize (to within 10 percent after several readings), development continued until readings stabilized. Where formations were not capable of yielding sufficient water volumes, the well was developed until the casing was dewatered. If recharge required

many hours, the well was left to recharge overnight, and dewatered again the following day. Where recharge was extremely slow, and a well needed more than one day to recharge, one casing volume was considered adequate for development purposes. Well development data sheets are presented in Appendix D.

2.3.3 Groundwater Sampling

This section describes groundwater sampling procedures implemented during both baseline groundwater sampling for the new Phase II RI monitoring wells and semi-annual groundwater sampling at 20 monitoring wells previously sampled as requested by RWQCB.

Groundwater samples were obtained for all newly installed monitoring wells except monitoring well MW02-15, which was purged dry and did not recharge sufficiently to provide enough water to sample. The sampling sheet for monitoring well MW02-15 is included in Appendix D. The parameters analyzed are detailed for each respective well in Table 2.5 along with all parameters analyzed in each well during the three semiannual groundwater monitoring events. All new wells were analyzed for TPH -p, TPH-e, SVOCs, and total dissolved solids (TDS). Additionally, four new wells in IR Site 1, the Waste Disposal Area, and one well in IR Site 4, the South Shoreline Area, were sampled for both total and dissolved (filtered) metals. Sample results are discussed in Section 4.0, shown on plates for each respective IR site, and presented in Appendix A2. The sampling data sheets (same as the development sheets for many wells) are in Appendix D.

All newly-installed monitoring wells were developed. Groundwater samples were collected from all new wells (except MW02-15 which did not recharge) no sooner than 48 hours after development. All existing monitoring wells sampled during Semiannual Groundwater Sampling Event Number 1 were aggressively purged because most of the wells had not been sampled since 1994. This redevelopment was performed by a submersible pump when a given well produced adequate recharge. For monitoring wells with slow recharge, a stainless steel bailer or peristaltic pump was used. Information on these wells and the field sampling data sheets are compiled in the Semiannual Groundwater Sampling Event Number 1 Data Summary (TtEMI 1998a).

The presence of LNAPLs in wells was monitored with an interface probe. If an immiscible phase was present, the thickness of the product was measured using the interface probe. The water level and total depth within the well casing were measured, and casing volume was calculated. Information including water levels, PID readings at the well head, purge volumes, groundwater quality, and well construction information were recorded in the groundwater sampling forms (presented in TtEMI 1999a).

If an immiscible phase was not detected, water in the well was purged to obtain a representative water sample. The casing volume of the well was calculated using the water level and total depth measurements (cross-sectional area times h, where h equals the total depth of the well minus the depth to water). All the wells were purged with a bailer or submersible pump. A bailer was used to remove the first portion of purge water. In all wells where floating hydrocarbons were not detected, the water sample was collected from the top of the water column. The water in the bailer was visually inspected for any oily sheen or oil globules. Prior to sample collection, three casing volumes of water was purged from the well. The pH, conductivity, temperature, and turbidity of the purged water were measured and recorded regularly throughout the purging process. If, after removing three casing volumes, these parameters did not stabilize, purging continued until stabilization. The pH, conductivity, temperature, and turbidity were measured a final time when the sample was taken.

Prior to purging a well that had LNAPL present, a sample of the hydrocarbons was obtained using a bottom filling Teflon or stainless-steel bailer. To sample the groundwater beneath the hydrocarbon layer, attempts were made to evacuate the hydrocarbon layer using a bailer. An interface probe was used to detect any recharge of the hydrocarbon layer. None of the wells displayed a significant hydrocarbon recharge.

The bottles used to hold samples for analysis of BTEX, VOCs, and SVOCs were filled first. The sample bottles were maintained in a cool environment prior to sample collection to minimize the loss of volatile components. After sealing the bottle with a Teflon-lined cap, the bottle was inverted and tapped lightly, and the absence of air bubbles was visually confirmed. If any headspace was present, the bottles were topped off and tested again for head space. If the head space was still present, this sample container was discarded and a new sample container used to collect the sample. Containers for TPH-e and total petroleum hydrocarbons - purgeable (TPH-p) analyses were then filled. A small amount of air-filled head space was allowed for TPH-e samples. The sample bottles for other analytes and general water quality parameters were filled last.

All sampling was consistent with the field protocols used during previous sampling efforts and followed the basewide quality assurance project plan (QAPP) (TtEMI 1998m), FWP, SAP, and SOPs.

2.4 WATER LEVEL MEASUREMENT

Before groundwater samples were collected, water level and product thickness (when present) were measured at all facility monitoring wells. Site 3 monitoring wells MW11-38 and PZ11-38A were obstructed by a Baker tank and measurements could not be taken; Site 3 monitoring well MW11-16 could not be located due to construction in the area. An Oil Recovery Systems and Solinst Model 121 interface probe were used to

measure both depth to product and depth to groundwater. All measurements were referenced to the top of each well casing for vertical control. Table 2-4 shows the results of April 1999 facility-wide water level and product thickness measurements, and provides the water or top of product elevation along with notes on product type, product removal, or other features for all accessible wells at the IR sites. Plate 3 shows water level contours of the entire facility based on the January 1999 (before the April data was available) data. Plate 22 shows detailed water level contours in Site 3, the Treatment Ponds Area.

2.5 AQUIFER TESTING

Six bedrock coreholes drilled and tested for hydraulic conductivity (K). They are identified and located as follows:

IR SITE 1: WASTE DISPOSAL AREA AND DOWNGRADIENT DRAINAGE AREA

- BR02-18 Located upgradient of the Waste Disposal Area
- BRO2-19 Located downgradient of the Waste Disposal Area
- BR02-20 Located downgradient of the Waste Disposal Area near Catchment Basin 2

IR SITE 3: TREATMENT PONDS AREA

- BR11-96 Located in the Treatment Ponds Area

IR SITE 4: SHORELINE AREAS

- BR11-90 Located in Drum Lot No. 1
- BR 10-19 Located along the South Shoreline

In situ permeability testing was conducted at each corehole location to estimate permeability of the bedrock. Following coring of the bedrock, an inflatable packer assembly was inserted into the corehole to selectively isolate intervals of bedrock for testing. At each corehole location, a single inflatable packer was set directly above the interval tested. The top of the packer and the pipe sections were attached with national pipe thread (NPT) joints. The piping was connected to a water swivel located above the ground surface. Water was pumped through 1-inch steel piping into the isolated test interval between the bottom of the corehole and the packer. An in-line flow meter was used to measure input flow and an in-line pressure gauge monitored input

pressure. Input pressure, or head, was maintained at a constant level for each time interval, then stepped up in increments. Measurements taken at 1- to 3-minute increments during the test included injection flow rate, length of test interval, input pressure, packer pressure, and height of the water swivel above the ground surface. These measurements are used to calculate an estimated K.

The depth to water in the corehole was monitored throughout the test to establish whether the packer was forming an adequate seal against the corehole sidewalls. A rise in the water level indicated that the packer was leaking. If so, the packer pressure was increased. In some cases, it was necessary to move the packer assembly upward or downward (modify the test interval) to obtain an adequate seal.

The packer test parameters, interval depths, and estimated K values for each corehole are presented in Appendix G (Table G-1). Calculations of K for each interval tested are also attached in Appendix G.

2.6 INVESTIGATION DERIVED WASTE DISPOSAL

This section describes the disposal of IDW generated during field investigations.

2.6.1 Disposal of IDW Liquids

IDW liquids included development water, purge water, and decontamination water. Purge water was temporarily contained during well development and sampling in a 500-gallon container. The container was then periodically emptied into the wastewater treatment system at IR Site 3. All decontamination water was directly placed into the system.

2.6.2 Disposal of IDW Solids

Potentially contaminated soils were segregated and drummed until analytical results are reviewed. If the drummed soil exceeds the removal levels used for disposal of the soil removed during pipeline excavation, the soil will be disposed of with the removed pipeline soil. Clean soils from drilling were incorporated into the backfill soils for the pipeline removal in Drum Lot No. 1. Soil excavated during IR Site 1 trenching was replaced in the respective trench and compacted with the backhoe. All disposable equipment was decontaminated before disposal.

2.7 DEVIATIONS FROM THE FIELD WORK PLAN

Very few deviations from the FWP (TtEMI 1997k) were made. None of the deviations are considered significant and the data gaps and Data Quality Objectives (DQOs) were fully addressed. Some drilling locations were modified in response to underground or aboveground utilities or field conditions such as hampered access. Plate 2 shows all new soil boring and monitoring well locations. Table 2-6 provides a comparison of investigation actions proposed in the FWP to actual investigation actions. The following bullets indicate changes and the reasons for the changes.

- Trenching in IR Site 1, the Waste Disposal Area, was expanded to better delineate wastes encountered and evaluate the extent of fill. Linear footage of trenching increased from the proposed 160 maximum to 406 linear feet. Actual trench locations are shown on Plate 4.

- Physical property samples of the fill materials at IR Site 1 were not obtained. The determination was made that the parameters potentially needed were not well defined and analysis should be deferred to the EE/CA.

- Samples for total and dissolved (filtered) metals analyses were added to four IR Site 1 wells to better characterize current conditions in the Waste Disposal area.

- An opportunity grab sample was obtained from within the augers while drilling SB 02-09. This soil boring was not scoped for a water sample or well installation. The sample results are for screening-level use only.

- MW02-14 (changed to a stilling well made of slotted PVC in a gravel pack to address the groundwater table being at the ground surface) was not installed due to heavy rains which made it impossible to access the site with the backhoe.

- One location in the IR Site 3, the Treatment Ponds Area, was converted from the originally scoped soil boring to monitoring well MW11-94.

- An additional well as added to the north side of the IR Site 4 containment wing wall near P211-78 (Plate 2).

- One of the three monitoring wells at the foot of the pier was not installed due to difficult drilling and shallow rock or riprap encountered in SB11-87.

- Five wells were scoped for the interior of Drum Lot No. 1. Only four wells were installed. However, three soil borings were drilled without wells which equals seven borings total rather than the five originally proposed.

- Pore water samples were not obtained at the Public Beach. The sediment obtained was so well drained that water was not present in the upper one foot of sediment scoped for sampling.

- Two additional soil samples were analyzed for pesticides at the Public Beach area. These samples were an original sample and a duplicate taken halfway between the Disease Vector Control Center (DVCC) building and the shoreline. These data will be used to support the Phase II EBS investigation at the DVCC building.

- The nomenclature for designating the monitoring wells and soil borings presented in the FWP was revised to reflect and continue the previously used protocols for designation at NFD Point Molate. Plate 2 shows the new borings, wells, and designations.

- The concrete at several Drum Lot No. 1 wells were not finished to slope away from the surface casing for a minimum distance of 2 feet. These wells are completely flush with the ground surface.

TABLE 2-1

NFD POINT MOLATE
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JANUARY/FEBRUARY 1999 DRILLING SUMMARY
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DATE	IR SITE NO.	BOREHOLE NO.	DRILL RIG	DRILLED DEPTH	FEET SAMPLED (CME)	AUGER WITHOUT SAMPLES	SPLIT SPOON FOOTAGE	FEET CORED	FEET GROUTED	WELL FOOTAGE	PACKER TEST (HOURS)	LOCATION (See pages 3 and 4 for descriptions)
Waste Disposal Area												
1/20/99	1	SB02-08	CME 850	27	27	0	0	NA		NA	NA	Waste Disp. Area (WDA) - Bottom End
1/21/99	1	SB02-09	CME 850	25	23	2	0	NA	20	NA	NA	Waste Disp. Area - Flank
1/21/99	1	SB02-10	CME 850	25.3	23.8	2	0.3	NA	21	NA	NA	Waste Disp. Area - Flank
1/21/99	1	SB02-11	CME 850	28	24	1	3	NA	23	NA	NA	Waste Disp. Area - Upper End
2/3/99	1	SB02-12	CME 850	13	13	0	0	0.0	12	0.0	NA	Between CB #2 and Burma Rd.
1/26/99	1	SB02-13	CME 850	20	20	0	0	NA	11.5	19.8	NA	Directly Downgradient of WDA
1/27/99	1	SB02-16	CME 850	24	24	0	0	NA	3.5	17.5	NA	Between Retention Ponds
2/3/99	1	SB02-17	CME 850	32.5	32.5	0.0	0	0.0	10.9	30.4	NA	Downgradient of Catch Basin #2
1/23/99	1	SB02-18	CME 850	NA	NA	NA	NA	22.8		20.0	1.00	WDA - Directly Upgradient
	1	SB02-19	CME 850	34.8	20.4	0	0	14.4	15	31.4	1.50	WDA - Directly Downgradient
1/28/99	1	SB02-20	CME 850	44.3	27.7	0	2.5	14.1	33.5	45.0	2.50	Catch Basin #2
1/22/99	1	PZ02-01	CME 850	24.8	0	25	0	NA	9	24.8	NA	Waste Disp. Area - Bottom Flank
1/22/99	1	PZ02-02	CME 850	40	0	40	0	NA	11	25.0	NA	Waste Disp. Area - Top Flank
1/22/99	1	PZ02-03	CME 850	21.4	0	21	0	11.0	NA	11.0	NA	Waste Disp. Area - Upgradient End
1/25/99	1	PZ02-04A	CME 850	33	0	33	0	NA	24	33.0	NA	Waste Disp. Area - Top Flank
1/23/99	1	PZ02-05	CME 850	25	0	25	0	NA		23.9	NA	Waste Disp. Area - Bottom Flank
Diesel Road/Tanks B & C Area												
2/11/99	3	SB03-02	CME 850	25	25	0	0	0	~ 6	~ 20	NA	Top end of Diesel Rd near Gate # 6
Treatment Ponds Area												
2/12/99	3	SB11-94	CME 850	20	20	0	0	0	~ 2	~ 15	NA	Treatment Ponds Area - north end
2/7/99	3	SB11-95	CME 850	30	30	0	0	0	30	NA	NA	Treatment Ponds Area - south end
2/9/99	3	SB11-96	CME 850	47.5	35	0	0	14.5				Treatment Ponds Area
Drum Lot No. 1 Area												
2/16/99	3	SB11-97	CME 850	36	0	36	0	0	36	NA	NA	Drum Lot No. 1
2/15/99	3	SB11-98	CME 850	47.5	0	47.5	47.5	0	47.5	NA	NA	Drum Lot No. 1
2/5/99	4	SB11-80	CME 850	19.8	19.8	0	0	0	8	23.0		Drum Lot No. 1 - East Side
2/4/99	4	SB11-81	CME 850	20	20	0	0	0	5.8	20.4	NA	Drum Lot No. 1 - Near MW11-19
2/5/99	4	SB11-82	CME 850	20	20	0	0	0	9	22.0	NA	Drum Lot No. 1 - East Side
2/5/99	4	SB11-83	CME 850	14	14	0	0	0	3	13.0	NA	Drum Lot No. 1 - East Side
2/5/99	4	SB11-84	CME 850	9.5	5	0	0	0	9.5	NA	NA	Drum Lot No. 1 - East of MW11-57
2/11/99	4	SB11-85	CME 850					0				Fuel Pier - Near Bldg 70
2/11/99	4	SB11-86	CME 850					0				Fuel Pier - Just North of Pier
2/12/99	4	SB11-87	CME 850					0				Fuel Pier - East of Pier
2/7/99	4	SB11-88	CME 850					0				Drum Lot No. 1 Cutoff Wall - S. Side
2/7/99	4	SB11-89	CME 850	20.5	0	0.0	0	0.0	8.2	22.5	NA	Drum Lot No. 1 Cutoff Wall - N. Side
2/6/99	4	SB11-90	CME 850	68.7	35	25.0	0	9.0	58	70.0	3.00	Drum Lot No. 1 - Near MW11-19

TABLE 2-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
JANUARY/FEBRUARY 1999 DRILLING SUMMARY
(Page 2 of 2)

DATE	IR SITE NO.	BOREHOLE NO.	DRILL RIG	DRILLED DEPTH	FEET SAMPLED (CME)	AUGER WITHOUT SAMPLES	SPLIT SPOON FOOTAGE	FEET CORED	FEET GROUTED	WELL FOOTAGE	PACKER TEST (HOURS)	LOCATION (See pages 3 and 4 for descriptions)
South Shoreline Area												
2/10/99	4	SB10-17	CME 850	~ 21	NA	NA	NA	NA	NA	NA	NA	35' north of MW10-03
2/10/99	4	SB10-18	CME 850	NA	NA	NA	NA	NA	NA	NA	NA	17' south of 'MW10-03
2/3/99	4	SB10-19	CME 850	23.5	11	0.0	0	12.5	14	25.0	2.50	S. Shoreline - Site 1 Drainage Area
2/4/99	4	SB10-20	CME 850	20	20	0	0	0	20	NA	NA	S. Shoreline - S. edge Burma Road

TABLE 2-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SOIL BORINGS/MONITORING WELLS
DEVELOPMENT AND SAMPLING DATA
(Page 1 of 2)

Well No.	Monitoring Well Soil Boring	Date Installed	Screened Interval (feet bgs)	Geologic Unit Screened	Required Purge Volume (gallons)	Developed Purge Volume (gallons)	Recharges Yes/No	Dates Developed	Sample Date	Comments
IR SITE 1 - WASTE DISPOSAL AREA										
1	PZ02-01	1/22/99	14.2 - 23.9	colluvium/bedrock	17.0	19.0	YES	2/22-24/99	NA	WDA - bottom right side
2	PZ02-02	1/21/99	14.2 - 24.2	bedrock	DRY	DRY	NO	DRY	NA	WDA - upper right side
3	PZ02-03	1/22/99	15.3 - 20.5	bedrock	22.0	37.0	YES	2/22/99	NA	WDA - top end
4	PZ02-04	1/21/99	7- 9.8	colluvium	DRY	DRY	NO	DRY	NA	WDA - upper left side
5	PZ02-04 A	1/25/99	28 - 32	bedrock	20.0	20.0	YES	2/22-23/99	NA	WDA - upper left side
6	PZ02-05	1/23/99	19.2 - 23.9	bedrock	21.0	8.0	NO	2/24/99	NA	WDA - lower left side
*	SB02-08	1/20/99	-	-	-	-	-	-	-	WDA - bottom end
*	SB02-09	1/21/99	-	-	-	-	-	-	-	WDA - middle right
*	SB02-10	1/21/99	-	-	-	-	-	-	-	WDA - middle center
*	SB02-11	1/21/99	-	-	-	-	-	-	-	WDA - upper center
*	SB02-12	2/3/99	-	-	-	-	-	-	-	Near Garden Rd.
7	MW02-13	1/26/99	14.8 - 19	bedrock	63.0	63.0	YES	2/22-24/99	2/24/99	Directly downgradient of WDA
8	MW02-14	Too muddy	N/A	N/A	N/A	N/A	N/A	N/A		Surface water well in seep below WDA
9	MW02-15	2/2/99	14 - 19	colluvium	44.0	13.0	NO	2/22-24/99	NA	Downgradien of WDA
10	MW02-16	1/27/99	7.6 - 16.6	colluvium/bedrock	39.0	55.0	YES	2/24-25/99	2/25/99	Between retention ponds
11	MW02-17	2/3/99	15.1 - 25.1	colluvium	81.0	135.0	YES	2/17-23/99	2/23/99	Near Garden Rd.
12	BR02-18	1/23/99	15 - 19	bedrock	20.1	34.0	YES	2/18-25/99	2/25/99	2" bedrock well upgradient of WDA
13	BR02-19	1/26/99	26.4 - 30.4	bedrock	30.8	52.0	YES	2/22-23/99	2/23/99	2" bedrock well downgradient of WDA
14	BR02-20	2/2/99	38.2 - 43.2	bedrock	33.0	55.0	YES	2/23-24/99	2/24/99	2" bedrock well near Catch Basin #2
15	MW03-02	2/11/99	10.3 - 20.5	colluvium/bedrock	60.0	90.0	YES	2/23-24/99	2/24/99	Inside Gate # 6
IR SITE 3 - TREATMENT PONDS AREA										
16	MW11-94	2/12/99	5 - 15	fill/colluvium	34.0	34.0	YES	2/18-19/99	2/19/99	4" well - N. end of ponds (expect product)
*	SB11-95	2/7/95	-	-	-	-	-	-	-	South end of ponds
17	BR11-96	2/10/99	38 - 49	bedrock	42	70	YES	2/18-25/99	2/25/99	2" bedrock well near MW11-93

TABLE 2-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SOIL BORINGS/MONITORING WELLS
DEVELOPMENT AND SAMPLING DATA
(Page 2 of 2)

Well No.	Monitoring Well Soil Boring	Date Installed	Screened Interval (feet bgs)	Geologic Unit Screened	Required Purge Volume (gallons)	Developed Purge Volume (gallons)	Recharges Yes/No	Dates Developed	Sample Date	Comments
IR SITE 4 - DRUM LOT 1										
18	MW11-80	2/5/99	11.8 - 19.8	fill	30.0	50.0	YES	2/24/99	2/24/99	Drum Lot No. 1, east of MW11-19
19	MW11-81	2/4/99	9.7 - 19.7	fill	43.0	45.0	YES	2/26/99	2/26/99	Drum Lot No. 1, closer to Bldg. 89
20	MW11-82	2/5/99	12.5 - 20	fill	45.0	45.0	YES	3/4-7/99	3/9/99	Middle of Drum Lot No. 1
21	MW11-83	2/5/99	5.3 - 13.3	fill	24.0	40.0	YES	3/4/99	3/4/99	Middle of Drum Lot No. 1
*	SB11-84	2/5/99	-	-	-	-	-	-	-	NW of Building 132
22	MW11-85	2/11/99	7 - 17	fill	26.3	40.00	YES	2/17-19/99	2/19/99	Fuel pier, near Bldg. 70
23	MW11-86	2/11/99	10 - 17	fill	32.0	45.0	YES	2/17-19/99	2/19/99	Fuel pier, just north of pier
*	SB11-87	2/12/99	-	-	-	-	-	-	-	Due east of fuel pier
24	MW11-88	2/7/99	11.4 - 20.4	fill	30	35	YES	2/24-25/99	-	Cutoff wall - south side
25	MW11-89	2/7/99	13 - 20.5	fill	45	50	YES	2/24-25/99	2/25/99	Cutoff wall - north side
26	BR11-90	2/6/99	63.4 - 68.4	bedrock	45	45	YES	3/4-3/7/99	3/7/99	2" bedrock well near MW11-19
*	SB11-97	2/15/99	-	-	-	-	-	-	-	Middle of Drum Lot No. 1; tag bedrock
*	SB11-98	2/15/99 ?	-	-	-	-	-	-	-	Middle of Drum Lot No. 1; tag bedrock
IR SITE 4 - SOUTH SHORELINE AREAS										
27	MW10-17	2/10/99	14 - 21	colluvium/bedrock	23.4	29.0	YES	2/17-23/99	2/23/99	35' north of MW10-03
28	MW10-18	2/10/99	15 - 20	bedrock	20.0	26.0	YES	2/17-23/99	2/23/99	17' south of MW10-03
29	BR10-19	2/4/99	18.2 - 23.2	bedrock	20.0	17.0	YES	2/17-25/99	2/25/99	2" bedrock well near ERM10-2
*	SB10-20	2/4/99 ?	-	-	-	-	-	-	-	Near ERM10-1 (no borelog)

Notes:

PZ designates piezometers that are to be developed, but have not been sampled for chemical analysis

" - " Soil boring, no water sampled

* Areas are soil borings where no monitoring well was installed

[1]Monitoring well MW02-14 was not installed because muddy ground prevented drilling rig access

NA Not applicable

WDA Waste Disposal Area

SB Soil boring

TABLE 2-3

NFD POINT MOLATE
FINAL PHASE II RI REPORT
ANALYSES PERFORMED FOR SOIL SAMPLES AT NEW RI WELLS
(PHASE II RI SOIL BORINGS)

Sampling Site	Sample ID (depth in feet bgs)	Date Submitted	Analyses			
			TPH-P	TPH-E	VOC	PAHs
IR Site 1	SB02-08 (18.7-19.2)	1/20/99	X	X		
IR Site 1	SB02-09 (20.6-30.1)	1/21/99	X	X	X	X
IR Site 1	**WB02-09**	1/21/99	X	X	X	X
IR Site 1	SB02-11 (18.8-19.1)	1/21/99	X	X	X	X
IR Site 1	SB02-12 (7.0-8.0)	2/3/99	X	X	X	X
IR Site 1	SB02-13 (8.5-9.4)	1/26/99	X	X	X	X
IR Site 1	SB02-15 (12.5-13.5)	2/2/99	X	X	X	X
IR Site 1	SB02-16 (11.0-11.7)	1/27/99	X	X	X	X
IR Site 1	SB02-16 (11.7-12.8)	1/27/99	X	X	X	X
IR Site 1	SB02-17 (14.0-15.0)	2/3/99	X	X	X	X
IR Site 1	SB02-19 (12.0-13.0)	1/25/99	X	X	X	X
IR Site 1	SB02-19 (24.0-25.0)	1/25/99	X	X	X	X
IR Site 1	SB02-20 (15.5-17.6)	1/27/99	X	X	X	X
Diesel Road	SB03-02 (13.5-14)	2/11/99	X	X	X	X
South Shore Line	SB10-17 (19.5-20)	2/10/99	X	X	X	X
South Shore Line	SB10-18 (18.5-19)	2/10/99	X	X	X	X
South Shore Line	BR10-19 (9.0-10.0)	2/3/99	X	X	X	X
South Shore Line	SB10-20 (10.0-11.0)	2/4/99	X	X	X	X
South Shore Line	SB10-20 (16.5-17.5)	2/4/99	X	X	X	X
South Shore Line	SB10-20 (18.0-18.5)	2/4/99	X	X	X	X
Drum Lot 1	SB11-80 (16.0-17.0)	2/5/99	X	X	X	X
Drum Lot 1	SB11-82 (11.0-12.0)	2/5/99	X	X	X	X
Drum Lot 1	SB11-82 (14.0-15.0)	2/5/99	X	X	X	X
Drum Lot 1	SB11-83 (7.0-8.0)	2/5/99	X	X	X	X
Drum Lot 1	SB11-83 (11.5-12.5)	2/5/99	X	X	X	X
Drum Lot 1	SB11-85 (13.5-14)	2/11/99	X	X	X	X
Drum Lot 1	SB11-86 (14.5-15)	2/11/99	X	X	X	X
Drum Lot 1	**WB11-87 (12.0)**	2/12/99	X	X	X	X
Drum Lot 1	BR11-90 (14-15)	2/6/99	X	X	X	X
Drum Lot 1	BR11-90 (22.5-23.5)	2/6/99	X	X	X	X
Drum Lot 1	**BR11-90 (14)**	2/6/99	X	X	X	X
IR Site 3	SB11-94 (10-11.5)	2/12/99	X	X	X	X
IR Site 3	SB11-94 (14.5-15.0)	2/12/99	X	X	X	X
IR Site 3	SB11-95 (10.0-11.0)	2/7/99	X	X	X	X
IR Site 3	SB11-95 (11.5-12.5)	2/7/99	X	X	X	X
IR Site 3	SB11-95 (21.0-22.5)	2/7/99	X	X	X	X
IR Site 3	**SB11-95 (5)**	2/7/99	X	X	X	X
IR Site 3	SB11-96 (14.5-15)	2/9/99	X	X	X	X
IR Site 3	SB11-96 (17.5-18)	2/9/99	X	X	X	X
IR Site 3	SB11-96 (31.-31.5)	2/9/99	X	X	X	X

Notes: Bold indicates that water samples were taken during drilling

[1] For metals analyses, indicate Total or Dissolved with "T" or "D"

bgs	below ground surface
PAH	Polycyclic aromatic hydrocarbons
TPH-P	Total petroleum hydrocarbons-purgeable
TPH-E	Total petroleum hydrocarbons-extractable
VOC	Volatile organic compound

TABLE 2-4

NAVAL FUEL DEPOT POINT MOLATE
BASE WIDE WATER LEVELS AND PRODUCT THICKNESS
MEASURED IN APRIL 1999
(Page 1 of 5)

Well No.	TOC Elev.	Depth to Product (feet below TOC)	Depth to Water (feet below TOC)	Water/Product Elevations (feet above msl)	Product Thickness (feet)	Product Type Comments
NORTH SHORELINE MONITORING WELLS						
ERM-03	24.5		17.32	7.18		TOC elevation is estimated
MW11-02	24.3		17.63	6.67		
MW11-04	23.47		14.92	8.55		
MW11-05	22.91		16.44	6.47		
MW11-06	22.6		16.43	6.17		
MW11-07	20.4		15.9	4.5		
MW11-08	Removed	Removed	Removed	Removed	Removed	Removed in 1995
TREATMENT PONDS AREA MONITORING WELLS						
PZ11-01	31.52		11.82	19.7		
PZ11-02	23.52		5.59	17.93		
MW11-09	17.55		17.89	-0.34		
MW11-10	17.28		17.75	-0.47		
MW11-11	17.45	17.96	18.1	-0.51	0.14	
PZ11-11A	17.85	18.39	18.42	-0.54	0.03	
MW11-12	17.6		17.19	0.41		
MW11-13	17.52		14.89	2.63		
MW11-14	18.05			18.05		
MW11-15	Removed	Removed	Removed	Removed	Removed	Removed in 1995
MW11-16	Removed	Removed	Removed	Removed	Removed	Removed in 1998
MW11-25	21.19		17.82	3.37		
MW11-26	16.43		9.93	6.5		
MW11-27	16.57		14.31	2.26		
PZ11-27A	16.92	14.6	15.44	2.32	0.84	
PZ11-27B	16.61		13.79	2.82		
MW11-28	16.57	12.7	13.19	3.87	0.49	
MW11-29	19.12		7.2	11.92		
MW11-30	16.41		8.75	7.66		
MW11-31	17.05		13.78	3.27		
PZ11-31A	16.97	13.62	14.9	3.35	1.28	
PZ11-35	19.04		5.51	13.53		
MW11-32	17.12	10.85	**10.85**	6.27		Could not read water level, heavy bunker fuel
PZ11-34	19.17	4.85	4.86	14.32	0.01	
MW11-33	17.55		5.62	11.93		
PZ11-33A	17.79	12.4	12.42	5.39	0.02	
MW11-36	17.43	9.95		7.48		Skimmer would not allow DTW measurement
MW11-37	18.02	10.6	11.36	7.42	0.76	

TABLE 2-4

NAVAL FUEL DEPOT POINT MOLATE
BASE WIDE WATER LEVELS AND PRODUCT THICKNESS
MEASURED IN APRIL 1999
(Page 2 of 5)

Well No.	TOC Elev.	Depth to Product (feet below TOC)	Depth to Water (feet below TOC)	Water/Product Elevations (feet above msl)	Product Thickness (feet)	Product Type Comments
TREATMENT PONDS AREA MONITORING WELLS (Continued)						
PZ11-37A	18.24	10.78	11.44	7.46	0.66	
PZ11-37B	18.16	10.69	11.26	7.47	0.57	
MW11-38	18.65					Covered by Baker tank
PZ11-38A	18.74					Covered by Baker tank
MW11-40	22.88	9.2	9.25	13.68		
MW11-41	22.47		8.34	14.13		
MW11-43	22.05		7.06	14.99		
MW11-44	21.28		6.07	15.21		
MW11-45	19.85	4.87	5.02	14.98	0.15	
MW11-46	23.16		10.08	13.08		
MW11-47	22.9		7.49	15.41		
MW11-49	20.98		3.1	17.88		
MW11-51	25.78		5.76	20.02		
MW11-52	18.11	14.92	14.93	3.19	0.01	
MW11-53	19.76		17.81	1.95		
MW11-91	40.18		14.22	25.96		
MW11-92	17.69		17.76	-0.07		
MW11-93	17.66		14.59	3.07		
MW11-94	17.2		9.9	7.3		
BR11-96	18.19		13.29	4.9		
DRUM LOT NO.1 MONITORING WELLS (MEASURED 3/31/98)						
MW11-19	20.31		16.24	4.07		
MW11-20	19.06		14.83	4.23		
MW11-21	20.45		16.25	4.2		
MW11-22	21.74		13.34	8.4		
MW11-23	22.02		16.67	5.35		
MW11-54	17.42		NM			Skimmer in well
MW11-55	16.21		12.22	5.35		
MW11-56	15.04		11.54	5.35		
MW11-57	17.74		13.85	3.89		
PZ11-70	17.29		13.23	4.06		
PZ11-71	17.92		13.74	4.18		
PZ11-72	15.75		11.7	4.05		
PZ11-73	17.76		13.86	3.9		
PZ11-74	14.99		11.16	3.83		

TABLE 2-4

NAVAL FUEL DEPOT POINT MOLATE
BASE WIDE WATER LEVELS AND PRODUCT THICKNESS
MEASURED IN APRIL 1999
(Page 3 of 5)

Well No.	TOC Elev.	Depth to Product (feet below TOC)	Depth to Water (feet below TOC)	Water/Product Elevations (feet above msl)	Product Thickness (feet)	Product Type Comments
DRUM LOT NO.1 MONITORING WELLS (MEASURED 3/31/98) (Continued)						
PZ11-75	17.79		12.3	5.49		
PZ11-76	17.32		13.43	3.89		
PZ11-77	19.39		15.16	4.23		
PZ11-78	20.35		16.11	4.24		
PZ11-79	20.71		16.5	4.21		
MW11-80	18.25		14.34	3.91		
MW11-81	22		11.83	10.17		
MW11-82	18.49		14.6	3.89		
MW11-83	18.58		8.5	10.08		
MW11-85	16.23		11.45	4.78		
MW11-86	16.76		11.95	4.81		
MW11-88	20.31		15.1	5.21		
MW11-89	21.17		15.66	5.51		
BR11-90	17.93		NM			
SOUTH SHORELINE MONITORING WELLS						
MW10-02	22.34		9.31	13.03		
MW10-03	21.61		NM			Skimmer
MW10-04	21.43		16.14	5.29		
MW10-05	21.79		16.5	5.29		
MW10-08	21.65		9.81	11.84		
MW10-09	22.38		8.1	14.28		
MW10-10	20.56		5.4	15.16		
MW10-11	19.41		6.08	13.33		
MW10-12	16.9		2.28	14.62		
MW10-14	19.61		5.79	13.82		
MW10-15	42.82		14.06	28.76		
MW10-16	16.24		10.31	5.93		
MW10-17	21.61		15.01	6.6		
MW10-18	21.52		14.76	6.76		
BR10-19	21.85		13.93	7.92		
ERM10-01	22.69		15.98	6.71		
ERM10-02	22.62		14.74	7.88		

TABLE 2-4

NAVAL FUEL DEPOT POINT MOLATE
BASE WIDE WATER LEVELS AND PRODUCT THICKNESS
MEASURED IN APRIL 1999
(Page 4 of 5)

Well No.	TOC Elev.	Depth to Product (feet below TOC)	Depth to Water (feet below TOC)	Water/Product Elevations (feet above msl)	Product Thickness (feet)	Product Type Comments
DISPOSAL AREA MONITORING WELLS						
MW02-01	137.14		19.17	117.97		
MW02-04	49.7		25.48	24.22		
MW02-06	114.33		17.57	96.76		
MW02-07	50.89	17.52	17.54	33.37	0.02	
MW02-13	88.05		0	88.05		Artesian
MW02-15	84.53		7.96	76.57		
MW02-16	73.84		10.64	63.2		
MW02-17	29.62		6.96	22.66		
BR02-18	160.09		9.62	150.47		
BR02-19	91.56		0.33	91.23		
BR02-20	51.79		10.91	40.88		
PZ02-01	112.23		13.63	98.6		
PZ02-02			DRY			All mud, no product detected
PZ02-03	149.87		14.08	135.79		
PZ02-04A	136.17		22.71	113.46		
PZ02-05	123.74		18.24	105.5		
ERM-EW1	106.29	6.14	6.83	100.15	0.69	
ERM-EW2	63.1		4.38	58.72		
OTHER FACILITY MONITORING WELLS						
BLDG 6 EW1						Not measured
MW04-02	55.98		15.73	40.25		
MW04-03	56.09		11.58	44.51		
MW04-04	73.8		19.53	54.27		
P86-1/2	NO DATA	NM				NM
P86-9/10	NO DATA	16.75	17.45			
P86-11/12	NO DATA		18.83			Belt skimmer in place
P86-13/14	NO DATA	16.61	16.61		0	
P86-15/16	NO DATA		14.03			
EXTRACTION TRENCH WELLS						
EW-A	21.34		18.15	3.19		
EW-B	21.51		19.25	2.26		
EW-C	20.44	21.26	21.26	-0.82	0	Probe fouled, Heavy Bunker fuel
EW-D	20.41		21.09	-0.68		
MW-1	19.68	15.67	15.68	4.01	0.01	
MW-2	19.55		DRY			Dry
MW-3	19.92		NM			
MW-4	21.39		15.38	6.01		
MW13+27	19.64		17.06	2.58		
MW16+25	20.8		21.39	-0.59		

TABLE 2-4

NAVAL FUEL DEPOT POINT MOLATE
BASE WIDE WATER LEVELS AND PRODUCT THICKNESS
MEASURED IN APRIL 1999
(Page 5 of 5)

Well No.	TOC Elev.	Depth to Product (feet below TOC)	Depth to Water (feet below TOC)	Water/Product Elevations (feet above msl)	Product Thickness (feet)	Product Type Comments
USTs						
MWT03-01	136.99		22.71	114.28		
MWT03-02	145.57		31.89	113.68		
MWT02-01	131.12		17.05	114.07		
MWT02-03	140.63		24.5	116.13		
MWTC-01	57.71		11.75	45.96		
MWTB-01	68.66		21.69	46.97		
MWTB-02	75.74		9.66	66.08		
Drainage Area Wells						
MW03-03	104.02		8.53	95.49		
MW01-02	60.36		8.37	51.99		
MW01-01	48.3		0	48.3		Artesian
MW03-01	41.51		16.7	24.81		
MW03-02	75.53		12.07	63.46		Sheen, strong hydrocarbon odor

Notes:

Elevations are referenced to top of water or top of product (if present).

NM Not measured
TOC Top of casing
msl Mean sea level

TABLE 2-5

NFD POINT MOLATE
FINAL PHASE II RI REPORT
GROUNDWATER CHEMICAL ANALYSES PERFORMED DURING SEMIANNUAL GROUNDWATER SAMPLING EVENTS AND IN NEW PHASE II RI WELLS
(Page 1 of 2)

WELL NO.	EVENT 1 OCT/NOV 1997						EVENT 2 APRIL 1998						EVENT 3 JANUARY 1999							NEW WELLS FEBRUARY 1999						
	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	Total Dissolved Solids	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	Total Dissolved Solids
NORTH SHORELINE MONITORING WELLS																										
MW11-05	–	–	–	–	–	–	–	–	X	–	–	–	–	–	X	–	–	–	X	–	–	–	–	–	–	–
TREATMENT PONDS AREA MONITORING WELLS																										
MW11-13	X	X	X	X	–	–	X	X	X	X	–	–	X	X	–	–	–	–	X	–	–	–	–	–	–	–
MW11-93	X	X	X	X	–	–	X	X	X	X	–	–	X	X	–	–	–	–	X	–	–	–	–	–	–	–
MW11-94	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
BR11-96	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
DRUM LOT NO.1 MONITORING WELLS																										
MW11-19	X	X	X	X	–	–	X	X	X	X	X	X	X	X	X	–	–	–	X	–	–	–	–	–	–	–
MW11-20	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW11-21	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW11-54	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW11-55	X	X	X	X	–	–	X	X	X	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW11-56	X	X	X	X	–	–	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW11-57	X	X	X	X	–	–	X	X	X	X	X	X	X	X	X	X	–	–	X	–	–	–	–	–	–	–
PZ11-70	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-71	X	X	X	X	–	–	X	X	X	–	–	–	X	X	–	–	–	–	X	–	–	–	–	–	–	–
PZ11-72	X	X	X	X	–	–	X	X	X	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-73	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-74	–	–	–	–	–	–	X	X	X	–	–	–	X	X	–	–	–	–	X	–	–	–	–	–	–	–
PZ11-75	X	X	X	X	–	–	X	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-76	X	X	X	X	–	–	X	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-77	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PZ11-78	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	–	–	–	X	–	–	–	–	–	–	–
MW11-80	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-81	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-82	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-83	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-85	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-86	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-88	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
MW11-89	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
BR11-90	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
SOUTH SHORELINE MONITORING WELLS																										
MW10-05	–	–	–	–	–	–	X	X	X	–	–	–	–	–	X	–	–	–	X	–	–	–	–	–	–	–
MW10-08	X	X	X	X	–	–	X	X	X	–	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW10-09	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW10-10	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW10-17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	X	X	X
MW10-18	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
BR10-19	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
ERM10-01	X	X	X	X	–	–	X	X	X	X	–	–	X	X	–	X	–	–	X	–	–	–	–	–	–	–

TABLE 2-5

NFD POINT MOLATE
FINAL PHASE II RI REPORT
GROUNDWATER CHEMICAL ANALYSES PERFORMED DURING SEMIANNUAL GROUNDWATER SAMPLING EVENTS AND IN NEW PHASE II RI WELLS
(Page 2 of 2)

WELL NO.	EVENT 1 OCT/NOV 1997						EVENT 2 APRIL 1998						EVENT 3 JANUARY 1999							NEW WELLS FEBRUARY 1999						
	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	Total Dissolved Solids	TPH Extractable	TPH Purgeable	VOC	SVOC	Total Metals	Dissolved Metals	Total Dissolved Solids
DISPOSAL AREA MONITORING WELLS																										
MW02-01	–	–	–	–	–	–	X	X	X	X	X	X	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW02-04	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MW02-06	X	X	X	X	–	–	X	X	X	X	X	X	X	X		X	–	–	X	–	–	–	–	–	–	–
MW02-07	X	X	X	X	–	–	X	X	X	X	–	–	X	X	X	X	–	–	X	–	–	–	–	–	–	–
MW02-13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	X	X	X
MW02-16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	X	X	X
MW02-17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	X	X	X
BR02-18	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	X	X	X
BR02-19	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
BR02-20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X
ERM-EW2	X	X	X	X	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
OTHER FACILITY MONITORING WELLS																										
MW03-02	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	X	X	X	X	–	–	X

Notes:

TPH Total Petroleum Hydrocarbon
VOC Volatile organic compound
SVOC Semivolatile organic compound

TABLE 2-6
NFD POINT MOLATE
FINAL PHASE II RI REPORT
COMPARISON OF PROPOSED ACTIONS VERSUS ACTUAL ACTIONS

IR SITE	Proposed Soil Borings, Piezometers, Monitoring Wells, and Bedrock Wells	Actual Soil Borings, Piezometers, Monitoring Wells, and Bedrock Wells	Proposed[1] Trenches	Actual Trenches	Proposed Background Surface Soil Samples	Actual Background Surface Soil Samples	Proposed Public Beach Human Health Soil Samples	Actual Public Beach Human Health Soil Samples	Proposed Public Beach Human Health Sediment Samples	Actual Public Beach Human Health Sediment Samples	Proposed Public Beach Human Health Pore Water Samples	Actual Public Beach Human Health Pore Water Samples
SITE 1-WASTE DISPOSAL AREA	18	18	8	10	0	0	0	0	0	0	0	0
SITE 2-SANDBLAST AREA	0	0	0	0	0	0	0	0	0	0	0	0
SIRE 3-TREATMENT POND AREA	4	4	0	0	0	0	0	0	0	0	0	0
SITE 4-SHORELINE AREAS	14	14	0	0	0	0	8	8	6	6	6	0
BACKGROUND AREAS	2	2	0	0	14-21	16	0	0	0	0	0	0
TOTAL	**38**	**38**	**8**	**10**	**14-21**	**16**	**8**	**8**	**6**	**6**	**6**	**0**

Notes:
[1]Proposed was 120-160 linear feet of trenching, actual linear footage was 406 linear feet within the Waste Disposal Area

3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

Section 3.0 discusses the environmental and physical characteristics including site surface features, hydrology, geology, and hydrogeology at NFD Point Molate. For further natural and human history information please see the FWP (TtEMI 1998k). The FWP provides extensive discussion of the cultural resources and ecology of NFD Point Molate.

3.1 SURFACE FEATURES

NFD Point Molate covers approximately 425.8 acres, which includes 412.7 acres owned by the Navy, 10.4 acres leased from Chevron, and a fuel pier consisting of 2.7 acres. NFD Point Molate is in Richmond, California, along the northeastern shore of San Francisco Bay on the San Pablo Peninsula. NFD Point Molate is located approximately 1.5 miles north of the Richmond-San Rafael Bridge in the City of Richmond (Figure 1-1). The facility is bordered to the north, south, and east by Chevron, and to the west by San Francisco Bay. The majority of land surrounding NFD Point Molate is used by Chevron for oil refining and storage.

Topography ranges from flat filled areas (reclaimed tidal flats) near the bay to steep dissected slopes of nearly 500 feet elevation in the San Pablo Hills. Plate 1 shows the topographic relief of NFD Point Molate. The ridge of the San Pablo Hills runs generally northwest to southeast. Steep dissected slopes are generally perpendicular to the ridge axis (northeast or southwest).

Within NFD Point Molate, the dissected slopes form six ravines oriented perpendicular to the ridge, that drain water toward the bay. These six ravines are referred to as legs by facility personnel. Drainage in each of these ravines is intercepted by catchment basins (numbered 1 through 6 from south to north), as shown on Plate 1. These ravines can be considered surface water and groundwater recharge areas, where rainwater entering the separate ravines drains and follows the topography until it reaches a catchment basin (if surface water) or the flat areas adjacent to the bay. The ravines, lower slopes, and beach areas are under water table conditions. This water table changes seasonally, responding to periods of wet and dry weather.

3.2 METEOROLOGY

The climate of Point Molate is subjected to a strong marine influence characterized by frequent morning and evening fog during the summer and prevailing winds through the topographic gap between the Presidio on the south and the Marin highlands on the north known as the Golden Gate. Precipitation falls primarily between the months of October and April, and the average annual rainfall is 14 to 24 inches (USDA 1977). The average daily temperature is 59 degrees Fahrenheit (F), and the average annual frost-free period is 250 to 300 days. Relative humidity is lowest in the fall and ranges from 50 percent during the day to 70 percent during the night (DON 1986). The prevailing wind direction is from the northwest. Wind speed is less than 6 miles per hour more than 50 percent of the time and exceeds 12 miles per hour only 10 percent of the time (DON 1986). The strongest winds are generally associated with winter storms.

3.3 SURFACE WATER HYDROLOGY

NFD Point Molate is located in the northeastern portion of San Francisco Bay on the central coast of California. San Francisco Bay can be divided into two major circulatory systems: the South Bay and the North Bay. The North Bay is comprised of Suisun Bay, San Pablo Bay, and Central Bay.

Tidal action greatly influences water exchange within the San Francisco Bay; up to 24 percent of the bay's water volume is exchanged in a single tidal cycle. The tides are mixed semidiurnal, with two lows and two highs approximately every 24 hours. San Francisco Bay is an estuary receiving a significant amount of freshwater input, primarily from the Sacramento River, which affects currents and water quality parameters such as salinity. Salinity ranges from less than 2 parts per thousand (ppt) during the winter in the eastern end of the San Pablo Bay to approximately 30 ppt and above in the Central Bay during summer (RWQCB 1994). During the winter months, salinity can decrease to less than 18 ppt in the Central Bay.

The San Francisco Bay area provides habitats for diverse ecological communities including uplands, grasslands, wetlands, mudflats, shoals, and deep water habitats. The bay is one of the most important staging and wintering areas for migratory waterfowl and shorebird populations on the western coasts of North and South America. Nearly one million waterfowl and shorebirds utilize the San Francisco Bay's open water and wetland habitats.

On-shore surface water is sparse and largely ephemeral at NFD Point Molate. The man-made Treatment Ponds are the only large body of standing water. Several small areas of delineated wetlands occur within the ravine containing IR Site 1 and the Waste Disposal Area, and along the shorelines. These may have small amounts of standing water. Additionally, there are several small surface seeps that daylight along the facilities hillsides. These appear to be controlled by the geology and are usually active mainly during the rainy winter season.

Several catchment basins are present at NFD Point Molate. These are connected to stormwater outfalls along the shoreline. The basins collect stormwater and discharge it through the outfalls.

3.4 GEOLOGY

This section provides the regional geologic setting including the stratigraphy and structure. Details of the site specific geology at NFD Point Molate are also presented.

3.4.1 Regional Geology

The bedrock along San Pablo Ridge is composed primarily of sedimentary rocks of the late Jurassic and Cretaceous-aged Franciscan Formation. Regionally, the Franciscan Formation is a heterogeneous assemblage consisting of sequences of graywacke (sandstone), shale, and lesser amounts of mafic volcanic rocks, thin bedded chert, and rare limestone (Irwin 1990). The Franciscan Formation was deposited along the deep ocean trench or arc-trench gap that existed during the late Mesozoic as a result of subduction (Blake and others 1974). During the late Cretaceous, subduction-related thrust faults transported Franciscan rocks eastward and upward beneath the Great Valley Sequence, presently located to the east of the San Francisco Bay Region (McLaughlin and others 1982). When subduction ceased, the convergent tectonic system changed to a transform system, initiating the large-scale strike-slip San Andreas fault system that exists today (Atwater 1970) and which exposed the Franciscan Formation rocks at the surface.

A geologic map prepared by Blake and others (1974) shows the occurrence of the Franciscan Formation throughout the entire peninsula. The Franciscan Formation is described as sandstone and interbedded shale, with minor amounts of conglomerate. Blake and others (1984) further subdivided this formation into 12 separate terranes, and show the Late Cretaceous Novato Quarry terrane occurring throughout the Point Molate area. Blake and others (1984) also imply that the depositional environment for this terrane is the fringe of a submarine suprafan.

The Franciscan bedrock underlying San Pablo Ridge is part of a northwest-southeast trending belt of rocks bounded on the west by the San Andreas fault and on the east by the Hayward fault. Preliminary geologic maps show that San Pablo Ridge (Potrero Hills peninsula) is bounded on the northeast by the San Pablo fault and possibly by a fault to the southwest (Blake and others 1974). Although the character of these faults is uncertain, the San Pablo fault is considered to be either a high angle oblique slip fault or a thrust fault. Both faults are considered to be inactive.

The subunit lithologies of the Franciscan Formation exposed on the summit of the San Pablo peninsula trend northwest under the waters of San Pablo Strait, and are well exposed in large quarries at Point San Pedro. These rocks occur in alternating sequences of medium- to very-thick sandstone beds with minor interbedded shale and predominantly shale beds with interbedded thin to medium sandstone beds. The rocks are locally severely sheared or brecciated, but without tectonic inclusions of other rock types commonly found in the melange unit of the Franciscan Formation. The thicker sandstone beds tend to be medium- to coarse-grained arkose commonly containing 2 to 5 percent detrital potassium feldspar (Blake and others 1974). Thinner sandstone beds are fine-grained, quartz sand with less than 2 percent detrital potassium feldspar. The sandstone is light gray on fresh surfaces, but weathers to a buff or yellowish brown. Shales and mudstones are commonly a dark gray. Calcite and secondary iron oxides occur as fracture fillings or veins in the rocks. This unit of the Franciscan Formation is resistant to weathering and forms the elevated topography found on the San Pablo peninsula.

The regional geology of San Francisco Bay also includes a young, unconsolidated sedimentary sequence. These sediments have been described by several workers in the bay. The following units were described in an article summarizing several previous authors' works (Goldman 1969). The units in the San Pablo peninsula area overlying the Franciscan Formation bedrock are the Older Bay Mud, sand deposits (correlative to the Merritt Sand of the East Bay Area), and the Younger Bay Mud.

The Older Bay Mud is described as generally firm, dark greenish-gray, silty clay with varying amounts of sand and fine gravel. The unit locally contains lenses of clayey sand, pebbly sand, or sandy clay from 5 to 50 feet thick. The unit blankets and fills old stream channels cut in the bedrock surface. This unit is overlain by either a sand deposit, or the Younger Bay Mud.

The sand deposits are recognized as a distinctive unit that overlies and interfingers with the Older Bay Mud. The unit was recognized at Point Richmond by Trask and Rolston (1951). The unit is described as a fine sand 50 to 60 feet thick. The unit is dissected by mud filled channels and is overlain by 0 to 35 feet of Younger Bay Mud.

The Younger Bay Mud is the youngest sedimentary unit in San Francisco Bay. The unit covers most of the bay bottom. It is described as a soft, uniform, gray, silty clay containing 45 to 95 percent clay-sized particles, silt, minor fine sand, and fragments of shells. The unit tends to be firmer and contain less water with depth. The mineralized composition is similar to the Older Bay Mud, containing mica, montmorillonite, chlorite, kaolinite, quartz, and feldspar (Goldman 1969). The clay is soft and plastic when wet and tends to harden and shrink upon drying. Engineering studies (Treasher 1963) have divided the Younger Bay into two members. The lower member is semiconsolidated and the upper member is referred to as the soft member.

The Younger Bay Mud was deposited upon an erosional surface cut to depths as great as 200 feet below present sea level into the Older Bay Mud. The Younger Bay Mud attains a thickness of up to 130 feet. The thickness of the Younger Bay Mud along the southwest shore of the San Pablo peninsula at NFD Point Molate is mapped as zero to approximately 40 feet thick offshore (Goldman 1969).

3.4.2 Point Molate Geology

The geology at NFD Point Molate includes sedimentary and slightly metamorphosed rocks of the Cretaceous-aged Franciscan Formation bedrock and quaternary unconsolidated colluvial and alluvial deposits, Bay Mud, and emplaced fill. Geology and the physical characteristics of the bedrock and unconsolidated deposits are described below. The geology was determined by a combination of information gathered during the visual site inspection (VSI), document reviews, former investigations, and inference from adjacent areas of the San Pablo Peninsula.

The Franciscan Formation is characterized by complex highly-faulted sediments and metasediments that include subduction or collision complexes. As described by Blake and others (1974), the Franciscan Formation consists of sandstone and interbedded shale with minor amounts of conglomerate. Outcropping beds of the Franciscan Formation with shale interbeds are prominent in the hillsides of NFD Point Molate. Interbedded shales are fissile where exposed in outcrops near the Waste Disposal Area and at other locations within the hillsides. Extensive geologic mapping was conducted on the adjacent Chevron refinery property in November, 1989 and March, 1992 (BEDM 1992). This property completely surrounds the landward side of NFD Point Molate. Therefore the geology mapped probably correlates with the geologic units at NFD Point Molate. The geology was mapped in the Poleyard, Asphalt, and Point Orient Tankfields areas of the Chevron property. The bedrock exposed on the Chevron property is more extensive than the exposures at NFD Point Molate. Removal of overburden and rock has taken place as part of ongoing quarrying operations and to create platforms for storage tanks. These excavations have created exposures of fresh rock surfaces that are readily mapped. The hillsides at NFD Point Molate are heavily vegetated and there have been no recent excavations to expose fresh bedrock surfaces. Therefore bedrock at NFD Point Molate has been correlated to the Chevron mapping based on a few weathered outcrops and on bedrock cores. A preliminary bedrock geologic map has been prepared since the Draft Phase II RI was submitted. This map is presented as Plate 29. The geologic units used were the same lithologies used by BEDM in the mapping of the Chevron property. Two of the geologic units described in the following paragraph were recognized on NFD Point Molate property. Because of the lack of exposures in many areas, the map is an interpretation by best

professional judgment and will be subject to further refinement as new data or interpretation is integrated with the existing data.

Based on Chevron data obtained during surficial geologic mapping and from the subsurface exploration program, bedrock beneath the tankfields consists of three primary lithologic units. The term "unit" is used here in reference to primary lithologies and is not meant to imply distinct formations. A general description of these three units (as mapped by BEDM), as they appear in the Poleyard, Asphalt, and Point Orient Tankfields, follows:

- Massive, very fine-to-fine grained, brown to gray sandstone (KJms).
- Thinly- to thickly-bedded very fine to fine-grained, brown to gray sandstone interbedded with thinly-bedded, finely-laminated to shaley, brownish-gray to dark gray mudstone, and less commonly, siltstone (KJss)
- Thinly-bedded, finely-laminated to shaley, brownish-gray to dark gray mudstone, and less commonly, siltstone with occasional thin interbeds of sandstone (KJsh)

There appear to be two primary types of bedding in the tankfields: thin, interbedded units, as in the KJss and KJsh units, and thick, massive bedding, as in the KJms unit. Individual sandstone beds in the KJss unit are predominantly 0.5 to 2 feet thick with occasional massive interbeds as thick as 30 feet. Mudstones and shales that separate the thinly-bedded sandstones are predominately 2 to 8 inches thick.

Thick beds of sandstone or shaley mudstone as thick as 15 to 20 feet are encountered in the KJss unit. The KJsh unit is only observed at the very western edge of the Point Orient Tankfield. Mapping the KJsh unit separately is questionable because it may be a fine-grained interbed within the KJss unit. The brown sandstones and mudstones occurring in the upper 20 to 55 feet reflect a slight degree of weathering, but no apparent loss in rock strength. The color grades to brownish gray at depth.

Although three distinct units were identified and mapped, the Point Orient Tankfield is underlain by KJms and KJss, while the Poleyard and Asphalt Tankfields are predominantly underlain by KJss.

Preliminary mapping at NFD Point Molate, based upon bedrock lithologies encountered in boreholes and outcrop observations, indicate that both the KJms and KJss units (as defined by BEDM) are present on site (see Plate 29). The KJss unit is the most extensive, underlying the upland hillsides. The KJms unit appears to be present in the old quarry that occupied Drum Lot No. 1, and underlying much of the Treatment Ponds Area. The more massive sandstone of the unit also outcrops along several hundred feet of the south shoreline and an outlying outcrop at the southern end of the Public Beach.

The massive sandstone of the KJms unit (of BEDM 1992) was probably the material quarried on Point Molate (Drum Lot No. 1 and the pier constitute the geographic Point Molate). The earliest topographic map found for Point Molate (Lawson 1914) shows a quarry on the point before the Winehaven buildings were present. A later topographic map (Lawson 1914) still shows a symbol for a quarry, but the topography is altered. This would indicate expanded removal of rock during this period. The apparent altered shoreline seems to indicate the rock was possibly used to fill and expand dry land in Drum Lot No. 1 and the Treatment Ponds Area.

3.4.3 Bedrock Structure

As previously described, the Franciscan Complex has undergone a complicated sequence of tectonic events. These various tectonic events resulted in a complex set of geologic structures. The primary structural elements observed in the Chevron tankfields and at NFD Point Molate are bedding planes, faults, fractures, and small-scale folds.

The orientation of bedding planes, observed at Chevron's Point Orient Tankfield, ranged from a strike of N18°W dipping 68°W, to a strike of N51°W dipping 53°SW. The bedding strike and dip within the Poleyard Tankfield ranged from N56°W, 59°SW to N89°W, 52°S. The only outcrop observed in the Asphalt Tankfield was an intensely sheared body of what appeared to be KJss that included well-developed, low-angle fracture cleavage and highly deformed bedding.

Bedding planes observed at NFD Pt. Molate generally agree with these orientations. Strike and dip was measured at 5 locations along the south shoreline in December 1998. Strike varied from N 25° E to N 20° W. Dips were 43° SE, 79° E, 78° E, 75° SW, and 78° NE. Structure appears to be very complex with both large- and small-scale folding. Several strongly sheared zones were observed in both shale and sandstone lithologies. One fault was observed near MW10-05. Orientation was difficult to discern, but the fault appeared to trend northeast. Shear zones appeared to trend north. Further mapping in April 2000 substantiated these structural observations. These data are compiled on Plate 29.

Interbedded mudstone and shale were encountered uphill from the South Shoreline at IR Site 1 trench TR1-4. These gave a strike of N38° W and a dip of 84° SW. Trench TR1-6 encountered sandstone beds striking N85° E and dipping 69-79° SSE. Trench TR1-3 also encountered sandstone striking N15° E to N15° W and dipping 54-57° SE to NE. The rocks appeared to have a small amplitude fold.

Fracture characteristics are of importance because of their potential effect on groundwater flow within bedrock. Thus, fracture orientations, frequency, length, and aperture are discussed in more detail in the following paragraphs. The fractures tend to be planar to subplanar with relatively smooth surfaces. Occasional nonplanar, curing fractures were also observed. Fractures typically contain yellow to reddish brown oxidation products and occasionally quartz and pyrite. Veins of quartz, calcite, or intergrown quartz and calcite are abundant at depths greater than 40 to 50 feet bgs in fresh, relatively unweathered bedrock, and are present occasionally above those depths in the weathered zone (BEDM 1992, 1993).

Fractures are common in the bedrock and their orientations are highly variable. However, based on the geometric analysis of the orientations measured in the field, fractures generally occur in sets of two or three orientations within an outcrop (BEDM 1992). The apparent fracture orientations commonly occur at a high angle (60 to 90 degrees) to the bedding and only occasionally are the fractures oriented at low angles to bedding.

Based on bedrock cores from the borings in the Chevron tankfields, the frequency of fracturing is typically 3 to 15 fractures per foot alternating with occasional highly-fractured zones (30 to 50 per foot). The highly-fractured zones may be associated with faulting and are more common in the KJss unit. Within the Poleyard Tankfield, which is predominantly underlain by the KJss unit, these highly-fractured zones are typically spaced 15 to 40 feet apart. Highly-fractured zones were not observed as frequently in the massive sandstone units, which make up a large portion of the subsurface within the Point Orient Tankfield.

Chevron's field mapping indicates that the continuity and length of fractures appear to be predominantly lithologically controlled. Fractures observed in the KJss unit were relatively short in length (less than 5 feet) because they were not continuous across bedding planes. However, within the massive KJms units, fractures were observed to vary in length from 0.5 to at least 25 feet. In general, the longer fractures were not observable for their entire length due to colluvial cover, and may be longer than 25 feet (BEDM 1992, 1993).

Based on Chevron and NFD Point Molate bedrock cores, the aperture (width of opening) of fractures was evaluated. The aperture of fractures within cores was predominantly less than 1/16 inch, and occasional fractures appeared to be as wide as 1/8 inch. In many cases, fractures contained clay- and silt-sized particles. In other cases, fractures appeared to be free of fine-grained sediments.

Thirteen coreholes were drilled throughout the site to assess in situ hydraulic characteristics and to provide a description of the bedrock lithology. Seven were drilled during the Treatment Ponds Area site characterization in 1992 and six additional bedrock holes were drilled during the Phase II RI. Descriptions of bedrock cores are presented in Appendix B. Since the Phase II RI investigations, further coring has been performed as part of the UST characterization.

The bedrock generally consists of arkosic and greywacke sandstone, quartzite, or siltstone with interbedded mudstone or shale. Interbedding of mudstone within sandstone or quartzite beds was common. The bedrock is broken or regularly fractured in consistent fracture planes. The majority of the fractures are closed or healed with quartz and oxidation products (limonite and manganese). Geologists logging the bedrock cores estimated 90 to 95 percent of the fractures are filled with secondary minerals, clay, and silt. The extent of closure of these fractures in situ is impossible to estimate because drilling and coring stresses and circulating and drilling fluids tend to open these fractures by breaking the mineralization and hydraulic flushing. Some fractures contain greenish-white clay. Slickensides are present on many fracture surfaces. Sedimentary structures are evident and consist of relict bedding, broken or brecciated clasts of sandstone or mudstone, and soft sediment deformation. These features are characteristic of a submarine fan/turbidite sequence. Soft sediment deformation was also evident as flame structures, or load casting apparently due to overburden pressure and squeezing the clay and silt into a sand matrix.

During their baseline geologic study at Chevron, BEDM identified a large northwest trending shear zone on the eastern edge of San Pablo Ridge that has been interpreted to be the surface expression of the San Pablo Fault. During BEDM's March 1992 surface mapping, an outcrop of highly deformed interbedded sandstone and mudstone was observed in the Asphalt Tankfield, and may be part of this shear zone. The shear zone may have a significant impact on the flow of groundwater within the bedrock in the Poleyard and Asphalt Tankfields. Large map-scale faults perpendicular to the general trend of San Pablo Ridge are believed to exist because of the existence of deeply-incised, northeast-, and southwest-trending valleys and ridges. Numerous small-scale faults were observed in the Poleyard and Point Orient Tankfields both in outcrop and in the bedrock cores. Small-scale faults have also been observed at NFD Point Molate, but extensive cover of bedrock by colluvium and vegetation make observation difficult.

3.4.4 Unconsolidated Deposits

The contact between bedrock and overlying (colluvial) deposits in most areas of NFD Point Molate is transitional. This transition zone grades upwards from fresh bedrock to moderately weathered bedrock composed of broken and weathered bedrock fragments to highly weathered clay-rich zones containing oxidized, friable clasts or fragments of bedrock.

The full range of unconsolidated deposits are only found in IR Site 3, the Treatment Ponds Area. A generalized depositional sequence for IR Site 3 is shown in Figure 3-1. The alluvium, Bay Mud, and intertidal sediments are generally lacking at other NFD Point Molate areas.

Colluvium at NFD Point Molate usually overlies bedrock or weathered bedrock. Colluvium is predominantly clayey and silty sand with weathered bedrock fragments. Colluvium is found on slopes and at the base of

slopes, filling many of the ravines throughout NFD Point Molate. The thickness of colluvium varies from a veneer of weathered bedrock fragments on the slopes to accumulations up to 25 feet thick within ravines. The colluvium, olive gray to yellowish brown, often displays a mottled texture. These deposits are generally poorly sorted and often contain up to 50 percent bedrock fragments. Despite the poor sorting and numerous bedrock fragments, the colluvium's clayey matrix makes it dense, having little or no apparent permeability.

The reworked intertidal deposits consist mainly of greenish-gray (glauconitic) silty sand and sandy silt with numerous small shell fragments. Also common are pebbles or rock fragments consisting of subrounded quartzite and angular to subrounded siltstone and sandstone. Glauconitic sandstone pebbles are common. The sediments contained in the intertidal deposit are generally very well sorted for each size range encountered. The rounding of the sediments is, in general, indicative of reworked beach or near-shore deposits. Bedrock rubble and rock fragments within a wet clayey matrix also make up a portion of the reworked intertidal deposits.

Bay Mud was encountered in borings beneath emplaced fill or alluvium in the Treatment Ponds Area and adjacent shoreline areas. In these areas, Bay Mud overlies bedrock and may vary in thickness between 5 and 30 feet, depending on distance from the shoreline. Bay Mud is a very dark brown to black clayey or sandy silt or silty sand. The formation is typically soft, plastic, and moist or saturated, but contains sufficient clay or silt to serve as an aquitard.

Material interpreted to be alluvium is present in more gently inclined areas, particularly in the vicinity of the Treatment Ponds and adjacent nearshore areas. Alluvium consists of moderately sorted, fine-to-medium grained, unconsolidated sand. In general, grain size increases with depth and coarse intervals containing granules or pebbles become more prevalent with depth.

Emplaced fill at the facility was transported from other areas at NFD Point Molate. The fill is composed of highly variable materials generally consisting of poorly sorted gravel, silt, sandy silt, and sandy clay, and angular bedrock fragments. The fill often contains areas (or pockets) of disturbed colluvium, but in general is unconsolidated and very heterogeneous, and creates unpredictable preferential flow pathways for groundwater and contaminant migration.

3.5 SOILS

The surficial deposits at Point Molate consist of a combination of natural and artificial materials. These deposits include rock outcrops, colluvium, disturbed colluvium, loam soils, and artificial fills. The actual distribution of these materials is only partially mapped. Extensive excavation and earth moving took place

during construction of the main tanks, pipelines, and service roads. Aerial photos from the time the construction was being completed show the native surface materials were extensively disturbed across the site. The soils were excavated, covered with fill in places, and spilled down hillsides covering the natural surface with disturbed material. Subsequent erosion further redistributed these materials creating a complex pattern of deposits. Today the extensive, thick vegetation effectively prevents accurate mapping of these deposits in detail without a very intensive effort. These different materials are described below. The physical properties for surficial materials is summarized in Table 3-1. The native bedrock is discussed in Section 3.4, Geology.

The colluvium consists mainly of clayey and silty sand with weathered (oxidized) bedrock fragments. The colluvium, olive gray to yellowish brown, often displays a mottled texture. These deposits are generally poorly sorted and often contain up to 50 percent weathered bedrock fragments. The grain size distribution curve, from the sample collected from boring SB02-01 at 24.0 to 24.5 feet, shows the wide range of particle sizes present in colluvium (Appendix H). Colluvium is transported to the point of deposition as a gravity deposit collecting at the base of steep slopes or by sheet wash or downslope creep processes. The topography within the steep-sided ravine of the Waste Disposal Area results in colluvium being thickest in downslope areas (in particular, the axis of the ravine). Hilltops in the area are exposed bedrock with a shallow cover of weathered bedrock fragments.

The soil series mapped for Point Molate is the Millsholm series (USDA 1977). The Millsholm series consists of well-drained soils that formed from interbedded shale and fine-grained sandstone. These soils are on uplands. Slopes are 15 to 75 percent. These soils are generally moist throughout from mid-December to May and are dry from June to November. Vegetation consists of annual grasses, forbs, and scattered oaks. Thick stands of coyote bush are present in some areas.

In a representative profile, the surface layer is grayish-brown, medium-acid loam about 4 inches thick. The subsoil is also grayish-brown, medium-acid loam. It is underlain at a depth of about 12 inches by sandstone or colluvium. Permeability is moderate, and the available water capacity is 2 to 4 inches. Roots can penetrate to a depth of 10 to 20 inches. Millsholm soils are used for range, wildlife habitat, and watershed.

The representative profile of Millsholm loam is found on Oursan Ridge in Contra Costa County at NW¼ SW¼ NW¼ sec. 6, T. 1 N., R. 3 W.

- A—0 to 4 inches, grayish-brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) when moist; massive; hard friable, sticky and slightly plastic; many very fine roots; few, very fine, tubular pores; medium acid; clear, smooth boundary

- B2—4 to 12 inches, grayish-brown (10YR 5/2) loam, dark grayish brown (10YR 4/2) when moist; weak, fine, subangular blocky structure; hard, friable, sticky and slightly plastic, many very fine roots; common, very fine, tubular pores; medium acid; abrupt, smooth boundary

- R—12 to 20 inches, fractured, fine-grained, light yellowish-brown (10YR 6/4) and strong-brown (7.5YR 5/6) sandstone; very dark brown (10YR 2/2) stains along fracture planes

These soils form where the depth to bedrock ranges from 10 to 20 inches. The parent rock is shale, sandstone, or interbedded sandstone and shale. Hardness of the parent rock is 3 to 4 on the Mohs scale. The ridges at NFD Point Molate are mapped as MeG Millsholm loam, on 50 to 75 percent slopes. This soil is on very steep uplands. Included with the Millsholm loam are areas of soils that are similar to Millsholm loam, but that have softer bedrock. Runoff is rapid, and the hazard of erosion is very high where the soil is bare.

Artificial fill at Point Molate consists of regraded on-site materials, primarily colluvium, and possibly some locally derived imported materials. Colluvium and rock excavated at the site has been regraded in the main building area, the Treatment Ponds Area, the North and South shoreline areas, Drum Lots Number 1 and Number 2, and other areas such as roadways.

The excavated cliff face at Drum Lot No. 1 was likely used to provide fill in the Drum Lot No. 1 Area. Large rocks and cobbles of sandstone have been encountered in some borings at Drum Lot No. 1. Several borings also encountered large voids in the fill. This probably indicates that a large amount of coarse rip rap was placed as a base for the fill in the area.

Various borelogs at the site depict the presence of other rock types indicative of fill material imported from off site. (Occasional occurrence of serpentine, unique quartzites, phyllites, and diorite.) These rock types occur in the local area of San Francisco Bay, but are probably not tectonic inclusions within the Novato Quarry terrane (Blake and others 1974). The amount of fill imported from off site is unknown, but is probably minor compared to on-site derived fill material.

Several geologic characteristics of the surficial deposits present are relevant to land use and potentially to remedial options. The colluvial deposits are easily eroded when free of vegetation. They are probably prone to compaction under loading, and may display accelerated downslope movement (creep), particularly on the steeper slopes. Excavation and grading may accelerate the rate of downslope movement and produce landslide deposits, especially when steeper slopes are created or the toe of saturated slopes is cut away.

The colluvium may be water bearing and small seeps are present. Pore pressures are likely to vary seasonally, and the rainy season would tend to produce a greater likelihood of generating landslides.

Landslide deposits have been mapped by the U.S. Geological Survey all along the San Pablo peninsula and at NFD Point Molate (Nilsen 1973). The hillside on the north side of IR Site 1, the Waste Disposal Area, is mapped as a landslide deposit. This area is mapped as a deposit having a longest dimension of 200 to 500 feet and a downslope movement toward IR Site 1 (Nilsen 1973).

During the Phase II RI, visual evidence of slumping was tentatively identified on the hillside between trenches TR1-5 and TR1-6. The visual indications were of hummocky terrain. The area is well vegetated and healed, but geomorphic evidence suggests a small area of old movement.

These landslide deposits may or may not be continuously or intermittently moving at the present time. Potential for movement varies greatly and depends on many factors. Changes to slope angles, moisture contents, and surcharging may activate movements, especially in previous landslide deposits. Detailed ground studies are required for predicting the future behavior of landslide deposits under changing conditions and are beyond the scope of the Phase II RI.

Another type of geologic hazard present at a very localized area of NFD Point Molate is rockfall. This may present a hazard in Drum Lot Number 1 at the foot of the quarry headwall due to the sheared and fractured rock.

Seismic hazards at NFD Point Molate were not investigated for this report. As stated previously, the San Pablo fault is considered inactive. However, a seismic evaluation and evaluation of ground acceleration should be considered for some designs, especially on artificial fills or over Bay Mud deposits, if appropriate.

3.6 HYDROGEOLOGY

This section discusses the presence of groundwater at NFD Point Molate and the hydrogeologic properties of the geologic materials discussed above. The presence and movement of groundwater at NFD Point Molate are controlled by topography, geology, and seasonal trends, which are highly variable even within individual areas of the site. Groundwater movement generally occurs within preferential flow pathways, including pipeline bedding, alluvial materials, unconsolidated emplaced fill, relatively porous horizons within colluvium, or fractured and fissile bedrock zones. The hydrogeology at NFD Point Molate has been evaluated using a existing site-specific data and by review and incorporation of data from the adjacent Chevron refinery (BEDM 1991, 1992, 1993).

Groundwater at NFD Point Molate is present in limited quantities in the upland areas and more prevalent along the near-shore areas of lesser relief. Groundwater forms a highly variable water table that is in hydraulic communication with San Francisco Bay. The groundwater system at NFD Point Molate constitutes a poor-quality aquifer that is unlikely to be used as a future source of potable water. No historical evidence has been found that groundwater was ever used as a drinking water source at Point Molate. Areas of Point Molate adjacent to the bay are either currently affected by salt water or, as shown in studies for the design of the containment wall (PRC 1997b), pumping of groundwater in the shoreline areas will cause salt water intrusion. Upland areas and ravines generally have exhibited low well yields and low storativity. The presence of groundwater is directly related to seasonal infiltration, runoff from the hillsides, and hydraulic communication with the bay. Areas of Point Molate where the groundwater table may be expected within 10 feet of the surface, at least during the wet season, are shown on Figure 3-2. Some ravines that receive steady (but seasonally dependent) surface water recharge also contain groundwater within unconsolidated material and, in some cases, within permeable horizons at the base of colluvium and within fissile or fractured bedrock. For example, groundwater is present within the unconsolidated disposed material and within transitional weathered bedrock and fissile shale horizons within IR Site 1, the Waste Disposal Area.

Bedrock is generally found at shallow depths at NFD Point Molate. Locally, bedrock of a lower permeability than the overlying fill or naturally occurring sediments may serve as a groundwater divide or to refract groundwater flow patterns. Site-specific data are sparse on the interaction of bedrock and overlying fill in areas like the interior of Drum Lot No. 1, therefore detailed gradients cannot be presented for areas such as these.

Plate 1 shows the location of all monitoring wells at NFD Point Molate installed to date under the CLEAN I and II, and other programs. These wells are all screened in unconsolidated materials above bedrock with the exceptions of monitoring wells MW02-07 and MW04-02 and six bedrock wells installed during the Phase II RI. Monitoring well MW02-07 (IR Site 1) is partially screened within weathered bedrock, and monitoring well MW04-02 is wholly screened within weathered bedrock. The new bedrock wells will be further discussed below.

The steep topography at NFD Point Molate controls surface water and groundwater flow from higher elevations toward the bay. Distinct mounding of groundwater and preferential flow pathways are present. Groundwater mounding is observed at the Treatment Ponds, resulting from recharge to groundwater from the unlined ponds combined with the presence of a subsurface cutoff wall. A preferential flow pathway is observed just north of outcropping bedrock along Diesel Road and by Tank G, providing flow toward the bay along the south end of the Treatment Ponds; this flow path is influenced by (directed toward) extraction trench wells EW-B and EW-C (PRC 1996b). A suspected bedrock ridge extending toward the bay south of this preferential flow pathway may deflect flow or form a groundwater divide (Plate 16).

Bedrock coring and in situ permeability tests were conducted at the Treatment Ponds Area (PRC 1994d). Bedrock cores were taken from consolidated rock beneath unconsolidated fill, colluvium, or weathered bedrock. The subcropping bedrock lithology in the Treatment Ponds Area is different than that observed in outcropping bedrock at other areas of the facility. In the bedrock cores, no fissile shales were observed, and bedrock consisted primarily of quartzite with lesser amounts of interbedded siltstone and mudstone (with some visually-indicated low-grade metamorphism). This is unlike the interbedded sandstone and fissile shale observed as outcrops in the hillsides. Results of this investigation indicated very little primary (matrix) porosity within bedrock, but the presence of abundant and consistent fractures observed at NFD Point Molate and at Chevron should provide secondary (fracture) porosity. The majority of fractures observed were healed or contained oxidation products (limonite and pyrolusite). Some fractures contained clay which, in addition to the healed fractures, decreases secondary porosity and permeability of the formation. The in situ permeability tests indicate a range of hydraulic conductivities from 2×10^{-3} to 1.5×10^{-6} centimeters per second (cm/s). These values for K were considered unrepresentatively high for tight, competent bedrock (PRC 1994d). During permeability testing, secondary porosity may have been artificially increased when fractures in bedrock were hydraulically opened (hydrofractured) by the increased water injection pressure. Bedrock coring may have also induced additional local fracturing within the test interval. Artificially increased secondary porosity was discussed in the evaluation of these data (PRC 1994d). Even though bedrock is fractured, most fractures are filled or healed, and these data were interpreted that the bedrock serves as a low hydraulic conductivity boundary.

Packer tests were conducted on six new bedrock coreholes during the Phase II RI. The coreholes are identified (see Plate 2) and located as follows:

IR SITE 1: WASTE DISPOSAL AREA AND DOWNGRADIENT DRAINAGE AREA

- BR02-18 Located upgradient of the Waste Disposal Area
- BRO2-19 Located downgradient of the Waste Disposal Area
- BR02-20 Located downgradient of the Waste Disposal Area near Catchment Basin 2

IR SITE 3: TREATMENT PONDS AREA

- BR11-96 Located in the Treatment Ponds Area

IR SITE 4: SHORELINE AREAS

- BR11-90 Located in Drum Lot No. 1
- BR 10-19 Located in the South Shoreline Area downgradient of Site 1

3.6.1 Bedrock Lithology and Permeability Test Results

Detailed corelogs for each bedrock corehole are presented in Appendix B. The bedrock lithology and permeability test results for each corehole are summarized as follows:

BR02-18

The original borelog for BR02-18 described the 3 foot to 17 foot interval as a conglomerate. The core was reexamined April 4, 2000 and relogged as a colluvium deposit that is cemented by a hardened clay. The colluvium may also be partially cemented by calcium carbonate. The colluvium consists primarily of subangular sandstone and minor mudstone fragments in a well indurated clayey matrix from 3 feet to 17 feet bgs. Gray mudstone was encountered at approximately 17 feet bgs, exhibiting nearly vertical (80° - 90°) fracture orientation. Fracture planes are prominent, occasionally resulting in limited core recovery. The fractures are frequently healed with quartz or contain oxidation products or clay filling.

Permeability testing was conducted at the 17.2 to 21.5-feet interval. Calculated K values range from 1.6×10^{-3} to 6.5×10^{-4} cm/sec, with an average of 1.2×10^{-3} cm/sec.

BR02-19

Competent mudstone was encountered at approximately 21 feet bgs, and was generally uniform to the total cored depth of 35 feet bgs. Prominent 80° - 90° fracture orientation was evident, with quartz and some clay fracture filling also present.

Permeability testing was conducted at the 28.8 to 34.0-feet interval. Calculated K values range from 4.7×10^{-4} to 1.8×10^{-4} cm/sec, with an average of 3.5×10^{-4} cm/sec.

BR02 -20

Competent sandstone bedrock with minor interbedded mudstone was encountered at approximately 30 feet bgs. Finely laminated mudstone interbeds increase in thickness with depth, and at 36 feet bgs comprised more than 50 percent of the sequence lithology. Sandstone and mudstone interbeds are oriented near vertical (80° - 90°), and generally parallel to fracture orientation. Sandstone interbeds are observed to be less durable than the mudstone and occur as weak zones along the fracture planes.

Permeability testing was conducted at the 39.5 - 43.3-feet interval. Calculated K values range from 4.0×10^{-5} to 2.7×10^{-5} cm/sec, with an average of 3.4×10^{-5}cm/sec.

BR11-96

Competent sandstone bedrock was encountered at approximately 35 feet bgs. The cored sequence primarily consisted of sandstone with clay partings present along 10° - 50° fracture planes. Interbedded mudstone was encountered at 37 feet bgs and increased in thickness with depth to approximately 45 feet bgs. The orientation of sandstone and mudstone interbeds generally parallels fracture planes.

Permeability testing was conducted at the 36.0 to 49.5-feet interval. Calculated K values range from 1.4×10^{-5} to 3.0×10^{-6} cm/sec, with an average of 1.0×10^{-5}cm/sec.

BR11-90

Competent mudstone bedrock was encountered at approximately 60 feet bgs, underlain by interbedded sandstone and mudstone from approximately 62 to 69 feet bgs. Clay partings are evident along fracture planes, primarily oriented at approximately 60°. Oxidation products (iron staining) are abundant along fracture planes.

Permeability testing was conducted from 65.6 to 69.0-feet and 67.0 to 69.0-feet intervals. Calculated K values range from 2.2×10^{-4} to 1.3×10^{-4}cm/sec, with an average of 1.8×10^{-4} cm/sec.

BR10-19

Competent metamorphosed sandstone (possibly quartzite) was encountered at approximately 10 feet bgs. Clay occurs along fracture planes, with prominent oxidation products present. From 13.5 to 23.5 feet, durable quartzite was encountered with 60° to 120° fracture orientation prominent. Fractures are healed with quartz from 20 to 23 feet bgs.

Permeability testing was conducted at the 19.5 to 23.5-feet interval. The calculated K value is 1.0×10^{-6} cm/sec.

3.6.2 Conclusions of Bedrock Permeability Testing at NFD Point Molate

Bedrock coreholes drilled in the proximity of the hillside areas consist primarily of sandstone and mudstone subjected to stress and tectonic forces. Secondary porosity is attributed to fractures observed in core samples from BR02-18 and BR02-19, where the estimated permeability values are relatively high for tight, competent bedrock. The results of in situ tests performed in fractured rock reflect secondary permeability which would not represent primary conductivity of the intact rock mass (USBR 1989).

Coreholes BR02-18 and BR02-19 were subjected to multiple pressure tests, where increasing pressure was applied in approximately equal steps for specified time periods. On completion of the highest pressure interval, the process was reversed and measurements were recorded at decreasing pressure intervals. Plots of water intake versus pressure for the multiple pressure tests conducted at these coreholes indicate relatively high permeability, with fracture filling material (such as clay) that washes out, increasing permeability with time (USBR 1989). Washing of the fracture fill could have been initiated during the actual coring of the bedrock prior to permeability testing. The plots of water intake versus pressure for coreholes BR02-18 and BR02-19 are shown in Appendix G. The graphs illustrate increasing permeability with time that may be caused by washing of the clay fracture fill.

Bedrock coreholes BR02-20, BR11-96, BR11-90 and BR10-19 were drilled in low-lying areas downgradient of the hillsides and along the shoreline. The general lithology of these coreholes was predominantly sandstone or interbedded sandstone and mudstone. The sandstone, interbedded mudstone and occasional quartzite observed in the treatment ponds and shoreline area coreholes suggest very little primary porosity (matrix porosity) within bedrock, but the presence of fractures provides some secondary porosity. However, the observed fracture healing with quartz or oxidation products would decrease the secondary porosity of the formation.

These data indicate a moderate K in the bedrock at NFD Point Molate created by secondary porosity. Other lithologies may also transmit groundwater. Interbeds of highly fissile shale apparently allow groundwater (and contaminant) movement. For example, the shale that outcrops near Tank 19 adjacent to the Waste Disposal Area (Parcels 7 and 10) may have served as the migration pathway for JP-5 observed in monitoring well MW02-07. The 14- to 20-foot bgs screened interval of monitoring well MW02-07 was completed in fractured bedrock; it is described on the boring log as weathered sandstone or mudstone, but can be correlated to shale outcrops near Tank 19. As result of the June 1994 Tank 19 overfill, product thickness in monitoring well MW02-07 varied significantly in a short period of time. Monitoring well MW02-07 was installed in July 1994; product thickness was about 2.5 feet at that time. In September 1994, during a quarterly sampling event, product thickness increased to more than 5 feet. Product thickness by December 1994 decreased to only 0.11 feet. Migration of JP-5 is suspected to have occurred within the fissile shale (beneath colluvium), demonstrating the potential migration pathway that subcropping shale interbeds can serve.

Specific interbeds within the Franciscan Formation, such as fissile shales, weathered sandstones, and faulted or fractured intervals, may contain and provide pathways for groundwater migration. However, the extent of the potential pathways in subcrops is unknown and is likely highly variable. As noted in Section 3.4.3 formation of the prominent ravines at Point Molate may be attributable to underlying weakened and erodable bedrock zones. These could be caused by more highly-fractured or faulted bedrock (see Plate 29). Therefore, the ravines may serve as collection points for surface drainage and provide permeable unconsolidated sediments as well as weathered and fractured bedrock to conduct groundwater downgradient.

3.6.3 Results of Chevron's Hydraulic Testing

In order to measure Ks of soil and rock within the tankfields, BEDM performed in situ packer tests in 8 bedrock borings. Rising- and falling-head (slug) tests were performed in 11 wells for which packer data were not collected, and in 2 wells to calibrate or confirm the results of packer testing (BEDM 1991 and 1992).

Based on packer test data, unsaturated bedrock Ks range from less than 5×10^{-6} cm/sec (based on the flow meters approximate lower limit of measurable flow using packer tests) to about 1×10^{-4} cm/sec, but are typically less than 5×10^{-5} cm/sec. Saturated zone conductivities range from less than 5×10^{-6} to 6×10^{-4} cm/sec. These values represent average conductivities of 5- to 10-foot intervals of bedrock. Packer and slug testing were conducted by BEDM on bedrock boreholes to estimate hydraulic conductivity. Unsaturated Ks ranged from 5×10^{-6} cm/s to 1×10^{3} meters per second (m/sec). However, Ks in the area of the Quarry Tankfield were as high as 3×10^{-3} m/sec. Fracture-controlled groundwater was found in several areas in the bedrock and was considered to be perched on unweathered bedrock in some areas or unconfined where the potentiometric surface was lower than the top of bedrock surface. Darcy velocity for groundwater was calculated for several areas ranging from 2.6 feet per year (ft/yr) to 70 ft/yr.

Average Ks measured by slug tests in two wells on Point Orient directly north of NFD Point Molate were 2.4 $\times 10^{-5}$ and 7.8 x 10-^{6} cm/sec. Both of these wells are screened in colluvial/alluvial soils.
Slug test data from a Poleyard Tankfield well screened in fill soil, indicated a K of 7.7×10^{-3} cm/sec. Wells that are screened in the upper colluvium/alluvium at the facility have an average K of 3.9×10^{-5} cm/sec.

The K data from Chevron shows values comparable to NFD Point Molate. The hydrogeology along the San Pablo peninsula appears to have uniform characteristics per given geologic materials.

3.6.4 Hydrogeologic Properties of Unconsolidated Material

Colluvium generally serves as an impediment to vertical or horizontal groundwater movement despite its coarse fraction of weathered bedrock fragments. A clay matrix around the bedrock fragments inhibits groundwater movement. Physical analysis of colluvium resulted in K values ranging from 10^{-7} to 10^{-8} cm/s (PRC 1994f).

Bay Mud, being fine grained and plastic, is generally a low-permeability unit. The unit is saturated, however, and may be capable of conducting some water. Laboratory-derived K ranged from 1.5×10^{-7} cm/sec to 5.3×10^{-8} in six samples (PRC 1992b).

Alluvium at NFD Point Molate has been identified as a preferential flow pathway. It is believed to be the primary flow path for groundwater migrating near Tank B along Diesel Road toward the treatment ponds and ultimately to the bay (prior to construction and operation of the extraction trench at the treatment ponds). Alluvium was present in soil borings throughout the Treatment Ponds Area and provides a potential migration pathway. There are no K data for the alluvium, but based upon lithology, it would likely be moderately high.

Fill material, containing abundant reworked colluvium and bedrock fragments, is not uniform or cohesive and exhibits highly variable permeability. Physical samples of fill from the Treatment Ponds Area yielded an average K of 1×10^{-6} cm/s (PRC 1994b), although examination of excavated fill during extraction trench construction indicate much greater permeability should be expected. Void spaces in the fill, particularly in the old quarry area of Drum Lot No. 1, create localized high permeability.

3.6.5 Hydraulic Gradients and Velocities

Hydraulic gradients at NFD Point Molate vary seasonally in response to rainy and dry seasons. Changes in gradients therefore change the groundwater velocity seasonally. Rapid increases in water levels in monitoring wells and product thickness increases attest to these fluctuations.

Hydraulic gradients calculated from January 1999 water levels were 0.085 for the IR Site 1 area, 0.15 for the IR Site 3 area, 0.139 for the North Shoreline, 0.005 for the Drum Lot No. 1 area, and 0.29 for the South Shoreline. These values were calculated from the steepest gradients exhibited on the water table maps in each respective area. The steepest gradient was chosen to be conservative and to calculate the highest Darcy velocity of groundwater flow. A range of gradients could be calculated for each site, but these are considered representative.

Based upon the Ks presented, and the calculated gradients for January 1999, Darcy flow velocities have been calculated for several areas. These results are presented in Table 3-2. Calculated velocities at IR Site 1 show a range from 0.024 feet per year in colluvium underlying the Waste Disposal Area to 528 feet per year in the fractured bedrock of BR02-18. The IR Site 3 data showed values from 0.057 feet per year in colluvium to

1,512 feet per year in fractured bedrock. These values are all extreme, and based on conservative, high gradient values as well as limited K data. A mid-range value would be more representative of actual groundwater velocities.

Data on water levels from the IR Site 1 and IR Site 3 bedrock wells, compared to adjacent shallow monitoring wells, indicate upward-directed vertical gradients. These data were collected in March 1999 during the well development and sampling event, and again in April 1999. These data from April are compiled in Table 3-3 and vertical gradients were calculated for four bedrock and unconsolidated material monitoring well pairs. The other two new bedrock wells were not included in Table 3-3. Bedrock well BR02-18 is upgradient of the Waste Disposal Area. There is no paired monitoring well with BR02-18. Bedrock well BR11-90 was inadvertently not included in the water level measurements during April and no data is available.

The well pairs downgradient of IR Site 1 are BR02-19 and MW02-13 at the foot of the Waste Disposal Area, and BR02-20 and MW02-07 further downgradient. These well pairs had upward gradients of 0.28 and 0.31 respectively. The interpretation is that coarse colluvium and weathered bedrock high on the ridge above IR Site 1 allows recharge to the bedrock fracture systems. Steep gradients probably prevail in these ravine areas and the hydraulic heads are correspondingly high in the bedrock. This explains the stronger upward gradient in the steeper areas of the site and the decrease in the upward gradients in flatter areas near the shoreline. Well pairs BR10-19/ERM10-02 (gradient 0.0095); and BR11-96/ MW11-52 (gradient 0.059) illustrate this decrease. The first pair is located in a low relief area along the South Shoreline and the second pair is located in the flat area of IR Site 3 adjacent to the shoreline. The upward gradients help keep contaminants, especially LNAPLs from circulating deeply into the bedrock groundwater.

Data indicate the bedrock is saturated, under water table (and locally confined) conditions, and exhibits an upward-directed vertical gradient at lower elevations. As Section 3.6 indicates, the bedrock and overlying geologic materials in hydraulic connection with the bedrock constitute a poor-quality, low-yield aquifer, unlikely to be used as a potable water supply.

3.7 PREFERENTIAL MIGRATION PATHWAYS

The presence of preferential pathways for the migration of both groundwater and free product at Point Molate has been noted during various investigations and in field observations. Observations have included (1) direct observation of residual fuel migrating along pipeline bedding material; (2) observed subsurface groundwater pathways during drilling; (3) preferred migration of fuel from tank overfills through ravines (controlled by

topography); (4) geologic evidence of paleochannels from borehole data; (5) observation of distinct subsurface fuel plumes in the Treatment Ponds Area; (6) seasonal trends resulting in the migration and accumulation of fuel in specific areas during the rainy season; and (7) discharge of fuel to the near-shore environment along very defined areas during the rainy season.

The Treatment Ponds Area characterization conducted in 1992 (PRC 1994d) noted several sources of residual fuel in the subsurface, particularly related to bunker fuel once placed in the former sump pond. Particularly noteworthy was the peculiar trend of floating product observed in several monitoring wells placed in the Treatment Ponds Area. Inches or feet of fuel observed in several monitoring wells were not observed in adjacent monitoring wells, some within feet of each other. This observation led to the concept of extreme heterogeneity coupled with preferred migration pathways within subsurface materials at Site 3.

Additionally, abundant diesel and bunker fuel was encountered along Diesel Road directly south of the Treatment Ponds, and not (necessarily) related to the former sump pond. This fuel was attributed primarily to migration from upgradient sources, where the material surrounding the pipelines along Diesel Road provided the conduit (preferential pathway) for movement. This was evident at an excavation completed for investigating possible damage to an underground pipe adjacent to a soil boring at the south end of Building 6. After excavating, multiple underground pipelines converging in this area were exposed, providing clear evidence of pipe bedding saturated with fuels. Photographs of this excavation and the resulting fuel accumulating in it are provided in the 1994 Treatment Ponds Area Final Site Characterization Report (PRC 1994d). This area was determined to be a historical pathway for migration of fuels from upgradient sources. In addition to historical evidence of fuel migrating along Diesel Road was geologic evidence of a paleochannel in the subsurface along the lower portion of Diesel Road. The paleochannel was interpreted from borehole logs indicating consistent deposition of relatively uniform sands forming what appeared to be at least one distinct splay from a main channel. The trend of this paleochannel was directed toward the former sandbags area, where the Navy previously attempted to contain chronic seepage of fuel into San Francisco Bay.

Further evidence of historical migration of fuel from upgradient of Diesel Road is the Navy's installation of a large diameter extraction well at the south end of Building 6. Sources of the fuel in this area were attributed to historical fuel spills or leaks traveling through the prominent upgradient drainage area. Additional (historical) evidence of fuel migration from upgradient of Building 6 was extensive residual soil contamination encountered during the 1990 to 1991 replacement of Tank 6 lines between the tank and Valve Box 14D. These pipelines were apparently replaced due to damage to the lines.

In January 1995, TtEMI was contacted by NFD Point Molate to assist in investigation of a fuel seep (see Figure 2-1) which was occurring at the shoreline by Tank E within the Treatment Ponds Area (PRC 1995b). The source of fuel resulting in the shoreline seep was initially attributed to leakage in the general vicinity of Tanks B and C, but upon further investigation was attributed to rainwater runoff entering tanks, filling the tanks, and causing the product in the tanks to be flushed out. Confusing this issue was the pathway that fuel followed, resulting in the shoreline seep. It was assumed that in this case, fuel followed a complex system of pipeline conduits (between Tanks B/C and Tank E) and subsurface storm drains, one of which discharges to the bay adjacent to the fuel seep location.

At monitoring well MW11-54, consistent seasonal trends have been observed in the accumulation and migration of product in the immediate vicinity of this well. Product accumulation occurs (up to seven feet was observed in the spring of 1998) in direct correlation to heavy rain events. The apparent flushing mechanism during rain events is not fully understood, but the migration of product from the source area appears to follow a preferred pathway because nearby monitoring wells do not exhibit this trend.

The Tank 19 overfill, occurring in June 1994, resulted in a surface flow that directly followed topography and migrated to the center of the ravine downgradient of Site 1. Evidence of migration into the ravine was obvious from surface staining. Further evidence of preferred migration following topography was the occurrence of several feet of JP-5 in monitoring well MW02-07, located near the center of the ravine. Monitoring well MW02-04 is hydraulically downgradient of Tank 19 and did not have a product occurrence. This suggests the topography carried the fuel away from this well. Anectodal information from site personnel suggests that most of the release at Tank 19 traveled as surface flow. Phase I UST investigations in the vicinity of Tank 19 substantiate that hydrocarbon staining downgradient of the tank was encountered only in soil from 0.3 to 2.0 feet below ground surface (bgs) in fill and colluvial materials. Recent results from Phase II of the UST field program revealed no hydrocarbon staining below 0.75 feet bgs in a trench downgradient of Tank 19 near the confluence of "C" and "D" roads (John DeAngelis, Tetra Tech EM Inc. personal communication, December 6, 1999).

It appears the release was carried off rapidly by the roadside drainage ditches and steep topography, and migrated primarily on the surface until it spread out on lower-gradient soils near Catch Basin 2. A large amount of product was captured in Catch Basin 2 and recovered. There is no record of the volume captured.

These observations indicate the general trend for fuel migration from historical tank overfills, pipeline leaks, or valve box releases at NFD Point Molate. Surface releases are controlled by topography, and, having migrated to the subsurface, will continue along lines of least resistance such as pipeline or utility conduits.

As observed in Site 3 and at monitoring well MW11-54, fuel migrating in areas lacking subsurface conduits are still apparently controlled by preferential pathways.

Bedrock features such as bedding planes, fractures, and faults serve as groundwater flow paths. These features may serve as potential contaminant migration pathways. However the relatively low volume of secondary permeability, and especially effective secondary permeability, makes bedrock pathways unlikely paths for the majority of contaminant transport. The definition of preferential pathways is focused on routes of transport for the bulk of petroleum hydrocarbons, and routes that pose the greatest threat of spreading contamination. The bedrock, posing a lesser risk of spreading contamination than the preferential pathways described above, is discussed in Section 3.8, in reference to the effect of bedrock geology on groundwater and contaminant flow.

3.8 EFFECTS OF BEDROCK GEOLOGY ON GROUNDWATER FLOW

This section is an interpretation of bedrock groundwater flow based on available information from this investigation, previous investigations at NFD Point Molate, and data from the adjacent Chevron refinery. A preliminary bedrock geologic map has been compiled for the Final Phase II RI Report (see Plate 29).

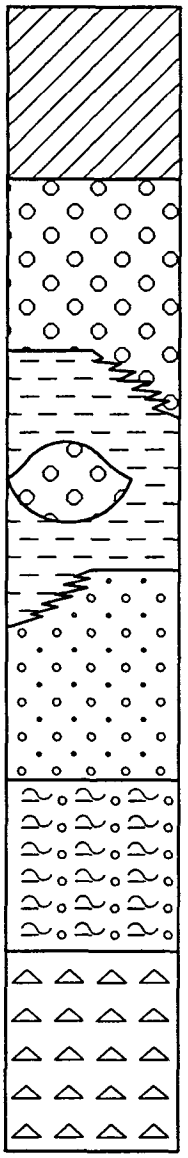
Geologic features that influence groundwater flow within bedrock include the hydraulic conductivity of various rock units, hydraulic gradient, bedding plane orientations, fracture density and orientations, and fault zones. Primary intergranular porosity has been significantly reduced or eliminated in the well-cemented and partially-metamorphosed rocks of the Franciscan Formation; therefore, groundwater probably flows along fractures, bedding planes, and fault zones (areas of secondary porosity). Hydraulic conductivities are effected by (1) fine-grained sediment or secondary crystallization filling in the fractures, (2) the discontinuous nature of fractures of the interbedded units, and (3) small apertures along fractures (BEDM 1993).

Based on borehole logging and packer test observations, the bedrock is fractured, but most of the fractures are filled. The mechanical tress and water flushing occurring during coring tends to open the fractures. Packer testing data indicates the increasing water pressure of the testing further flushes the fractures of clay and other mineral fillings. Plots of the increasing pressure and decreasing pressure curve at the end of the tests substantiate this interpretation. Plots for BR02-18 and BR02-19 are presented in Appendix G. These data are interpreted by the methods in Groundwater Manual (USBR 1981), which substantiate this interpretation. The bedrock generally possesses low secondary hydraulic conductivity that is enhanced by coring and hydraulic packer testing.

Groundwater flow directions may be influenced by stress fractures that are discontinuous in interbedded units (KJss) and continuous in massive units (KJms). Groundwater flowing through KJss units may preferentially flow parallel to bedding fractures, at least locally. In the massive KJms units, groundwater flows along the stress fractures due to the lack of bedding fractures.

The high-angle relationship between the orientation of fractures and bedding and the discontinuous nature of fractures in the interbedded units suggests that flow along fractures probably tends to be discontinuous and disrupted by the bedding planes within the KJss unit. Within the KJms unit, groundwater flow along fractures may occur continuously over larger distances because of the lack of bedding planes. The discontinuous nature of groundwater flow along fractures within the KJss suggests that groundwater will tend to flow parallel to bedding planes, faults and shear zones, and along more continuous fracture zones. Faults and some fracture zones contain a high percentage of clays and probably act as partial hydraulic barriers. Blocks of bedrock separated by these fault/fracture zones may be distinct hydrologic units with different potentiometric surfaces and local hydraulic gradients (BEDM 1992). At NFD Point Molate, data have not indicated the existence of distinctly different, compartmentalized groundwater regimes in the bedrock. Further data collected during the UST characterization program may refine the Point Molate bedrock groundwater regime in the future.

The bedrock groundwater flow system constitutes a possible migration pathway for contaminants. The secondary permeability of bedding planes, fractures and faults may all serve as migration pathways. The bedrock flow system is not interpreted to be a preferred or significant migration pathway based on empirical evidence. The fracture filling of secondary minerals, the upward gradients exhibited, the fact the primary contaminants are LNAPLs, and the fact that no free product has been found in bedrock wells, and only minor, low-level detections of dissolved petroleum hydrocarbon constituents in bedrock wells indicate the bedrock pathway is less significant than other pathways discussed in Section 3.7.



ARTIFICIAL FILL	HETEROGENEOUS MIXTURE OF POORLY–SORTED GRAVEL, SILT, SANDY SILT, SANDY CLAY, AND BEDROCK FRAGMENTS; SOME ORGANIC–RICH HORIZONS WITH ABUNDANT PLANT STEMS; OCCASIONAL PEAT HORIZONS.
ALLUVIUM	SAND OR SANDY GRAVEL AND COBBLES. INTERFINGERS WITH BAY MUD.
BAY MUD	SANDY CLAY, SILTY SAND, AND SANDY SILT WITH MODERATE TO ABUNDANT SHELL FRAGMENTS; UNIFORM AND VERY DARK GRAY. INTERFINGERS WITH ALLUVIAL SANDS.
REWORKED INTERTIDAL SEDIMENTS	SANDY SILT AND SILTY SAND WITH ABUNDANT SUBROUNDED LITHIC/BEDROCK FRAGMENTS AND NUMEROUS SHELL FRAGMENTS.
COLLUVIUM	CLAYEY AND SILTY SAND WITH WEATHERED BEDROCK FRAGMENTS. SAPROLITE NEAR BEDROCK CONTACT; DENSE, DISTINCT YELLOWISH BROWN COLOR.
BEDROCK	INTERBEDDED SANDSTONE, MUDSTONE AND QUARTZITE OF FRANCISCAN FORMATION. SOFT SEDIMENT DEFORMATION (FLAME STRUCTURES) EVIDENT.

FIGURE 3-1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
GENERALIZED DEPOSITIONAL SEQUENCE
OF SOIL AND SEDIMENTS

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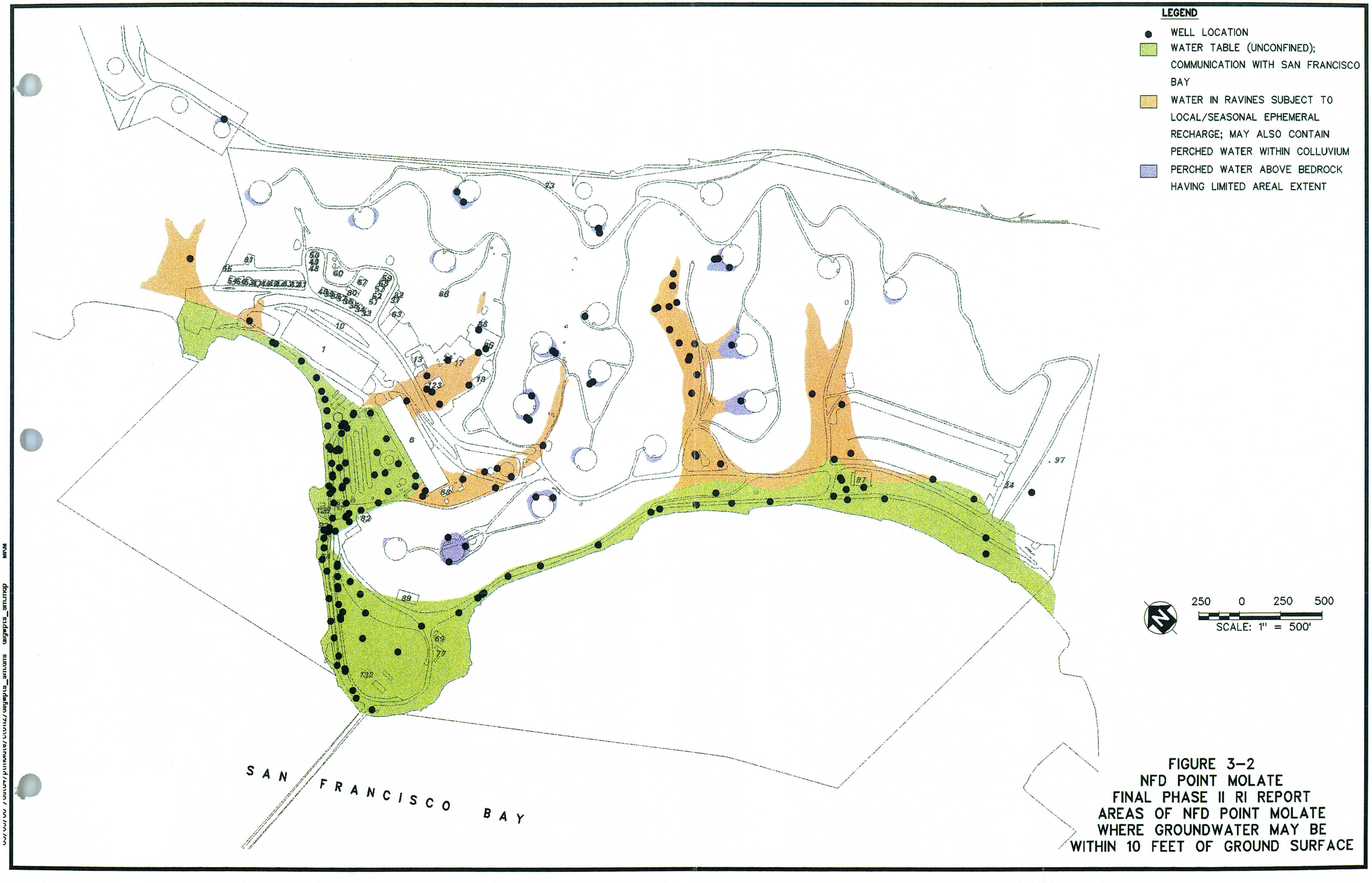


FIGURE 3-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
AREAS OF NFD POINT MOLATE
WHERE GROUNDWATER MAY BE
WITHIN 10 FEET OF GROUND SURFACE

TABLE 3-1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
TREATMENT PONDS AND WASTE DISPOSAL AREAS
SUMMARY OF PHYSICAL ANALYSES RESULTS FOR SOIL

Laboratory Sample Number	Material	Saturated Hydraulic Conductivity (cm/s)	Initial Moisture Content		Density (g/cm^3)	Calculated Porosity (%)	Particle Size Characteristics					Moisture Content** (%, cm^3)	Total Organic Carbon (%)
			Gravimetric (% g/g)	Volumetric (% cm^3)			d_{10}	d_{50}	d_{60}	C_u	C_c		
SB11-10(25.5-26.0)	Bay Mud	7.7×10^{-8}	45.7	56.8	1.24	53.0	*	0.050	0.060	--	--	53.6-37.9	1.18
SB11-10(26.0-26.5)	Bay Mud	9.4×10^{-8}	42.5	54.6	1.29	51.3	*	0.050	0.060	--	--	51.1-42.7	
SB11-10(42.8-43.3)	Colluvium	7.1×10^{-9}	14.6	28.0	1.91	27.8	*	0.048	0.072	--	--	30.3-25.3	
SB11-14(31.0-31.5)	Bay Mud	3.5×10^{-7}	32.9	48.5	1.47	44.4	*	0.10	0.16	--	--	45.5-32.6	
SB11-31(10.0-10.5)	Fill Material (Sandy Silt With Minor Clay)	8.1×10^{-8}	22.5	37.0	1.65	37.8	0.0016	0.065	0.11	69	0.091	37.0-25.3	2.75
SB11-37B(20.5-21.0)	Bay Mud	6.2×10^{-7}	40.75	53.35	1.31	50.60	*	0.045	0.051	--	--	52.44-35.59	
SB11-37B(27.0-27.5)	Colluvium	9.3×10^{-8}	18.21	32.98	1.81	31.67	0.0021	0.090	0.30	143	2.5	32.52-24.12	
SB11-42(21.5-22.0)	Colluvium	9.1×10^{-9}	18.03	32.92	1.83	31.12	*	0.076	0.29	--	--	35.90-27.57	
SB11-44(20.0-20.5)	Bay Mud	5.3×10^{-8}	43.93	55.06	1.25	52.71	*	0.034	0.042	--	--	54.24-35.54	
SB11-46(11.0-11.5)	Fill Material (Silty Sand)	2.1×10^{-6}	20.05	34.97	1.74	34.18	0.027	0.48	0.92	34	1.03	28.08-12.17	
SB11-51(11.5-12.0)	Colluvium	8.2×10^{-9}	17.68	32.36	1.83	30.93	*	0.023	0.038	--	--	33.57-28.66	
SB11-53(24.0-24.5)	Bay Mud	1.5×10^{-7}	44.82	54.33	1.21	54.26	*	0.40	0.48	--	--	51.17-32.82	
SB02-01 (24-24.5')	Colluvium	6.8×10^{-8}	17.4	31.9	1.84	30.7							0.5

Notes:

*	d_{10} not reached with test specified
**	Range displayed at 0 to 15,500 pressure head (cm water) Refer to Appendix D for incremental readings at increasing pressure
--	Value dependent upon d_{10}
d_{50}	Median particle diameter
g/g	Grams per gram
cm^3	Cubic centimeters
cm/s	Centimeters per second
g/cm^3	Grams per cubic centimeters

$$C_c = \frac{(d_{30})^2}{(d_{10})(d_{60})} \qquad C_u = \frac{d_{60}}{d_{10}}$$

TABLE 3-2

NFD POINT MOLATE
FINAL PHASE II RI REPORT
HYDRAULIC PARAMETERS

Area	Geologic Unit	K	Gradient (i)	Estimated Effective Porosity Used (n)	Darcy Flow Velocity (V = Ki/n)	
Chevron	Bedrock[1]	5×10^{-5} cm/s	0.10	0.20	2.5×10^{-5} cm/s	(26 ft/year)
	Gravel Soil[1]	3×10^{-3} cm/s	0.03	0.30	3×10^{-4} cm/s	(300 ft/year)
IR Site 1- Waste Disposal Area	Bedrock[2]	BR02-18 1.2×10^{-3} cm/s	0.085	0.20	5.1×10^{-4} cm/s	(528 ft/year)
		BR02-19 3.5×10^{-4} cm/s	0.085	0.20	1.5×10^{-4} cm/s	(164 ft/year)
	Colluvium[3]	SB02-01 24' - 24.5' laboratory 6.8×10^{-8}	0.085	0.25	2.3×10^{-8} cm/s	(0.0239 ft/year)
IR Site 3 - Treatment Ponds Area	Bedrock[4]	CH11-03 2.0×10^{-3} cm/s	0.15	0.20	1.5×10^{-3} cm/s	(1,512 ft/year)
		CH11-07 4.4×10^{-6} cm/s	0.15	0.20	3.3×10^{-6} cm/s	(3.4 ft/year)
	Fill[4]	SB11-46 laboratory 2.1×10^{-6} cm/s	0.15	0.25	1.3×10^{-6} cm/s	(1.35 ft/year)
	Bay Mud[4]	SB11-53 laboratory 1.5×10^{-7} cm/s	0.15	0.25	9.0×10^{-8} cm/s	(0.093 ft/year)
	Colluvium[4]	SB11-37B laboratory 9.3×10^{-8} cm/s	0.15	0.25	5.6×10^{-8} cm/s	(0.057 ft/year)

Data From:

[1] BEDM. 1992.
[2] Phase II RI packer tests
[3] PRC. 1994g.
[4] PRC. 1994d.

Notes:

cm/s	Centimeters per second
i	Hydraulic gradient calculated from water levels measured January through March 1999
K	Hydraulic conductivity
laboratory	Measured ex-situ by laboratory analysis
n	Effective porosity (Freeze and Cherry. 1979)
V	Darcy Flow Velocity

TABLE 3-3
FINAL PHASE II RI REPORT
VERTICAL GRADIENTS BETWEEN BEDROCK AND UNCONSOLIDATED MATERIALS

Well Pair	Water Table Elevations (in feet above sea level)	Screened Interval (in feet bgs)	Screen Midpoint (in feet bgs)	Water Level Difference	Screen Midpoint Difference	Gradient
BR02-19	91.23'	26.4' - 30.4'	24.4'	3.18'	11.50'	3.18 / 11.5 = 0.28
MW02-13	88.05'	14.8' - 19.0'	16.9'			
BR02-20	40.88'	38.2' - 43.2'	40.7'	7.51'	24.10'	7.51 / 24.1 = 0.31
MW02-07	33.37'	11.6' - 21.60'	16.6'			
BR10-19	7.92'	18.2' - 23.2	20.7'	0.04'	4.2'	0.04 / 4.2 = 0.0095
ERM10-02	7.88'	14.0' - 19.0'	16.5'			
BR11-96	4.90'	38.0' - 48.0'	43.0'	1.71'	28.75'	1.71 / 28.75 = 0.059
MW11-52	3.19'	9.0' - 19.5'	14.25'			

Notes:

All water levels measured April 26-28, 1999.
"BR" designated wells are bedrock wells.
A positive number for the gradient indicates an upward gradient
Bedrock well BR02-18 was not included because there is no paired shallow well.
Bedrock well BR11-90 was not included because the field crew inadvertently did not measure the water level during April 26-28, 1999.

4.0 NATURE AND EXTENT OF CONTAMINATION

Section 4.0 describes the findings from the Phase II RI field investigation and the three semiannual groundwater sampling events. These data are presented and integrated with the previously generated data for IR Site 1, the Waste Disposal Area, IR Site 3, the Treatment Ponds Area, and IR Site 4, the Shoreline Areas. The recent data updates the status of these sites and refines the previously presented conceptual models (TtEMI 1998k).

Section 4.0 also provides interpretations based upon recent Phase II RI field data as well as historical IR data. All analytical data generated during IR investigations are provided in Appendix A2. These data are arranged by the respective IR Site 1, 3, or 4. These data are further subdivided by matrix, and each matrix for each IR site by analyte. Detections are in bold font.

Other appendices supply supporting data used for this RI. These data are included for completeness, and to provide a full set of IR data in one place. Not all of these data are referenced in this report, but the intent is to provide a single, stand alone compilation to support the remedial actions, final ROD, and base transfer.

Plates provided with this report show the geography and distribution of sample points and analytical detections within each IR site. All historical and recent data are posted for these sample points. Extensive data sets required posting only detections on most maps. Some areas with extensive data, like the Drum Lot No. 1 area, required posting historical data on one plate and recent data on another plate. Review of these plates is necessary in interpreting the spacial and temporal distribution of data at Point Molate.

Tables 4-1 through 4-10 show the total number of analyses for each analyte, number of detections for each analyte, percent frequency of detection, maximum detection, mean, standard deviation, preliminary remedial goal (PRG), if available for an analyte, and the number of samples exceeding the PRG. The PRGs are U.S. EPA Region 9 preliminary remediation goals for residential soils. These values have been used in the summary tables as a quick screening method. For some chemicals, the non-detects exceed the PRGs, even though the laboratory detection levels are generally less than the PRGs. During future HHRA evaluations, compounds that show non-detections exceeding PRGs will be reviewed against site history and the expected contaminants predicted from the historic site releases. Associated compounds will be compared, for example all PAH compounds will be reviewed as a check if one PAH compound exceeds the PRG. If necessary, additional samples may be obtained for low detection level analysis to verify the previous results. The

normal practice of using one half the detection level for non-detects used in an HHRA also provides another conservative check on non-detections that exceed a PRG.

The NFD Point Molate QAPP provides the contract required quantitation limits (TtEMI 1998n). The minimum detections are not shown on these tables because, in most cases, they represent detection limits for organics, and have limited usefulness.

For samples with multiple results per chemical compound (for example, if a sample was analyzed from VOCs and TPH-p, there could be two benzene results), only one of the results was included in the statistical calculations. The highest detected value was chosen or, if nothing was detected, the result with the lowest detection limit was chosen to be included in the statistical analysis.

The summary tables 4-1 through 4-10 provide a condensed reference for data assessment. They provide a summary of vast amounts of data without extensive text description that may be tedious and confusing to read. The tables also allow the reader to interpret data quickly and exercise their own interpretations.

Figures 4-1 through 4-3 provide a pictorial site conceptual model for each IR site. These may be helpful in understanding releases and distribution of contaminants.

A series of scatterplots are also provided (Figures 4-4 through 4-26). These are plots of soil concentrations of various petroleum hydrocarbon ranges detected against depths below ground surface. These provide a quick way to assess the vertical distribution of samples for petroleum hydrocarbons in each area. The samples were originally collected for their indication of contamination, and this is reflected in the higher concentrations shown on each plot. This is meaningful because the highest concentrations are the most likely to need remediation. This is discussed further in Section 4.1.3.

Figures 4-28 through 4-34 graph the concentrations of several petroleum hydrocarbon compounds over time for IR Site 1 wells and apply linear regression analysis as a screen for long-term trends. Another set of graphs (figures 4-35 through 4-43) shows thickness of LNAPL as free product in various monitoring wells over time. These data focus on IR Site 3, the Treatment Ponds Area, that has historically had widely distributed measurable free product in monitoring wells. Data were graphed for wells with four or more measurements to provide a meaningful plot and linear regression analysis was applied to screen data for long-term trends.

4.1 IR SITE 1 - WASTE DISPOSAL AREA SITE CHARACTERIZATION

IR Site 1 (Plate 1) is the Waste Disposal Area located in a steep-sided ravine near the center of the facility. The site also includes areas that have been contaminated by fuel releases from tanks, pipelines, and value boxes (VBs). Figure 4-1 depicts the conceptual site model for IR Site 1. This area has been investigated during the SI (PRC 1992a) and RI (PRC 1994e). Samples were collected in the vicinity of the site during the shallow soil investigation (ERM-West 1990).

4.1.1 Site History and Previous Investigations

Waste disposed of in the waste disposal area reportedly consisted primarily of construction debris and brush. Additionally, residual oil, fuel, and tank-bottom sludge were encountered in 1990 soil borings drilled in Site 1. Drums containing unknown liquids, possibly surfactants and oily waste, were also observed at the site during the 1990 investigation (PRC 1992a). The area of disposed material is approximately 400 feet long and varies from 50 to 200 feet wide. The thickness of fill in the Waste Disposal Area varies from a few feet to a maximum depth of approximately 35 feet towards the downslope end. Review of aerial photographs indicated disposal was first visible in a 1957 photograph, but was not apparent in the previous facility aerial photograph in 1953. Aerial photographs show that disposal ceased by 1979, but the area appeared active in the previous facility aerial photograph in 1975 (PRC 1996c). After 1979, some debris and green waste were dumped on the surface of the disposal area. The exact amount of waste disposed of and fuel spilled or leaked at Site 1 is not known. Interviews with facility personnel and soil borings taken from the site did not indicate the past disposal of any municipal wastes.

The boundary for IR Site 1 is indicated on Plate 1. The site consists of the IR Site 1 Waste Disposal Area proper, the area where debris was disposed, and the area downgradient of the fill area, which was investigated along with the fill area because of impacted groundwater. In the past, the precise boundaries of IR Site 1 were inconclusive. The whole ravine containing the Waste Disposal Area was investigated during the CTO 248 investigations, (which were reported as the Phase I RI). The ravine was portrayed on maps as the area of CTO 248 investigation. The Basewide Environmental Baseline Survey (EBS) (PRC and Morrison Knudsen 1996) presented the only variation in the true boundary of IR Site 1. The EBS boundary was a direct, and incorrect, carryover of the CTO 248 area of investigation boundary that had investigated potential UST and IR site releases. Plate 1 delineates the area of IR Site 1 as it applies to the current IR Program and the area to be addressed under an EE/CA for Site 1. The Navy clarified this boundary in the June 1998 Phase II RI scoping meetings with the BCT.

Plate 4 illustrates the outline of the area, locations of all borings, wells and trenches, lines of cross section, and approximate topography from an old, unvalidated map source. Topography should be considered to be approximate due to poor survey control on surroundings areas. The exception are the monitoring well location elevations which were recently surveyed and are accurate.

Fuel distribution tanks 14, 15, 18, 19, and 20 and associated VBs and pipelines are located adjacent to the Waste Disposal Area. Leaks and spills associated with the fuel distribution system have contaminated groundwater at monitoring wells in Site 1. A release near VB 9, discovered in 1978, saturated the waste disposal area with F-76. Pipeline leaks near Tank 19 have also released F-76 to soil and groundwater. Releases of ballast water from Tank 20 and JP-5 from Tank 19 have also affected soil and groundwater at Site 1. Although some of these releases involved diesel, soil and groundwater analytical results indicate the presence only of JP-5. Many of these fuel releases are conceptually depicted in Figure 4-1.

During the Phase I investigation soil from six borings, one surface soil grab sample, and groundwater samples from five monitoring wells were submitted for chemical analysis during the Waste Disposal Area RI (PRC 1994g). Analytical results indicated that TPH-e (primarily JP-5) and PAHs were present in soil and groundwater. Free product was also identified on the groundwater table within the downgradient area. The Waste Disposal Area RI report (PRC 1994g) provides details on these previous investigation sampling activities. Tables 4-1 and 4-2 summarize these data. Plates 5 through 12 show the spatial distribution of data at IR Site 1.

The Phase II RI included extensive field investigations at IR Site 1. A total of 18 soil borings were drilled in and downgradient of the area. Three new shallow monitoring wells, and three bedrock wells were installed. The bedrock wells were packer tested to assess K (see Section 3.6.3). Five piezometers were installed to assess water levels within and adjacent to the filled area. Eleven trenches were excavated and six soil samples for TPH-e, 5 for SVOCs, and 2 for toxic characteristic leaching procedure (TCLP) analysis for metals and VOCs and were submitted to the laboratory. Trench logs and sample results are on Plates 5 and 6. A total of 12 other soil boring samples were submitted for TPH-p, TPH-e, VOC, and PAH analysis. These results are all presented in Appendix A2. Cross sections with soil data are presented on Plates 5, 6, 7A, and 7B and the spacial plot of these data (all detections) is on Plate 11. One water sample was taken from the augers during drilling SB02-09. Nine wells were sampled in January and February 1999. Table 4-2 gives the analyses for samples from these wells. Appendix A2 presents all analytical data.

4.1.2 Sources

Three potential sources of hydrocarbons in soil and groundwater in the Waste Disposal Area have been identified (see Plate 13). The first source is the sludges and hydrocarbon contaminant materials directly deposited in the Waste Disposal Area as waste. These wastes are exemplified by the hydrocarbon-stained and altered, grayish-green to greenish-black wastes found in trenches, TR1-6 and TR1-7 (see Plates 5 and 6) and borings SB02-09 and SB02-11. These wastes are weathered and contain mostly SVOC compounds at low levels. They are not interpreted to be a significant source for future groundwater contamination because the petroleum components detected are nearly all very low solubility PAHs, well below their solubility constant (see Fetter 1993, Contaminant Hydrogeology, Chapter 7 and Figure 7.2). Additionally monitoring well MW02-06 is directly downgradient (within 40 feet) of trench TR1-7, where waste materials were found. Only low levels of TPH and associated compounds have been detected in samples from this well.

The second source is the F-76 diesel and JP-5 fuels released upgradient at Tank 14 and VB 9. These fuels migrated down the head of the steep ravine that the Waste Disposal Area occupies. The fuels apparently migrated both as surface sheet flow and as subsurface flow in the colluvium and possibly the bedrock. Staining of bedrock was found in the upgradient boring BR02-18, but no detections of hydrocarbons were found in the groundwater sample. Monitoring well MW02-01 in the upper end of the area had detections of diesel range TPH-e at 1.5 mg/L and gasoline range at .56 mg/L. This may indicate continued migration from this upgradient source or remaining product still in the Waste Disposal Area itself. This upgradient source is interpreted to be dissipating and contributing reducing amounts of petroleum hydrocarbons to groundwater.

The third and last potential source of petroleum hydrocarbon contamination in this area consists of dissolved fuels migrating in groundwater from the east side of the Waste Disposal Area along D Road. This source may be partly from the former release from the pipelines paralleling D Road. However, this release was reported to be F-76 and the TPH-e found during the Phase II RI was primarily JP-5. Recent data from the Phase I and II UST characterization have found a significant source of JP-5 associated with Tank 18, Valve box 7, and the associated pipeline backfills. This source is being investigated through the UST program and a full description of this source is in the Phase II Characterization Report (TtEMI, 2000a). The Tank 18 and Valve box 7 source is responsible for the free product observed in monitoring well ERM-EW1. This petroleum hydrocarbon contamination has been moving downgradient into the fill. The source appeared to be relatively fresh based on the pattern observed in the chemical analysis chromatogram. It is notable that samples from the new monitoring wells directly downgradient of the Waste Disposal Area did not contain significant concentrations of petroleum hydrocarbons. This possibly indicates that petroleum hydrocarbons from the D Road area source are sorbing to fill materials within the Waste Disposal Area or that there is no longer a large mass of this fuel in the groundwater. The contaminant concentration is being

monitored further as part of the EE/CA and UST Program. More recent data are included on Plate 12 of this RI and in the EE/CA.

4.1.3 Soil

During the 1990 SI, shallow soil borings were analyzed for TPH-e quantified as JP-5, marine diesel (F-76), and other diesel ranges. The Phase I RI for the site included analytical results for VOCs, SVOCs, BTEX, TPH-e, pesticides/PCBs, and metals in soils. JP-5 was prevalent throughout area soil, originating mainly from leaks at VBs 7, 8, 9, and an overfill of Tank 19 to the east. All BTEX compounds, except ethylbenzene, were detected in soil samples. The VOCs chloromethane, 2-butanone, total BTEX, benzene, 4-methyl-2-pentanone, and toluene were detected sporadically, primarily within and downgradient of the disposed material. Most SVOCs detected, including PAHs, were identified as fuel constituents. The infrequent pesticide detections appeared to be from brush deposited in the fill area and not from the direct disposal of pesticide wastes. Localized areas of metals, including copper, zinc, and lead detected above reference levels (background), most likely indicate the presence of disposed sludge and not fuel, since areas with the highest levels of JP-5 had below-average metals detections. All waste materials identified as "sludge" (a terminology originating in the Phase I RI for IR Site 1) are petroleum hydrocarbon-saturated soil wastes thought to be from the demolition and excavation of the former wooden valve boxes. Trenching during the Phase II RI revealed these wastes were mixed with large amounts of 2-inch by 6-inch redwood planking. The original boxes were known to have been demolished and replaced with the concrete valve boxes still present. Additionally, some material generated during tank cleaning (tank bottoms) may also be present. The disposal of these materials was never documented.

The Phase II RI investigation confirmed the existence of sludge-like material buried in the center of the Waste Disposal Area. Five trench samples of these wastes were submitted for analysis. These petroleum hydrocarbon wastes contained two detections of TPH-p as gasoline at 2 and 50 mg/kg, two detections of TPH-e as JP-5 at 550 and 850 mg/kg, and five detections of TPH-e as motor oil ranging from 37 to 280 mg/kg. Soil borings SB02-08, SB02-09, SB02-11, and DA-5 also encountered similar materials and had similar detections. Plates 5 and 6 have detailed logs of the trenches (these are similar to boring logs, but are included on plates rather than in Appendix B).

Plates 5 and 6 graphically show the dimensions of the trenches, type of soil materials and debris encountered, groundwater conditions, and the chemistry of waste samples taken. The trenching investigation found the area of fill to be somewhat different than previously mapped, being narrower and extending further up and down the ravine. Clean, sandy to clayey fill overlain debris ranging from 0 to 7 feet thick. Wastes observed largely consisted of railroad ties, wood, some burned building demolition debris, railroad rail, concrete,

stumps, logs, pilings, small diameter pipe, metal strapping, and some minor paper. One old, rusted empty drum was encountered. It appeared to be a barrel used for burning.

Petroleum hydrocarbon-saturated wastes were obvious visually and from their odor. Clay, sandy clay, and some gravelly clay were stained grayish green to dark gray, and saturated with fuels. Most of this material contained abundant wood of sizes ranging from planking to fragments. This material is probably debris from the demolition of the old wooden valve boxes. Only trench TR1-1 showed altered gray colluvium with inflowing groundwater that contained dissolved fuel. No other trench encountered free product or petroleum-contaminated groundwater. Most trenches were dry.

Data from these trenches were combined with new data from Phase II borings and previous borings to create new detailed cross sections of the Waste Disposal Area. Plates 7A, 7B, 8, and 9 present these sections and post all new and old detected chemical data.

These cross sections show that the fill overlies 3 to 20 feet of colluvium that, in turn, overlies steeply dipping, fractured sandstone and mudstone. The maximum fill thickness is approximately 35 feet. The fill lies along and is thickest in the axis of the preexisting ravine. The upper end of the fill area was dry. At MW02-01, groundwater was only measured in the bottom several feet of the fill. At the lower end of the area, the water table saturated approximately the lower half of the fill. Petroleum hydrocarbon-saturated wastes were apparently placed along the deeper axis of the ravine and therefore are partially below the water table. Cross sections 7a, 7b, 8, and 9 show the petroleum hydrocarbon wastes and the recent water levels. During periods of extremely high water table, the extent of the waste area are extrapolated between control points and the depth of wastes below the water table is estimated to be from zero feet at the head of the fill to a maximum of 20 feet in the deeper, downgradient fill area. The water table is known to fluctuate seasonally so this condition is subject to change. The largest fluctuation in well MW02-06 was measured between September 1994 (93.97 feet above mean sea level [AMSL]) and December 1994 (increasing to 98.17 feet ASML). Monitoring well MW02-01 had a water level increase in the same period of 7.94 feet.

Plate 10 is a contour of the fill thickness. This isopach map was contoured from all available subsurface data. The calculated footprint area of the fill within the Waste Disposal Area is 1.019 acres. Calculated fill volume is 21,423 cubic yards. The contours and volumes were computer calculated with Surfer software. Subjectivity inherent in contouring make these numbers only as accurate as the contouring, but they are likely within plus or minus 10 percent accuracy. Mapping of debris at the lower end of the area will be refined by further field observations during the IR Site 1 EE/CA. It is estimated the petroleum saturated wastes may comprise 30 to 40 percent of the fill material.

Scatterplots, Figures 4-4 through 4-7, for the Waste Disposal Area plot concentrations of different TPH ranges versus depth below ground level. The gasoline, JP-5, and "other" light hydrocarbons cluster at approximately 7 to 22 feet below ground surface, although one detection is as deep as 27 feet. Sampling was biased towards selecting the samples appearing to be most contaminated. Data are skewed towards the highest concentrations, which is the material most likely to need remediation. Therefore, this gives a depth of distribution of the primary contaminated materials. Note that the concentrations are clustered at the higher end of the logarithmic scale. This is because more contaminated materials were selected during the field work to define the apparent worst-case scenario. Undoubtedly, more points would appear in the mid to lower range of the scale if a nonjudgmental sampling approach, such as systematic or random sampling, were employed.

During a site visit to IR Site 1 in early spring of 1999, EPA and the City of Richmond representatives observed a 55-gallon drum labeled Malathion downgradient of the toe of the landfill. They reported this finding to the BCT. The Navy recovered the drum, found it empty of residue, and deemed it Resource Conservation and Recovery Act (RCRA) clean. The drum was properly disposed of in May 1999 by the waste disposal personnel at FISCO.

4.1.4 Groundwater

Groundwater flow follows the topography of the site and surrounding area, flowing west-southwest to San Francisco Bay. Groundwater samples have been analyzed for BTEX, SVOCs, VOCs, total organic carbon (TOC), metals, and pesticides and PCBs. Fuels and fuel constituents originating from former facility operations were the most widely encountered groundwater contaminants in the area. Historically, floating hydrocarbons have been encountered in two downgradient Waste Disposal Area monitoring wells, ERM-EW2 and MW02-07, and cross-gradient well ERM-EW1. However, recent water level measurements obtained in April 1998 found only 0.01 feet in ERM-EW2, 0.07 in ERM-EW1, and none in MW02-07. The LNAPL was predominantly JP-5.

Semiannual Event 3, which took place in January 1999, added additional groundwater data for IR Site 1. Subsequent samples have been taken as part of the UST Characterization activities. Plate 12 presents these and all other groundwater analytical data for IR Site 1. This plate gives the spatial distribution of all samples. Table 4-2 gives a statistical summary of these data. The most frequently detected TPH range is light "other" components at 83 percent detection, and has a high value of 72 mg/L. The highest TPH-e detection was JP-5 at 400 mg/L in a sample from downgradient monitoring well MW02-07, taken August 1994 after the JP-5 D

Road release. The downgradient wells have shown higher concentrations of TPH than the wells within the fill area. The highest detection within the fill area wells was "other" heavy components at 7.1 mg/L in MW02-06, obtained in August 1994. Figures 4-28 through 4-34 are trend plots of petroleum-related compounds detected in two wells, MW02-07 and MW02-06, in the Waste Disposal Area. Decreases of these indicator compounds were marked between August 1994 and October 1997. Three subsequent semiannual sampling events confirm that concentrations of these compounds are nearly at the detection limit and seem to be decreasing.

Based on these data and the near absence of measurable product (only 1 in 18 monitoring wells or piezometers had measurable product during Event 3 in January 1999; ERM-EW1 had 0.48 feet downgradient of Valve Box 7) the groundwater contamination within the Landfill footprint at IR Site 1 is currently being attenuated by natural processes. The UST Characterization work has discovered a major source of free product at Tank 18 and the associated downgradient areas at Valve Box 7. The product observed at ERM-EW1 is attributed to this source. Some additional fuel may be sourced from D Road and possibly Tank 15. The Tank 18 source is undergoing product removal (2,800 gallons have been recovered as of June 1, 2000) and this area will be further characterized under the UST Characterization program.

The groundwater velocity at IR Site 1 has been calculated for both colluvium and bedrock (see Table 3-2). Maximum flow rate using K data from bedrock well BR02-18, and a January 1999 gradient of 0.085, is 5.1 x 10^{-4} cm/sec (about 528 ft/year) (see Table 3-2). The minimum flow rate using a laboratory K value for colluvium in SB02-01 (24 feet through 24.5 feet) is 2.4 x 10^{-8} cm/sec or about 0.024 ft/year. Because of heterogeneity, the physical properties of most of the fill material will vary widely.

This is a large range in travel times. The average rate of flow is probably toward the higher velocity rather than the lower. Also, the laboratory test was for vertical permeability which is usually in the range of one tenth the horizontal K (Freeze and Cherry 1979).

There has been a steady decline in free product measured, detections and concentrations of groundwater contaminants, and diminishing sources of these contaminants within the fill itself. Adjacent sources such as Tank 18, Valve Box 7, and the D Road area are ongoing sources that are undergoing active product removal, and will receive further action under the UST program. The Site 1 EE/CA (TtEMI 1999e) contains an exposure pathway assessment. Further HHRA evaluation may be undertaken as part of the EE/CA or the Corrective Action Plan (CAP).

4.1.5 Surface Water

Surface water ephemerally collects at three locations downgradient of IR Site 1. Characteristics of these three areas are common to coastal freshwater marshes, as described in an assessment of wetland resources at Point Molate (Tetra Tech Inc. 1996). These characteristics include the presence of hydrophytic vegetation, hydric soils, and a hydrologic regime that includes periodic soil saturation for some period during the growing season. Hydrophytic vegetation observed in the three areas includes arroyo willows (*salix lasiolepsis*) with sedges (*Cyperus eragrostis, Scirprus* spp.) and rushes (*Juncus* spp.) in the understory (Tetra Tech Inc. 1996).

Even though characteristics of these three areas are common to freshwater marshes, these three low-lying areas were specifically developed as collection ponds during the 1970s. The low-lying, manmade areas tend to accumulate water, particularly after rain, from natural seeps associated with the ravine. Petroleum products associated with past UST, pipeline, and valve box releases have affected groundwater and surface water (as seeps) that eventually may drain into these three areas. The area at the toe of the landfill is indicated on Plate 4 for IR Site 1. Surface water seep SW02-04 exists immediately downgradient of Site 1; although this seep typically only has water flowing from it during the rainy season, wet soil conditions and puddle water was observed at this location throughout 1999.

In February 1999 and 2000, surface water seeps were sampled in the drainage where Site 1 is located as part of the UST investigation. These seeps are typically present only after rain events; with the exception of the seep below Site 1 (noted above). Two seep samples were collected above Site 1 (SW02-05 and SW02-06), and one sample was collected immediately below Site 1 (SW02-04). Plate 12 shows the locations of samples SW02-04 and SW02-05; the location of sample SW02-06 is off the Plate, approximately 125 feet northeast of sample SW02-05. All samples were analyzed for TPH products and related constituents (specifically benzene, toluene, ethylbenzene, and xylene [BTEXs] and polynuclear aromatic hydrocarbons [PAHs]}. Above Site 1, no compounds were detected except for minor detections of gasoline-range, motor oil range, and diesel range TPH never exceeded a combined total concentration of 0.6 mg/L. At surface seep sample location SW02-04 collected in February 1999, immediately below Site 1, gasoline range TPH (1.5 mg/L) and JP5 range TPH (1.5 mg/L) were detected along with a few PAHs: naphthalane (7 µg/L), 1-methylnaphthalene (44 µg/L), 2-methylnaphthalene (12 µg/L), acenaphthene (37 µg/L) and acenephthelene (4 µg/L). At surface seep sample location SW02-04 collected in February 2000, gasoline range TPH (1.74 mg/L) diesel range TPH (1.3 mg/L), and xylene (1.4 µg/L) were detected along with 1-methylnaphthalene (10 µg/L). The TPH results between February 1999 and 2000 are consistent, whereas the detections of PAHs were much less

frequent. It is difficult to discern whether the source of contaminants detected in samples collected below Site 1 is the site, the Valve Box 7 area, or both.

A comparison with ambient water quality control criteria (AWQC) suggests that non of these concentrations are of concern, particularly given the conservative nature of these criteria. No site concentrations exceeded ecologically based ambient water quality criteria. AWQCs do not exist for TPH. A comparison of TPH concentrations to a range acceptable by RWQCB for TPH in groundwater near the bay is made to provide for some level of comparison. Although groundwater and surface water acceptable ranges may not be comparable for risk evaluation purposes, no other criteria currently exists.

Water with a hydrocarbon sheen has been observed in the downgradient storm drain outfall, which feeds directly into San Francisco Bay. Hydrocarbon contamination in the Site 1 ravine is suspected to be the source of fuel in the storm drain system. Surface water samples were collected in January 1998 both at the outfall to San Francisco Bay and downgradient of Site 1. The concentration of TPH as diesel in the outfall sample was 280 μg/L. No other surface water is present or has been characterized as part of IR Site 1.

4.2 IR SITE 3 - TREATMENT PONDS AREA SITE CHARACTERIZATION

IR Site 3 is the Treatment Ponds Area (Plate 1). This area currently comprises three biological treatment ponds and a 200-gallon-per minute (gpm) groundwater treatment plant, a former fuel reclamation facility (including oil/water separators, associated piping and storage, and an above-ground fractionation tank), a former sewage treatment plant, and a groundwater extraction system and containment wall. The treatment ponds system treats storm water and water generated from the ORS system. The extraction system removes groundwater upgradient of the containment wall. This water is treated in the groundwater treatment plant. Figure 4-2 depicts the conceptual site model for IR Site 3.

4.2.1 Site History and Investigations

The Treatment Ponds Area is located on a flat, filled area adjacent to the bay and consists of three unlined, 6-feet deep aeration ponds built over a former sump pond. The sump pond, constructed in the 1940s, was used to contain contaminated fuels, tank-bottom sludges, bunker fuel, leaking drums, and possibly other liquid wastes. Other materials, including used batteries, were also disposed of in the sump pond (PRC 1990). A sheet piling cutoff wall associated with the sump pond was installed in the late 1940s. It was installed to impede the migration of oil within the sump pond toward San Francisco Bay. The cutoff wall extended from

4.5 to 24 feet bgs. It was only moderately effective in its purpose, and residual hydrocarbon contamination has migrated toward the shoreline since excavation and backfilling of the sump pond in 1974. The site also has a wastewater treatment plant, fuel reclamation facility, and a domestic sewage treatment plant.

The entire area is constructed on filled land over former tidal flats. When the installation was active, the treatment facilities (the ponds, plant, and reclamation facility) were part of an oil/water separation system for mixtures generated both at NFD Point Molate and at other area Naval installations. The sewage treatment plant supported a small group of homes for base personnel.

Liquids in the sump pond were pumped out and sent to the neighboring Chevron refinery for reprocessing. Some of the sludge and waste, including the batteries, were removed before the pond was closed and filled with soil and rock excavated from Drum Lot No. 2 (PRC 1990). Residual sludge remaining in the former sump pond was tilled with the fill material. In 1986, the Navy installed five extraction wells along the shoreline in an effort to capture floating hydrocarbons (primarily bunker fuel) originating from the former sump pond. These extraction wells have not been effectively or consistently operated since they were installed, and floating product currently exists within the Treatment Ponds Area.

Investigations at Site 3 have included an SI (PRC 1992a), a Phase I RI (site characterization) PRC 1994g), and four quarterly groundwater monitoring events (PRC 1994c, 1994f, 1994h, and 1995a). During these investigations TPH, SVOCs, BTEX, and (sporadically) low-level chlorinated VOCs have been detected in soil and groundwater samples. The presence of floating fuel products (diesel and bunker fuel) was also monitored during these investigations. Semiannual sampling was completed in this area during late October and early November 1997. A report on this sampling was submitted in March 1998 (TtEMI 1998a). The second semiannual sampling event was completed in April 1998, and a report on the results was prepared (TtEMI 1998h). A third semiannual sampling event was requested by RWQCB and this sampling was conducted during January and February 1999. The results from this sampling event are incorporated into this Phase II RI and a separate report was issued in July of 1999.

Bunker fuel was the most predominant contaminant detected in all media in the Phase I RI. It was detected in the northernmost soil boring, more than 800 feet north of the former sump pond, and about the same distance south of the former sump pond. It was also detected in beach sediment samples collected more than 900 feet north of the former sump pond. The bunker fuel became less viscous after mixing with lighter fuels and historically migrated as far south as well MW11-19, about 800 feet south of the former sump pond. Since 1994, bunker fuel has only been found in minor localized areas south of the Treatment Ponds.

Diesel was the second-most widely distributed and concentrated fuel detected within the Treatment Ponds Area during the Phase I RI. It was distributed mainly south of the Treatment Ponds Area, however, and occurred only as an isolated detection in samples from monitoring well, MW11-40, just outside the northeastern edge of the former sump pond. The distribution of diesel in groundwater suggested a primary source area to the south, probably originating in Drum Lot No. 1, and a secondary source along Diesel Road, probably within pipeline bedding located beneath this road.

The distribution of gasoline in groundwater was the third-most widespread fuel, and was similar to the distribution of BTEX in groundwater. All BTEX constituents were predominantly distributed between wells MW11-19 and well MW11-21, with the highest concentrations being detected in samples from well MW11-21. This distribution pattern suggested a source of BTEX very close to, and perhaps just upgradient or cross gradient of well MW11-21. An LNAPL phase, containing 55 percent JP-5 and 45 percent diesel, was detected at well MW11-22. LNAPL was detected one time in samples from well MW11-22 in July 1992. The well had been sampled once previously, on May 29, 1992, and contained no LNAPL. The LNAPL may have been induced to enter the well after extensive well development (250 gallons removed) and purging (80 gallons removed during purging for the May 1992 sampling). The Treatment Ponds Final Site Characterization Report (PRC 1994) contains further information on this event. No LNAPL has been detected again in samples from this well during or since the May 1994 quarterly sampling program. This well was completed in an area of high K values based on rapid recharge of the well during pumping. It was interpreted that the migration of constituents detected in groundwater at this location was affecting groundwater quality in the Drum Lot No. 1 area. Groundwater analyses since 1997 indicate that hydrocarbon concentrations are decreasing.

The distribution and concentration of aqueous phase constituents, including benzene and other VOCs and SVOCs, was limited to near or directly downgradient of the treatment ponds and former sump pond. Groundwater sampled beneath a 0.66-foot immiscible phase of bunker fuel at well MW11-92 did not contain detectable concentrations of BTEX (detection level 2 µg/L) or SVOCs (detection level 10 µg/L) (PRC 1994d).

Analysis of aquifer tests in the water table aquifer indicated widely-ranging values of K. Hydraulic conductivity values were generally much greater than expected for subsurface materials exhibiting such varying grain-size ranges. Short-term sustainable pump rates within the artificial fill varied from 1.25 to almost 7 gallons per minute (gpm) (PRC 1994d).

Aquifer tests (limited pumping tests) were performed to estimate potential sustainable pumping rates for the extraction trench wells, the potential radius of influence for extraction wells, and the potential for salt water intrusion caused by pumping. Analysis of data from these tests was limited to these specific objectives. Data from these tests are included in Appendix G

Although many wells are tidally influenced from San Francisco Bay, enhanced salt water intrusion due to pumping was not evident, even after discharging approximately 10,000 gallons of groundwater from well MW11-27, located 175 feet from the bay. Sodium (Na) and chloride (Cl^-) concentrations measured in groundwater samples did, however, increase proportionally with proximity to the bay, particularly within 200 feet of the bay. However, not all monitoring wells exhibiting the greatest tidal influence also exhibited the highest salinity or Na and Cl^- concentrations. Preferential flow pathways within the heterogeneous fill material may be responsible for this discrepancy.

The Phase II RI field investigation of IR Site 3 was limited to evaluating a possible migration path through bedrock and data collected to support pilot testing. Four soil borings were drilled. Three of these borings were converted to monitoring wells, one being a bedrock well and two completed in unconsolidated materials. All four borings were located as indicated in the FWP. Only two wells were to be installed; however, the soil boring north of the Treatment Ponds was converted to a monitoring well to further characterize any petroleum hydrocarbons encountered, and to provide data on water levels and for pilot testing.

An extraction trench was installed as a removal action to capture and remove floating fuel and contaminated groundwater for treatment (PRC 1996a). Plate 1 shows the location of the containment wall and associated extraction trench. The extraction trench is 1,100 feet long and 19 to 26 feet deep (keyed to Bay Mud). It has four, 12-inch diameter stainless-steel extraction wells, and four, 6-inch diameter stainless-steel monitoring wells. It provides containment of groundwater migrating toward the bay via a continuous high density polyethylene (HDPE) liner installed on the downgradient side of the extraction trench.

The trench has been effectively capturing contaminated groundwater (PRC 1996b). The effectiveness of the containment wall and extraction trench in controlling migration of free product has been based on technical data gathered and compared through many investigations from 1990 until the present. These data include:

- The decrease in water levels along the trench alignment (see plates 15-18).
- The elimination of shoreface seepage of petroleum hydrocarbons.

- The results presented in the Treatment Ponds Area Extraction Trench Performance Evaluation Report (PRC 1996c), which showed the system was performing as designed.

- Results of the Final Offshore Ecological Risk Assessment Report (Entrix and TtEMI. 1999b), which showed no observable ecological effects in this area of shoreline.

A 200-gpm capacity groundwater treatment plant was designed to treat all groundwater extracted at the facility during part of removal and remedial actions. Removal of free product has been conducted during the Phase I pilot test conducted as part of this Phase II RI. A report on the pilot test was submitted September 25, 1998, and is included as Appendix J of this RI report. Remediation of soil and groundwater in Site 3 will be evaluated following removal actions planned for Site 3, including closure of the ORS, and the treatment ponds, and pipeline removals.

Figure 4-44 shows the cumulative mass (in pounds) of hydrocarbons removed by all methods from June 1997 to October 16, 1998. This total exceeds 2,300 pounds. Pounds have been used as units because the removals also included vapor-phase hydrocarbons. This equals approximately 336 gallons, assuming an average specific gravity of 0.82 for unweathered JP-5 fuel.

4.2.2 Sources

Waste materials were removed from the former sump pond, but residual hydrocarbons remain as free product, sorbed hydrocarbons on soils, dissolved phase hydrocarbons, and as minor amounts (based upon fuel types present) of vapor phase hydrocarbons in the vadose zone. The hydrocarbons present include residual fuel oils such as bunker fuel, distillate fuel oils, jet fuels and gasoline, as well as complex mixtures of these fuels. The major mass of hydrocarbons at the Treatment Ponds Area include TPH-e in the bunker and diesel fuel composition range. Intermixing of these various hydrocarbons and weathering through water washing, oxidation, and biological processes has created a complex distribution of hydrocarbons of varying composition and states of degradation. Continuing processes such as migration with groundwater flow and biological activity continue to modify the distribution and chemical state of these hydrocarbons.

The 1995 closure of NFD Point Molate has assured the end of the introduction of any new hydrocarbons to the soils or groundwater at Site 3. Therefore, the Treatment Ponds Area will function as a source of finite mass of hydrocarbon acted upon by natural and anthropogenic controls. Anthropogenic controls include continued operation of the Treatment Ponds themselves which creates a groundwater mound (Plate 22). This mound may have hydraulic effects on the soil and groundwater contamination such as redistribution and

mixing of fuel types or phases. A detailed study of these possible effects will not be performed as the Treatment Ponds are currently scheduled for closure in 2002.

Although there are no continuing sources of hydrocarbons at the Treatment Ponds, there remains the potential for hydrocarbons to migrate down Diesel Road from upgradient sources at Tanks B and C. The geology of the area near Tanks B and C is characterized by thick colluvial deposits. The colluvium is flanked on the west side by the bedrock ridge that includes Tanks 1, 2, and 3. The contact of the colluvium and bedrock is generally parallel to Diesel Road, beneath the toe of the slope leading from Tanks 1, 2, and 3.

The investigative trenches excavated during the UST characterization work indicate that fuel constituents migrated in the past along the contact of the colluvium and bedrock below Diesel Road. The three investigative trenches excavated near the intersection of Main Road and Diesel Road are characterized by similar subsurface conditions. The detailed characteristics are described in the Characterization of USTs and Fuel Pipelines Draft Report (TtEMI 2000b).

Hydrocarbon contamination in the area of Tanks B and C exists in thick colluvium deposits. Free product occurs in discrete subsurface intervals (approximately 0.5 foot-thick) at the perimeter of Tank B. Directly adjacent to Tanks B and C, the depth of the 0.5 foot-thick interval is approximately 25 feet bgs. Beyond the perimeter of Tank B, contamination is limited to relict hydrocarbon staining within 10 feet of the ground surface. Specific findings are reported in the Characterization of USTs and Fuel Pipeline Draft Report (TtEMI 2000b).

No perimeter drains were located in the Tanks B and C skim pits during the initial inspection. These skim pits, however, continually fill with seeping groundwater, which was observed during inspection. Monitoring wells MW03-03 and MW03-02 were installed to assess the location of the most prominent groundwater migration pathway near Tanks B and C. Both wells are low yielding, and little change in water level elevation was observed until significant rain in February 2000. Apparently, the most prominent groundwater flow near Tanks B and C is directly around the upper perimeter of Tank B and around Tank C. Water level measurements at Tank B well MWTB-01 (and in well MWTC-01) demonstrate steadily increasing response (10 to 11 feet of change in each) starting in November 1999.

The significance of these data are being evaluated in the Phase II UST characterization investigation. A more thorough presentation of these sources upgradient of IR Site 3 will be presented in the Characterization of USTs and Fuel Pipelines Draft Report (TtEMI 2000b).

Measurements of the physical properties of non-aqueous phase liquids (NAPL) in the Treatment Ponds area were conducted during the Phase I pilot test. At 59 Fahrenheit (°F), viscosity was 208.24 centistokes (cSt) and 2244.36 cSt (in the two samples measured at the 59 °F temperature); density (as a specific gravity relative to water) varied from 0.9417 to 0.9942 in three samples measured (see Figure 2 in Appendix J). Upon heating the samples to about 149 °F the viscosity decreased more than an order of magnitude. The unit of kinematic viscosity, centistokes, used for these tests is a ratio of a liquid's viscosity to its density. The viscosity is a measure of the fluid's resistance to motion expressed by force times time divided by length squared. As shown in the Appendix J plots, the fuels at IR Site 3 may be quite viscous. These were typical samples of product encountered in the Treatment Ponds Area. Fresh, pure product standards tend to bracket these measurements from the Phase I pilot test; hydrocarbons in the groundwater and soils of the Treatment Pond Area would also be found in localized geographic distributions with higher or lower viscosities or densities than these samples.

Soil borings at the Treatment Ponds Area seldom encountered only one type of hydrocarbon product. Groundwater samples usually contain mixtures of dissolved hydrocarbons. Over time, the hydrocarbon products are also weathered and degraded. Mixing, weathering, and degradation result in qualified validated data that does not match analytical standards or data reported as TPH "other" detections.

In 1986, fuel storage and transfer operations at NFD Point Molate incorporated a spill prevention control and countermeasures (SPCC) system, of which the Oil Recovery System (ORS) is a component. The ORS has continued operating since 1995; however, its continued operation is not necessary after the basewide pipeline removal and UST closure currently under way. Its closure will help eliminate a component of effluent to San Francisco Bay that requires National Pollutant Discharge Elimination System (NPDES) permitting. The ORS contains both passive and active components, some of which will require continued operation during the current base-wide pipeline removal. Evaluation of ORS system closure is ongoing and will identify requirements for future system closure or monitoring.

Primary objectives for the ORS closure were to stop influent to a series of oil-water separators and three treatment ponds from ORS sources. The treatment ponds are unlined settling and aeration basins designed to biodegrade, filter, chlorinate, and dechlorinate fuel-contaminated influent with a process that lasts approximately 45 days prior to discharge to San Francisco Bay under an NPDES permit. As part of the ORS closure process, sources of oily water were evaluated. These sources are primarily associated with the USTs and consist of a subsurface perimeter drain system at each tank, which was modified as part of the SPCC.

ORS closure activities have included physical closure of sources, sample collection, and sample monitoring, and overlap with UST characterization activities because of the physical presence of ORS components at USTs. ORS closure is being evaluated primarily through observation of pre- and post-closure water level or product thickness data. ORS closure is also being evaluated by monitoring potential changes in groundwater chemistry at USTs (sources) and in predicted migration pathways from USTs. The Draft Oil Recovery System Closure Interim Summary was released to the BCT in April 2000 (TtEMI 2000a).

4.2.3 Soil

The majority of the data for Treatment Pond Area soils were generated during the site characterization investigation of the Treatment Ponds Area. This field work was performed between August 1991 and July 1992. A draft report was submitted October 1992 and a final report was submitted in July of 1994 (PRC 1994d). Interim corrective actions for known sources of petroleum hydrocarbons were evaluated and a report was submitted October 1992 (PRC 1992b).

The cross sections and soil data presented in this Phase II RI are primarily from these earlier studies. Characterization of this area during the intervening years has been mostly limited to geotechnical studies to support the design and emplacement of the cut-off wall and trench. Therefore, it must be noted that soil chemical results presented here reflect the status of the Treatment Ponds Area in 1992, and may be somewhat different in 1999. Because of the closure of NFD Point Molate in 1995 as an active base, and the removal of potential sources of petroleum at the site, the concentrations present in 1999 are likely to be less than those present in 1992. However, distribution and intermingling of fuels are likely to be more widespread than in 1992.

Sixty-five soil borings were drilled during the Treatment Ponds Area characterization to obtain soil samples, install monitoring wells or piezometers, and to investigate bedrock characteristics. A total of 102 soil samples were collected from 48 soil borings. All soil samples were analyzed for TPH-e (JP-5, diesel, bunker fuel, and motor oil ranges) and TPH-p (gasoline, benzene, toluene, ethylbenzene, and total xylene ranges), except samples SB11-20 (16.0 - 17.0), SB11-37B (23.5 - 24.0), and SB11-44 (17.1 - 17.3). Some of the soil samples were also analyzed for VOCs, SVOCs, metals (including organic lead), pH, and TOC (PRC 1994d). The analytical results of all soil samples are presented in Appendix A of this report and are summarized in Table 4-3.

Plates 15 through 18 are a series of cross sections from the Treatment Ponds Area characterization report that have been revised to refine the distribution of hydrocarbon contamination in the Treatment Ponds Area.

These sections were originally presented to depict the geologic relationships in the Treatment Ponds Area. They have been modified to include all soil analytical results and to illustrate the extent of hydrocarbons present in soils at the time of the 1994 report. Plate 14 provides the locations of these cross sections.

The cross sections have been shaded in two colors of green to depict two levels of hydrocarbon contamination. The dark green on the cross sections indicates what is being called primary hydrocarbon occurrence. The lighter green is being designated total hydrocarbon occurrence. These categories are defined as follows:

- Primary hydrocarbon occurrence is the interpreted extent of TPH-e and TPH-p contamination exceeding 100 mg/kg based on laboratory analytical results or direct borehole logging observation of free product

- Total maximum hydrocarbon occurrence is the interpreted total additional extent of soils impacted by hydrocarbon contamination based on borehole logging observations including PID readings, odor, stained appearance, and laboratory results less than 100 mg/kg TPH-e and TPH-p.

The cross sections are shaded to indicate these categories. Contaminated soil thickness has been calculated and transferred to two planimetric maps, Plate 19 and Plate 20. These maps are contoured to indicate the isopach thickness of contaminated soils in both the primary hydrocarbon and total hydrocarbon categories. The contour interval is five feet and each interval reflects the distribution of the respective thickness.

This method of analysis is potentially subject to several sources of inaccuracy but is believed to represent a defensible approach to estimating the volume of contaminated soil.

Plate 19, Primary Hydrocarbon Occurrence, shows the calculated areas and volumes of petroleum hydrocarbon-impacted soils with greater than 100 mg/kg concentrations or observed to contain free product. These calculations were performed by Surfer Software and subjected to several iterations to confirm the calculated volumes. Accuracy is believed to be acceptable; however, there is some margin of error.

It should also be noted that the overburden varies in thickness on the cross sections. The isopach maps are only of the interval interpreted to be impacted and does not account for overlying soils.

Plate 20, Total Maximum Hydrocarbon Occurrence, contours the total, impacted thickness of soil in the area. This presents an extremely conservative scenario, and is presented for completeness. The volume of this area has not been calculated because it is unlikely these soils would exceed clean-up goals.

The cross section show the majority of the Treatment Ponds Area is constructed on artificial fill. Colluvial and alluvial fan deposits are shown on the map of surficial deposits by Nilsen (1973) along slopes and ravines in the area above the Treatment Ponds Area. Some upper slopes also show landslide deposits. A geologic map by Blake and others (1974) shows marine and marsh deposits overlain by artificial fill along the southwestern Treatment Ponds Area shoreline.

Bedrock outcrops and subcrops are present directly south of the Treatment Ponds Area. These outcrops consist predominantly of sandstones and lesser amounts of interbedded shales characteristic of the Franciscan terrain described in Section 3.0. Eight coreholes have been drilled in the Treatment Ponds Area to assess in situ hydraulic characteristics and to provide a description of the bedrock lithology. Descriptions of bedrock encountered at specific corehole locations are presented in the borelogs in Appendix B.

The seven geologic cross sections (Plates 15-18) were constructed from soil boring logs generated during the Treatment Ponds Area characterization Phase I RI in 1991 and 1992. Cross sections were drawn parallel to the shoreline as well as transverse to the shoreline within the Treatment Ponds Area. Several features pertaining to the distribution of petroleum hydrocarbons are evident on the sections. First is the extensive distribution of high contaminant levels below the water table. On cross-section A-A' most of the hydrocarbons were below the 1993 water table at the time the field investigations were conducted. This may be attributed to several factors. Dry years in the early 1990s may have lowered the water table and caused greater smearing of product through the deeper horizons. The dredging of the sump pond, operation of the Navy extraction wells, or hydraulic effects of the old containment wall may also have affected this smearing, as well. Bunker fuel, which has a specific gravity close to that of water (>0.99), could also move downward with the presence of a thick "pancake" of fuel on the water table. Regardless of the mechanism, deep distribution of petroleum hydrocarbons below the water table is evident.

Another factor of note is the presence of petroleum distributed through nearly all geologic units, especially on cross-section A-A'. Along this line of section, higher contaminant concentrations have permeated fill, alluvium, Bay Mud, and colluvium. The Bay Mud has not acted as a low permeability barrier to downward migration. Borings SB11-09, SB11-12, and SB11-14, show especially deep distribution of petroleum hydrocarbons. The shoreline ends of sections E-E', F-F', and G-G' also show this thickening of hydrocarbon contamination at the shoreline. The landward eastern ends of these sections shows the higher concentrations of petroleum hydrocarbons overlying Bay Mud or colluvium progressively landward along the line of section. Another feature is the thicker secondary, maximum "total hydrocarbon" occurrence (see Plate 20) at the ends of sections closest to the shoreline. This is probably the result of the complex transport of these hydrocarbons by advection and diffusion, and the effects of transport in the tidally-influenced zone near the

shoreline. Since these soil data were collected, the containment wall and extraction trench have been installed and operated for four years.

The following text describes the geologic conditions shown on these plates. This may affect potential remedial options such as excavation, water extraction, or circulation of fluids or air in the subsurface. A detailed analysis of effects will be deferred to the IR Site 3 EE/CA. However, factors such as dewatering, treatment and disposal of groundwater from dewatering, enhancement of salt water intrusion, excavation and geotechnical slope stability, and possible effects of variable soil types on excavation, treatment, and disposal, need analysis for some remedial or removal options.

Four cross sections (Sections A-A', B-B', C-C', and D-D') were drawn parallel to the shoreline generally trending northeast to southwest. Three cross sections were drawn transverse to the shoreline generally trending east to west (Sections E-E', F-F', and G-G'). Geologic cross-section locations are shown on Plate 14. Together, cross sections A-A' and B-B' extend along the entire length of the shoreline investigated during the Treatment Pond Area characterization. These sections overlap both IR Site 3 and IR Site 4 Drum Lot No. 1. The discussion presented here includes a portion of the Drum Lot because the continuity of the geologic deposits and soil contamination make a combined analysis of these areas a practical way to describe the areas. Soil borings along the shoreline were generally drilled to auger refusal so depth to bedrock could be determined. In addition to presenting geologic information, the cross sections present TPH concentrations detected in soil samples collected from each soil boring.

Cross-section A-A' illustrates the depth to bedrock and the general depositional sequence of unconsolidated sediments in the Treatment Ponds Area. A generalized sequence of unconsolidated deposits overlying bedrock is shown in Figure 3-1. The bedrock surface profile is shown as a trough toward the middle of this section, with highs on the north and south ends. The transgression of San Francisco Bay is illustrated by the Bay Mud overlying colluvial deposits. Reworked intertidal deposits overlie the colluvial deposits in several borings, especially in the area of the southern bedrock high (SB11-14, SB11-52, SB11-15, and SB1-16). A bedrock low is indicated in borings SB11-8 through SB11-14. Thick alluvial deposits are shown in borings SB11-13, SB11-14, SB11-52, SB-11-15, and SB11-16. The interfingering of the alluvial deposits with the Bay Mud (SB11-12) may indicate fluctuations in the level of the bay or an alluvial channel inlet to the bay at this location.

Cross-section B-B', which is a southern extension of A-A', shows continuation of possible alluvial deposits overlying Bay Mud. The continuation of these deposits may indicate reworking and transport along the shoreline. It is also possible that these deposits, interpreted as alluvial, are actually beach sands, reworked or transported into this area of Drum Lot No. 1. It is also possible the materials interpreted as alluvium are

actually fill materials, possibly dredged sand emplaced hydraulically. Hydraulic placement could cause the observed fining upwards sequences. However, no record of such filling operations exist. Anecdotal information on possible dredged fill is also lacking (Robertson 1999).

Cross-section C-C', which is approximately 100 feet inland of the current shoreline and parallel to A-A', exhibits a similar depositional sequence. Colluvium, reworked intertidal deposits, Bay Mud, and alluvium are present. The depth to bedrock was not investigated at all soil boring locations along cross-section C-C'. The bedrock profile, however, is believed to be similar to A-A'.

The thickness of the sediments overlying bedrock decreases inland in comparing cross-sections A-A', C-C', and D-D' (moving east across the former sump pond). The depth to bedrock is believed to decrease inland, as well. In cross-section D-D', alluvial materials are absent from the borings, except in boring SB11-29 and SB11-44. Cross-section E-E' (perpendicular to the shoreline) illustrates the continuation and thinning of the alluvial deposits inland (SB11-14, SB11-26, SB11-28, SB11-29).

4.2.4 Groundwater

Groundwater flows generally to the west-southwest, following surface topography toward San Francisco Bay. Groundwater elevations indicate a mounding effect from surface water infiltration at the Treatment Ponds (see Plate 22). The mounding causes localized reversals of gradient at IR Site 3. In the past, groundwater samples have been analyzed for metals, TPH-e and TPH-p, VOCs, SVOCs, organic lead, and major anions. Bunker fuel (the most common TPH-e detected), JP-5, diesel, gasoline, and motor oil have all been detected at varying concentrations throughout the Treatment Ponds Area. Free product measured in April 1999 ranged in thickness from 0.01 to 1.28 feet in PZ11-31A. Measurements in April 1999 showed 12 wells with measurable LNAPL (see Plate 22, LNAPL in red). A plume of bunker fuel, diesel, or a mixture of both exists at the site, with preferential flow in pockets or channels within the fill material. Unknown hydrocarbons detected in TPH analysis most likely are weathered fuels. Historically, benzene, toluene, xylene, 1,2-DCE, chlorobenzene, and chloroform were the most commonly detected VOCs in groundwater (see Plate 21B). More recent data from the three semiannual monitoring events has shown declining concentrations of these compounds in the monitoring wells sampled.

Four monitoring wells in the Treatment Ponds Area have been sampled in all three semiannual events. These wells, MW11-13, MW11-54, MW11-93, and PZ11-78, have only shown low levels of TPH-e as bunker fuel, gasoline, and diesel. The highest bunker fuel detection 1997 to present was 19.0 mg/L in MW11-54.

BTEX compounds are persisting although they also appear to be declining in concentration. SVOCs are present a low levels, especially 2-methylnapthalene. Plate 21A presents all IR Site 3 groundwater analytical data since 1997. These data are contoured for gasoline and diesel to provide representative evaluation of the current extent of groundwater plumes.

4.2.5 Surface Water

The only surface water in the Treatment Ponds Area are the Treatment Ponds themselves. Concentrations of petroleum hydrocarbons in the pond water vary seasonally and in response to precipitation events. Data on TPH concentrations in the Treatment Ponds were not evaluated as part of this Phase II RI. The Treatment Ponds are scheduled for closure in the near future.

4.3 IR SITE 4 - THE SHORELINE AREAS AND DRUM LOT NO. 1

IR Site 4, the Shoreline Areas and Drum Lot No. 1, includes the entire perimeter of NFD Point Molate's shoreline on San Francisco Bay (Plate 1). Conceptual site models for IR Site 4 and Drum Lot No. 1 are shown in Figure 4-1 and Figure 4-3, respectively. The investigative focus for IR Site 4 has traditionally been the shoreline where the pathway to receptors is potentially completed.

The Phase II RI was scoped through the DQO process to:

- Evaluate potential human health risks for recreational users of the Point Molate Public Beach area by performing an HHRA (see Section 6.0 this RI Report)
- Evaluate risk to ecological receptors by performing an off-shore ecological risk assessment. These results are presented in a separate document (Entrix, Inc. and TtEMI 1999).
- Generate a complete definition and assessment of migration pathways in bedrock, and possible preferential pathways for groundwater transport
- Assess groundwater quality in the interior of Drum Lot No. 1, along with potential for sources and their removal options

4.3.1 Site History and Investigations

Site 4 includes the entire perimeter along San Francisco Bay (Plate 1). This site was included as an IR site because of concerns over historical fuel spills and leaks observed in the near-shore environment which may

have contaminated bay waters and sediment. Previous investigations at Site 4 include soil and groundwater sampling along the shoreline (PRC 1992a, 1994e, 1994f, 1995a, 1995b).

Site 4 soil samples were collected during the SI (PRC 1992a) and the shoreline investigation (PRC 1994e). Chemical analytical results indicated the presence of TPH, BTEX, and PAHs in Site 4 soils.

Groundwater samples were collected from shoreline wells during the four 1994 quarterly groundwater sampling events. TPH, BTEX, and chlorinated VOCs were the most commonly detected contaminants in Site 4 groundwater. Groundwater samples taken in 1994 within Site 4 consistently contained these contaminants. Detections in groundwater at the southernmost shoreline area, along the NFD Point Molate Public Beach, were at low levels and sporadic; it is unclear whether these detections were indicative of contamination from facility sources. The Phase I EBS sample results for BRAC Parcel 30, the Building 87 area detected TPH, VOCs, SVOCs, and pesticides in soil and groundwater (see Plate 27C).

Several of the contaminants exceeded PRGs. These detections appear to be related to Building 87 activities and possibly releases from Drum Lot Number 2 (Parcel 29). The Phase I EBS summary report (TtEMI 1999a) discusses these findings in detail. The Phase II EBS investigation has further characterized this area and these data will be used to screen removal options (TtEMI 2000c). Free product has also been identified in wells within Drum Lot No. 1 and the south shoreline; however, 1998 removal actions have included additional containment and product recovery systems at these locations.

Semiannual groundwater sampling was initiated in October 1997 for 21 selected monitoring wells. These included 12 wells in Drum Lot No. 1 and four wells along the South Shoreline. Wells sampled during all three semiannual events and the analyses performed are shown in Table 4-2. All data from the three semiannual events are included in the summary tables, Appendix A2, and on the IR Site 4 Plates 24A, 24B, 25, 27A, and 27B. Full reports on each sampling event are presented in the Data Summaries for each respective event (TtEMI 1998a, TtEMI 1998h, and TtEMI 1999).

During the on-shore Phase II RI field investigation, the drilling activity focused on Drum Lot No. 1. Eight new shallow monitoring wells were installed in the fill material of the Drum Lot. One bedrock well was installed. Four other soil borings were drilled without installing a well. Analyses performed on the soil samples are listed in Section 2.0, Table 2-3 and analyses for groundwater in Section 2.0, Table 2-4. The full list of the results are in Appendix A2. These recent data are displayed on Plates 23 for soil sample data for Drum Lot No. 1, 24A for recent groundwater data (1997-1999), 24B for previous groundwater data (1992-1996). Plate 25 for North Shoreline groundwater data, and Plate 26 for South Shoreline soil data.

The on-shore Site 4 Phase II also included drilling four soil borings along the South Shoreline, installing monitoring wells in three of these, one of which was a bedrock well, and obtaining eight surface soil and six sediment samples at the Point Molate Public Beach for an HHRA.

Other samples were taken off shore for the offshore ecological risk assessment. These samples of sediment, tissue, and invertebrates for bioassay testing are discussed in the Draft Offshore Ecological Risk Assessment Report (Entrix, Inc. and TtEMI 1999), and are not presented in this document. No samples or other field investigations were conducted at the North Shoreline, other than sampling monitoring well MW11-05 for VOCs during semiannual groundwater monitoring events 2 and 3.

4.3.2 Sources

Sources for IR Site 4 contaminants include releases from pipelines located along the North Shoreline, although the source of low levels of 1,2-DCE (total) and TCE in samples from monitoring well MW11-05 are unknown. The Drum Lot No. 1 releases are also primarily from pipelines, although releases at the drum filling facility from stored drums also occurred. Petroleum hydrocarbons along the South Shoreline are from pipeline leaks, contaminated groundwater transported downgradient from IR Site 1, and potentially from other releases migrating downgradient from tanks and VBs. The volumes and distribution of releases are poorly documented and the mass of these sources is unknown.

4.3.3 Soil

In previous studies, soil samples were collected and analyzed for TPH-e and TPH-p, VOCs, SVOCs, pesticides/PCBs, metals, and TOC. JP-5, diesel, bunker fuel, and hydrocarbon weathering byproducts were detected in the majority of samples, with some of the soil borings exhibiting strong hydrocarbon odors, staining, or free product. VOC detection was infrequent and in isolated areas. SVOCs detected were mainly PAHs associated with diesel and bunker fuel. In addition, 4,4'-DDT was detected in both soil and sediment; PCBs were not detected. Organic lead was not detected at the site. TOC levels were generally higher in organic-rich soil.

Soil was not sampled in the North Shoreline during the Phase II RI. Pre-existing data were evaluated along with the IR Site 3 Treatment Ponds data. A statistical summary of soil data is presented in Table 4-5.

This evaluation is illustrated in cross section A-A' on Plate 15 and the corresponding isopach maps shown on Plates 19A, 19B, and 20. Volume estimates were provided for North Shoreline soil contamination. The

estimate for the primary hydrocarbon (>100 mg/kg or free product) TPH-impacted area is 1.62 acres and approximately 9,815 cubic yards (Plate 19). Figure 4-16 indicates that North Shoreline soils containing elevated TPH concentrations are approximately 15 to 24 feet below ground surface. It is recommended the North Shoreline area be included in scoping for any actions applicable to the contiguous IR Site 3 Treatment Ponds.

Soil was sampled in Drum Lot No. 1 during the Phase II field investigation. Gasoline range organics were detected in four soil samples, ranging from 5 to 9,900 mg/kg TPH-p as gasoline. The highest values were in soil borings SB11-85 and SB11-86. JP-5 was found in two samples in these same borings, at 9,600 mg/kg and 9,300 mg/kg, respectively. TPH-e as motor oil was identified at two depths in samples from boring BR11-90 at 150 mg/kg and 51 mg/kg. TPH-e as F-76 diesel was detected in a sample from BR11-90 at the 14-15-foot depth at a concentration of 760 mg/kg.

Various BTEX and SVOCs were also detected in these samples. Plate 23A shows these results and all other soil detections.. Plate 24B shows the previous soil sampling results. The TPH detections in samples from SB11-85 and SB11-86 probably are from pipeline releases at the shore end of the pier where many pipelines converge. The area of these borings was excavated to the depth of the pipelines (approximately 6 to 7 feet) during removal. Any contaminated soils were removed and disposed off site.

Table 4-7 provides a statistical summary of all Drum Lot No. 1 soil data for all previous and current samples, and all analytes. A portion of Drum Lot No. 1 was evaluated along with the Treatment Ponds Area. This part of the Drum Lot is shown on Plate 16, cross section B-B'. Up to 20 feet of soils containing TPH in excess of 100 mg/kg occur in soils over an estimated area of 4.27 acres (Plate 19). An estimated 47,000 cubic yards of soil may be impacted. Figures 4-17 to 4-22 indicate TPH concentrations as shallow as 2 feet below ground level, but most elevated concentrations occur in the 10- to 20-feet bgs interval. Recent soil borings drilled at the foot of the pier were not included in reviewing the previous contamination. This area appears to be a localized area of elevated TPH concentrations in soil.

The distribution of TPH in soil within the Drum Lot No. 1 interior is not completely defined, but the only transport mechanism would appear to be via groundwater. Therefore, groundwater monitoring around the shoreline is the most effective way to determine if receptors could be affected.

The South Shoreline was investigated during the Phase II RI with six soil borings. Three of these had shallow monitoring wells installed, and one had a bedrock well installed. Plate 26 is a longitudinal cross section of the South Shoreline presenting the geology and the soil analytical results. There were minor TPH detections

in new boring SB10-20, the highest being TPH-e (diesel range) at 410 mg/kg, TPH-e (motor oil range) at 270 mg/kg, and TPH-p as gasoline at 91 mg/kg. Table 4-9 gives a complete statistical summary of all previous and new soil data for the South Shoreline. Figures 4-23 through 4-26, show a scatter of detections from about 3 to 20 feet below ground surface, however, depth data are too sparse to be conclusive. The general trend of data on Plate 26 indicates most soil contamination is on the north end of the shoreline, consistent with these locations of known and suspected pipeline releases.

Future planned pipeline removals will further examine and appropriately address the South Shoreline soil contamination as needed. The pipelines will be removed and a risk screening will be performed.

4.3.4 Groundwater

Groundwater flow is west-southwest, and generally follows the surface topography toward San Francisco Bay. Groundwater samples were collected at the IR Site 4 monitoring wells on a quarterly basis during 1994. Data from monitoring well samples collected along the shoreline reflected contamination from upgradient activity and historical spills and leaks. Samples were analyzed for VOCs, SVOCs, TPH-e and TPH-p, BTEX, total and dissolved metals, organic lead, pesticides/PCBs, TOC, anions, nitrate/nitrite, and biological oxygen demand (BOD). Organic chemicals detected in groundwater were primarily fuel-related constituents, with isolated but consistent occurrences of chlorinated VOCs at the North Shoreline. Plates 24, 25, and 27 show IR Site 4 groundwater sampling results.

Samples from monitoring wells MW11-19 and MW11-21 in Drum Lot No. 1 have historically shown the highest concentrations of TPH and BTEX constituents. Semiannual groundwater monitoring in November 1997 and April 1998 indicate seasonal variation of TPH and fuel constituents over time, with increased concentrations during rainy seasons.

Groundwater collected from monitoring well MS11-5 in the North Shoreline area has been analyzed for VOC concentrations during semiannual events 2 and 3. Detections of 1,2-DCE were 3.0 and 2.0 μg/L for each respective event. No source is known or suspected. All groundwater data for the North Shoreline is statistically summarized in Table 4-6.

Groundwater in Drum Lot No. 1 was sampled during semiannual events 1, 2, and 3. New Phase II RI wells were also installed and sampled in February and March of 1999. Low-level detections of TPH as gasoline, diesel, bunker fuel, and motor oil are wide spread. BTEX compounds are also widely detected. Plates 24A

(recent results) and 24B (previous results) present these data spatially and temporally. Table 4-8 provides a statistical summary of all Drum Lot No. 1 groundwater results. Appendix A2 contains all data for Drum Lot No. 1.

Samples from new bedrock well BR11-90 had TPH detections of diesel (0.22 mg/L), gasoline (0.13 mg/L), and BTEX (total) (0.0042 mg/L). This well had a water level (compared to adjacent shallow monitoring wells) indicating an upward-directed vertical gradient during sampling. This upward gradient was verified by water levels measured in late April 1999. These data are tabulated in Table 2-4.
The Drum Lot continues to exhibit widespread, low levels of TPH compounds in groundwater. No wells had measurable free product during semiannual event 3. The low gradient and tidal interaction is believed to keep the dissolved TPH constituents from migrating swiftly to the bay. Advection and diffusion are believed to have uniformly spread the TPH constituents from past releases across Drum Lot No. 1. No concentrated source has been found, and none is believed to currently exist. The "plume" is diffuse and wide, and should continue to decrease in size and contaminant concentrations.

The South Shoreline was sampled during semiannual events 1, 2, and 3, and the new well was sampled during the Phase II RI. The highest detections in 1999 were 5.62 mg/L TPH-e as diesel in ERM 10-01, 3.57 TPH-e as diesel in MW10-17, and 2.48 mg/L TPH-p as gasoline in MW10-18. Minor BTEX was also detected. New bedrock well BR10-19 had detections of TPH-e as diesel at 0.08 mg/L and TPH-p as gasoline at 0.03 mg/L.

This well showed an upward-directed vertical gradient compared to adjacent shallow monitoring wells, but this observation will be verified in May 1999. Table 4-10 statistically summarizes all South Shoreline groundwater data. Plate 27A shows recent South Shoreline groundwater data. Plate 27B shows previous South Shoreline groundwater data. Only one monitoring well on the South Shoreline had measurable floating product during semiannual event 3. MW10-03 had 0.02 feet of suspected diesel fuel. The thickness of floating product and dissolved TPH constituents concentrations have continued to decrease in IR Site 4 South Shoreline monitoring wells.

The Phase I EBS investigation of BRAC Parcel 30, the Building 87 area, found TPH-p, TPH-e, and chlorinated VOCs in groundwater (see Plate 27C). These detections spurred further investigation in a Phase II study that further characterized these contaminants and their distribution (TtEMI 2000c). These data will be used to assess removal or remedial options under the EBS Program and Parcel 30 will not be included in the IR Program.

No new contaminant sources have been found, however, new wells MW10-17 and MW10-18 might indicate another upgradient source other than a local pipeline release. The possibility of other, upgradient sources may be resolved during the South Shoreline pipeline removals.

Information from new well BR10-19 apparently indicates that some of the previous upgradient releases from IR Site 1 may have caused minor amounts of constituents to move through the fractured bedrock.

All contaminants appear to be attenuating naturally and a program for further monitoring is being scoped with the BCT under the UST program to substantiate attenuation. A human health and a terrestrial ecological risk assessment are being scoped with the BCT during 2000 and field work will be conducted during spring of 2001 along the full IR Site 4 shoreline.

4.3.5 Surface Water

Surface water flows down ravines towards San Francisco Bay during rain storms. Storm water outfalls, which may contain fuels and fuel-contaminated water, discharge directly into San Francisco Bay; an absorbent boom has been placed around specific outfall areas during past rain storms when product sheens were observed in near-shore water. Surface water at the outfall downgradient of Site 1 was sampled in January 1998, resulting in the detection of 280 µg/L TPH-e as diesel. The Phase II RI did not include sampling outfall discharge. Limited sediments were collected as part of the HHRA at the Point Molate Public Beach, and samples were collected as part of the ecological risk assessment.

4.3.6 Sediment

Sediment samples have been analyzed during early studies (PRC 1994e and PRC 1995b) for TPH-e, total recoverable petroleum hydrocarbons (TRPH), VOCs, SVOCs, pesticides/PCBs, metals, and TOC. High levels of hydrocarbon components, most likely weathered fuel constituents, were detected in nearly all samples; one sample collected in near-shore sediment contained observable free product. In general, TPH concentrations were found to decrease with distance from the shoreline and were lower in the South Shoreline area. VOC detections were infrequent and in isolated locations, and was generally not expected in intertidal sediment. SVOCs were predominantly PAHs, and showed a poorly developed concentration gradient with distance from shoreline. SVOCs were generally detected more frequently and at higher concentrations near the shoreline. Near-shore PAH detections were most likely attributable to NFD Point Molate sources, whereas distal detections were potentially associated with regional sources. All metals concentrations except

cadmium were within the values detected during the RWQCB San Francisco Bay Pilot Regional Monitoring Program (PRC 1994e). Locations and data for the previous sediment sampling are presented in the Shoreline Investigation Soil and Sediment Data Summary (PRC 1994e) and the Draft Final Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan. All Phase II RI data are included in the offshore ecological risk assessment report (Entrix, Inc. and TtEMI 1999).

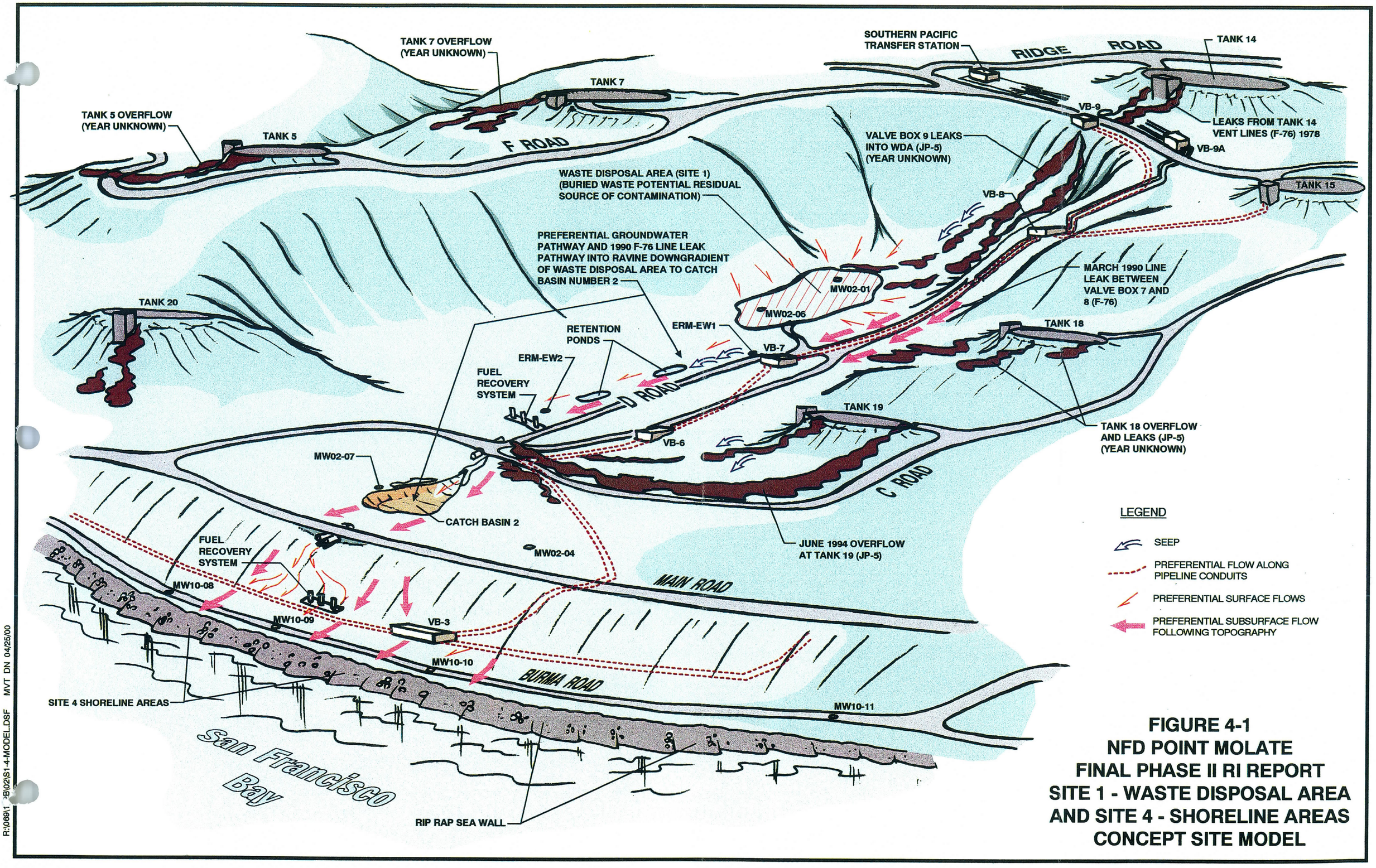


FIGURE 4-1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SITE 1 - WASTE DISPOSAL AREA
AND SITE 4 - SHORELINE AREAS
CONCEPT SITE MODEL

R:\069\1 2B\02\S1-4-MODEL.DSF MVT DN 04/25/00

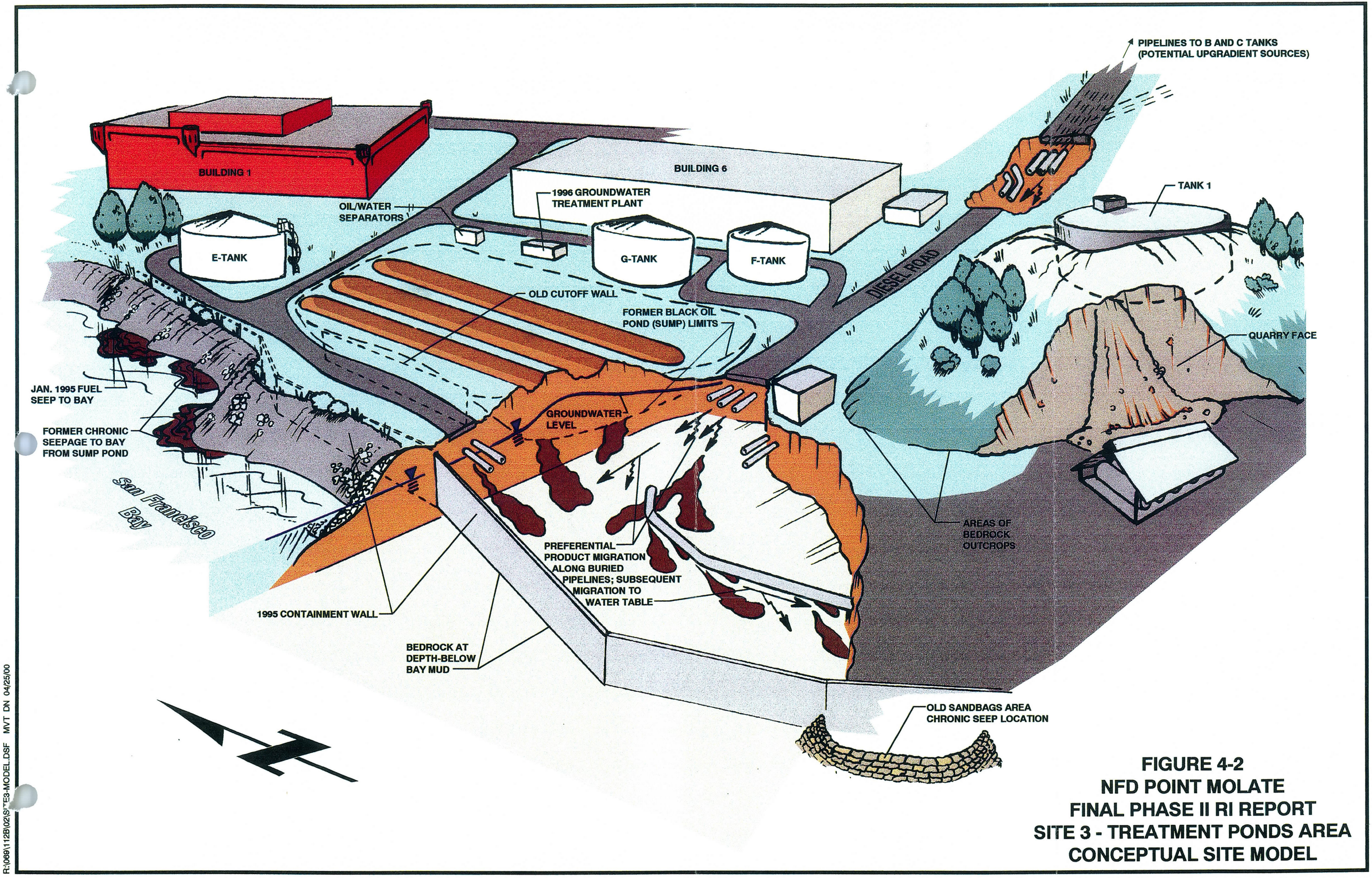
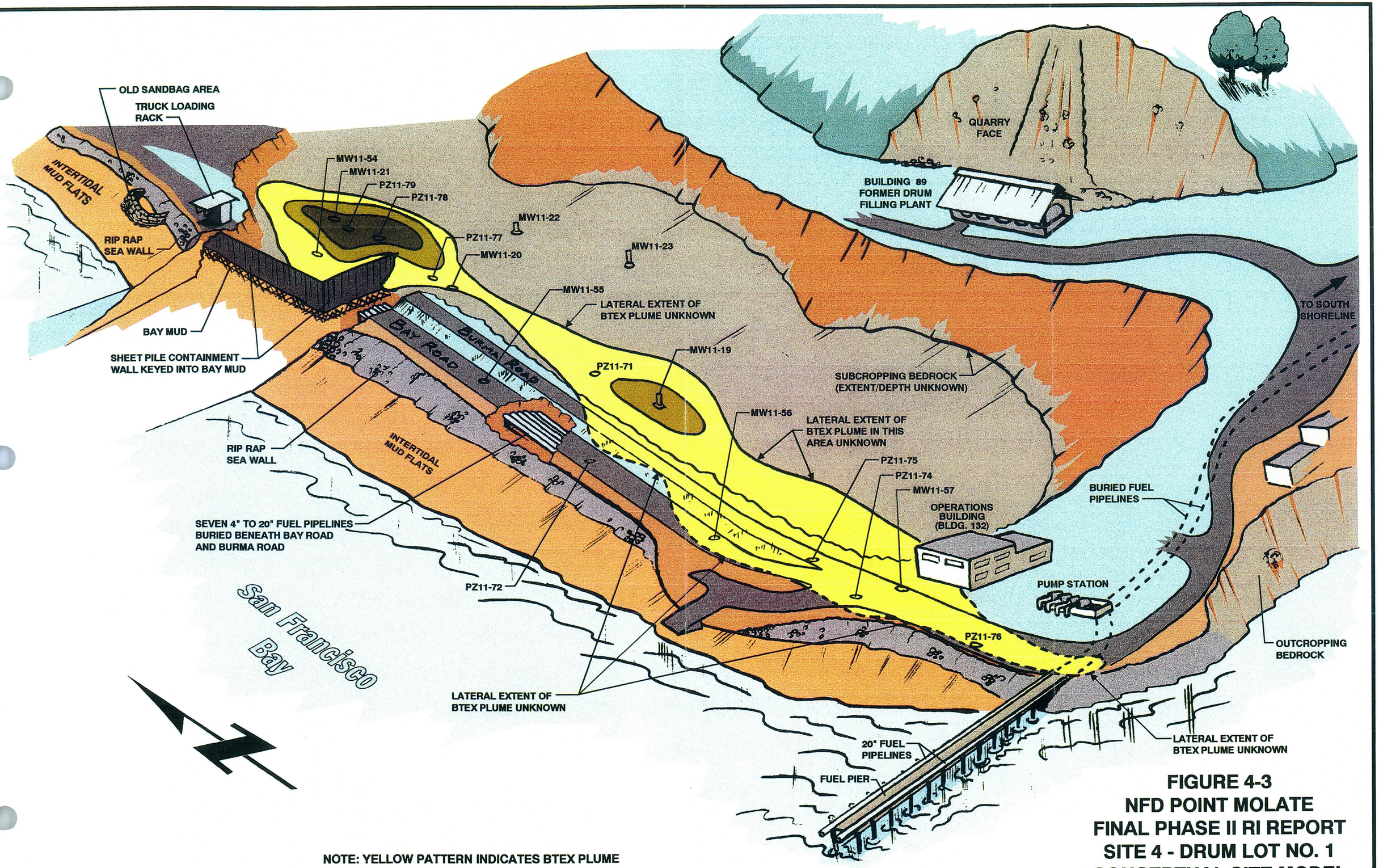


FIGURE 4-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SITE 3 - TREATMENT PONDS AREA
CONCEPTUAL SITE MODEL

R:\069\112B\02\S"E3-MODEL.DSF MVT DN 04/25/00



NOTE: YELLOW PATTERN INDICATES BTEX PLUME

FIGURE 4-3
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SITE 4 - DRUM LOT NO. 1
CONCEPTUAL SITE MODEL

R:\069\112B\02\S4-DRUMLOT.DSF MVT DN 04/25/00

FIGURE 4-4
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
TPH-P AS GASOLINE IN SOIL, CONCENTRATION VS DEPTH

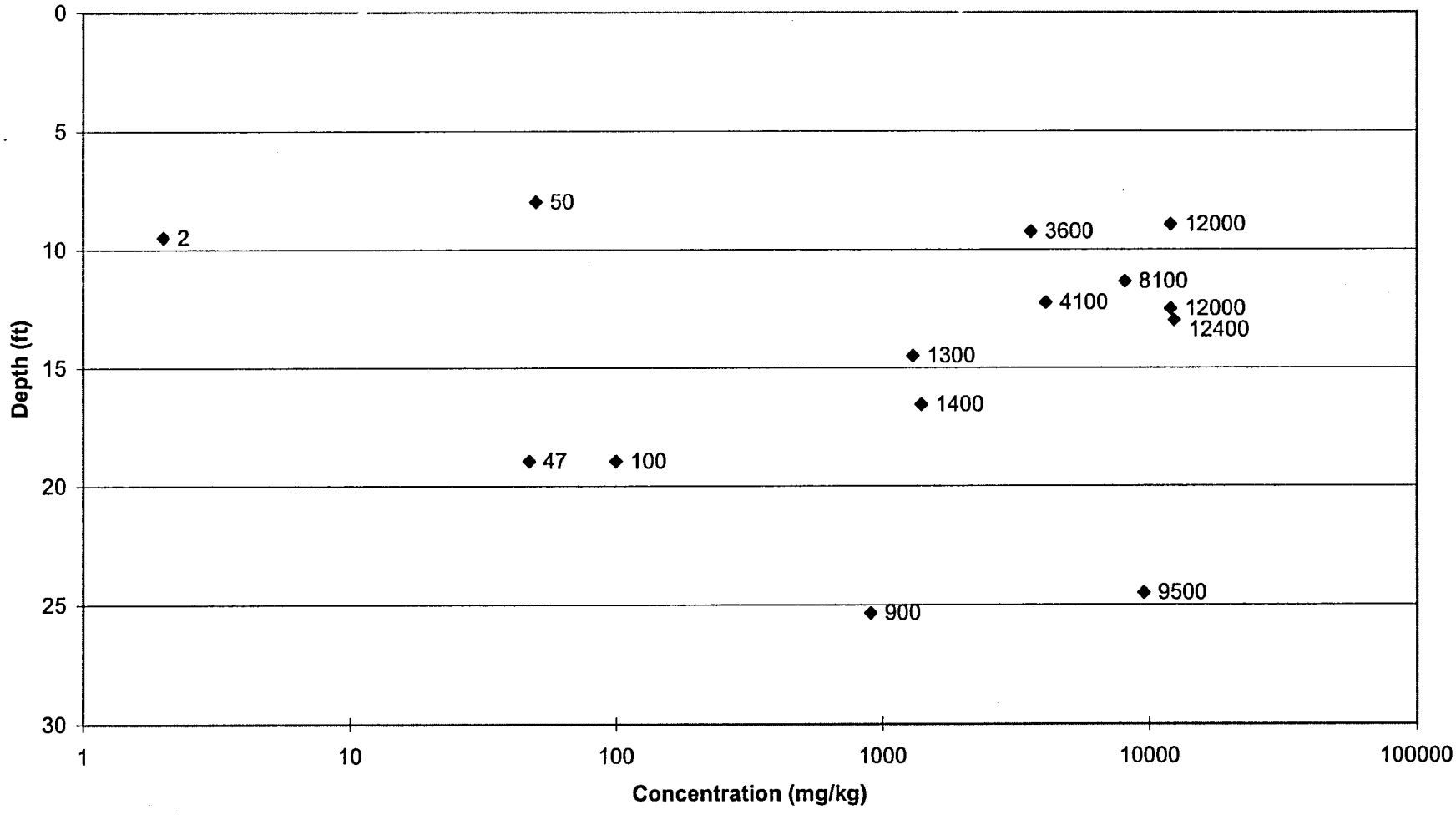


FIGURE 4-5
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
TPH-P AS OTHER (LIGHT) IN SOIL, CONCENTRATION VS DEPTH

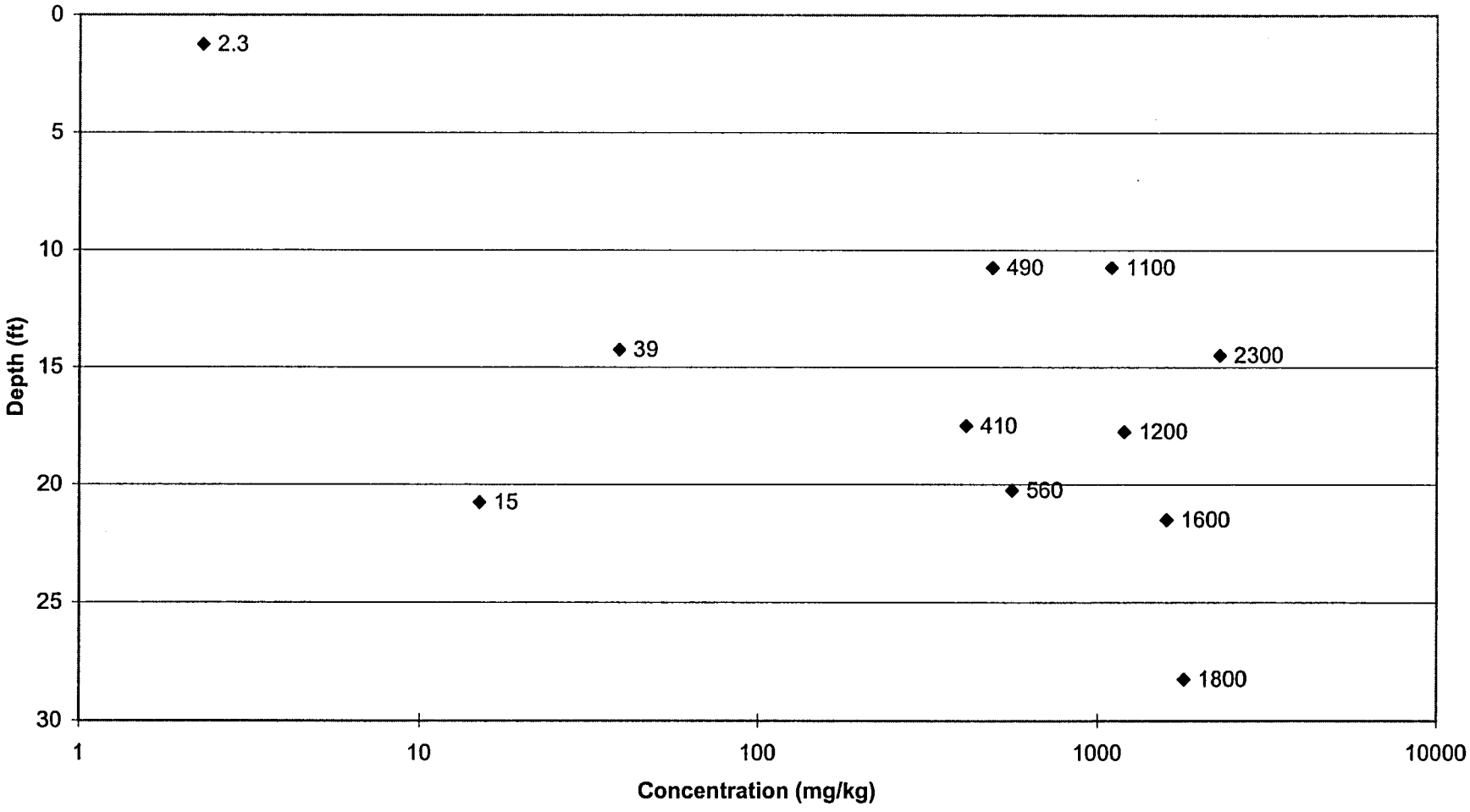


FIGURE 4-6
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
JP-5 IN SOIL, CONCENTRATION VS DEPTH

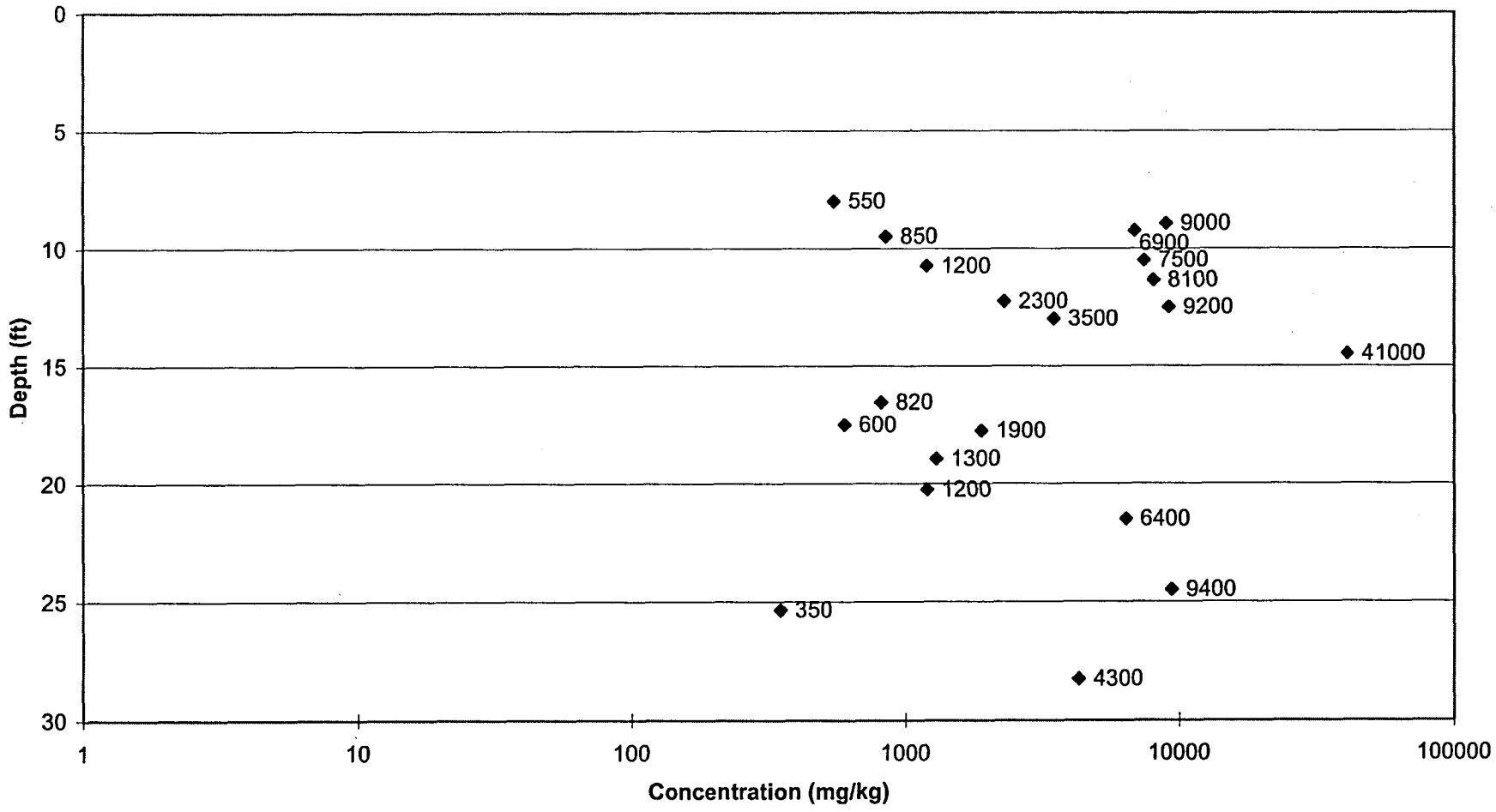


FIGURE 4-7
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
TPH-E AS OTHER (HEAVY) IN SOIL, CONCENTRATION VS DEPTH

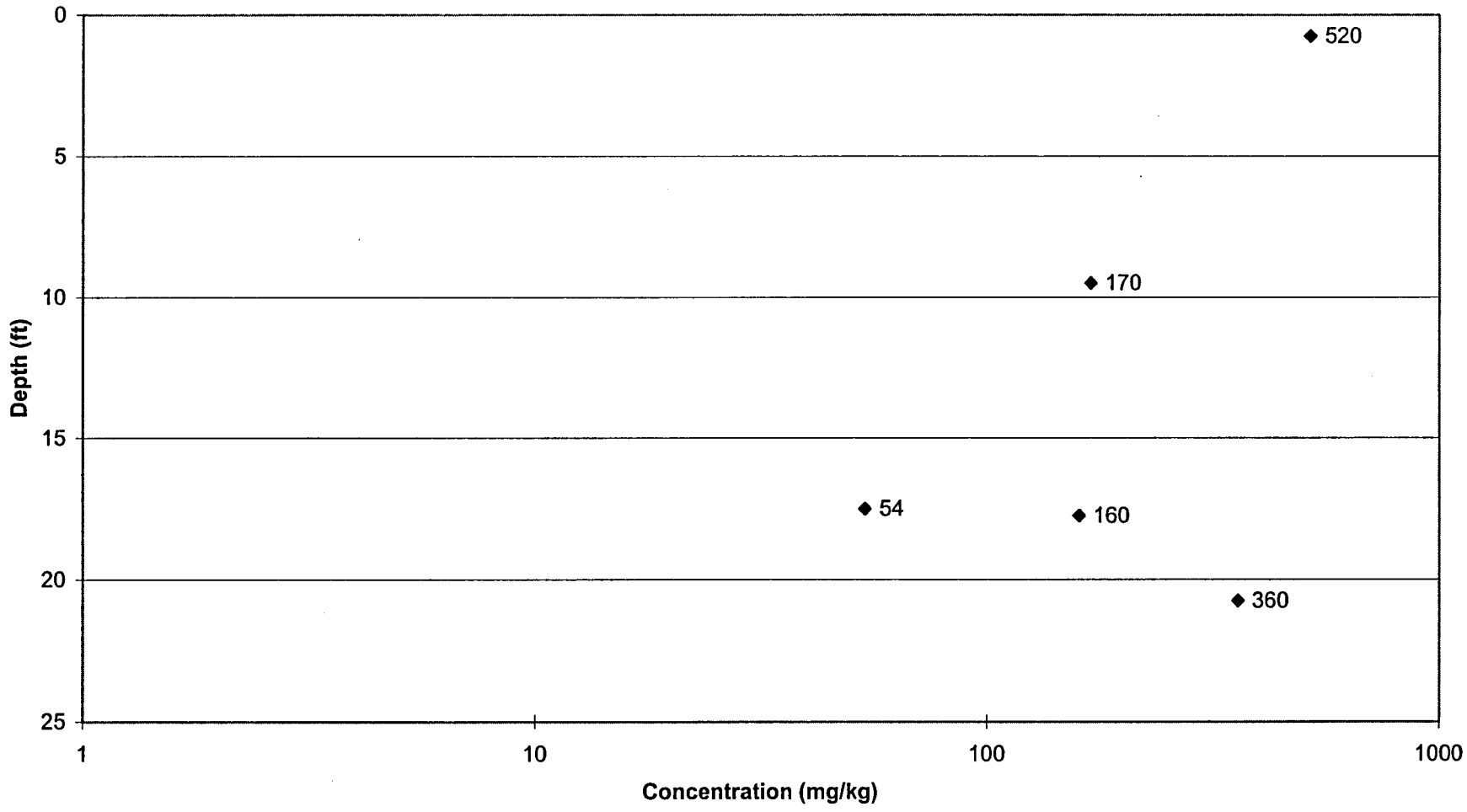


FIGURE 4-8
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
TPH-P AS GASOLINE IN SOIL, CONCENTRATION VS DEPTH

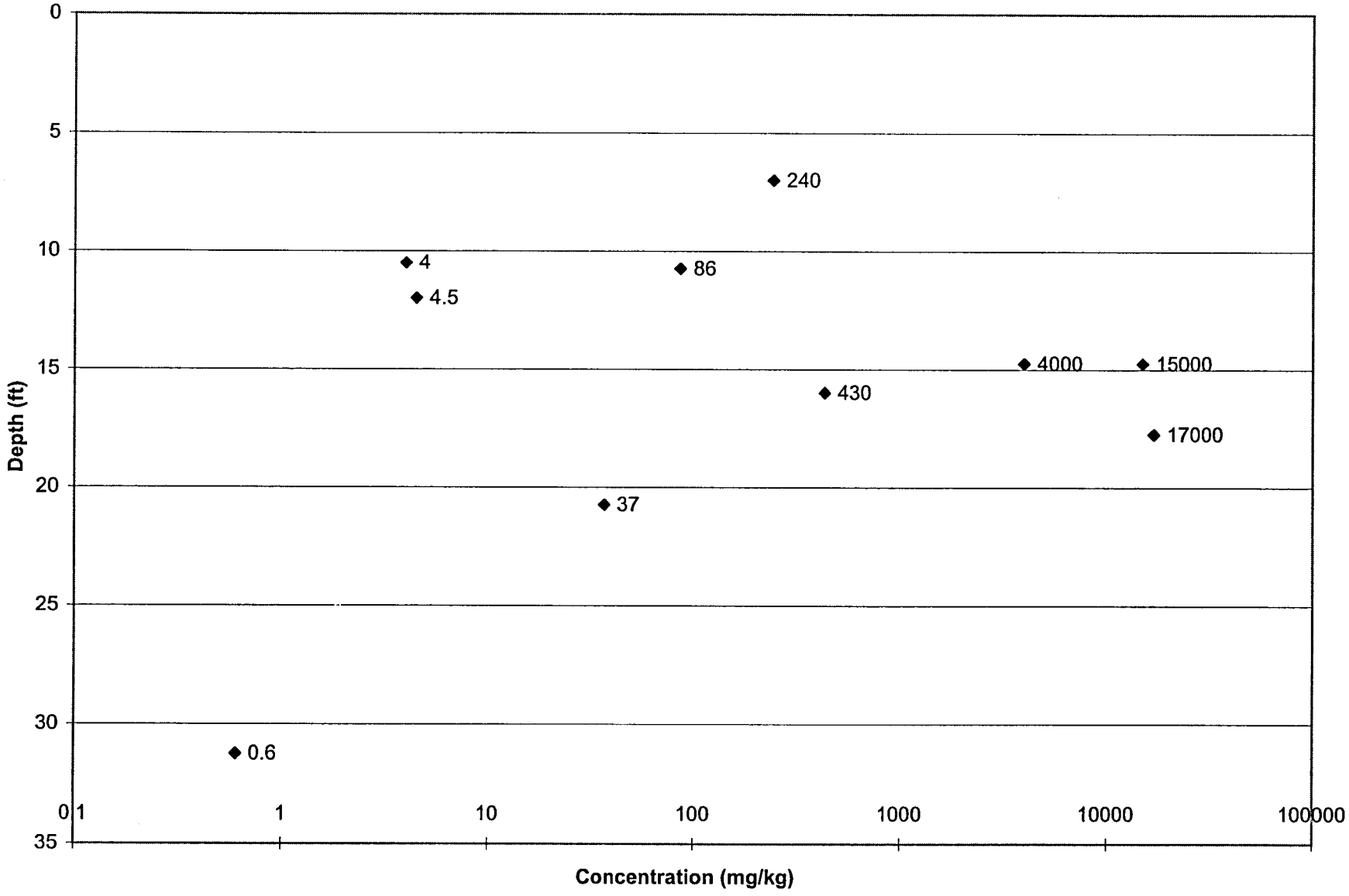


FIGURE 4-9
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
TPH-P AS OTHER (LIGHT) IN SOIL, CONCENTRATION VS DEPTH

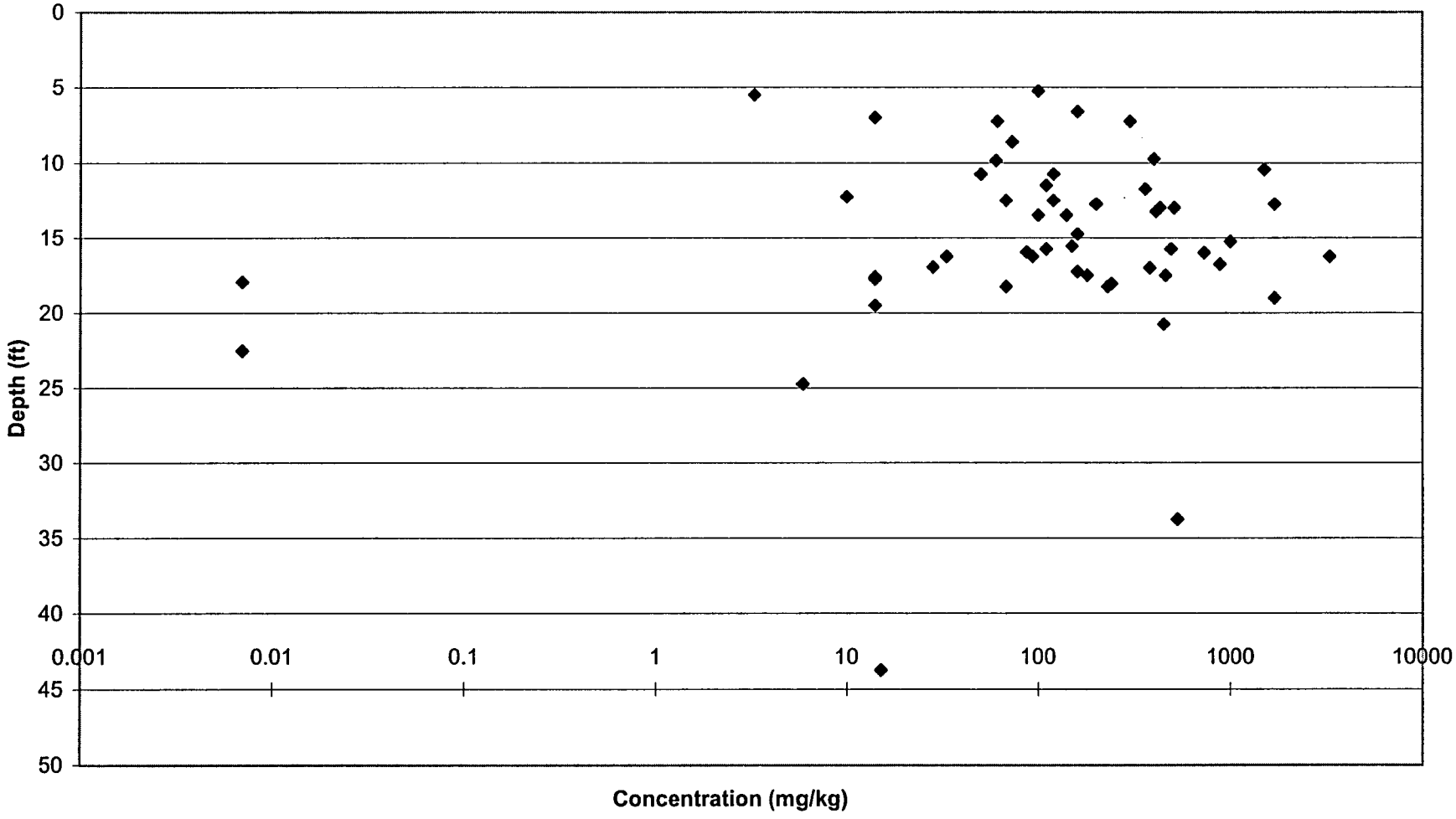


FIGURE 4-10
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
JP-5 IN SOIL, CONCENTRATION VS DEPTH

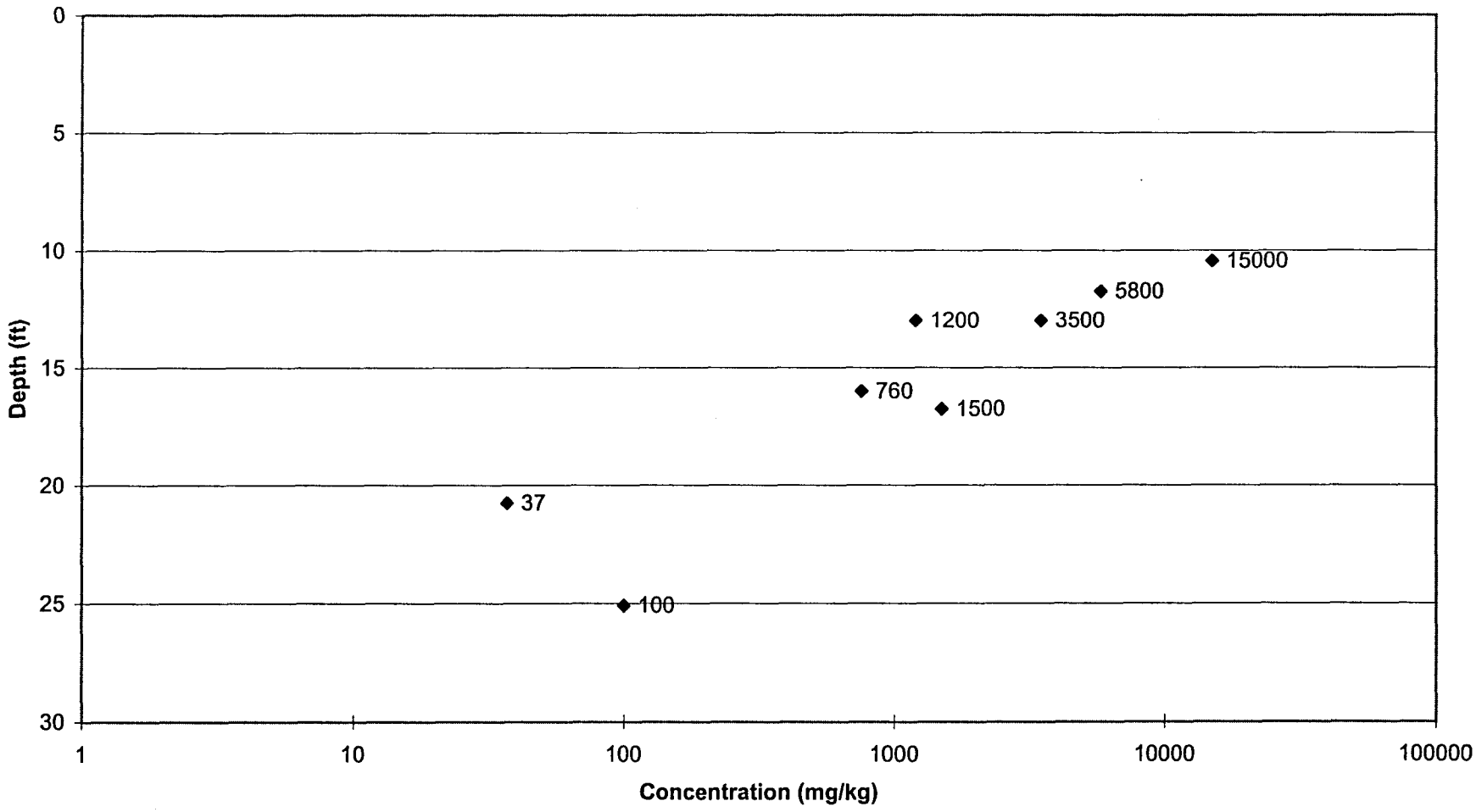


FIGURE 4-11
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
TPH-E AS DIESEL (F-76) IN SOIL, CONCENTRATION VS DEPTH

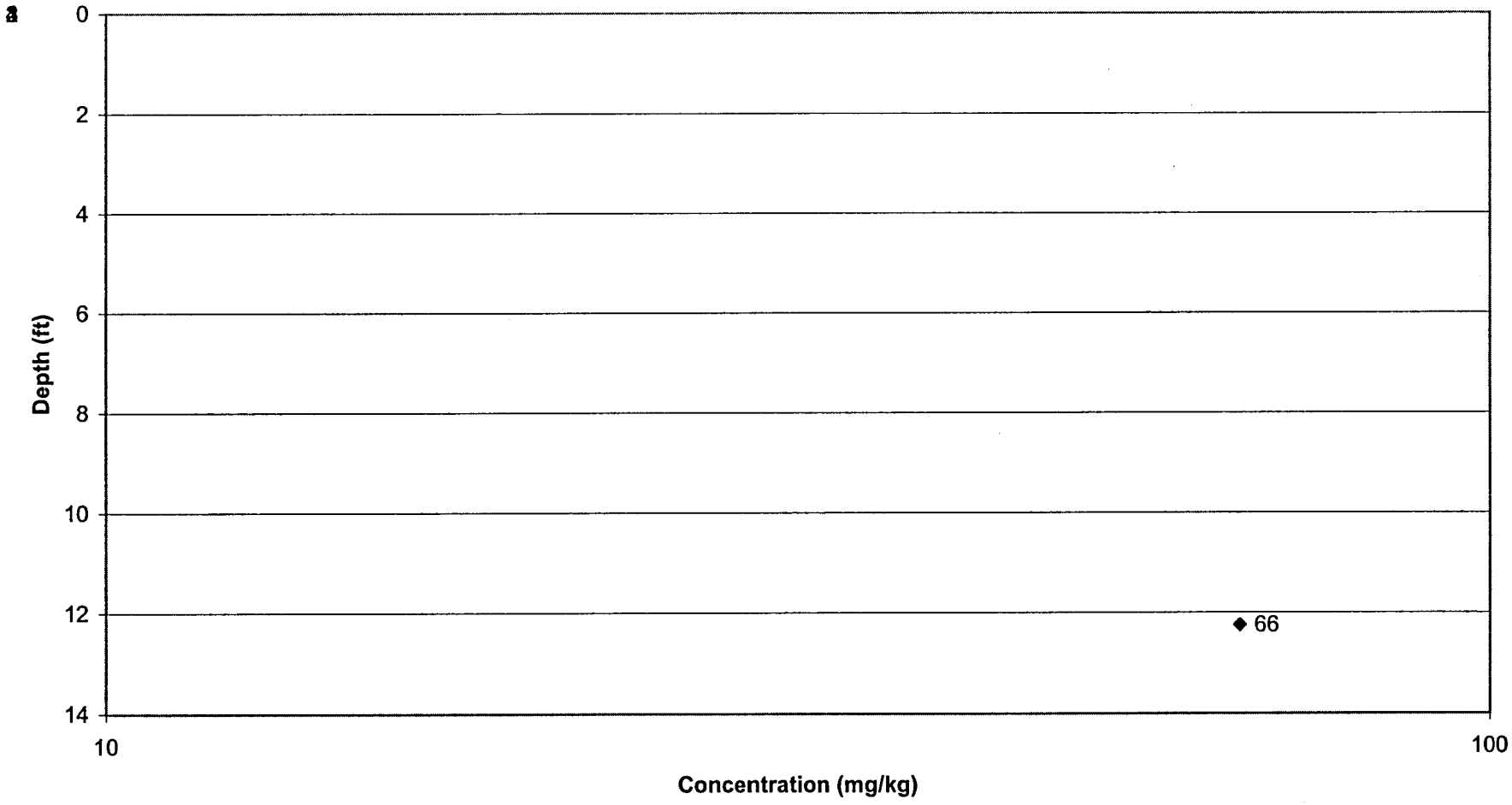


FIGURE 4-12
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
BUNKER FUEL IN SOIL, CONCENTRATION VS DEPTH

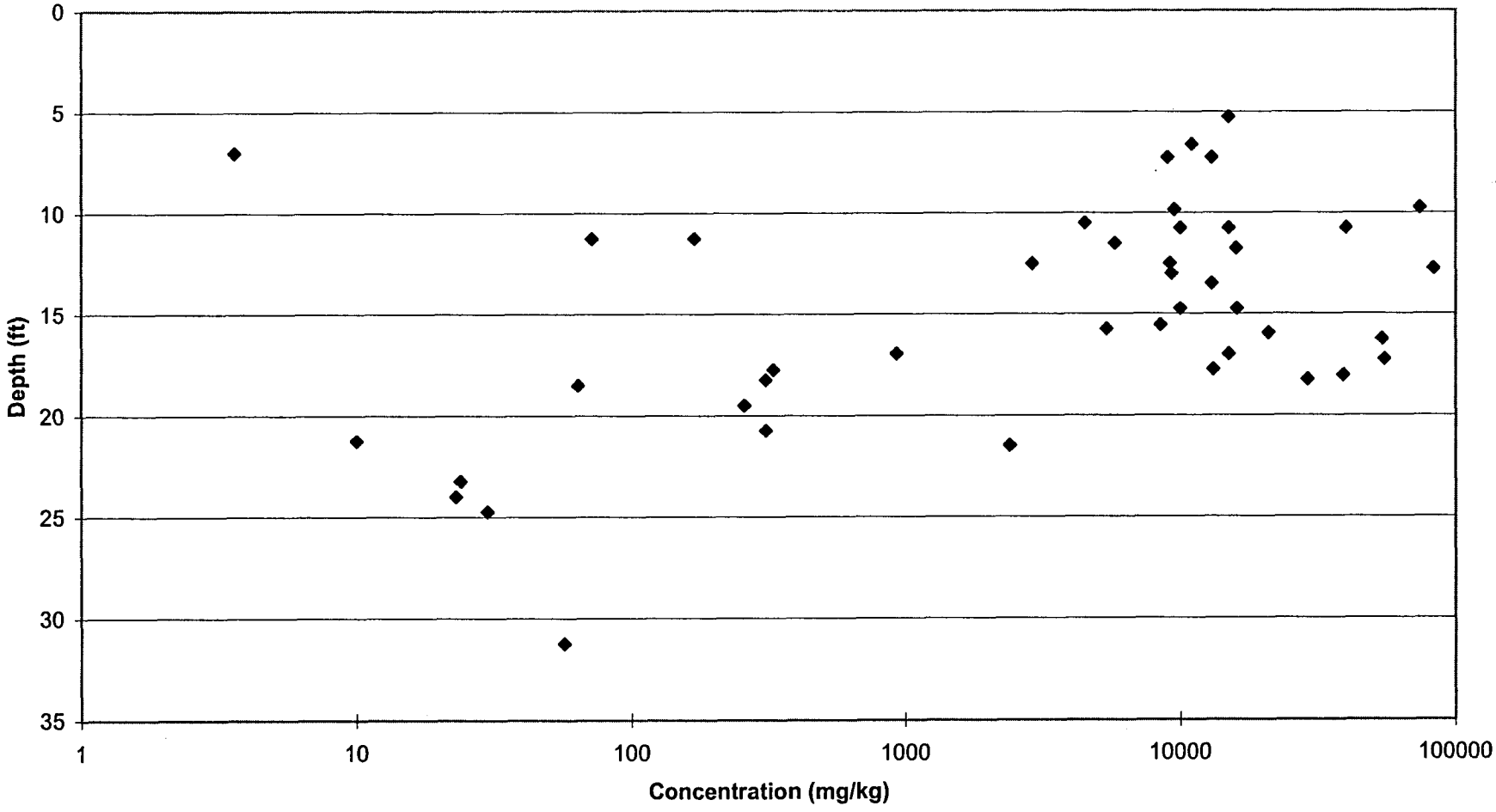


FIGURE 4-13
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
TPH-E AS OTHER (HEAVY) IN SOIL, CONCENTRATION VS DEPTH

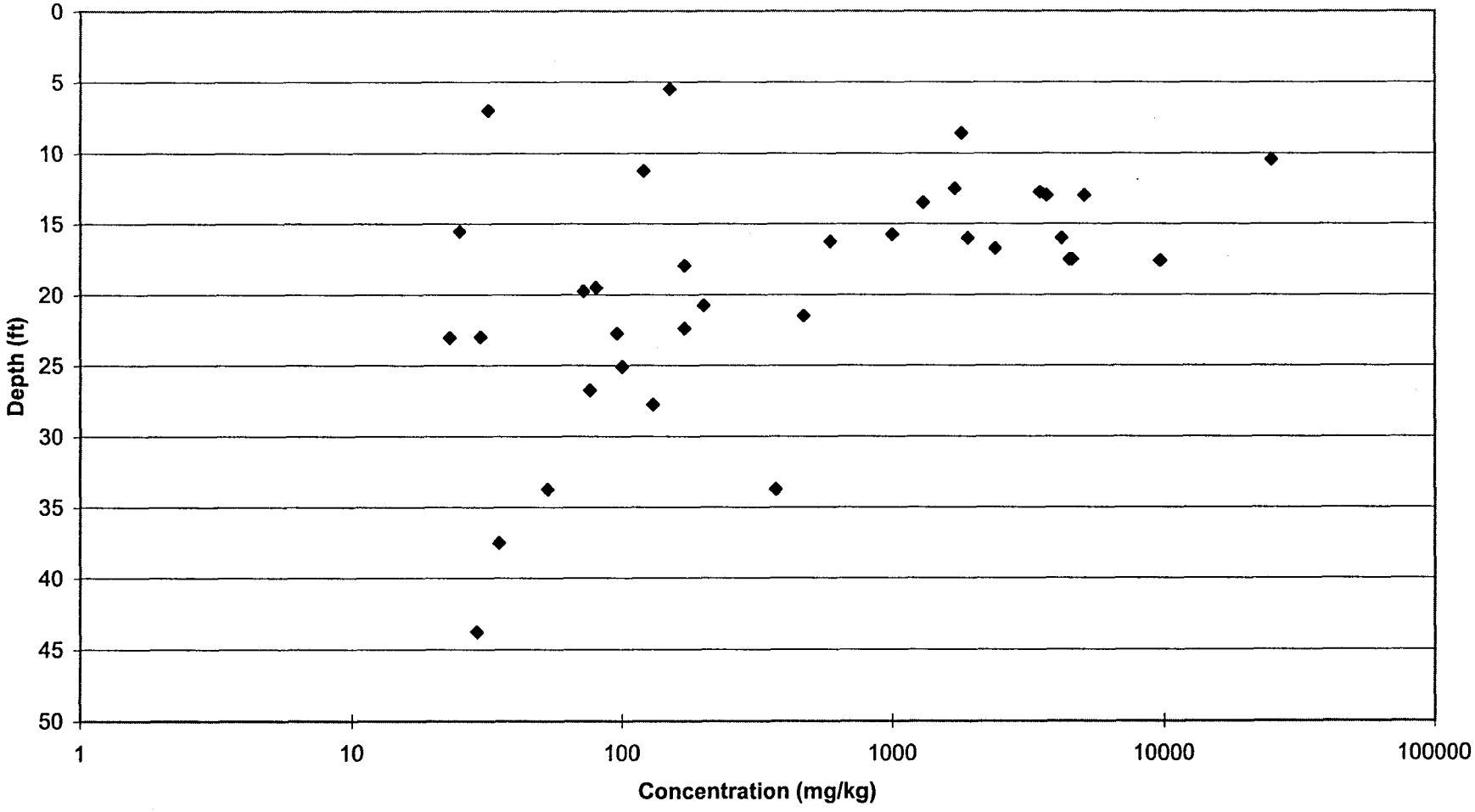


FIGURE 4-14
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
TPH-P AS OTHER (LIGHT) IN SOIL, CONCENTRATION VS DEPTH

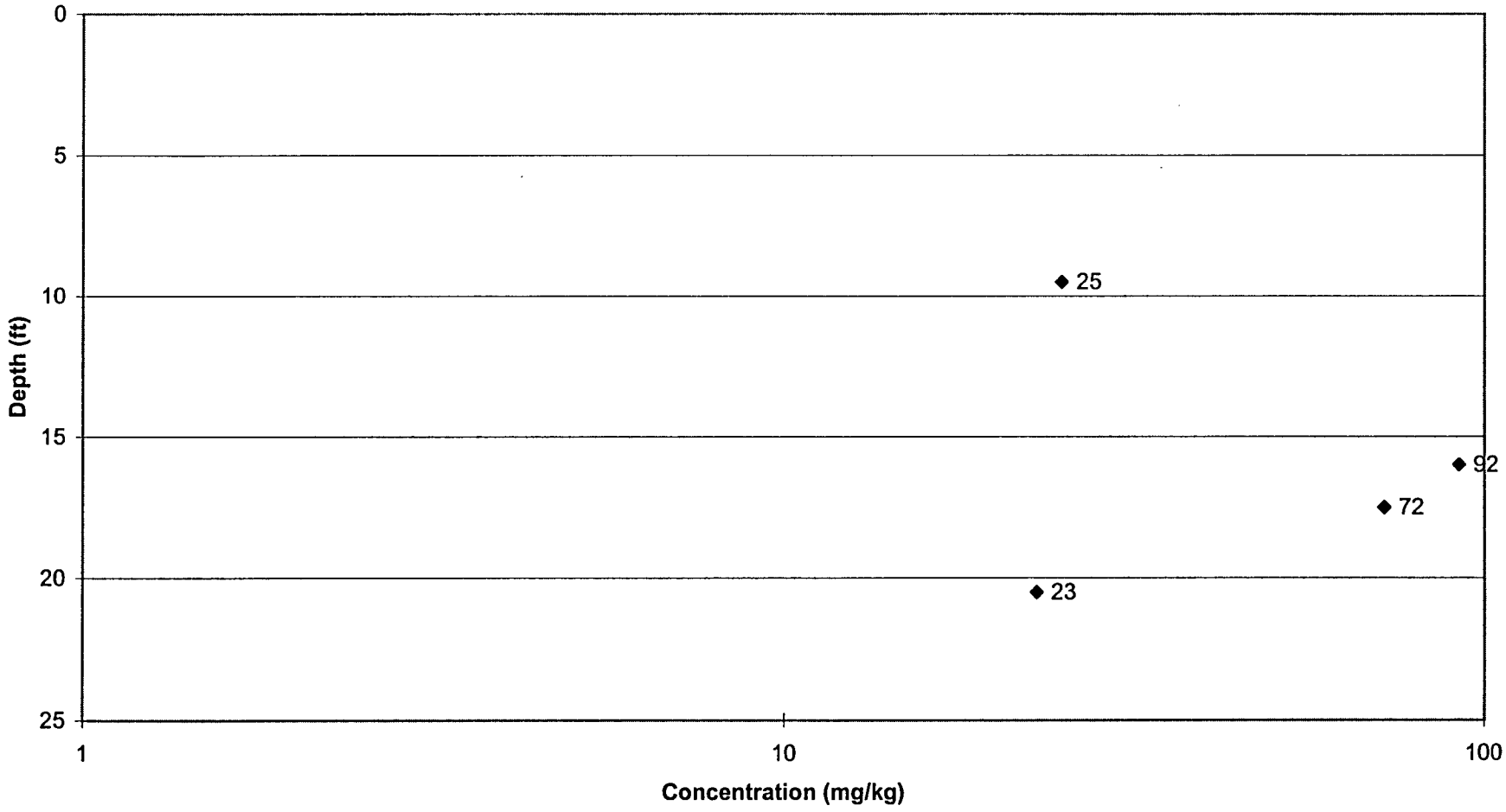


FIGURE 4-15
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
BUNKER FUEL IN SOIL, CONCENTRATION VS DEPTH

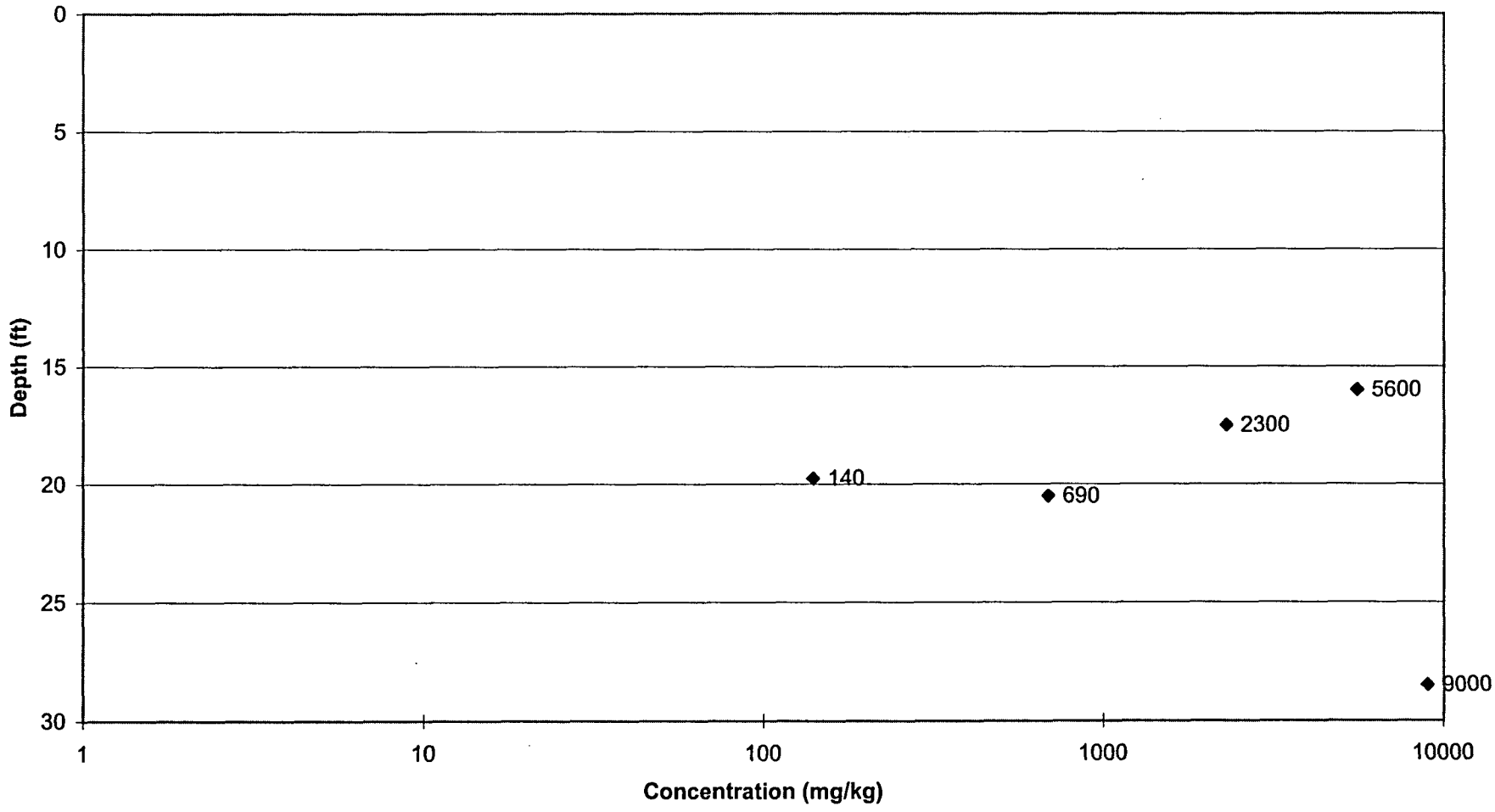


FIGURE 4-16
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
TPH-E AS OTHER (HEAVY) IN SOIL, CONCENTRATION VS DEPTH

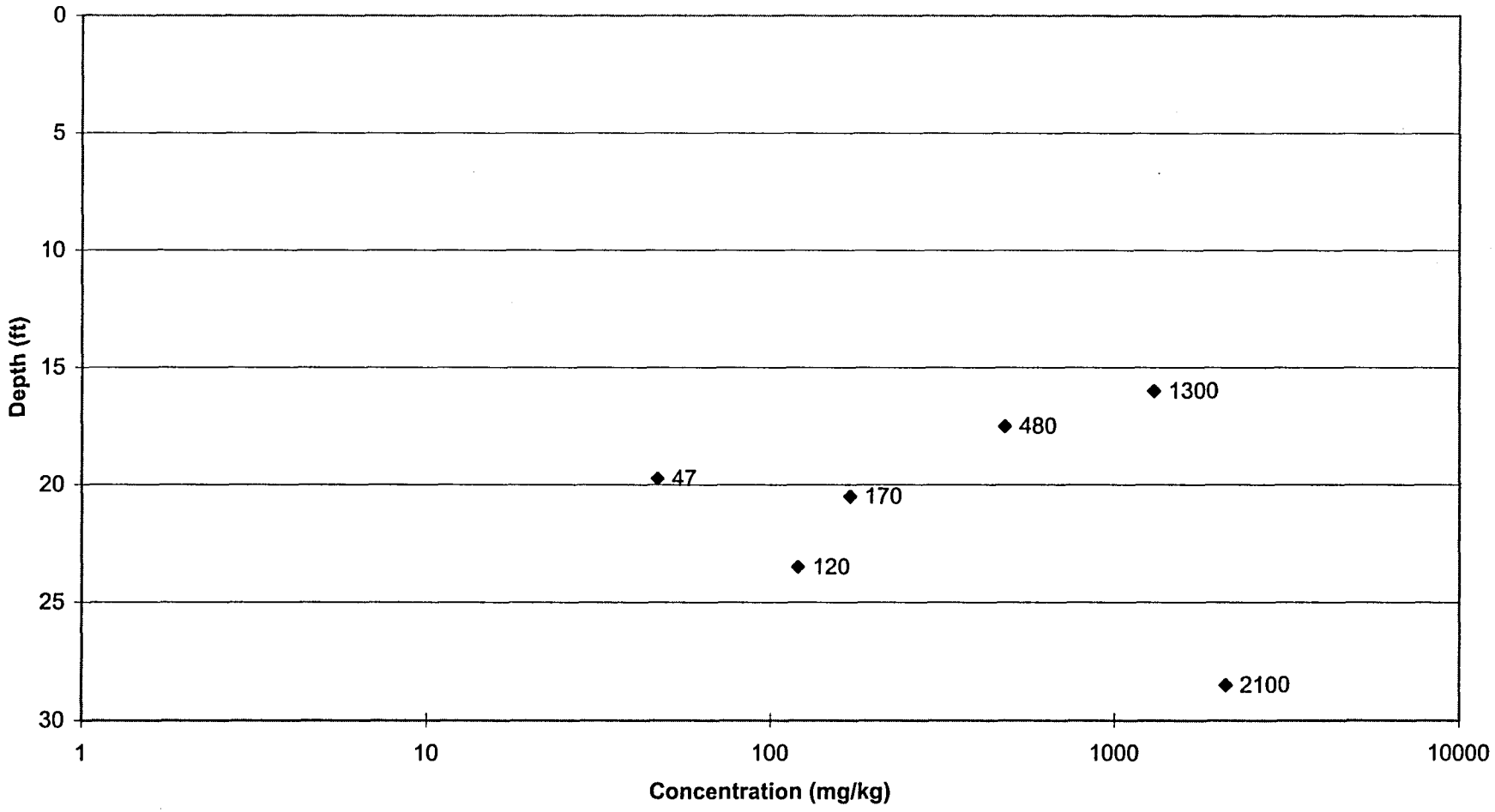


FIGURE 4-17
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE - 4 DRUM LOT NO. 1
TPH-P AS GASOLINE IN SOIL, CONCENTRATION VS DEPTH

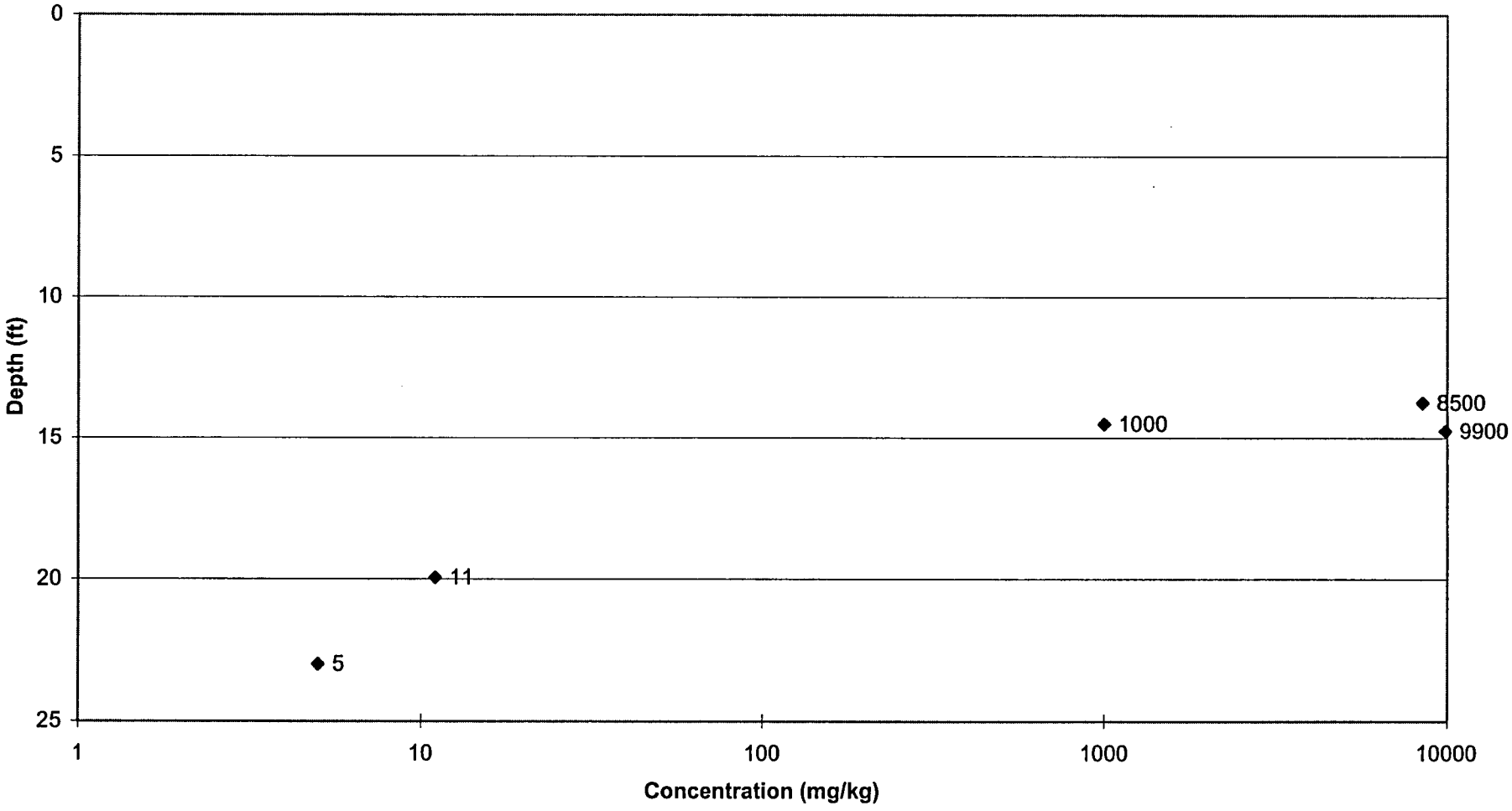


FIGURE 4-18
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE - 4 DRUM LOT NO. 1
TPH-P AS OTHER (LIGHT) IN SOIL, CONCENTRATION VS DEPTH

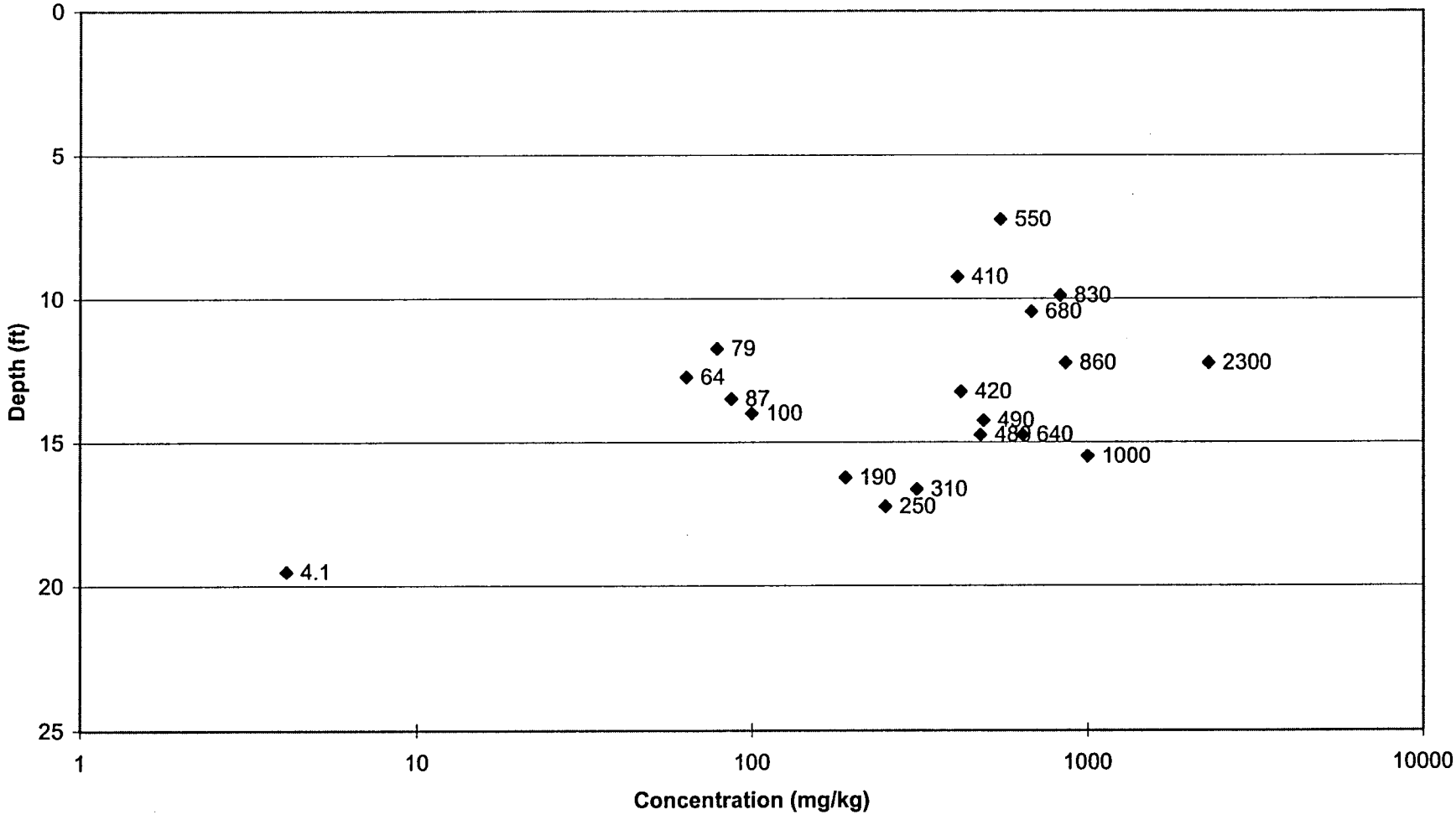


FIGURE 4-19
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
JP-5 IN SOIL, CONCENTRATION VS DEPTH

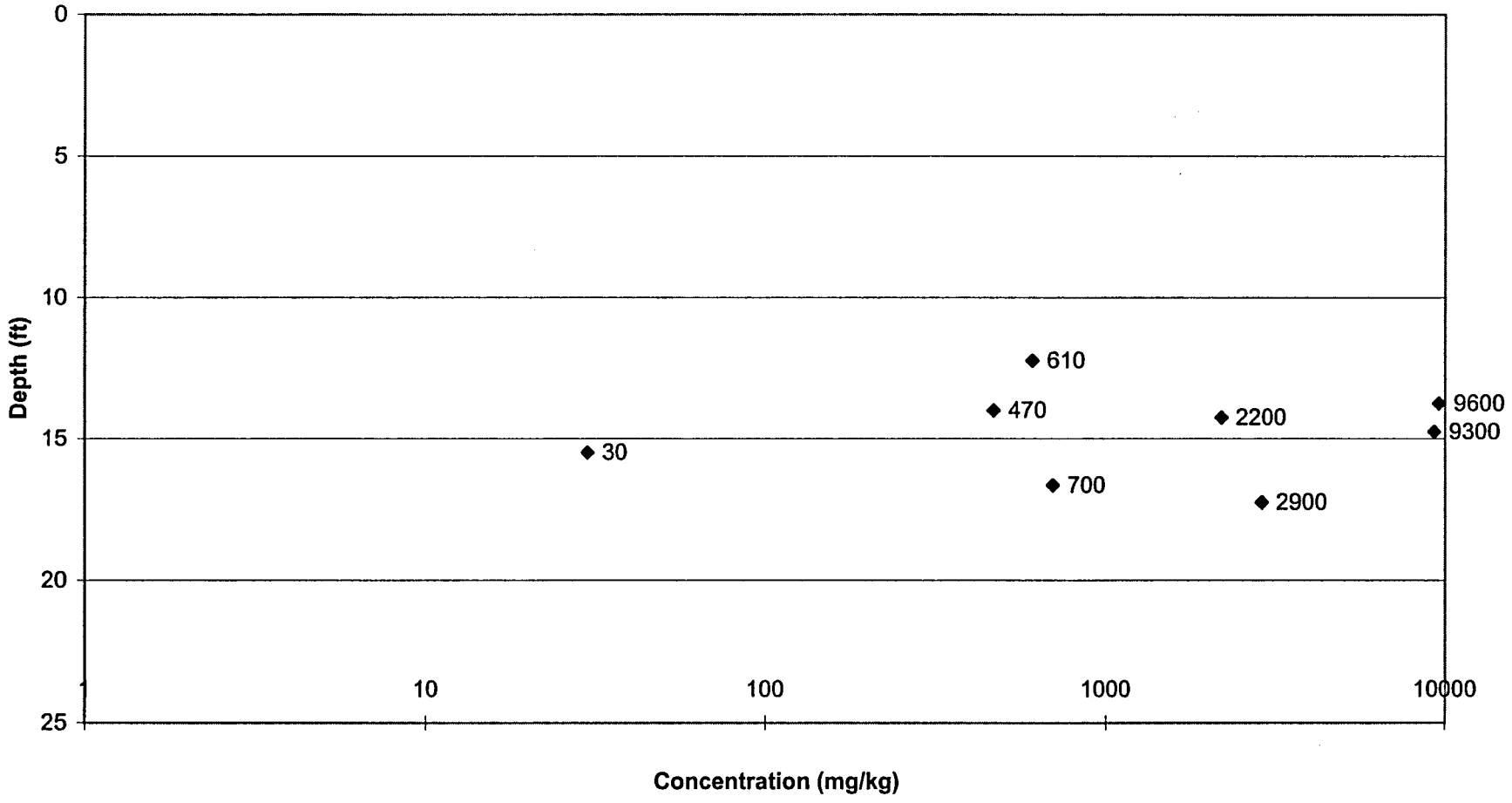


FIGURE 4-20
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
TPH-E AS DIESEL (F-76) IN SOIL, CONCENTRATION VS DEPTH

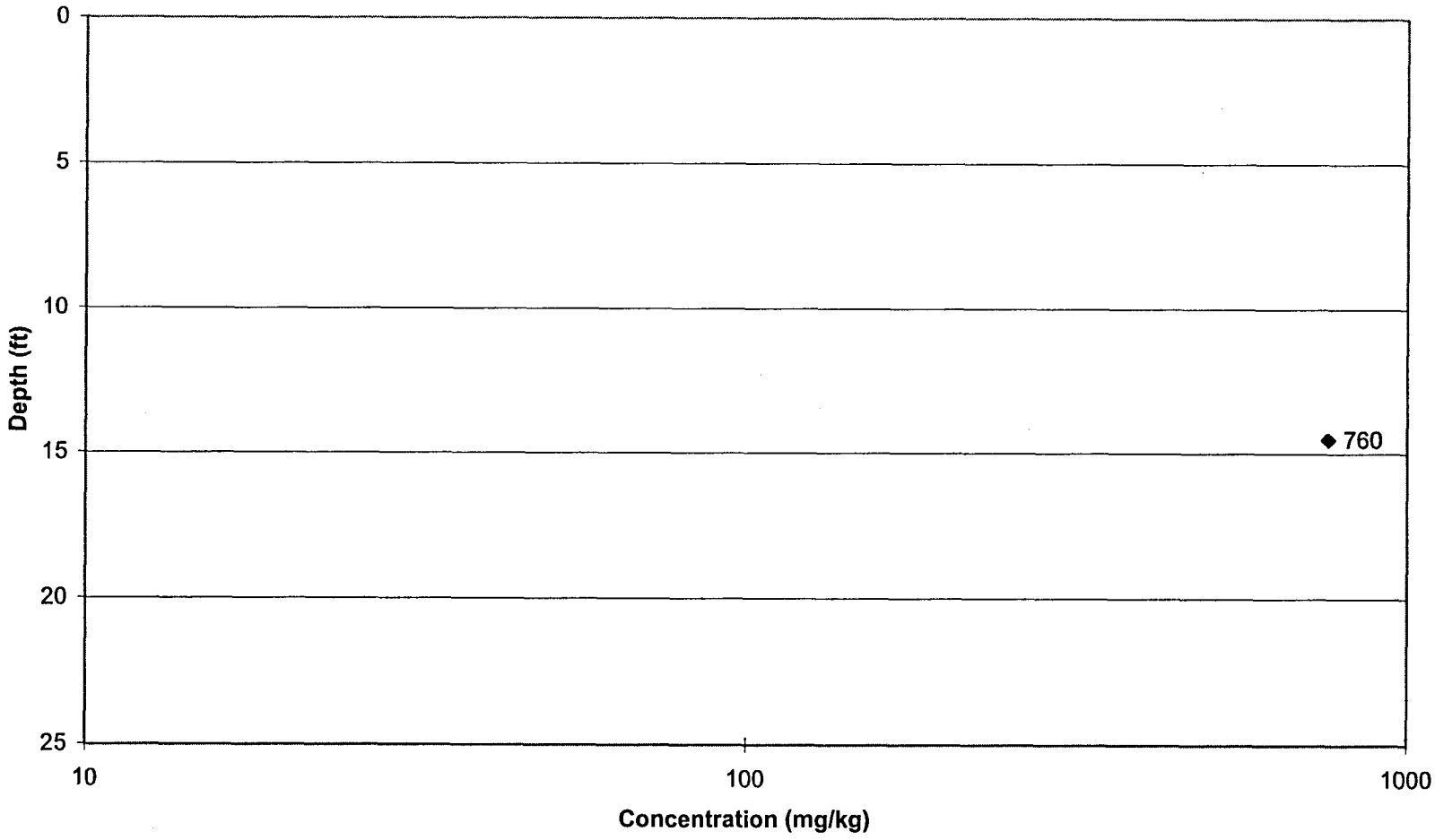


FIGURE 4-21
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
BUNKER FUEL IN SOIL, CONCENTRATION VS DEPTH

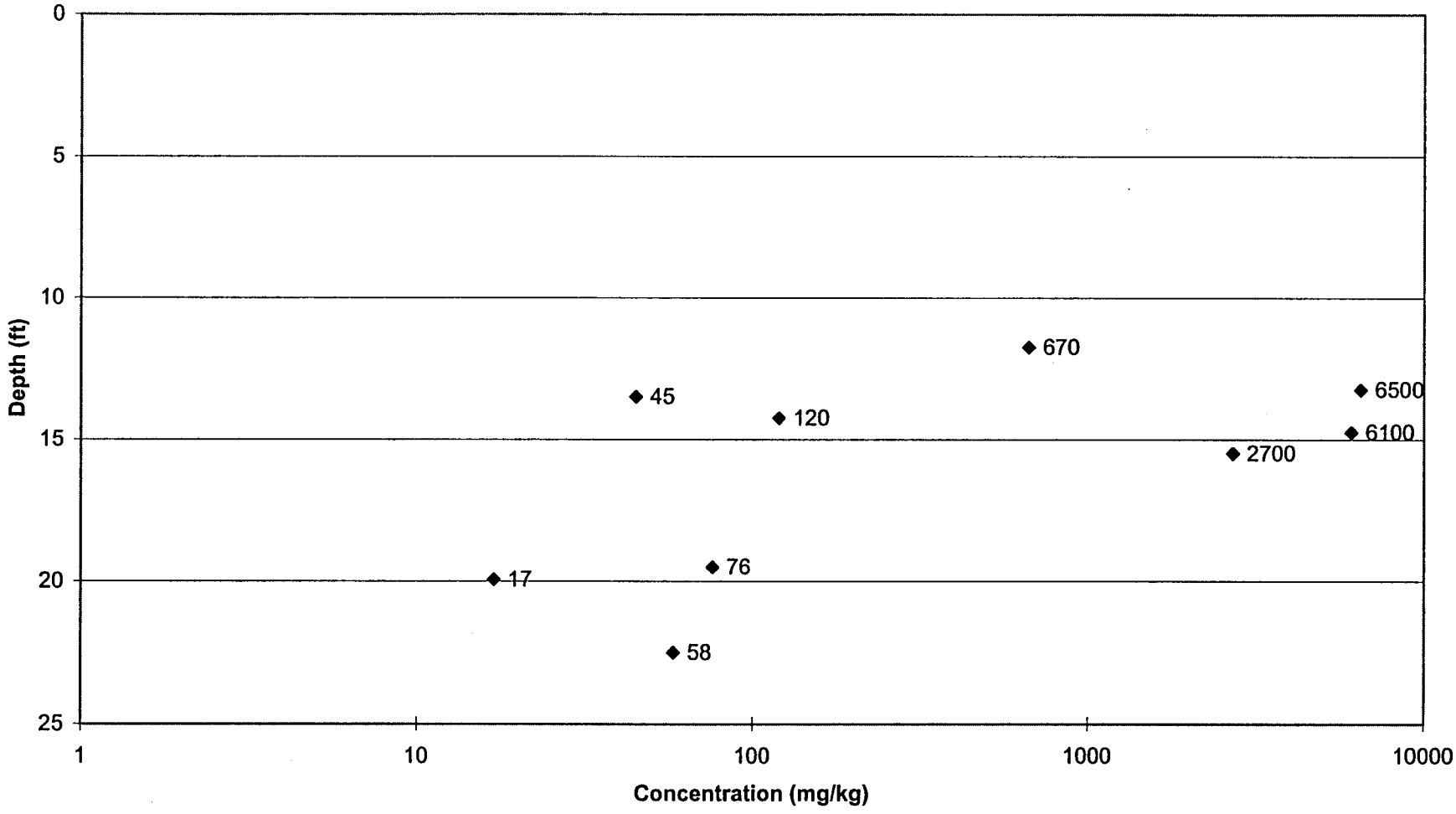


FIGURE 4-22
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
TPH-E OTHER (HEAVY) IN SOIL, CONCENTRATION VS DEPTH

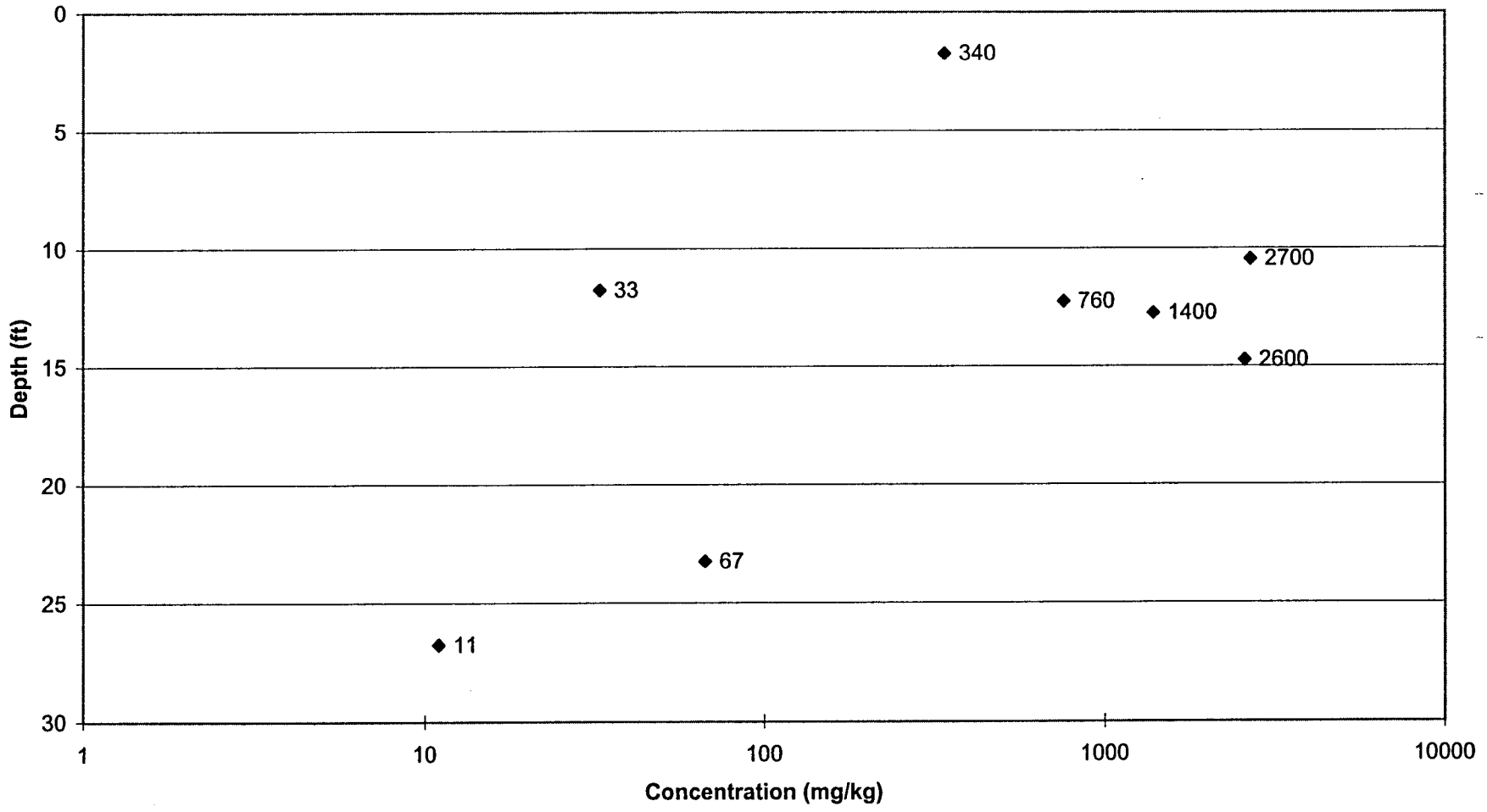


FIGURE 4-23
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
TPH-P AS GASOLINE IN SOIL, CONCENTRATION VS DEPTH

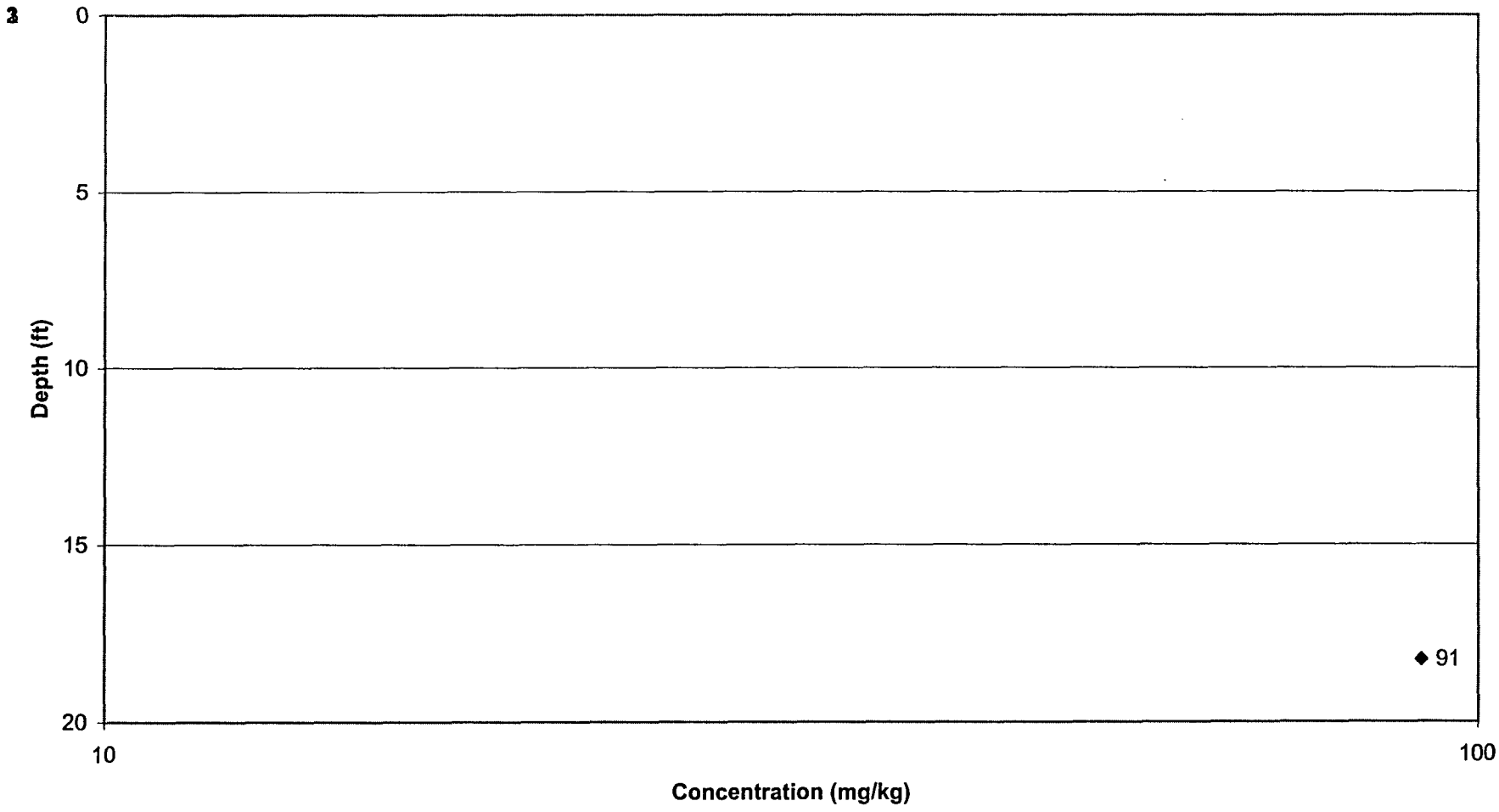


FIGURE 4-24
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
TPH-P AS OTHER (LIGHT) IN SOIL, CONCENTRATION VS DEPTH

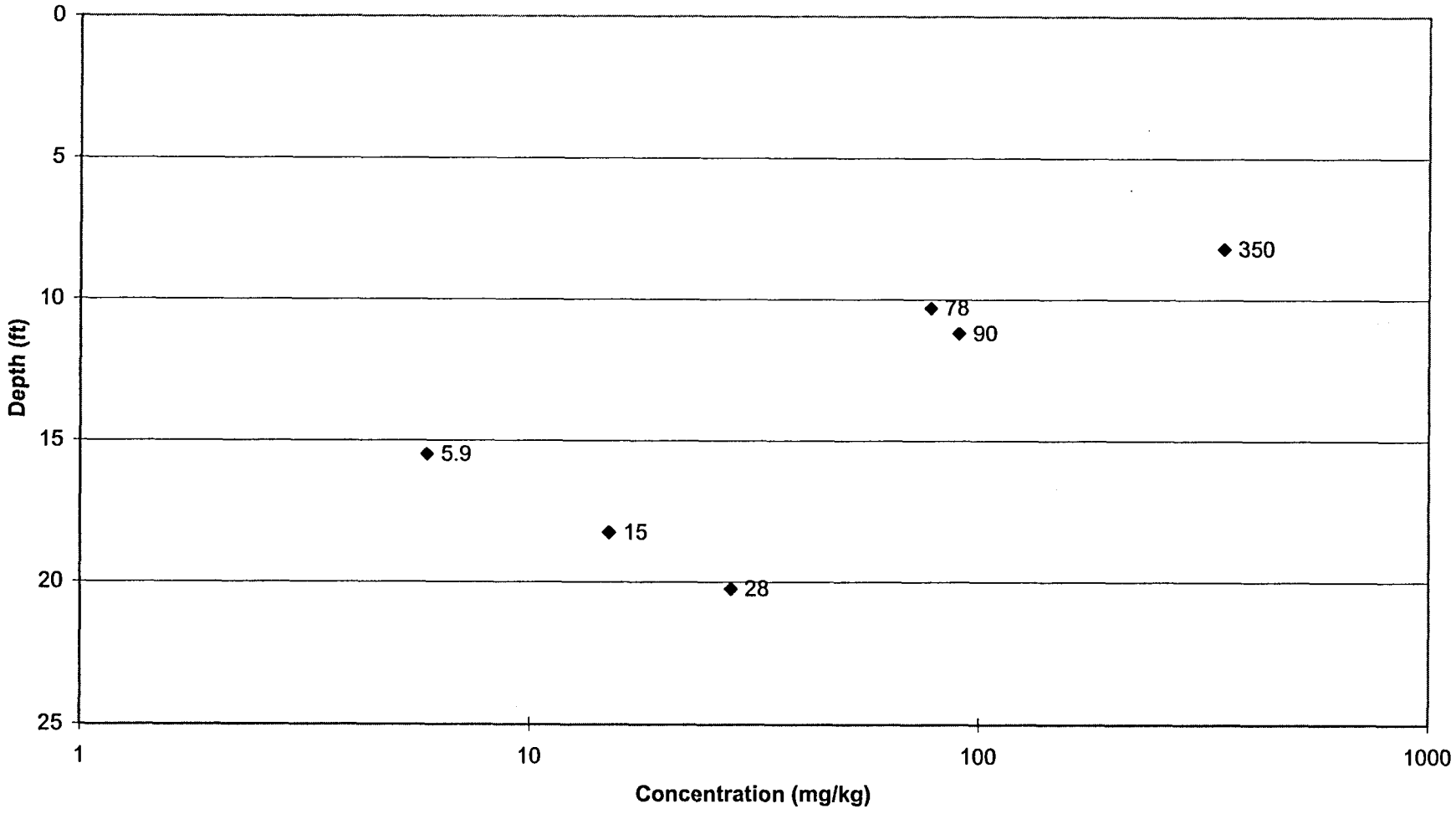


FIGURE 4-25
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
JP-5 IN SOIL, CONCENTRATION VS DEPTH

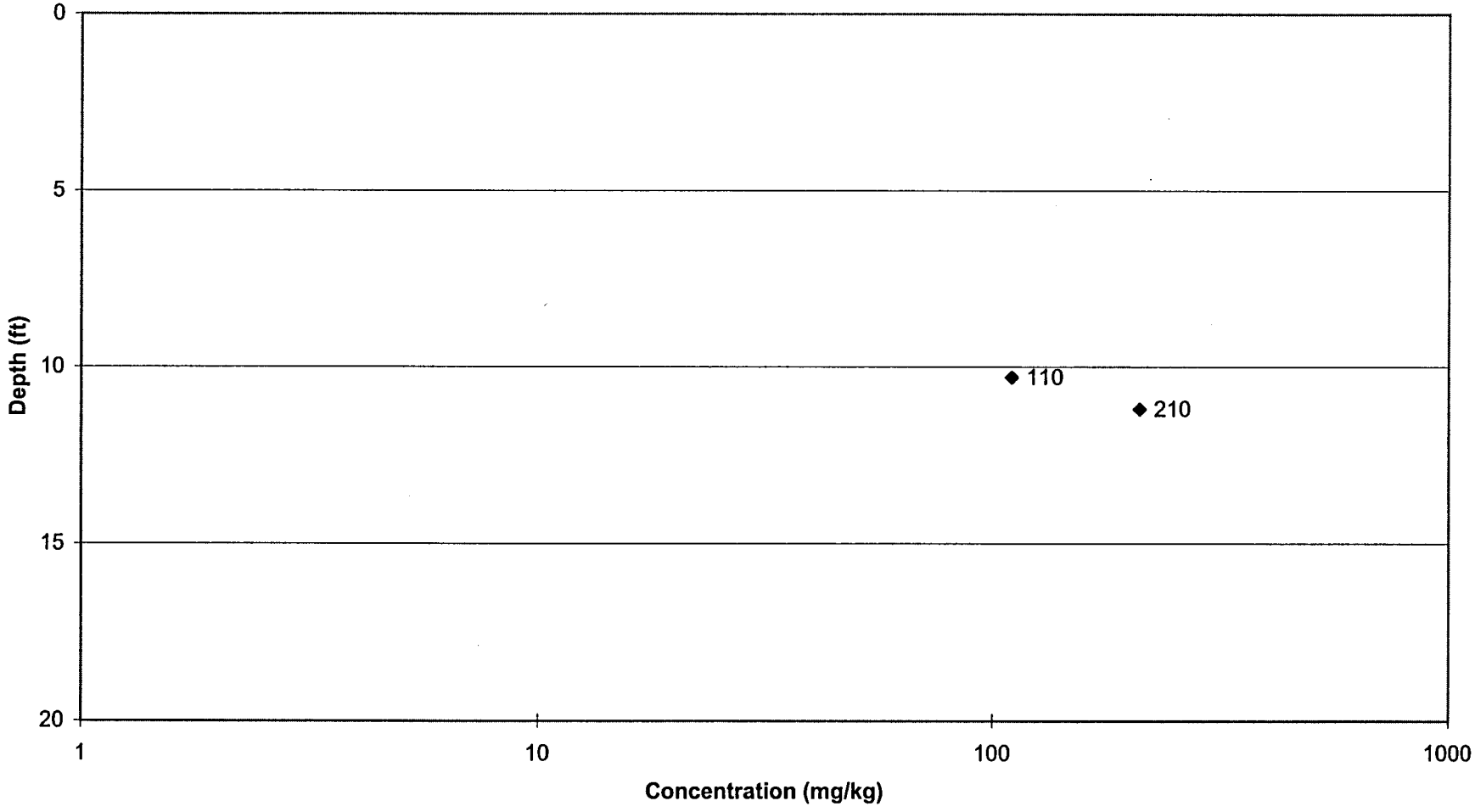


FIGURE 4-26
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
TPH-E AS OTHER (HEAVY) IN SOIL, CONCENTRATION VS DEPTH

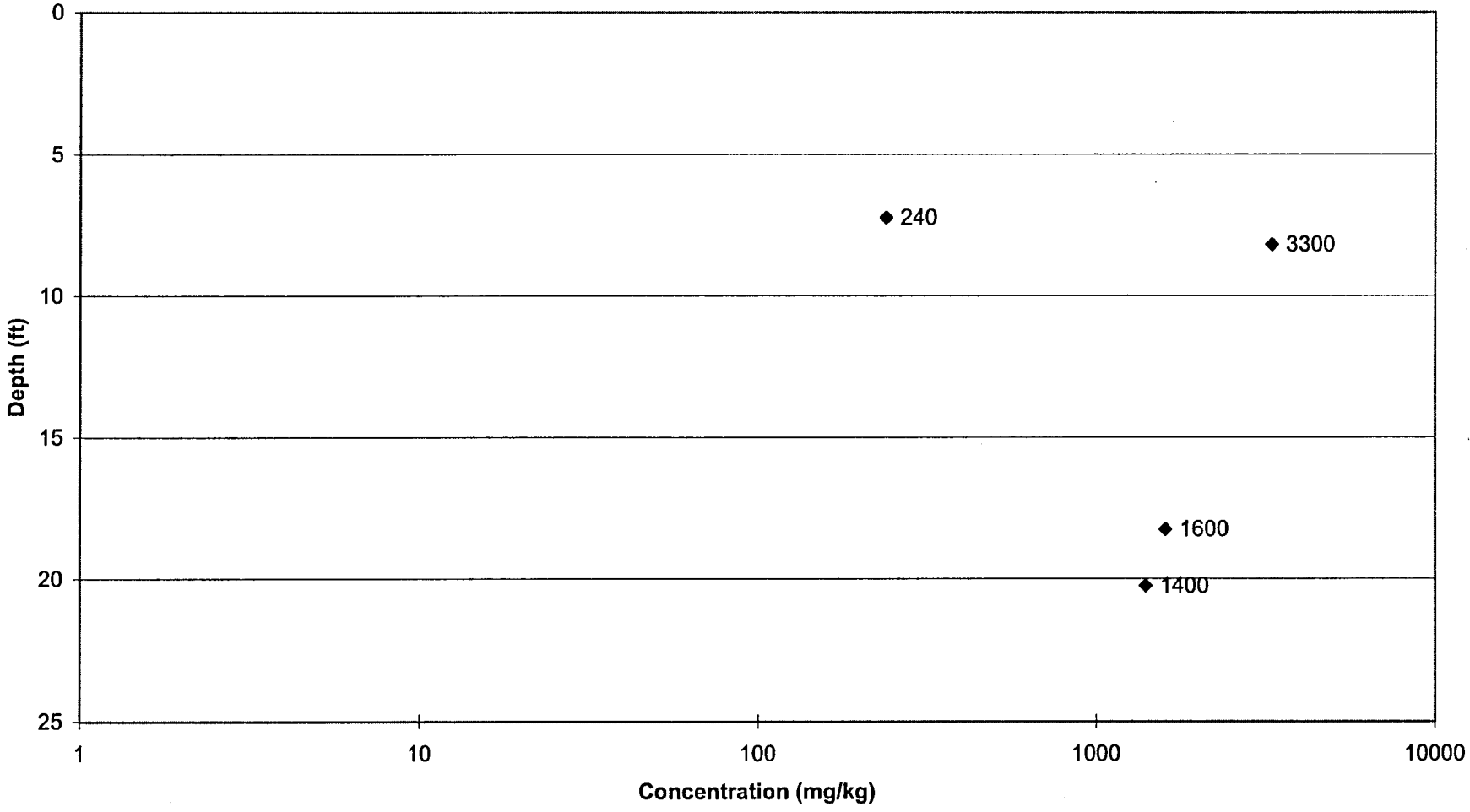


FIGURE 4-27
NFD POINT MOLATE
FINAL PHASE II RI REPORT
ATTENUATION OF SVOCs IN SITE 1 MONITORING WELL MW02-06

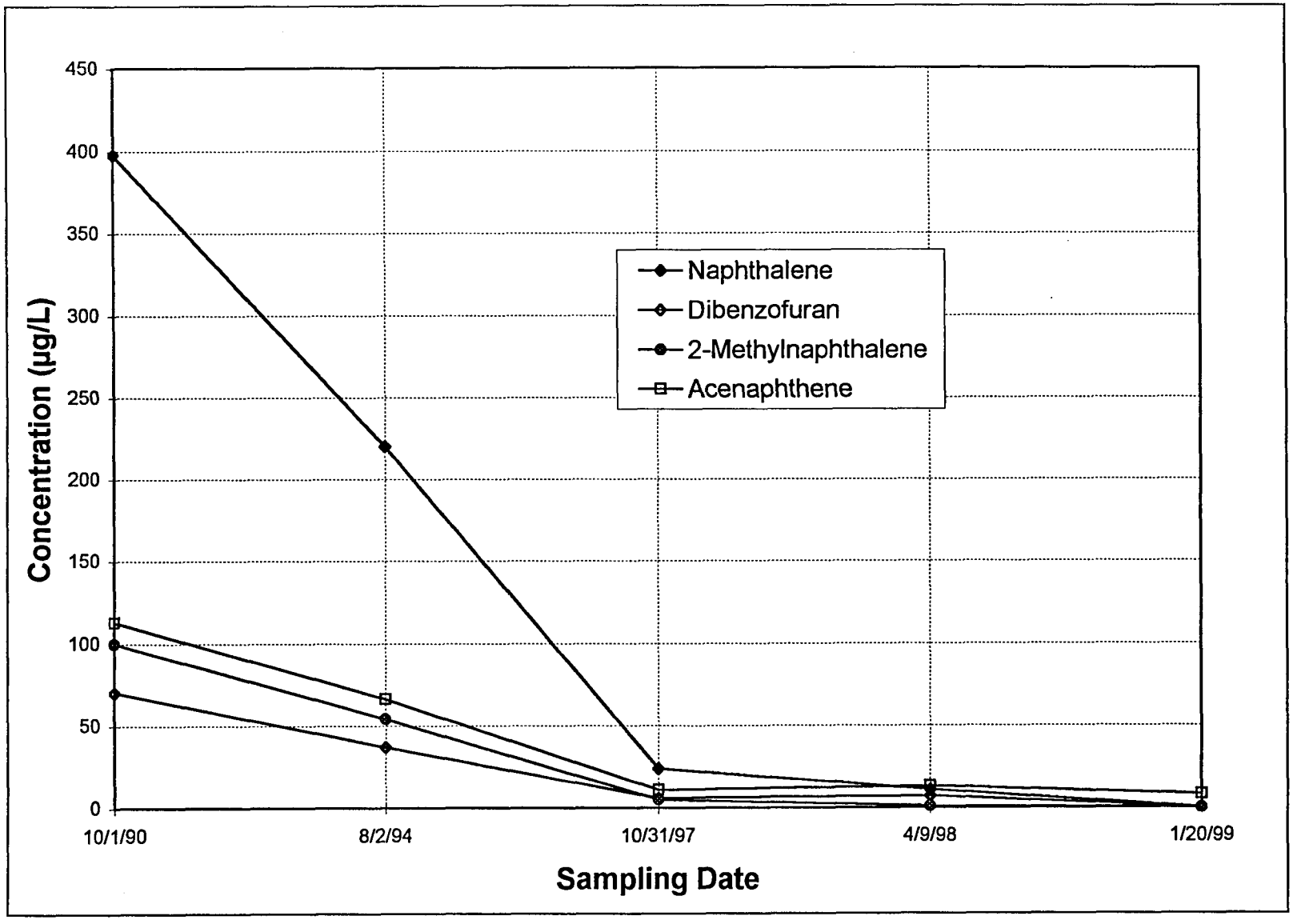


FIGURE 4-28
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF SVOCs WITH TIME
SITE 1 WELL MW02-07

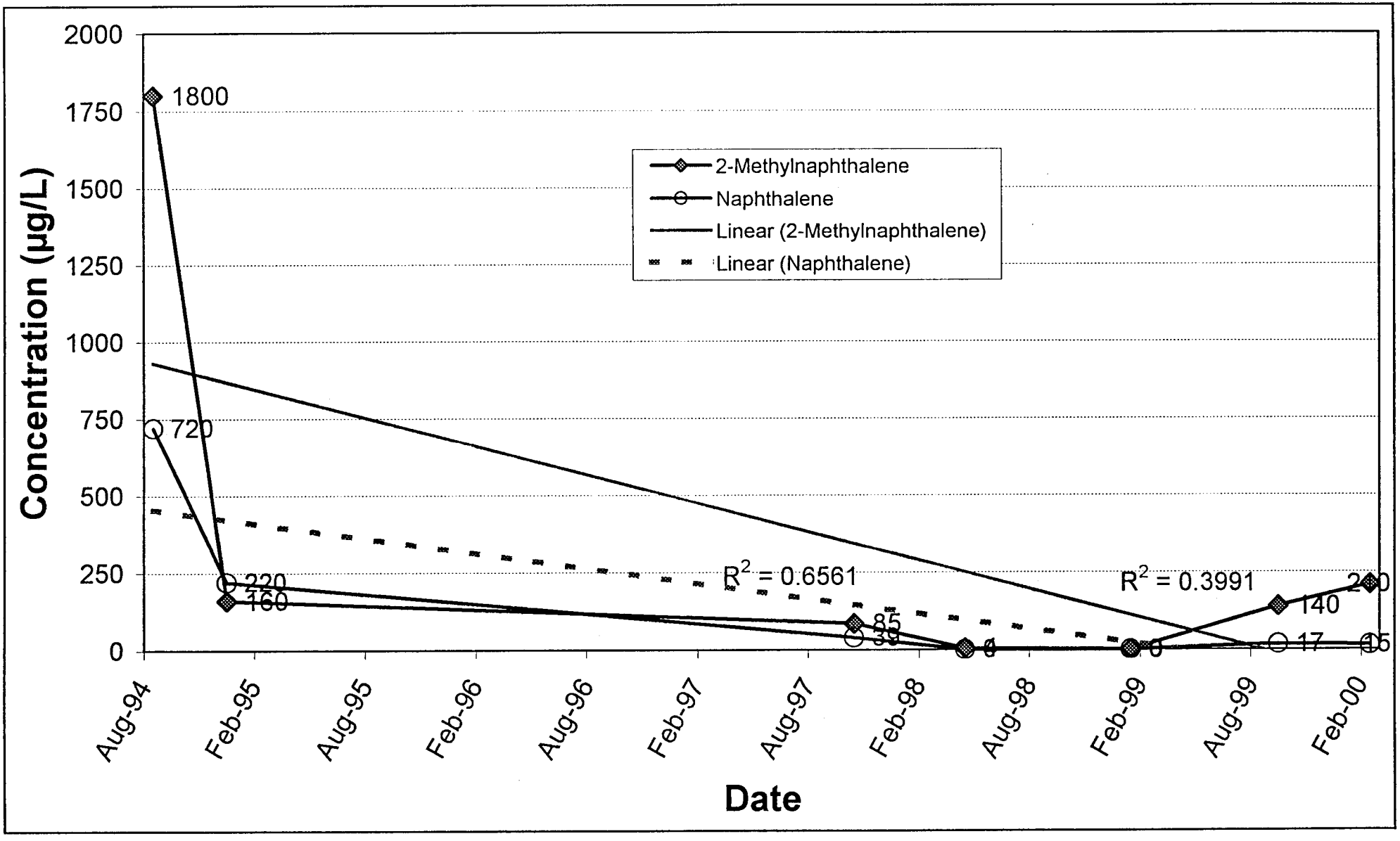


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FIGURE 4-29
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF TPH WITH TIME
SITE 1 WELL MW02-07

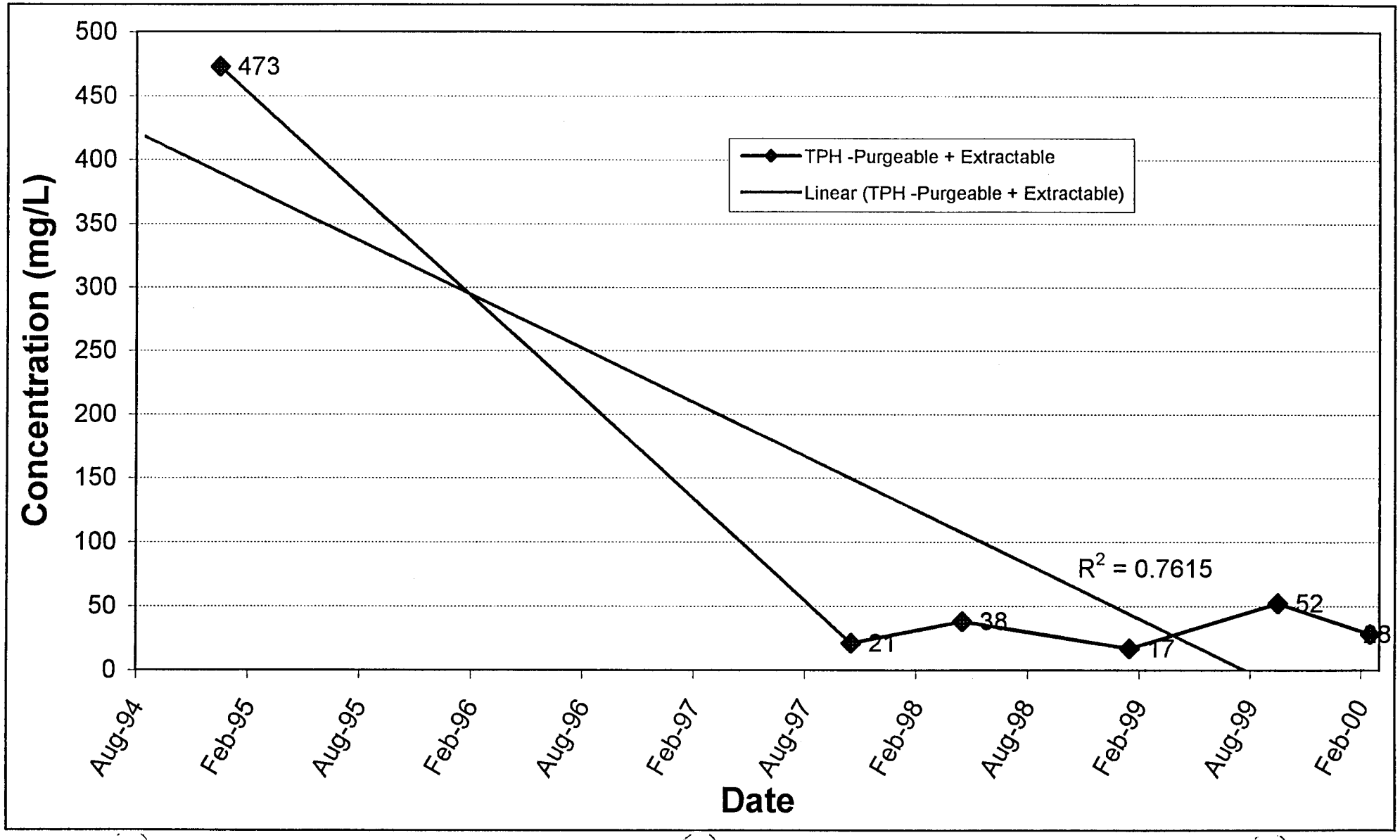

FIGURE 4-30
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF ETHYLBENZENE WITH TIME
SITE 1 WELL MW02-07

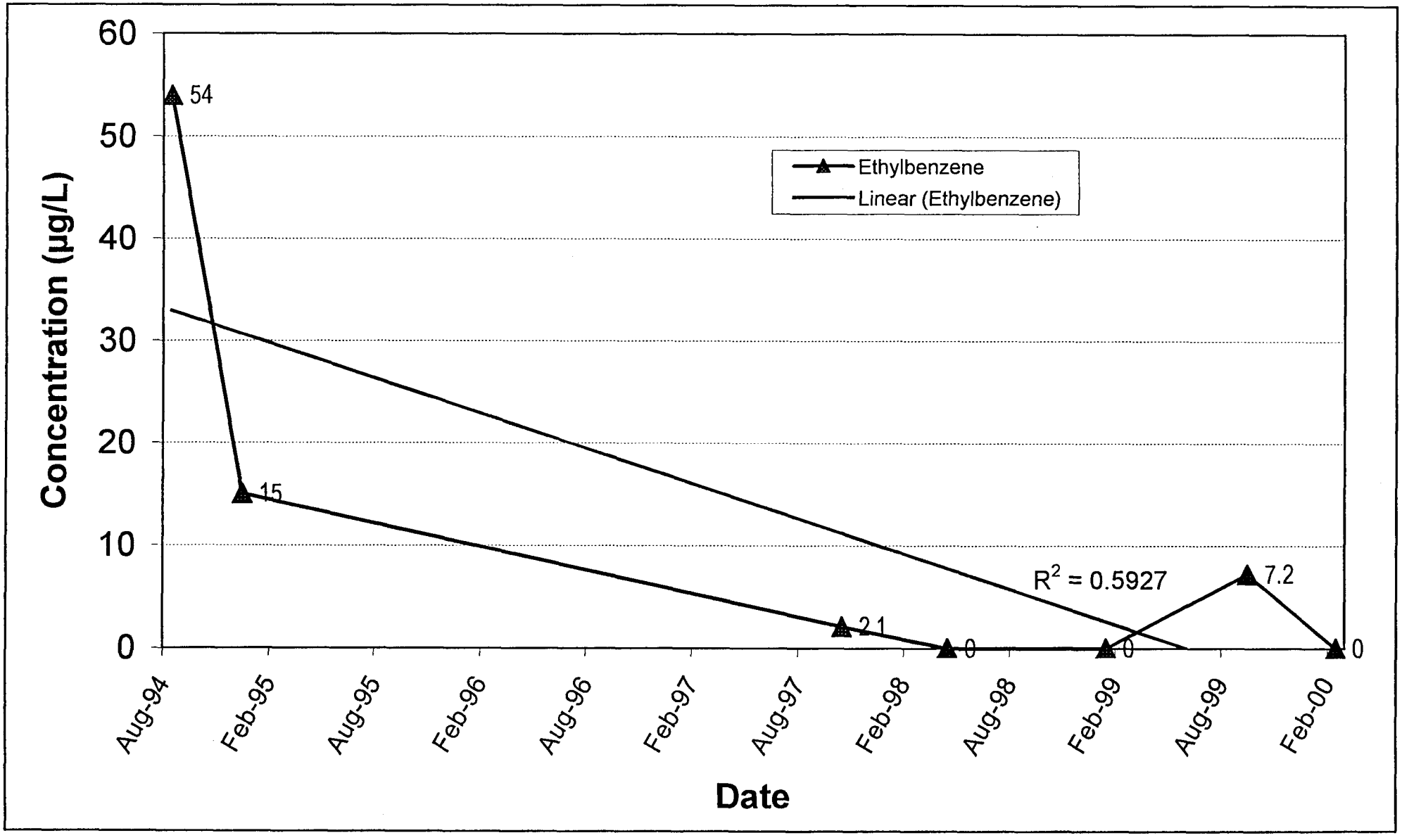

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FIGURE 4-31
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF XYLENE WITH TIME
SITE 1 WELL MW02-07

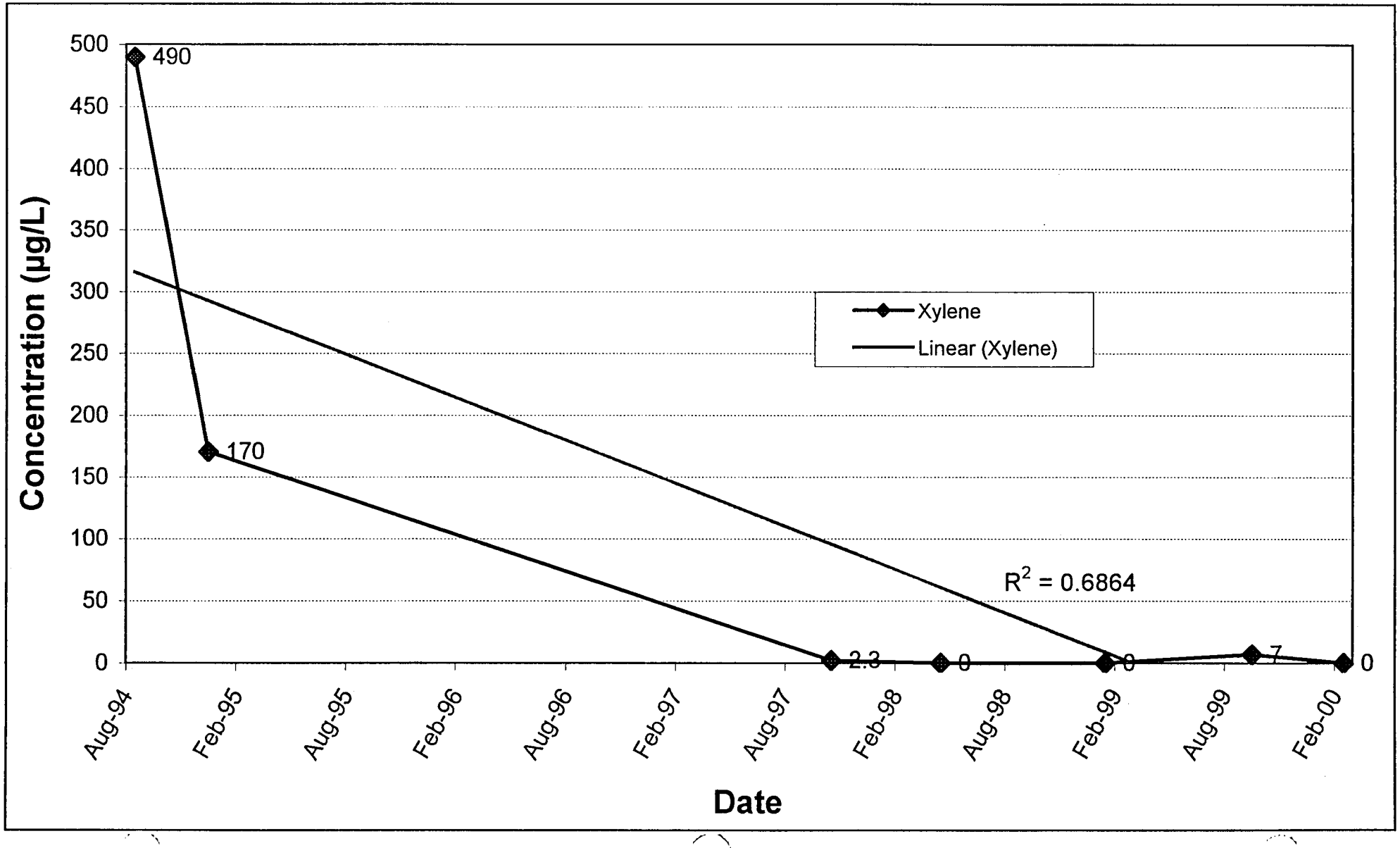

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FIGURE 4-32
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF TPH WITH TIME
SITE 1 WELL MW02-06

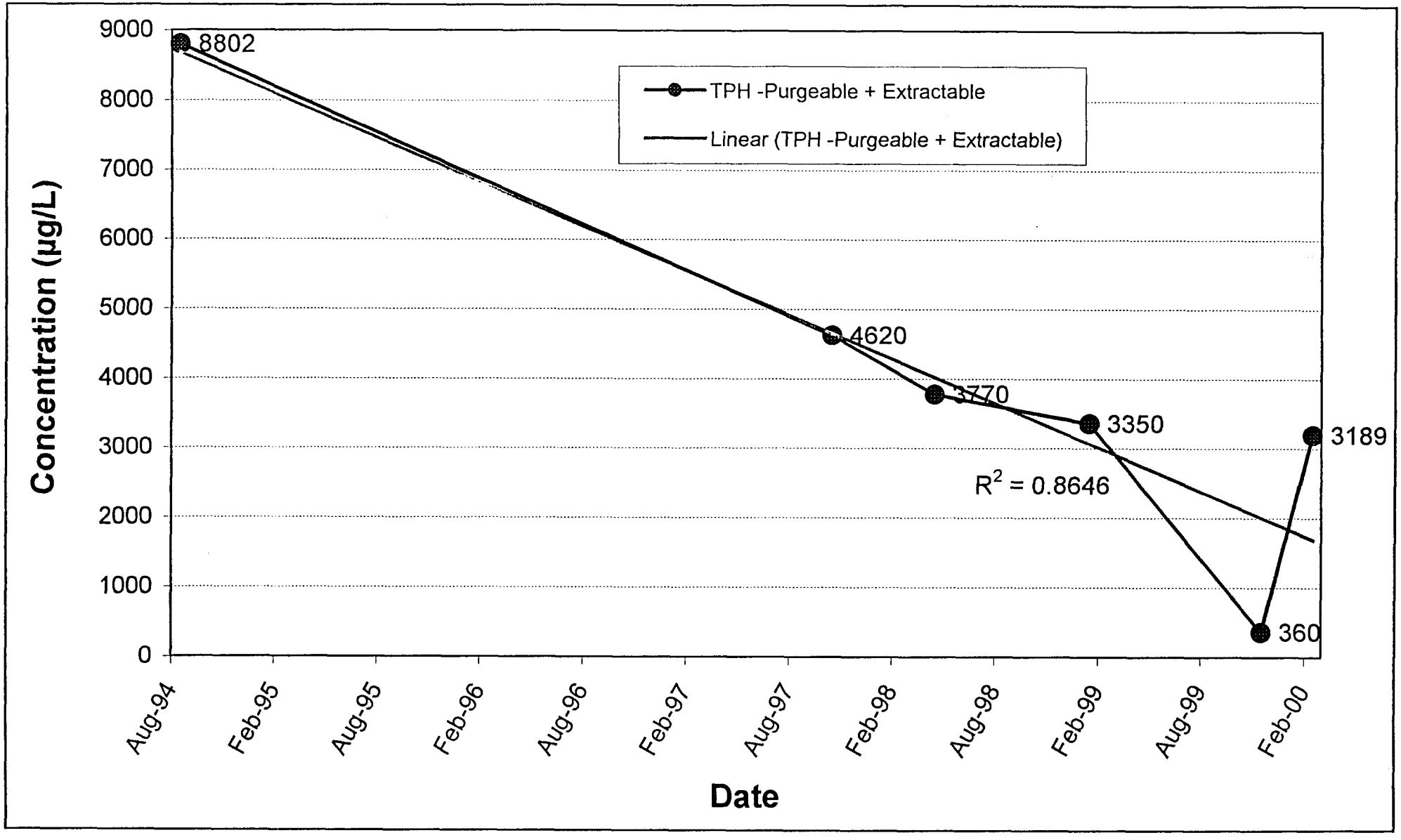

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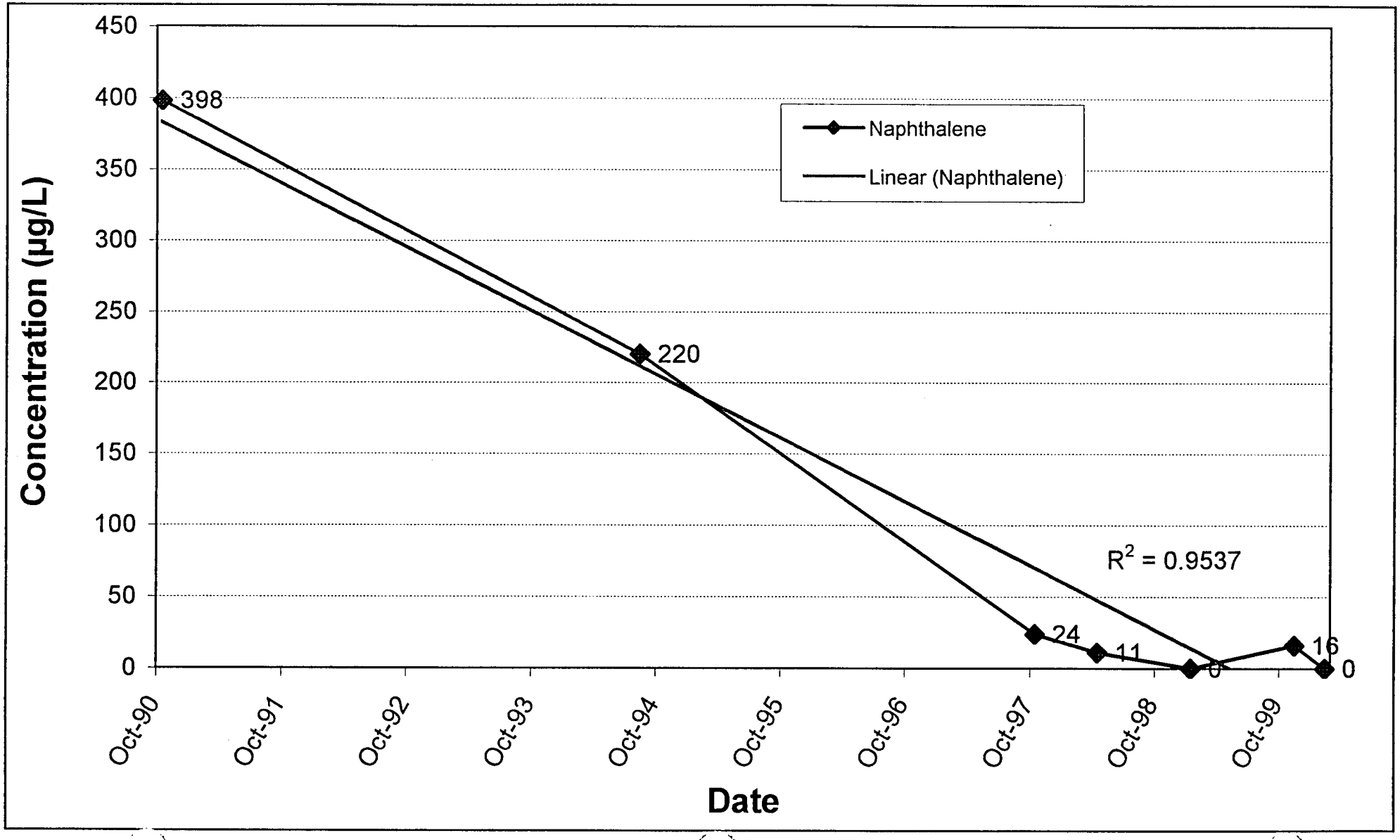
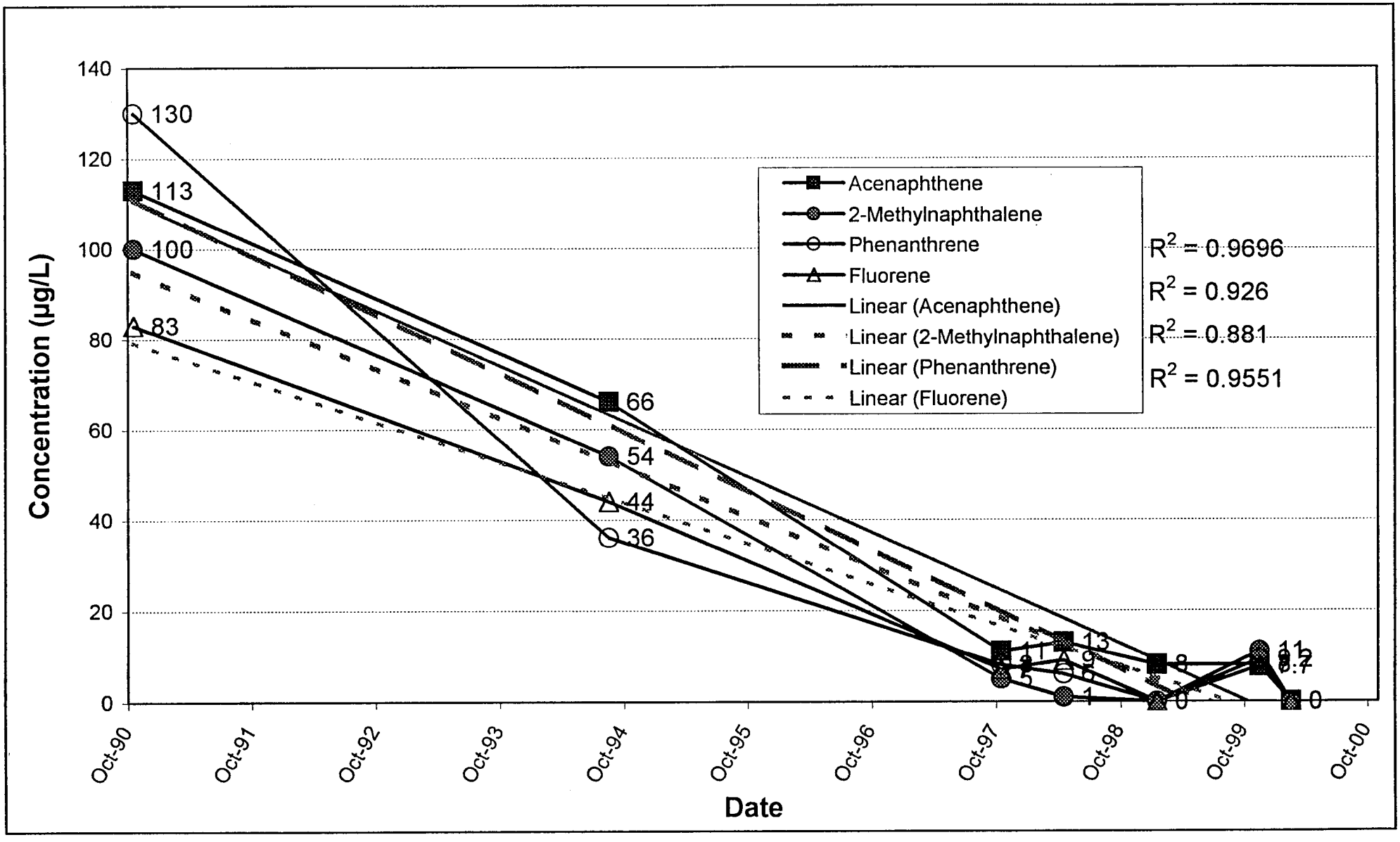
FIGURE 4-33
NFD POIMT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF SVOCs WITH TIME
SITE 1 WELL MW02-06



s:\project\ptmolate\112\phase ii ri rpt\attenuation graphs\Site 1 Wells (New) Chart ... 3/10/00

FIGURE 4-34
NFD POINT MOLATE
FINAL PHASE II RI REPORT
LINEAR REGRESSION PLOT OF SVOCs WITH TIME
SITE 1 WELL MW02-06



s:\project\ptmolate\112\phase ii ri rpt\attenuation graphs\Site 1 Wells (New) Chart 20 5/10/00

FIGURE 4-35
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL MW11-11

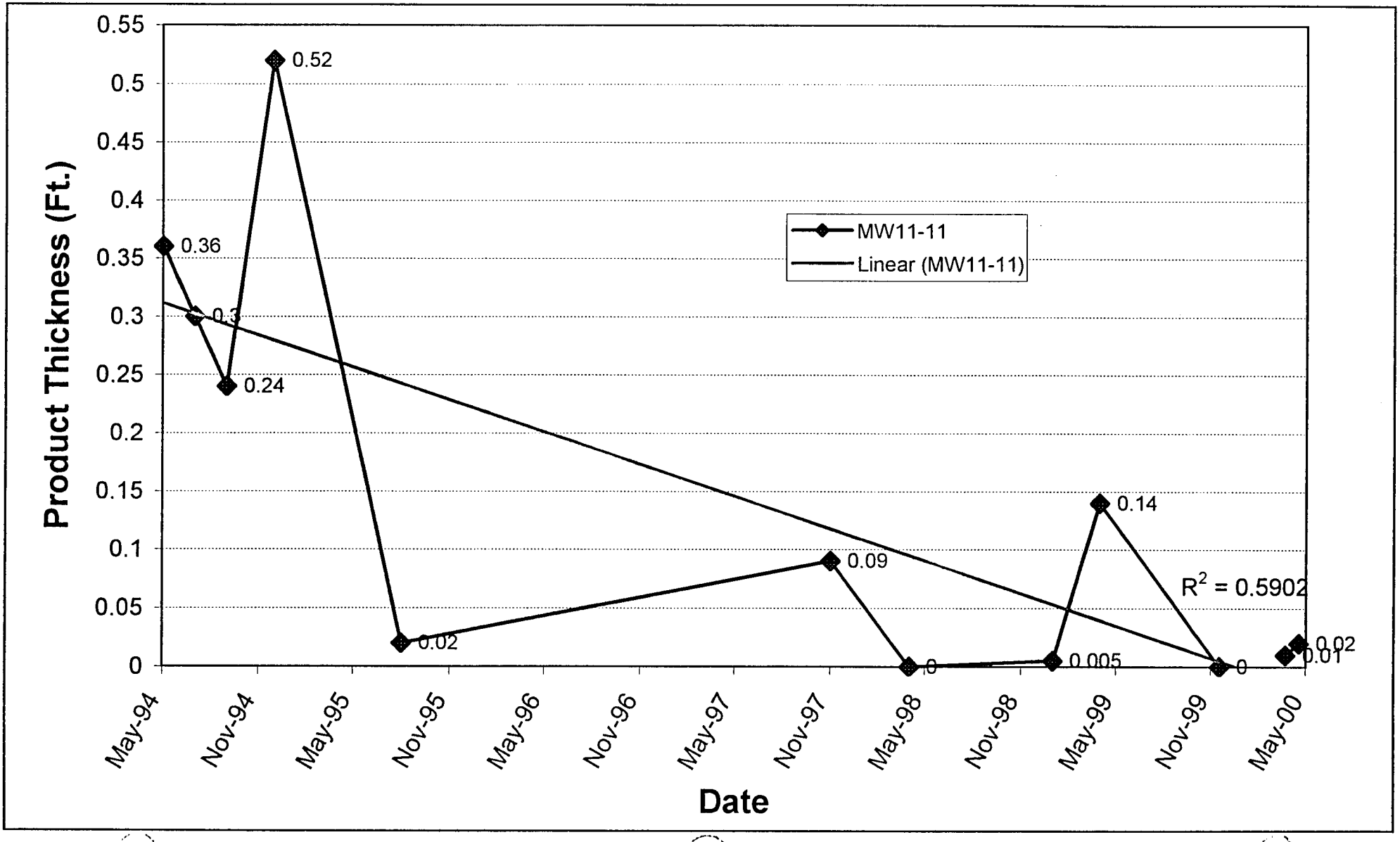


FIGURE 4-36
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL PZ11-27B

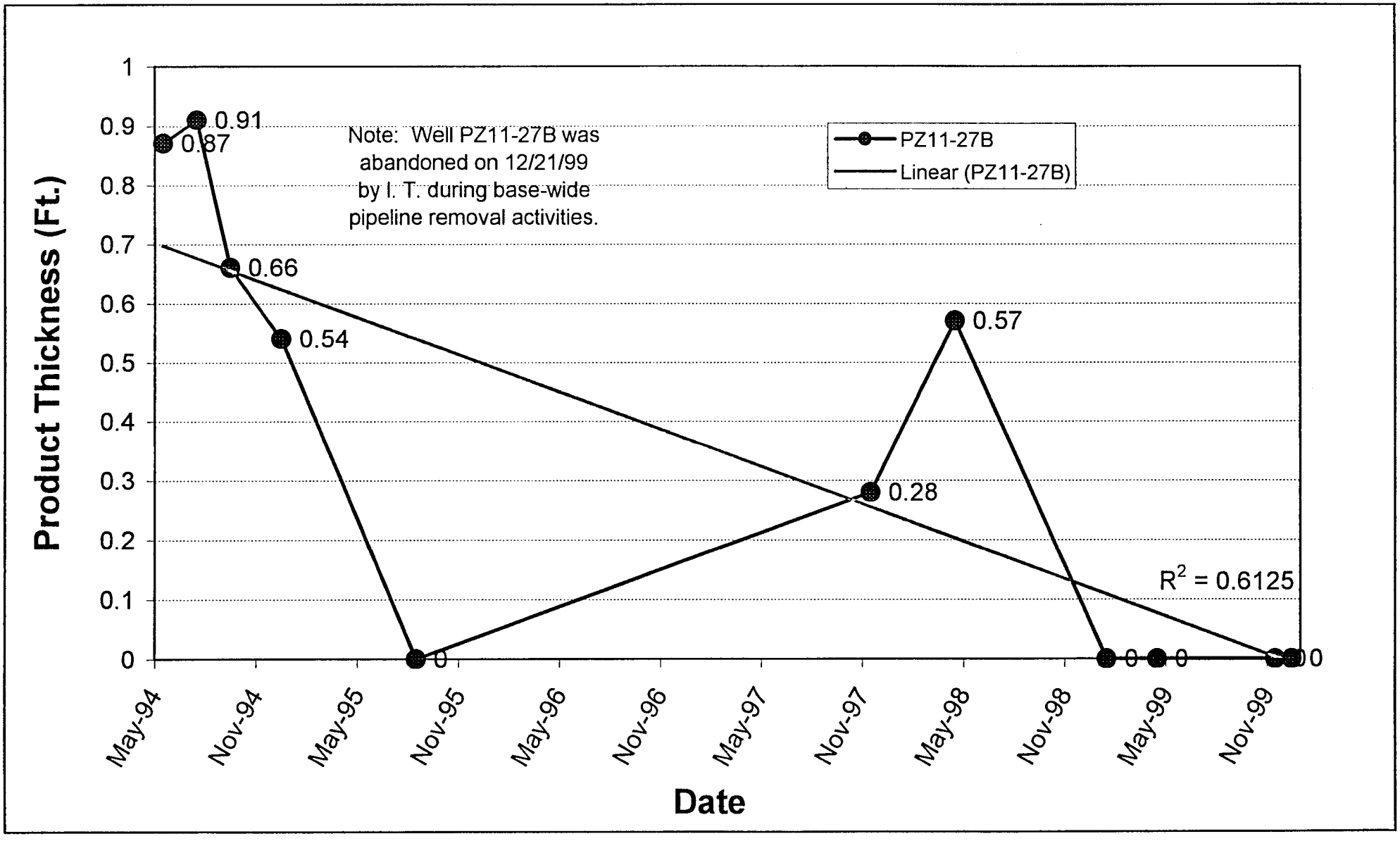


FIGURE 4-37
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL MW11-28

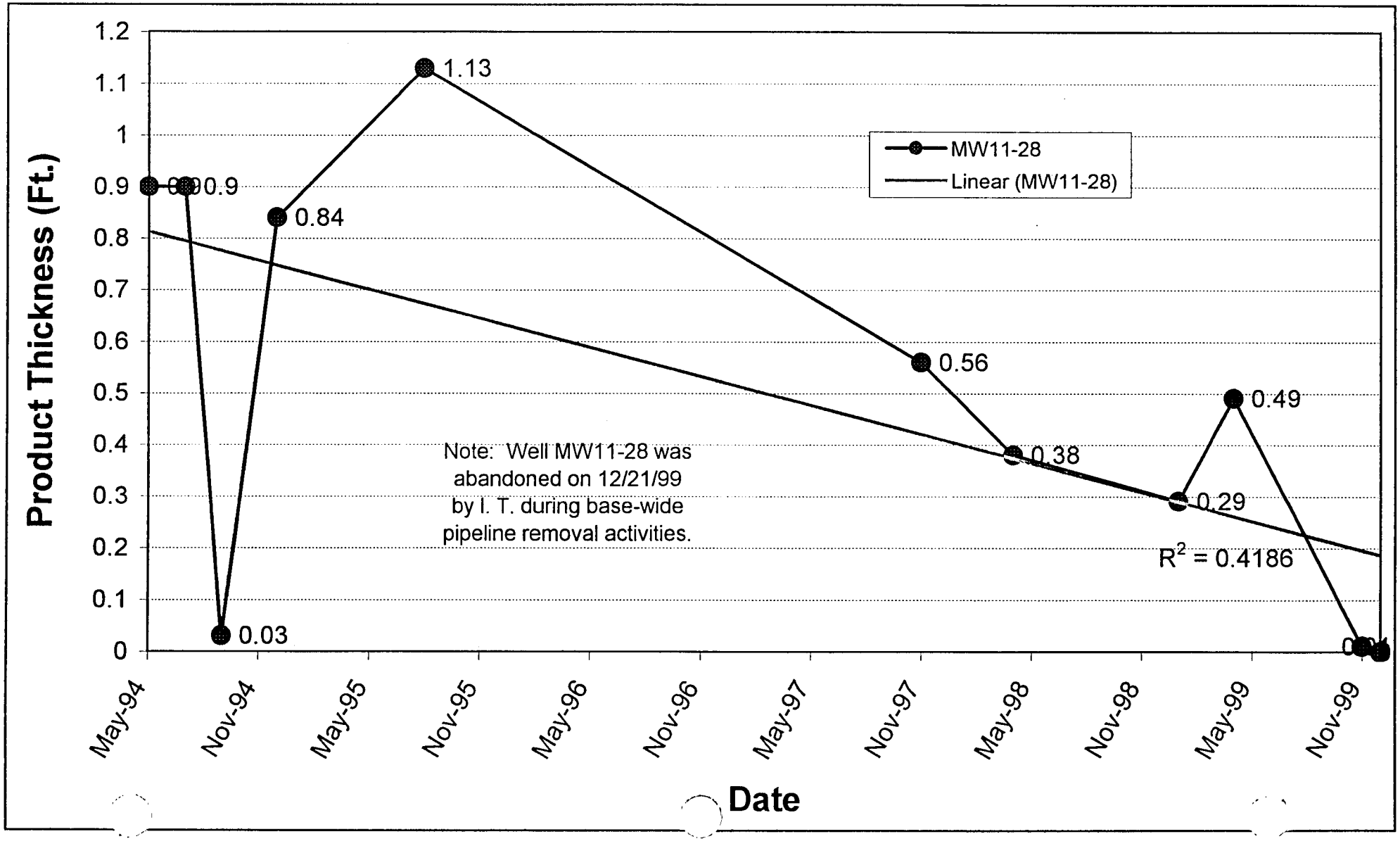
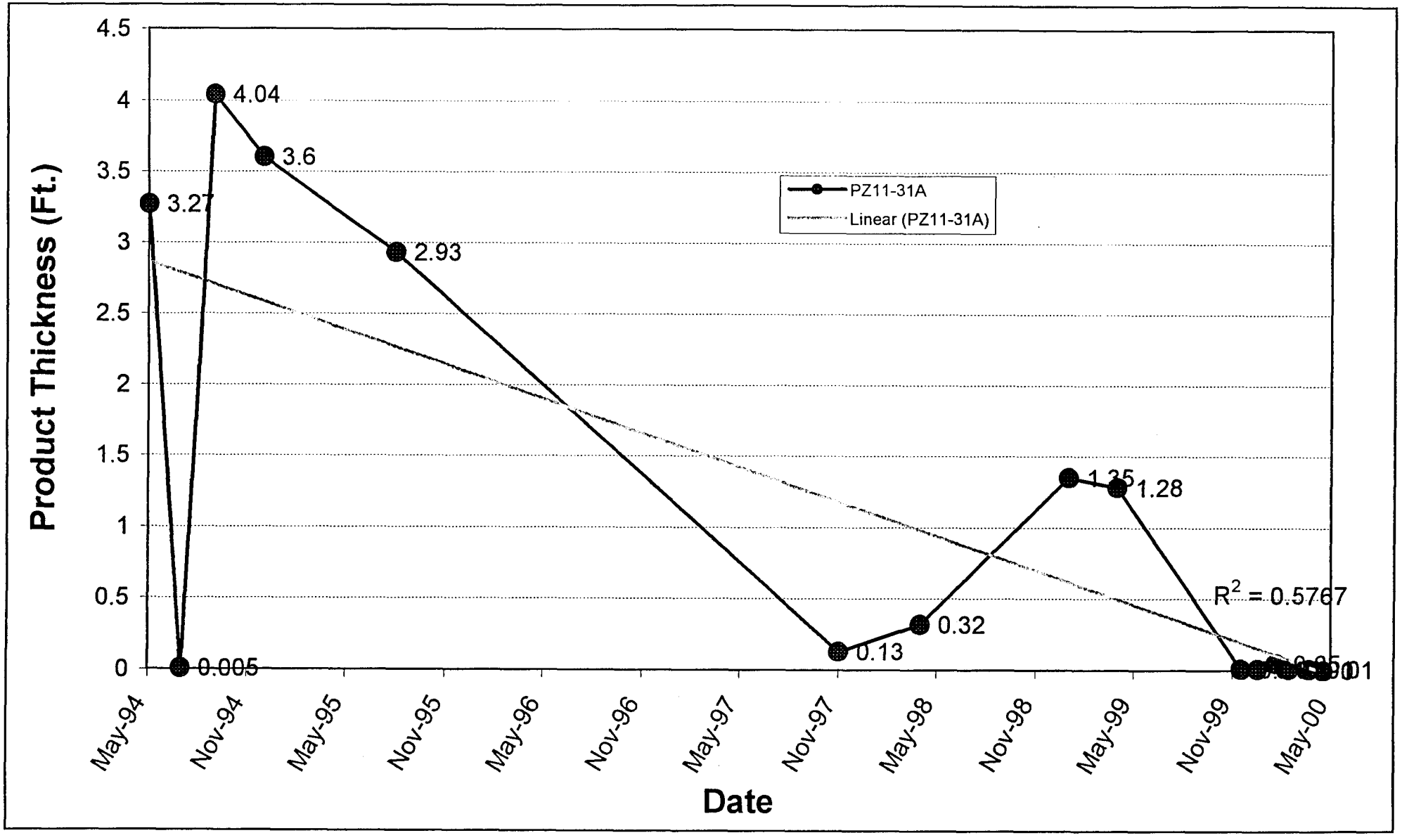


FIGURE 4-38
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL PZ11-31A



s:\project\ptmolate\112\phase ii ri rpt\site 3 prod. thickness\Product Thickness Summary Chart 36\5/24/00

FIGURE 4-39
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL MW11-36

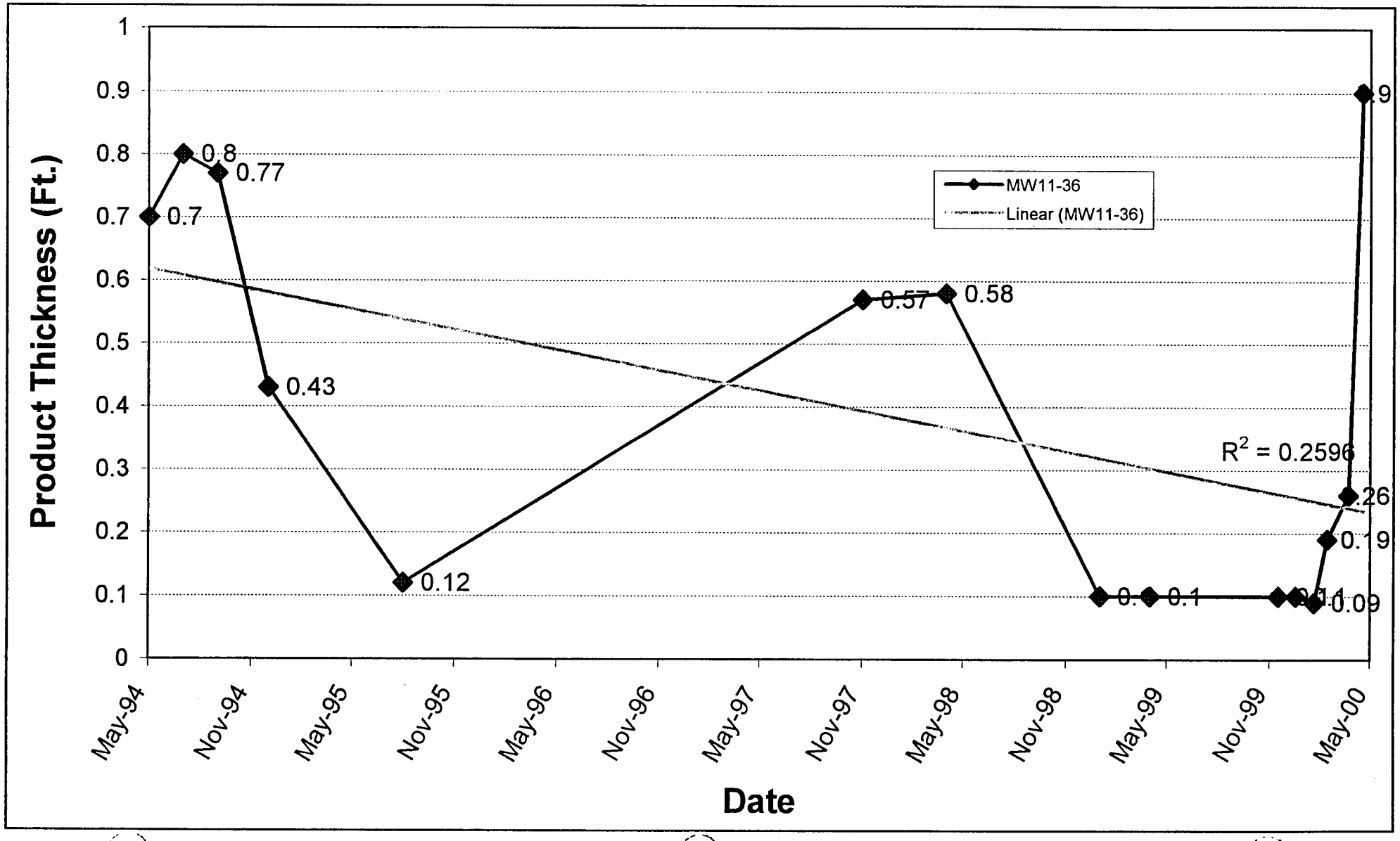


FIGURE 4-40
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL PZ11-37A

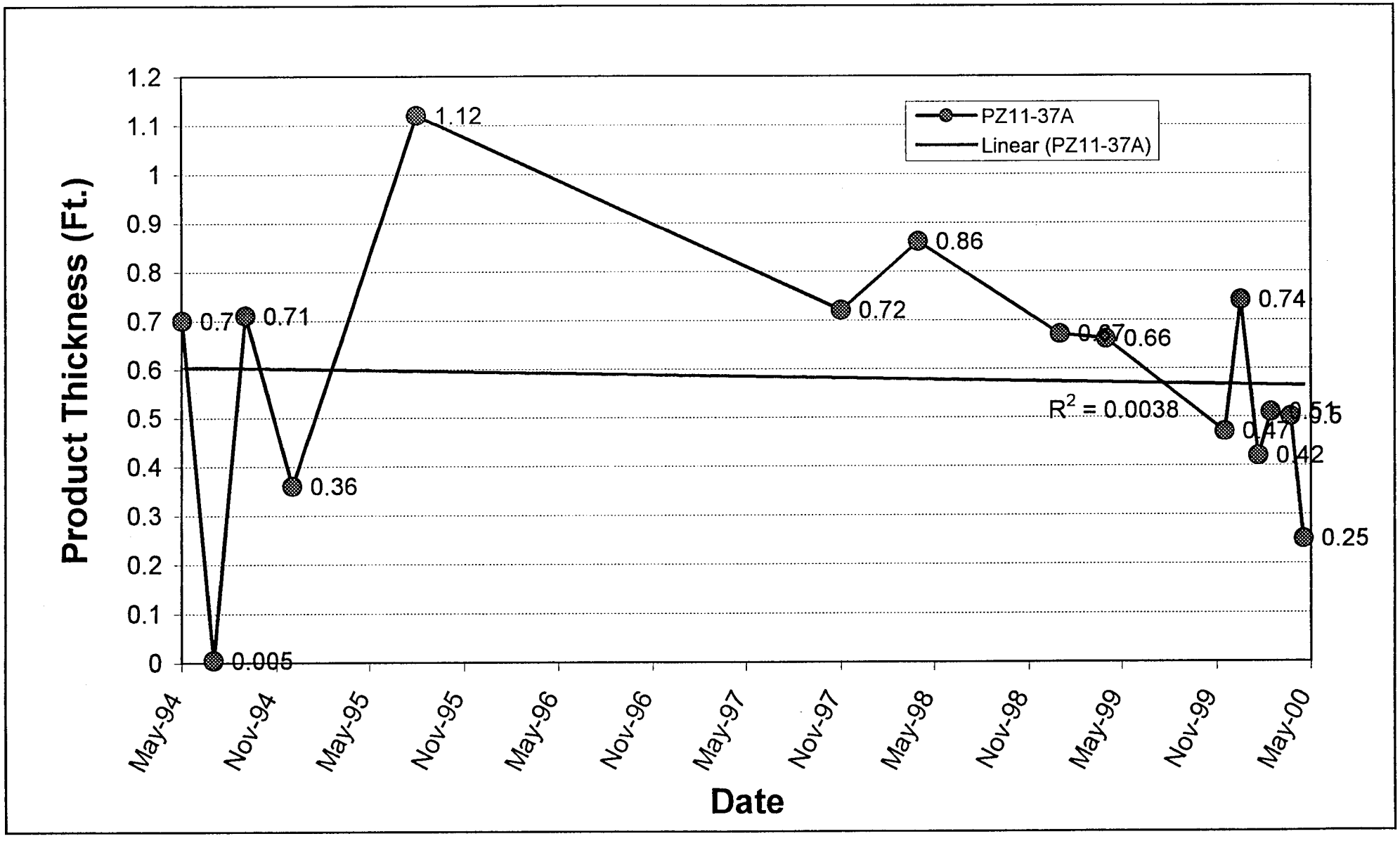


FIGURE 4-41
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL PZ11-37B

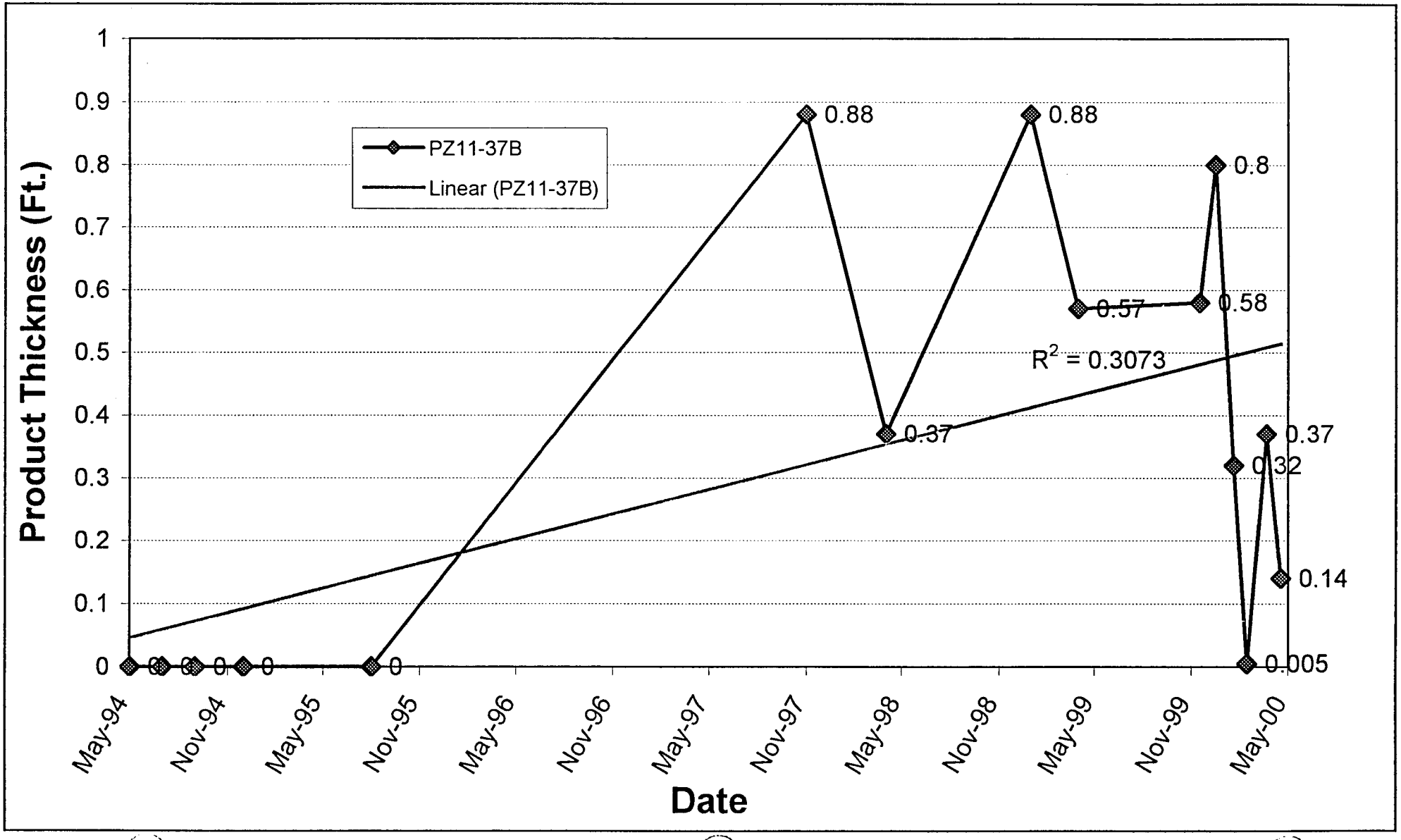


FIGURE 4-42
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANAYLSIS
SITE 3 WELL MW11-92

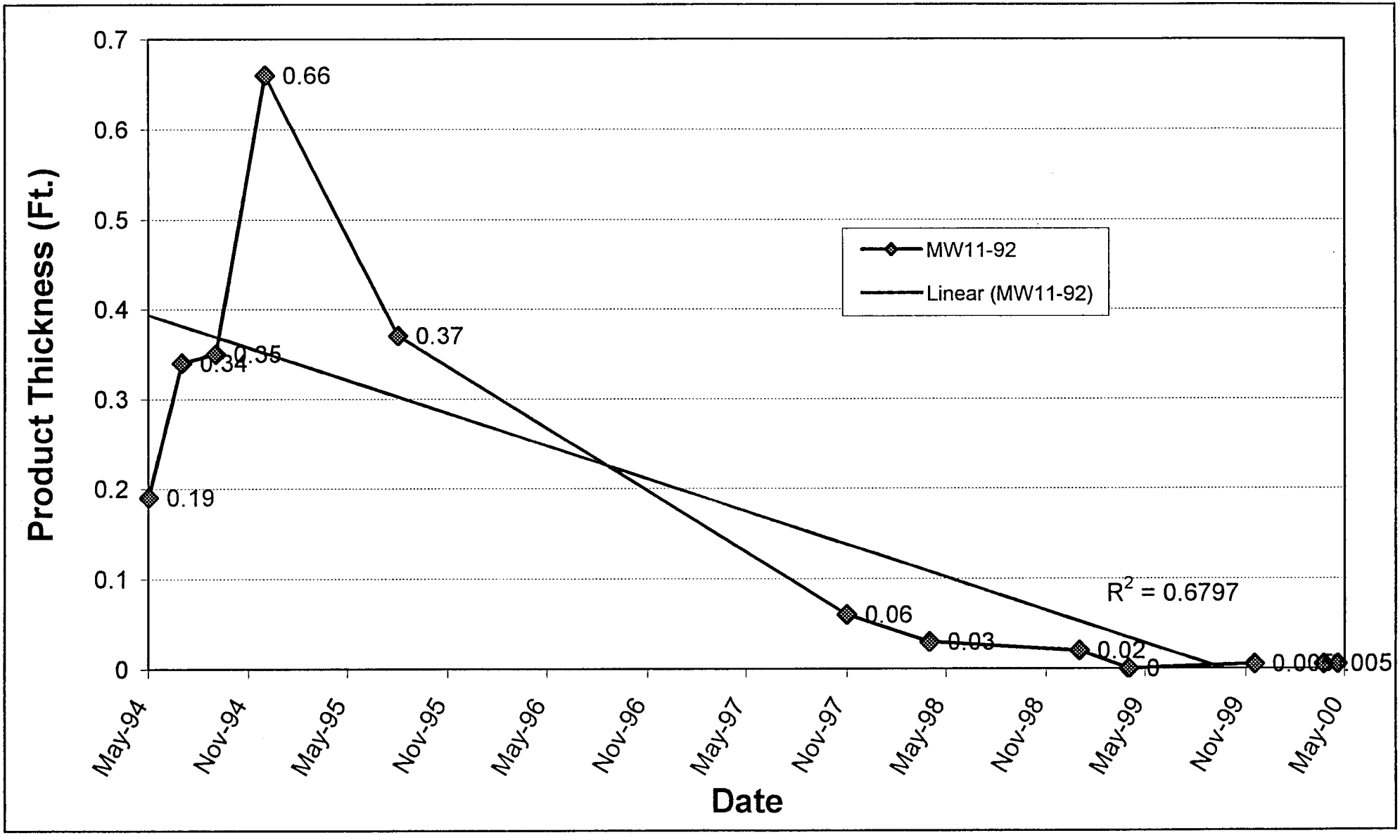


FIGURE 4-43
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRODUCT THICKNESS VERSUS TIME - LINEAR REGRESSION ANALYSIS
SITE 3 WELL MW11-93

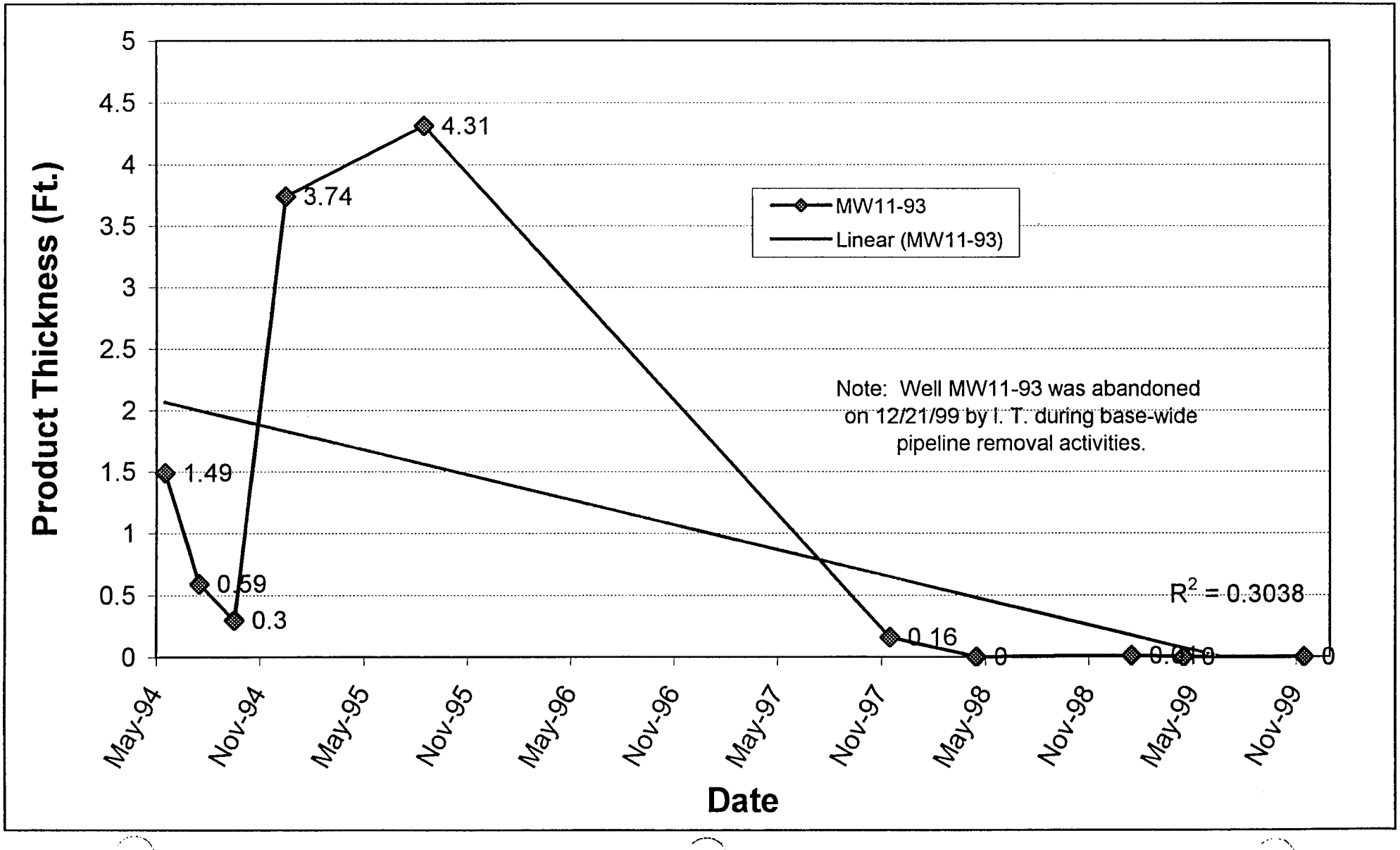
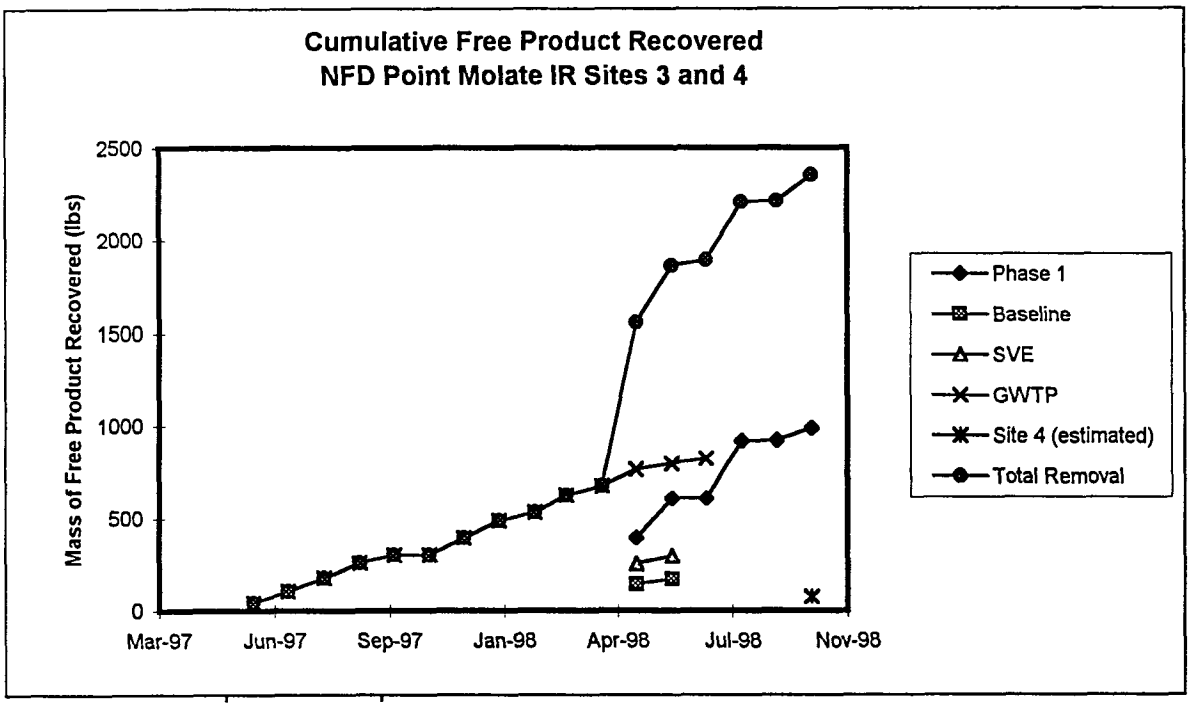


FIGURE 4-44
NFD POINT MOLATE
FINAL PHASE II RI REPORT
CUMULATIVE TOTALS OF FREE PRODUCT REMOVED AT IR SITE 3 AND 4 UNDER VARIOUS PROGRAMS

Date	Phase I	Baseline Recovery	SVE	GWTP	Site 4	Cumulative
	(LBS)	(LBS)	(LBS)	(LBS)	(LBS)	
Jun-97				46		46
Jul-97				106		106
Aug-97				180		180
Sep-97				261		261
Oct-97				303		303
Nov-97				303		303
Dec-97				394		394
Jan-98				487		487
Feb-98				532		532
Mar-98				624		624
Apr-98				675		675
May-98	396	142	254	764		1,556
Jun-98	606	170	294	794		1,864
Jul-98	606			823		1,893
Aug-98	920					2,207
Sep-98	924					2,211
Oct-98	989				76	2,351



Note:

GWTP	Groundwater Treatment Plant
SVE	Soil Vapor Extraction
TPH	Total Petroleum Hydrocarbons

TABLE 4-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
SOIL DATA SUMMARY (mg/kg)
(Page 1 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	17	3	18	910	270	289	–	None
GASOLINE RANGE ORGANICS	30	14	47	12,400	2,195	4,100	–	None
JP-5 RANGE ORGANICS	31	20	65	41,000	3,757	7,647	–	None
MOTOR OIL RANGE ORGANICS	17	7	41	1,400	287	357	–	None
OTHER HEAVY TPH COMPONENTS	14	5	36	520	98	159	–	None
OTHER LIGHT TPH COMPONENTS	14	11	79	2,300	680	784	–	None
VOLATILE ORGANIC COMPOUNDS								
2-BUTANONE	21	4	19	0.190	0.41	1.74	0	6.9E+03
2-HEXANONE	21	1	5	0.004	0.40	1.74	–	None
4-METHYL-2-PENTANONE	21	4	19	0.016	0.40	1.74	0	7.5E+02
ACETONE	21	9	43	11.000	0.62	2.38	0	1.4E+03
BENZENE	25	1	4	0.012	0.06	0.14	0	6.2E-01
CARBON DISULFIDE	21	2	10	1.200	0.07	0.26	0	3.5E+02
CHLOROMETHANE	21	1	5	0.005	0.40	1.74	0	1.2E+00
ETHYLBENZENE	25	4	16	10.000	0.74	2.44	0	2.3E+02
METHYL-T-BUTYL ETHER	11	1	9	5.500	18.25	26.98	–	None
STYRENE	21	2	10	0.006	0.40	1.74	0	1.7E+03
TOLUENE	25	5	20	6.400	0.29	1.27	0	5.2E+02
XYLENE (TOTAL)	25	6	24	93.000	4.76	18.99	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	10	9	90	27.400	10.12	9.71	–	None
2-METHYLNAPHTHALENE	24	12	50	39.600	7.20	12.23	–	None
ACENAPHTHENE	23	4	17	1.200	0.69	1.07	0	2.6E+03
ACENAPHTHYLENE	23	4	17	3.200	0.61	0.84	–	None
ANTHRACENE	23	7	30	18.600	1.21	3.84	0	1.4E+04
BENZO(A)ANTHRACENE	23	10	43	3.100	0.56	0.81	2	5.6E-01
BENZO(B)FLUORANTHENE	23	4	17	1.000	0.36	0.56	1	5.6E-01
BENZO(K)FLUORANTHENE	23	3	13	0.450	0.37	0.60	0	6.1E-01
BENZO(G,H,I)PERYLENE	23	1	4	2.100	0.45	0.70	–	None
BENZO(A)PYRENE	23	4	17	0.620	0.39	0.60	4	5.6E-02
BIS(2-ETHYLHEXYL)PHTHALATE	13	1	8	0.040	0.34	0.29	0	3.2E+01
BUTYLBENZYLPHTHALATE	14	7	50	0.061	0.46	0.75	0	9.3E+02

TABLE 4-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
SOIL DATA SUMMARY (mg/kg)
(Page 2 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
CHRYSENE	24	8	33	1.900	0.48	0.66	0	6.1E+00
DIBENZO(A,H)ANTHRACENE	23	2	9	0.500	0.40	0.59	2	5.6E-02
DIBENZOFURAN	15	6	40	2.400	0.67	0.78	0	2.1E+02
DI-N-BUTYLPHTHALATE	14	4	29	0.036	0.53	0.73	0	5.5E+03
FLUORENE	24	5	21	18.000	1.19	3.63	0	1.8E+03
FLUORANTHENE	26	12	46	22.000	1.26	4.32	0	2.0E+03
INDENO(1,2,3-CD)PYRENE	23	1	4	1.800	0.43	0.67	1	5.6E-01
NAPHTHALENE	24	4	17	43.000	3.12	9.17	0	5.5E+01
N-NITROSODIPHENYLAMINE (1)	13	1	8	0.038	0.54	0.74	0	9.1E+01
PHENANTHRENE	25	18	72	49.100	2.62	9.75	–	None
PYRENE	26	16	62	7.920	0.70	1.61	0	1.5E+03
PESTICIDES/PCB								
4,4'-DDE	11	2	18	0.010	0.00	0.00	0	1.7E+00
4,4'-DDD	11	3	27	0.028	0.01	0.01	0	2.4E+00
4,4'-DDT	11	3	27	0.047	0.01	0.01	0	1.7E+00
ALPHA-CHLORDANE	11	1	9	0.006	0.00	0.00	–	None
GAMMA-CHLORDANE	11	1	9	0.006	0.00	0.00	0	1.6E+00
METALS								
ALUMINUM	13	13	100	18300.000	14007.69	2291.09	0	7.5E+04
ANTIMONY	13	6	46	16.500	6.83	4.13	0	3.0E+01
ARSENIC	13	9	69	8.500	4.96	2.25	9	3.8E-01
BARIUM	13	13	100	325.000	210.46	65.81	0	5.2E+03
BERYLLIUM	13	4	31	0.920	0.33	0.36	0	1.5E+02
CADMIUM	13	1	8	1.000	0.24	0.29	0	9.0E+00
CALCIUM	13	13	100	13900.000	4673.08	2975.71	–	None
CHROMIUM	13	13	100	35.600	25.10	5.53	0	2.1E+02
COBALT	13	10	77	29.500	10.92	7.65	0	3.3E+03
COPPER	13	13	100	229.000	39.88	57.42	0	2.8E+03
IRON	13	13	100	27200.000	18469.23	4483.93	3	2.2E+04
LEAD	13	13	100	240.000	39.29	61.47	1	1.3E+02
MAGNESIUM	13	13	100	7880.000	5200.77	1281.09	–	None
MANGANESE	13	13	100	730.000	340.31	167.04	0	3.1E+03

TABLE 4-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
SOIL DATA SUMMARY (mg/kg)
(Page 3 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
METALS (CONTINUED)								
MERCURY	13	9	69	0.620	0.14	0.15	0	2.2E+01
NICKEL	13	13	100	47.700	31.12	8.29	0	1.5E+02
POTASSIUM	13	12	92	3330.000	2436.54	724.66	–	None
SODIUM	13	12	92	488.000	350.58	115.14	–	None
VANADIUM	13	13	100	41.500	35.15	4.47	0	5.2E+02
ZINC	13	13	100	448.000	119.88	122.02	0	2.2E+04
GENERAL CHEMISTRY								
TOTAL ORGANIC CARBON	4	4	100	9,000	7,050	1,529	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
mg/kg Milligrams per kilogram
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

TABLE 4-2

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 1 of 4)

Analyte	FREQUENCY		Percent	Maximum	Mean	Standard	No. of	PRG
	Total Samples	Detected	Frequency Detection	Detection		Deviation	Samples > PRG	
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	17	7	41	51000	3750.88	12210.43		
GASOLINE RANGE ORGANICS	23	14	61	10800	830.43	2221.84		
JP5 RANGE ORGANICS	21	7	33	400000	23043.88	86857.18		
MOTOR OIL RANGE ORGANICS	16	2	13	660	351.88	548.71		
OTHER HEAVY TPH COMPONENTS	6	2	33	7100	1543.58	2768.99		
OTHER LIGHT TPH COMPONENTS	6	5	83	72000	14347.5	28384.08		
TPH - BUNKER FUEL (C10-C28)	20	1	5	4460	1032.5	2870.87		
TPH - WEATHERED DIESEL(C8-C26)	6	1	17	15000	2725.25	6033.29		
VOLATILE ORGANIC COMPOUNDS								
2-BUTANONE	16	2	13	5	3.13	3.09	0	1904.3478
ACETONE	23	3	19	13	4.4	5.4	0	6.1E+02
BENZENE	23	3	13	7	0.6	1.41	2	0.3864136
CHLOROFORM	10	1	6	0.9	3.3	3.1	1	1.6E-01
ETHYLBENZENE	23	5	22	54	3.82	11.68	0	1339.8734
METHYL-T-BUTYL ETHER	10	2	20	3	3.6	3.13		
STYRENE	16	1	6	0.4	3.28	3.14	0	1641.0853
TOLUENE	23	4	17	120	5.69	24.93	0	723.42342
VINYL CHLORIDE	16	2	13	0.7	2.43	3.2	2	0.0197747
XYLENE (TOTAL)	23	5	22	490	31.13	108.27		
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	9	3	33	100	16.89	33.43		
2,4-DIMETHYLPHENOL	16	2	13	12	6.45	7.32	0	730
2-METHYLNAPHTHALENE	22	12	55	1800	106.64	380.89		
4,6-DINITRO-2-METHYLPHENOL	16	2	13	25	16.06	17.95		
4-METHYLPHENOL	16	1	6	4	5.94	7.2	0	182.5
4-NITROPHENOL	16	2	13	25	16.06	17.95	0	2263
ACENAPHTHENE	21	5	24	66	8.76	14.32	0	365
ANTHRACENE	21	4	19	1.8	4.39	6.82	0	1825
BENZO(A)ANTHRACENE	21	3	14	0.72	4.33	6.84	3	0.092098

TABLE 4-2

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 2 of 4)

Analyte	FREQUENCY		Percent	Maximum	Mean	Standard	No. of	PRG
	Total Samples	Detected	Frequency Detection	Detection		Deviation	Samples > PRG	
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
BENZO(A)PYRENE	21	1	5	0.2	4.29	6.87	1	0.0015
BENZO(B)FLUORANTHENE	21	1	5	0.2	4.29	6.87	1	0.092098
BENZO(K)FLUORANTHENE	21	1	5	0.1	4.28	6.88	0	0.9209799
BIS(2-ETHYLHEXYL)PHTHALATE	16	1	6	3	4.37	4.83	0	4.8022525
BUTYLBENZYLPHTHALATE	16	1	6	0.9	5.74	7.3	0	7300
CARBAZOLE	16	3	19	6	6.22	7.07	1	3.3615767
CHRYSENE	21	2	10	0.73	4.31	6.86	0	9.2097992
DIBENZOFURAN	17	8	47	71	11.04	18.23	2	24.333333
DIETHYLPHTHALATE	16	1	6	0.9	5.99	7.19	0	29200
DI-N-BUTYLPHTHALATE	16	2	13	0.7	6.0	7.2	0	3.7E+03
FLUORANTHENE	21	5	24	6	4.76	6.73	0	1460
FLUORENE	21	5	24	44	7.42	10.67	0	243.33333
HEXACHLOROCYCLOPENTADIENE	16	2	13	10	6.38	7.21	0	255.5
NAPHTHALENE	22	9	41	720	60.61	160.06	8	6.2029408
N-NITROSODIPHENYLAMINE (1)	17	1	6	89	10.88	21.3	1	13.720721
PHENANTHRENE	21	5	24	36	7.14	9.32		
PHENOL	16	1	6	0.7	5.73	7.31	0	21900
PYRENE	21	5	24	3.7	4.61	6.74	0	182.5
TOTAL METALS								
ALUMINUM	9	9	100	22100	6856.67	6714.23	0	36500
ANTIMONY	9	2	22	2.9	7.49	7.08	0	14.6
ARSENIC	9	7	78	20.2	9.97	7.89	7	0.044821
BARIUM	9	9	100	567	187.3	153.9	0	2555
BERYLLIUM	9	1	11	11.9	1.49	3.91	0	73
CADMIUM	9	2	22	12.4	1.97	3.99	0	18.25
CALCIUM	9	9	100	96300	43855.56	27454.33		
CHROMIUM	9	9	100	56.2	16.56	15.9		
COBALT	9	6	67	39.6	8.57	12.86	0	2190
COPPER	9	2	22	53	11.46	16.35	0	1355.7143

TABLE 4-2

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 3 of 4)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL METALS (CONTINUED)								
IRON	9	9	100	39300	15063.33	13176.66	4	10950
LEAD	9	7	78	85.7	20.18	27.21	7	4
MAGNESIUM	9	9	100	59200	32022.22	14824.62		
MANGANESE	9	9	100	5350	2163.98	2085.96	4	1703.09
MERCURY	9	3	33	0.52	0.15	0.2	0	10.95
MOLYBDENUM	5	2	40	5.8	1.87	2.39	0	182.5
NICKEL	9	7	78	76.7	17.9	23.13	0	730
POTASSIUM	9	7	78	9170	3311.11	2367.74		
SELENIUM	7	3	43	15	4.43	5.2	0	182.5
SODIUM	9	9	100	193000	60577.78	52252		
THALLIUM	9	2	22	6.2	1.67	1.82		
VANADIUM	9	9	100	56.2	17.98	15.92	0	255.5
ZINC	9	8	89	296	68.13	88.37	0	10950
DISSOLVED METALS								
ALUMINUM	9	3	33	608	94.07	194.96	0	36500
ANTIMONY	9	1	11	1.6	7.13	7.39	0	14.6
ARSENIC	9	3	33	9.9	3.4	3.61	3	0.044821
BARIUM	9	9	100	185	93.84	54.09	0	2555
CALCIUM	9	9	100	87900	41655.56	25493.58		
CHROMIUM	9	4	44	6.1	1.81	1.74		
COBALT	9	4	44	18	3.45	5.72	0	2190
COPPER	9	2	22	2	1.45	0.67	0	1355.7143
IRON	9	8	89	10100	2596.99	3555.11	0	10950
LEAD	9	2	22	1.7	1.36	0.83	0	4
MAGNESIUM	9	9	100	51800	29177.78	12749		
MANGANESE	9	9	100	4810	1951.39	1879.91	4	1703.09
MERCURY	9	1	11	0.11	0.06	0.02	0	10.95
MOLYBDENUM	5	2	40	6	1.91	2.47	0	182.5
NICKEL	9	3	33	12.2	3.77	3.89	0	730

TABLE 4-2

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 - WASTE DISPOSAL AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 4 of 4)

Analyte	FREQUENCY		Percent	Maximum	Mean	Standard	No. of	PRG
	Total Samples	Detected	Frequency Detection	Detection		Deviation	Samples > PRG	
DISSOLVED METALS (CONTINUED)								
POTASSIUM	9	7	78	4590	2005.33	1368		
SELENIUM	7	3	43	4	2.14	1.21	0	182.5
SILVER	9	1	11	1.1	0.68	0.42	0	182.5
SODIUM	9	9	100	181000	59888.89	47993.34	-	
THALLIUM	9	1	11	4.8	1.33	1.3		
VANADIUM	9	5	56	3	2.48	2.94	0	255.5
ZINC	9	7	78	43.8	19.39	14.7	0	10950
GENERAL CHEMISTRY								
TOTAL DISSOLVED SOLIDS	9	9	100	739000	396222.22	180910.74	–	None
TOTAL ORGANIC CARBON	2	2	100	18000	10400	10748.02	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
µg/L Micrograms per liter
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

Extraction wells and soil boring water samples were not included in the frequency of detection or summary statistic calculations. These data are considered field screening level data because purging and sample collection protocols are not consistent with other monitoring well samples.

TABLE 4-3

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
SOIL DATA SUMMARY (mg/kg)
(Page 1 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	83	25	30	22,000	1,832	4,314	–	None
GASOLINE RANGE ORGANICS	86	10	12	17,000	430	2,460	–	None
JP-5 RANGE ORGANICS	88	8	9	15,000	351	1,745	–	None
MOTOR OIL RANGE ORGANICS	31	16	52	19,000	2,458	4,678	–	None
OTHER HEAVY TPH COMPONENTS	80	35	44	25,000	933	3,142	–	None
OTHER LIGHT TPH COMPONENTS	77	53	69	3,300	241	503	–	None
TPH - BUNKER FUEL (C10-C28)	87	43	49	83,000	7,107	15,573	–	None
TPH - DIESEL F-76 (C8-C28)	13	1	8	66	119	140	–	None
VOLATILE ORGANIC COMPOUNDS								
2-BUTANONE	22	2	9	0.017	0.84	1.78	0	6.9E+03
ACETONE	22	10	45	7.900	0.99	2.05	0	1.4E+03
BENZENE	86	6	7	0.690	0.11	0.70	1	6.2E-01
ETHYLBENZENE	86	18	21	7.300	0.25	1.13	0	2.3E+02
METHYLENE CHLORIDE	22	7	32	0.023	0.85	1.79	0	8.5E+00
TETRACHLOROETHENE	22	1	5	0.006	0.85	1.78	0	4.7E+00
TOLUENE	86	22	26	9.900	0.37	1.44	0	5.2E+02
XYLENE (TOTAL)	86	44	51	29.000	1.28	3.88	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	8	6	75	34.000	12.52	14.20	–	None
2-METHYLNAPHTHALENE	20	11	55	52.000	12.32	17.87	–	None
ACENAPHTHENE	20	1	5	0.290	5.69	7.92	0	2.6E+03
ACENAPHTHYLENE	20	1	5	1.700	5.65	7.95	–	None
ANTHRACENE	20	5	25	1.000	5.61	7.97	0	1.4E+04
BENZO(A)ANTHRACENE	20	8	40	9.210	6.62	7.63	6	5.6E-01
BENZO(B)FLUORANTHENE	20	1	5	2.200	5.58	8.00	1	5.6E-01
CHRYSENE	20	9	45	1.300	3.61	6.72	0	6.1E+00
FLUORANTHENE	20	3	15	1.900	5.28	8.10	0	2.0E+03

TABLE 4-3

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
SOIL DATA SUMMARY (mg/kg)
(Page 2 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
FLUORENE	20	5	25	6.8	2.9	2.9	0	1.8E+03
PHENANTHRENE	20	17	85	25.0	5.9	6.3	–	None
PYRENE	20	11	55	9.2	2.9	6.8	0	1.5E+03
METALS								
ALUMINUM	14	14	100	20,800	14,803	3,366	0	7.5E+04
ARSENIC	14	14	100	15.2	4.3	4.5	14	3.8E-01
BARIUM	14	14	100	235	113	60	0	5.2E+03
BERYLLIUM	14	8	57	1.1	0.6	0.3	0	1.5E+02
CADMIUM	14	3	21	1.9	0.6	0.5	0	9.0E+00
CALCIUM	14	14	100	18,500	8,304	3,996	–	None
CHROMIUM	14	14	100	70.6	22.1	16.8	0	2.1E+02
COBALT	14	13	93	17.2	8.4	3.6	0	3.3E+03
COPPER	14	8	57	155	27	38	0	2.8E+03
IRON	14	14	100	31,000	18,686	5,574	4	2.2E+04
LEAD	19	18	95	37.9	12.2	8.4	0	1.3E+02
LEAD, ORGANIC	16	3	19	5.3	0.7	1.3	3	5.5E-03
MAGNESIUM	14	14	100	10,700	4,910	1,973	–	None
MANGANESE	14	14	100	510	284	93	0	3.1E+03
MERCURY	12	4	33	0.2	0.1	0.1	0	2.2E+01
NICKEL	14	14	100	81.3	28.3	16.9	0	1.5E+02
POTASSIUM	14	11	79	3,870	2,774	826	–	None
SELENIUM	14	2	14	0.5	0.3	0.1	0	3.7E+02
SILVER	12	1	8	1.1	0.4	0.2	0	3.7E+02
SODIUM	14	4	29	2,590	733	929	–	None
VANADIUM	14	14	100	69.3	31.9	13.9	0	5.2E+02
ZINC	14	14	100	191	67	42	0	2.2E+04

TABLE 4-3

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
SOIL DATA SUMMARY (mg/kg)
(Page 3 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
GENERAL CHEMISTRY								
BIOCHEMICAL OXYGEN DEMAND	2	2	100	850	715	191	–	None
TOTAL ORGANIC CARBON	4	4	100	24,000	12,075	9,216	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
mg/kg Milligrams per kilogram
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

TABLE 4-4

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 1 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	56	18	32	4,100	471	845	–	None
GASOLINE RANGE ORGANICS	84	41	49	2,220	297	490	–	None
JP-5 RANGE ORGANICS	77	4	5	41,000	690	4,690	–	None
MOTOR OIL RANGE ORGANICS	56	7	13	200	229	333	–	None
OTHER HEAVY TPH COMPONENTS	58	13	22	6,400	635	1,536	–	None
OTHER LIGHT TPH COMPONENTS	58	58	100	3,300	613	914	–	None
TPH - BUNKER FUEL (C10-C28)	77	53	69	60,000	5,370	9,253	–	None
TPH - DIESEL F-76 (C8-C28)	45	3	7	18,000	772	3,181	–	None
VOLATILE ORGANIC COMPOUNDS								
1,1-DICHLOROETHENE	75	1	1	1	9.12	57.55	1	4.6E-02
1,2-DICHLOROETHANE	75	1	1	0.4	8.84	57.58	1	1.2E-01
1,2-DICHLOROETHENE (TOTAL)	75	5	7	710	18.65	99.28	–	None
1,3-DICHLOROBENZENE	58	2	3	1	14.93	65.35	0	1.7E+01
1,4-DICHLOROBENZENE	58	6	10	5	15.01	65.33	6	4.7E-01
2-BUTANONE	75	11	15	41	11.76	57.96	0	1.9E+03
2-HEXANONE	75	2	3	29	10.3	57.8	–	None
4-METHYL-2-PENTANONE	75	1	1	19	10.2	57.8	0	1.6E+02
ACETONE	75	10	13	32	11.5	57.8	0	6.1E+02
BENZENE	84	43	51	62	4.8	9.4	41	3.9E-01
BROMODICHLOROMETHANE	75	1	1	2	9.1	57.5	1	1.8E-01
CARBON DISULFIDE	75	2	3	0.6	9.1	57.5	0	1.0E+03
CHLOROBENZENE	75	14	19	180	17.0	64.0	5	3.9E+01
CHLOROFORM	75	15	20	19	9.6	57.5	15	1.6E-01
CHLOROMETHANE	75	1	1	3	9.1	57.5	1	1.5E+00
ETHYLBENZENE	84	27	32	29	1.6	4.4	0	1.3E+03
M,P-XYLENE	2	2	100	49	25.0	33.9	–	None
METHYLENE CHLORIDE	75	1	1	1	9.3	57.6	0	4.3E+00
METHYL-T-BUTYL ETHER	11	7	64	84	16.0	24.3	–	None
O-XYLENE	5	1	20	10.3	4.9	6.0	0	1.4E+03

TABLE 4-4

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 2 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
VOLATILE ORGANIC COMPOUNDS (CONTINUED)								
TETRACHLOROETHENE	75	1	1	13	9.3	57.5	1	1.1E+00
TOLUENE	84	35	42	38.5	3.8	7.7	0	7.2E+02
TRICHLOROETHENE	75	7	9	52	9.8	57.8	2	1.6E+00
VINYL CHLORIDE	75	2	3	260	12.3	64.5	2	2.0E-02
XYLENE (TOTAL)	84	45	54	83	7.7	14.8	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	5	2	40	8.7	2.5	3.6	–	None
2,4-DIMETHYLPHENOL	56	2	4	0.5	15.4	66.5	0	7.3E+02
2-METHYLNAPHTHALENE	61	35	57	210	15.3	30.7	–	None
4,6-DINITRO-2-METHYLPHENOL	55	3	5	3	38.4	167.6	–	None
4-BROMOPHENYL-PHENYLETHER	58	1	2	1	15.4	65.3	–	None
4-METHYLPHENOL	56	7	13	6	14.8	66.5	0	1.8E+02
4-NITROPHENOL	56	6	11	3	38.9	166.1	0	2.3E+03
ACENAPHTHENE	61	22	36	7	13.4	63.7	0	3.7E+02
ANTHRACENE	61	2	3	1	14.6	63.8	0	1.8E+03
BENZO(A)ANTHRACENE	61	2	3	0.4	14.6	63.8	2	9.2E-02
BENZO(A)PYRENE	59	1	2	0.3	15.0	64.8	1	1.5E-03
BIS(2-ETHYLHEXYL)PHTHALATE	58	7	12	140	10.2	20.7	3	4.8E+00
BUTYLBENZYLPHTHALATE	58	6	10	0.7	15.2	65.4	0	7.3E+03
CHRYSENE	61	2	3	1	14.3	63.8	0	9.2E+00
DIBENZOFURAN	58	15	26	3	27.8	163.5	0	2.4E+01
DIETHYLPHTHALATE	58	2	3	12	15.6	65.3	0	2.9E+04
DI-N-BUTYLPHTHALATE	58	7	12	1	15.3	65.3	0	3.7E+03
FLUORANTHENE	61	4	7	0.9	14.2	63.8	0	1.5E+03
FLUORENE	61	26	43	13	13.9	63.8	0	2.4E+02
HEXACHLOROCYCLOPENTADENE	58	6	10	1	15.5	65.3	0	2.6E+02
NAPHTHALENE	60	3	5	4	14.5	64.3	0	6.2E+00

TABLE 4-4

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 - TREATMENT PONDS AREA
GROUNDWATER DATA SUMMARY (µg/L)
(Page 3 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
N-NITROSODIPHENYLAMINE (1)	58	5	9	580	17	76	2	1.4E+01
PENTACHLOROPHENOL	55	2	4	3	38.4	167.6	2	5.6E-01
PHENANTHRENE	61	13	21	24	15.0	63.8	–	None
PHENOL	55	1	2	0.4	15.3	67.1	0	2.2E+04
PYRENE	61	17	28	6	13.3	63.9	0	1.8E+02
GENERAL CHEMISTRY								
BIOLOGICAL OXYGEN DEMAND	5	5	100	85,000	35,400	28,325	–	None
CHLORIDE	29	29	100	5,000,000	523,231	1,010,113	–	None
FLUORIDE	29	29	100	1,200	709	193	0	2.2E+03
NITRATE	29	3	10	5,700	405	1,215	0	1.0E+04
ORTHOPHOSPHATE	29	9	31	2,500	262	458	–	None
SULFATE	29	15	52	14,000,000	511,624	2,595,472	–	None
TOTAL DISSOLVED SOLIDS	16	16	100	12,500,000	1,772,438	3,153,354	–	None
TOTAL ORGANIC CARBON	11	11	100	25,000	18,418	6,252	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
µg/L Micrograms per liter
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

Extraction wells and soil boring water samples were not included in the frequency of detection or summary statistic calculations. These data are considered field screening level data because purging and sample collection protocols are not consistent with other monitoring well samples.

TABLE 4-5

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
SOIL DATA SUMMARY (mg/kg)
(Page 1 of 1)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL PETROLEUM HYDROCARBONS								
OTHER HEAVY TPH COMPONENTS	7	6	86	2,100	603	799	–	None
OTHER LIGHT TPH COMPONENTS	7	4	57	92	30	37	–	None
TPH - BUNKER FUEL (C10-C28)	7	5	71	9,000	2,535	3,492	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
mg/kg Milligrams per kilogram
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

TABLE 4-6

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 1 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL PETROLEUM HYDROCARBONS								
OTHER HEAVY TPH COMPONENTS	10	2	20	330	71	103	–	None
OTHER LIGHT TPH COMPONENTS	10	2	20	1	20	10	–	None
VOLATILE ORGANIC COMPOUNDS								
1,1-DICHLOROETHENE	12	2	17	0.4	1.9	1.9	2	4.6E-02
1,2-DICHLOROETHENE (TOTAL)	12	7	58	5	2.9	1.7	–	None
BENZENE	12	1	8	0.2	0.6	1.4	0	3.9E-01
CARBON DISULFIDE	12	5	42	1	1.4	1.7	0	1.0E+03
TRICHLOROETHENE	12	5	42	3	2.1	1.5	4	1.6E+00
XYLENE (TOTAL)	12	1	8	0.3	0.7	1.4	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
BIS(2-ETHYLHEXYL)PHTHALATE	5	1	20	2	6.4	5.0	0	4.8E+00
BUTYLBENZYLPHTHALATE	5	2	40	0.7	3.4	2.5	0	7.3E+03
DI-N-BUTYLPHTHALATE	5	1	20	0.8	4.3	1.9	0	3.7E+03
PHENOL	5	1	20	1	4.3	1.9	0	2.2E+04
TOTAL METALS								
ALUMINUM	8	8	100	17,300	4,937	6,153	0	3.7E+04
ARSENIC	8	2	25	5.4	2.3	1.5	2	4.5E-02
BARIUM	8	8	100	227	104	63	0	2.6E+03
CALCIUM	8	8	100	11,700	9,121	2,227	–	None
CHROMIUM	8	5	63	44	13.8	15.1	–	None
COBALT	8	4	50	12.6	3.9	3.9	0	2.2E+03
COPPER	8	2	25	18.3	5.0	6.9	0	1.4E+03
IRON	8	8	100	14,500	4,291	4,862	1	1.1E+04
LEAD	8	5	63	7.6	1.9	2.3	1	4.0E+00
MAGNESIUM	8	8	100	21,400	16,630	4,295	–	None

TABLE 4-6

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 2 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL METALS (CONTINUED)								
MANGANESE	8	8	100	569	292	154	0	1.7E+03
MERCURY	8	1	13	0.18	0.09	0.04	0	1.1E+01
NICKEL	8	6	75	33.4	13.5	10.1	0	7.3E+02
POTASSIUM	8	6	75	4,540	2,121	1,387		None
SILVER	6	2	33	3	1.7	1.0	0	1.8E+02
SODIUM	8	8	100	217,000	157,300	52,464	–	None
THALLIUM	8	2	25	3	3.9	3.9	–	None
VANADIUM	8	5	63	35.1	9.3	12.7	0	2.6E+02
ZINC	8	1	13	7.2	11.4	12.0	0	1.1E+04
DISSOLVED METALS								
ALUMINUM	6	1	17	2,150	378	868	0	3.7E+04
BARIUM	6	6	100	92.7	61.2	23.2	0	2.6E+03
CALCIUM	6	6	100	11,500	9,163	1,655	–	None
CHROMIUM	6	1	17	10.4	3.0	3.7	–	None
COBALT	6	1	17	4.4	1.7	1.3	0	2.2E+03
COPPER	6	1	17	7.8	2.2	2.8	0	1.4E+03
IRON	6	4	67	1,690	383	654	0	1.1E+04
LEAD	6	2	33	1.8	0.8	0.6	0	4.0E+00
MAGNESIUM	6	6	100	18,600	16,500	2,373	–	None
MANGANESE	6	6	100	383	159	111	0	1.7E+03
NICKEL	6	6	100	9.9	6.9	2.9	0	7.3E+02
POTASSIUM	6	5	83	2,170	1,150	604	–	None
SELENIUM	6	1	17	15.5	3.5	5.9	0	1.8E+02
SODIUM	6	6	100	217,000	170,250	53,580		None
VANADIUM	6	2	33	5	1.6	1.7	0	2.6E+02
ZINC	6	3	50	13	5.7	4.4	0	1.1E+04

TABLE 4-6

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - NORTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 3 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
GENERAL CHEMISTRY								
BIOCHEMICAL OXYGEN DEMAND	1	1	100	26,000	26,000	0	–	None
CHLORIDE	3	3	100	250,000	183,333	76,376	–	None
FLUORIDE	3	3	100	840	570	376	0	2.2E+03
NITRATE	3	2	67	400	158	210	0	1.0E+04
ORTHOPHOSPHATE	3	1	33	290	163	110	–	None
SULFATE	3	3	100	23,000	20,667	2,082	–	None
TOTAL DISSOLVED SOLIDS	1	1	100	200,000	200,000	0	–	None
TOTAL ORGANIC CARBON	2	2	100	2,700	2,100	849	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
µg/L Micrograms per liter
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

Extraction wells and soil boring water samples were not included in the frequency of detection or summary statistic calculations. These data are considered field screening level data because purging and sample collection protocols are not consistent with other monitoring well samples.

TABLE 4-7

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
SOIL DATA SUMMARY (mg/kg)
(Page 1 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	23	4	17	15,000	767	3,128	–	None
GASOLINE RANGE ORGANICS	33	5	15	9,900	592	2,234	–	None
JP-5 RANGE ORGANICS	33	8	24	9,600	785	2,323	–	None
MOTOR OIL RANGE ORGANICS	9	5	56	770	175	289	–	None
OTHER HEAVY TPH COMPONENTS	24	7	29	2,600	220	599	–	None
OTHER LIGHT TPH COMPONENTS	24	14	58	2,300	277	505	–	None
TPH - BUNKER FUEL (C10-C28)	28	9	32	6,500	625	1,684	–	None
TPH - DIESEL F-76 (C8-C28)	14	1	7	760	100	217	–	None
VOLATILE ORGANIC COMPOUNDS								
2-HEXANONE	15	1	7	1.300	0.10	0.33	–	None
ACETONE	15	9	60	0.880	0.10	0.23	0	1.4E+03
BENZENE	35	1	3	0.001	0.02	0.03	0	6.2E-01
CARBON DISULFIDE	15	4	27	0.001	0.01	0.02	0	3.5E+02
ETHYLBENZENE	35	3	9	3.900	0.13	0.66	0	2.3E+02
METHYLENE CHLORIDE	15	6	40	0.029	0.02	0.02	0	8.5E+00
TOLUENE	35	6	17	0.120	0.03	0.03	0	5.2E+02
XYLENE (TOTAL)	35	14	40	19.000	1.37	4.12	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	9	2	22	6.900	0.99	2.27	–	None
2-METHYLNAPHTHALENE	15	3	20	5.300	0.85	1.69	–	None
ACENAPHTHYLENE	15	1	7	0.370	0.18	0.20	–	None
ANTHRACENE	15	2	13	0.110	0.14	0.20	0	1.4E+04
BENZO(A)ANTHRACENE	15	5	33	1.120	0.18	0.32	1	5.6E-01
BENZO(B)FLUORANTHENE	15	1	7	0.050	0.14	0.20	0	5.6E-01
BENZO(K)FLUORANTHENE	15	1	7	0.667	0.18	0.24	1	6.1E-01
BUTYLBENZYLPHTHALATE	6	2	33	0.016	0.26	0.26	0	9.3E+02
CHRYSENE	15	5	33	0.200	0.12	0.19	0	6.1E+00
DIBENZO(A,H)ANTHRACENE	15	1	7	0.580	0.18	0.23	1	5.6E-02
FLUORANTHENE	15	5	33	0.410	0.15	0.21	0	2.0E+03

TABLE 4-7

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
SOIL DATA SUMMARY (mg/kg)
(Page 2 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
FLUORENE	15	2	13	0.150	0.15	0.20	0	1.8E+03
NAPHTHALENE	15	2	13	0.880	0.25	0.26	0	5.5E+01
N-NITROSODIPHENYLAMINE (1)	6	1	17	0.260	0.26	0.06	0	9.1E+01
PHENANTHRENE	15	4	27	1.100	0.23	0.31	–	None
PYRENE	15	4	27	0.360	0.13	0.20	0	1.5E+03
METALS								
ALUMINUM	7	7	100	22,400	17,086	3,982	0	7.5E+04
ANTIMONY	7	1	14	9.2	4.7	2.1	0	3.0E+01
ARSENIC	7	6	86	14.5	6.9	4.9	6	3.8E-01
BARIUM	7	7	100	96.2	63.6	25.4	0	5.2E+03
BERYLLIUM	7	6	86	0.8	0.6	0.2	0	1.5E+02
CADMIUM	7	1	14	1.2	0.6	0.3	0	9.0E+00
CALCIUM	7	7	100	7,650	6,084	1,217	–	None
CHROMIUM	7	7	100	67	41.1	23.9	0	2.1E+02
COBALT	7	5	71	10.8	8.2	2.0	0	3.3E+03
COPPER	7	6	86	35.6	23.8	12.0	0	2.8E+03
IRON	7	7	100	30,000	22,900	7,769	5	2.2E+04
LEAD	7	7	100	59.7	17.9	18.7	0	1.3E+02
LEAD, ORGANIC	6	1	17	0.62	0.35	0.13	1	5.5E-03
MAGNESIUM	7	7	100	11,900	7,130	3,545	–	None
MANGANESE	7	7	100	303	265	48	0	3.1E+03
MERCURY	6	3	50	2.1	0.8	0.9	0	2.2E+01
NICKEL	7	7	100	72.7	45.3	22.6	0	1.5E+02
POTASSIUM	7	5	71	3,770	2,914	906	–	None
SELENIUM	7	1	14	0.66	0.46	0.18	0	3.7E+02
SILVER	7	1	14	0.71	0.34	0.17	0	3.7E+02
SODIUM	7	6	86	4,170	2,724	1,774	–	None
VANADIUM	7	7	100	68.2	43.6	18.8	0	5.2E+02
ZINC	7	7	100	122	64	29	0	2.2E+04

TABLE 4-7

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
SOIL DATA SUMMARY (mg/kg)
(Page 3 of 3)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
GENERAL CHEMISTRY								
BIOCHEMICAL OXYGEN DEMAND	1	1	100	400	400	0	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
mg/kg Milligrams per kilogram
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

TABLE 4-8

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
GROUNDWATER DATA SUMMARY (µg/L)
(Page 1 of 5)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	43	24	56	1,800,000	42,694	274,373	–	None
GASOLINE RANGE ORGANICS	64	24	38	3,000	250	558	–	None
JP-4 RANGE ORGANICS	30	3	10	3,000	640	975	–	None
JP-5 RANGE ORGANICS	59	3	5	2,100,000	35,906	273,361	–	None
MOTOR OIL RANGE ORGANICS	43	5	12	460	4,900	30,463	–	None
OTHER HEAVY TPH COMPONENTS	33	11	33	3,900	415	786	–	None
OTHER LIGHT TPH COMPONENTS	24	20	83	7,700	850	1,649	–	None
TPH - BUNKER FUEL (C10-C28)	59	19	32	28,000	2,896	6,149	–	None
TPH - WEATHERED DIESEL (C8-C26)	19	1	5	530	57	117	–	None
VOLATILE ORGANIC COMPOUNDS								
1,1-DICHLOROETHENE	59	1	2	0.1	2.2	2.3	1	4.6E-02
1,2-DICHLOROBENZENE	50	1	2	0.55	2.8	3.8	0	3.7E+02
1,2-DICHLOROETHENE (TOTAL)	59	15	25	11	2.4	2.6	–	None
1,3-DICHLOROBENZENE	50	1	2	0.52	2.8	3.8	0	1.7E+01
1,4-DICHLOROBENZENE	50	1	2	0.51	2.8	3.8	1	4.7E-01
2-BUTANONE	59	3	5	13	3.8	8.3	0	1.9E+03
4-METHYL-2-PENTANONE	59	4	7	18	4.0	8.5	0	1.6E+02
ACETONE	59	7	12	13	4.2	8.4	0	6.1E+02
BENZENE	64	25	39	73	3.7	10.4	22	3.9E-01
BROMODICHLOROMETHANE	59	1	2	1.2	2.2	2.2	1	1.8E-01
BROMOFORM	57	1	2	3.3	2.3	2.3	0	8.5E+00
CARBON DISULFIDE	59	8	14	2.7	2.1	2.2	0	1.0E+03
CARBON TETRACHLORIDE	59	2	3	17	1.9	3.0	2	1.7E-01
CHLOROFORM	59	4	7	9.9	2.2	2.5	4	1.6E-01
CHLOROMETHANE	59	3	5	4	2.1	2.2	1	1.5E+00
CIS-1,2-DICHLOROETHENE	10	1	10	1	2.2	3.9	0	6.1E+01
DIBROMOCHLOROMETHANE	59	1	2	1.4	2.2	2.2	1	1.0E+00

TABLE 4-8

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
GROUNDWATER DATA SUMMARY (µg/L)
(Page 2 of 5)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
VOLATILE ORGANIC COMPOUNDS (CONTINUED)								
ETHYLBENZENE	64	26	41	65	2.2	8.3	0	1.3E+03
M,P-XYLENE	3	1	33	13	4.7	7.2	–	None
METHYLENE CHLORIDE	59	1	2	1	2.4	3.6	0	4.3E+00
METHYL-T-BUTYL ETHER	13	6	46	18	5.3	4.8	–	None
O-XYLENE	13	1	8	3.2	1.9	3.5	0	1.4E+03
TETRACHLOROETHENE	59	2	3	1.9	2.2	2.3	1	1.1E+00
TOLUENE	64	27	42	17.5	1.9	3.4	0	7.2E+02
TRICHLOROETHENE	59	7	12	6	2.1	2.3	2	1.6E+00
VINYL CHLORIDE	59	7	12	19	2.3	3.4	7	2.0E-02
XYLENE (TOTAL)	64	20	31	84	4.7	13.0	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	8	1	13	17	2.6	5.8	–	None
2,4-DIMETHYLPHENOL	49	1	2	0.07	3.1	3.8	0	7.3E+02
2-METHYLNAPHTHALENE	52	7	13	13	2.9	4.0	–	None
4,6-DINITRO-2-METHYLPHENOL	49	3	6	3	8.8	9.0	–	None
4-METHYLPHENOL	49	2	4	12	3.3	4.0	0	1.8E+02
4-NITROANILINE	50	1	2	0.2	8.8	9.0	–	None
4-NITROPHENOL	49	5	10	3	8.9	8.9	0	2.3E+03
ACENAPHTHENE	52	3	6	0.3	3.1	3.7	0	3.7E+02
BENZO(A)PYRENE	51	1	2	0.1	3.0	3.8	1	1.5E-03
BENZO(K)FLUORANTHENE	51	1	2	0.1	3.0	3.8	0	9.2E-01
BIS(2-ETHYLHEXYL)PHTHALATE	50	8	16	26	3.7	5.1	4	4.8E+00
BUTYLBENZYLPHTHALATE	50	4	8	2	3.0	3.7	0	7.3E+03
CHRYSENE	52	1	2	0.3	3.0	3.8	0	9.2E+00
DIBENZO(A,H)ANTHRACENE	51	1	2	0.5	3.0	3.8	1	9.2E-03
DIETHYLPHTHALATE	50	4	8	2	3.2	3.7	0	2.9E+04
DI-N-BUTYLPHTHALATE	50	11	22	2	3.2	3.7	0	3.7E+03

TABLE 4-8

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
GROUNDWATER DATA SUMMARY (µg/L)
(Page 3 of 5)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
DI-N-OCTYLPHTHALATE	49	1	2	0.08	3.2	3.8	0	7.3E+02
FLUORANTHENE	52	4	8	2.4	2.8	3.7	0	1.5E+03
FLUORENE	52	10	19	7	2.8	3.7	0	2.4E+02
HEXACHLOROCYCLOPENTADIENE	50	8	16	1	3.3	3.7	0	2.6E+02
PENTACHLOROPHENOL	49	2	4	3	8.8	9.0	2	5.6E-01
PHENANTHRENE	52	2	4	2	3.0	3.7	–	None
PHENOL	49	1	2	0.2	3.1	3.8	0	2.2E+04
PYRENE	52	5	10	3.7	2.9	3.7	0	1.8E+02
TOTAL METALS								
ALUMINUM	16	15	94	50,500	14,172	16,299	3	3.7E+04
ANTIMONY	16	2	13	5.4	11.3	5.6	0	1.5E+01
ARSENIC	16	8	50	24.1	9.6	7.2	8	4.5E-02
BARIUM	16	16	100	684	220	185	0	2.6E+03
BERYLLIUM	16	3	19	2.7	0.5	0.6	0	7.3E+01
CADMIUM	16	1	6	10.7	1.5	2.6	0	1.8E+01
CALCIUM	16	16	100	121,000	53,338	29,789	–	None
CHROMIUM	16	12	75	77.9	24.8	28.6	–	None
COBALT	16	10	63	53.1	12.0	15.1	0	2.2E+03
COPPER	16	8	50	90.4	24.1	29.3	0	1.4E+03
IRON	16	16	100	51,300	17,349	15,279	9	1.1E+04
LEAD	16	14	88	150.0	42.7	51.3	12	4.0E+00
MAGNESIUM	16	16	100	334,000	68,313	80,148	–	None
MANGANESE	16	16	100	4,040	1,923	1,178	8	1.7E+03
MERCURY	16	6	38	3.0	0.5	0.8	0	1.1E+01
NICKEL	16	11	69	98.2	30.9	32.6	0	7.3E+02
POTASSIUM	16	16	100	131,000	34,911	33,814	–	None
SELENIUM	13	3	23	28.8	5.6	9.1	0	1.8E+02

TABLE 4-8

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
GROUNDWATER DATA SUMMARY (µg/L)
(Page 4 of 5)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL METALS (CONTINUED)								
SILVER	14	2	14	3	1.0	0.9	0	1.8E+02
SODIUM	16	16	100	3,640,000	737,694	885,243	–	None
THALLIUM	16	2	13	3	3.5	3.9	–	None
VANADIUM	16	12	75	116	33.4	38.2	0	2.6E+02
ZINC	16	9	56	195	57.2	65.4	0	1.1E+04
DISSOLVED METALS								
ALUMINUM	14	5	36	1,120	174	315	0	3.7E+04
ARSENIC	14	5	36	6.6	2.9	1.9	5	4.5E-02
BARIUM	14	14	100	212	99.4	72.6	0	2.6E+03
CALCIUM	14	14	100	113,000	47,557	28,725	–	None
CHROMIUM	14	2	14	2.6	1.2	0.6	–	None
COPPER	14	3	21	8.9	3.1	3.8	0	1.4E+03
IRON	14	13	93	2,560	1,080	857	0	1.1E+04
LEAD	14	7	50	4.6	1.7	1.4	1	4.0E+00
MAGNESIUM	14	14	100	314,000	67,171	78,306	–	None
MANGANESE	14	13	93	3,800	1,297	1,092	4	1.7E+03
MERCURY	14	1	7	0.095	0.05	0.01	0	1.1E+01
MOLYBDENUM	4	1	25	4.8	2.0	2.0	0	1.8E+02
NICKEL	14	3	21	9	2.7	2.5	0	7.3E+02
POTASSIUM	14	14	100	122,000	32,043	31,728	–	None
SELENIUM	12	1	8	2.7	2.0	2.0	0	1.8E+02
SODIUM	14	14	100	3,570,000	790,071	876,135	–	None
THALLIUM	14	1	7	2.8	3.1	3.8	–	None
VANADIUM	14	6	43	8.5	5.5	8.5	0	2.6E+02
ZINC	14	1	7	40.6	5.6	10.6	0	1.1E+04

TABLE 4-8

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - DRUM LOT NO. 1
GROUNDWATER DATA SUMMARY (µg/L)
(Page 5 of 5)

Analyte	FREQUENCY		Percent	Maximum	Mean	Standard	No. of	PRG
	Total Samples	Detected	Frequency Detection	Detection		Deviation	Samples > PRG	
GENERAL CHEMISTRY								
BIOCHEMICAL OXYGEN DEMAND	4	4	100	24,000	14,750	6,292	–	None
CHLORIDE	11	11	100	1,600,000	433,000	466,598	–	None
FLUORIDE	11	11	100	1,100	751	160	0	2.2E+03
NITRATE	12	4	33	640	129	180	0	1.0E+04
NITRITE	12	1	8	60	48.8	64.5	0	1.0E+03
ORTHOPHOSPHATE	12	8	67	1,100	380	355	–	None
SULFATE	11	11	100	1,300,000	148,936	383,226	–	None
TOTAL DISSOLVED SOLIDS	20	20	100	23,400,000	3,808,700	6,761,389	–	None
TOTAL ORGANIC CARBON	5	5	100	12,000	8,860	1,928	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
µg/L Micrograms per liter
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

Extraction wells and soil boring water samples were not included in the frequency of detection or summary statistic calculations. These data are considered field screening level data because purging and sample collection protocols are not consistent with other monitoring well samples.

TABLE 4-9

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
SOIL DATA SUMMARY (mg/kg)
(Page 1 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	13	4	31	410	63	125	–	None
GASOLINE RANGE ORGANICS	32	1	3	91	7	17	–	None
JP-5 RANGE ORGANICS	24	2	8	210	18	46	–	None
MOTOR OIL-RANGE ORGANICS	13	11	85	427	150	152	–	None
OTHER HEAVY TPH COMPONENTS	19	5	26	3,300	488	1,006	–	None
OTHER LIGHT TPH COMPONENTS	19	11	58	860	194	303	–	None
TPH - WEATHERED DIESEL (C8-C26)	19	4	21	6,900	860	1,934	–	None
VOLATILE ORGANIC COMPOUNDS								
ACETONE	13	5	38	0.140	0.02	0.04	0	1.4E+03
ETHYLBENZENE	24	1	4	0.280	0.03	0.06	0	2.3E+02
METHYLENE CHLORIDE	13	3	23	0.013	0.01	0.00	0	8.5E+00
METHYL-T-BUTYL ETHER	5	1	20	3.100	0.63	1.38	–	None
TOLUENE	24	2	8	0.017	0.03	0.04	0	5.2E+02
XYLENE (TOTAL)	24	2	8	1.000	0.06	0.20	–	None
SEMIVOLATILE ORGANIC COMPOUNDS								
2-METHYLNAPHTHALENE	21	2	10	5.500	0.49	1.18	–	None
4-METHYLPHENOL	16	2	13	0.056	0.24	0.27	0	2.7E+02
ACENAPHTHENE	21	1	5	0.960	0.18	0.20	0	2.6E+03
ANTHRACENE	21	4	19	0.020	0.08	0.09	0	1.4E+04
BENZO(A)ANTHRACENE	21	10	48	0.270	0.10	0.10	0	5.6E-01
BENZO(A)PYRENE	21	8	38	0.380	0.11	0.11	4	5.6E-02
BENZO(B)FLUORANTHENE	21	9	43	0.320	0.10	0.10	0	5.6E-01
BENZO(G,H,I)PERYLENE	21	7	33	0.190	0.10	0.09	–	None
BENZO(K)FLUORANTHENE	21	7	33	0.069	0.08	0.09	0	6.1E-01
BUTYLBENZYLPHTHALATE	16	1	6	0.012	0.23	0.27	0	9.3E+02
CARBAZOLE	16	2	13	0.084	0.25	0.26	0	2.2E+01
CHRYSENE	21	10	48	0.370	0.11	0.12	0	6.1E+00
DIBENZO(A,H)ANTHRACENE	21	3	14	0.043	0.08	0.09	0	5.6E-02
FLUORANTHENE	21	9	43	0.290	0.11	0.10	0	2.0E+03

TABLE 4-9

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
SOIL DATA SUMMARY (mg/kg)
(Page 2 of 3)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
FLUORENE	21	1	5	1.000	0.12	0.22	0	1.8E+03
INDENO(1,2,3-CD)PYRENE	21	7	33	0.110	0.08	0.09	0	5.6E-01
N-NITROSODIPHENYLAMINE (1)	16	1	6	0.034	0.24	0.27	0	9.1E+01
PENTACHLOROPHENOL	16	1	6	0.081	0.59	0.66	0	2.5E+00
PHENANTHRENE	21	9	43	3.500	0.26	0.75	–	None
PYRENE	21	11	52	0.680	0.17	0.19	0	1.5E+03
PESTICIDES/PCBs								
4,4'-DDD	7	1	14	0.012	0.00	0.00	0	2.4E+00
4,4'-DDT	7	2	29	0.051	0.01	0.02	0	1.7E+00
ALPHA-CHLORDANE	7	1	14	0.005	0.00	0.00	–	None
DIELDRIN	7	1	14	0.006	0.00	0.00	0	2.8E-02
GAMMA-CHLORDANE	7	1	14	0.002	0.00	0.00	0	1.6E+00
HEPTACHLOR	7	1	14	0.001	0.00	0.00	0	9.9E-02
METALS								
ALUMINUM	11	11	100	22,600	16,591	3,006	0	7.5E+04
ANTIMONY	11	3	27	12.6	5.5	3.2	0	3.0E+01
ARSENIC	11	4	36	8.4	4.0	2.7	4	3.8E-01
BARIUM	11	11	100	535	204	124	0	5.2E+03
BERYLLIUM	11	9	82	1.3	0.7	0.3	0	1.5E+02
CALCIUM	11	11	100	18,300	4,214	5,192	–	None
CHROMIUM	11	11	100	38	27.4	6.1	0	2.1E+02
COBALT	11	5	45	16	6.0	5.4	0	3.3E+03
COPPER	11	11	100	37	24.6	6.7	0	2.8E+03
IRON	11	11	100	33,200	24,364	5,348	6	2.2E+04
LEAD	11	11	100	22.3	12.6	4.1	0	1.3E+02
MAGNESIUM	11	11	100	6,060	4,938	1,006	–	None
MANGANESE	11	10	91	1,090	318	278	0	3.1E+03
MERCURY	11	6	55	1.6	0.5	0.4	0	2.2E+01
NICKEL	11	10	91	34.4	24.5	7.0	0	1.5E+02

TABLE 4-9

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
SOIL DATA SUMMARY (mg/kg)
(Page 3 of 3)

Analyte	FREQUENCY		Percent	Maximum	Mean	Standard	No. of	PRG
	Total Samples	Detected	Frequency Detection	Detection		Deviation	Samples > PRG	
METALS (CONTINUED)								
POTASSIUM	11	11	100	4,070	2,265	772	–	None
SODIUM	11	8	73	972	323	274	–	None
VANADIUM	11	11	100	52.1	40.4	6.9	0	5.2E+02
ZINC	11	11	100	78.7	52.2	11.8	0	2.2E+04
GENERAL CHEMISTRY								
TOTAL ORGANIC CARBON	4	4	100	8,500	4,325	3,064	–	None

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
mg/kg Milligrams per kilogram
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 1 of 6)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
TOTAL PETROLEUM HYDROCARBONS								
DIESEL RANGE ORGANICS	16	6	38	5620	435.63	1385.21		
GASOLINE RANGE ORGANICS	52	5	10	260	32.02	33.71		
JP5 RANGE ORGANICS	49	1	2	290	40.22	49.37		
MOTOR OIL RANGE ORGANICS	16	3	19	550	134.06	146.92		
OTHER HEAVY TPH COMPONENTS	36	13	36	2800	356.74	668.7		
OTHER LIGHT TPH COMPONENTS	36	7	19	1000	112.39	218.08		
TPH - BUNKER FUEL (C10-C28)	47	4	9	3620	339.89	555.75		
TPH - DIESEL F-76 (C8-C28)	47	1	2	1600	63.95	229.22		
TPH - WEATHERED DIESEL(C8-C26)	35	1	3	1300	61.56	215.49		
VOLATILE ORGANIC COMPOUNDS								
1,1-DICHLOROETHANE	54	8	15	39	3.51	8.06	0	811.111111
1,1-DICHLOROETHENE	54	5	9	9	1.54	1.62	5	0.04558284
1,1,1-TRICHLOROETHANE	54	5	9	7	1.55	1.47	0	792.248062
1,2-DICHLOROBENZENE	44	1	2	1	4.28	3.05	0	370.140845
1,3-DICHLOROBENZENE	44	1	2	1	4.28	3.05	0	16.5364412
1,4-DICHLOROBENZENE	44	1	2	1	4.28	3.05	1	0.46691637
2-BUTANONE	54	1	2	39	2.24	5.26	0	1904.34783
2-HEXANONE	54	1	2	1	1.46	1.18		
ACETONE	54	3	6	2	1.61	1.23	0	608.333333
BENZENE	58	6	10	0.5	0.38	0.65	1	0.38641355
BROMODICHLOROMETHANE	54	3	6	0.9	1.27	1.11	3	0.18074182
BROMOFORM	46	1	2	0.5	1.42	1.3	0	8.5103208
CARBON DISULFIDE	54	6	11	0.6	1.21	1.14	0	1042.85714
CARBON TETRACHLORIDE	54	2	4	0.8	1.22	1.28	2	0.17129958
CHLOROETHANE	54	2	4	7	1.51	1.44	0	8588.23529
CHLOROFORM	54	4	7	7	1.48	1.41	4	0.164554
DIBROMOCHLOROMETHANE	54	1	2	0.4	1.35	1.21	0	1.01388889
ETHYLBENZENE	58	3	5	1.2	0.44	0.71	0	1339.87342

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 2 of 6)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
VOLATILE ORGANIC COMPOUNDS (CONTINUED)								
METHYLENE CHLORIDE	54	2	4	0.7	1.33	1.22	0	4.7563183
METHYL-T-BUTYL ETHER	10	2	20	6	2.7	1.34		
TRICHLOROETHENE	54	4	7	4	1.37	1.26	1	1.63988824
TOLUENE	58	1	2	0.2	0.42	0.7	0	723.423423
VINYL CHLORIDE	54	2	4	2	1.25	1.29	2	0.01977467
XYLENE (TOTAL)	58	6	10	1	0.55	0.71		
SEMIVOLATILE ORGANIC COMPOUNDS								
1-METHYLNAPHTHALENE	4	1	25	8	2.4	3.8	–	None
1,2,4-TRICHLOROBENZENE	44	1	2	1	4.91	5.71	0	194.439252
2-CHLORONAPHTHALENE	44	1	2	1	4.91	5.71	0	486.666667
2-METHYLNAPHTHALENE	46	6	13	5	4.54	5.68		
2-METHYLPHENOL	44	1	2	1	4.91	5.71	0	1825
2-NITROANILINE	44	1	2	3	12.38	14.24	1	2.19
2-NITROPHENOL	44	1	2	1	4.91	5.71		
2,2'-OXYBIS(1-CHLOROPROPANE)	44	1	2	1	4.91	5.71	1	0.96045049
2,4-DICHLOROPHENOL	44	1	2	1	4.91	5.71	0	109.5
2,4-DIMETHYLPHENOL	44	1	2	1	4.91	5.71	0	730
2,4-DINITROTOLUENE	44	1	2	1	4.91	5.71	0	73
2,4,5-TRICHLOROPHENOL	44	1	2	3	12.38	14.24	0	3650
2,4,6-TRICHLOROPHENOL	44	1	2	1	4.91	5.71	0	6.11195767
2,6-DINITROTOLUENE	44	1	2	1	4.91	5.71	0	36.5
3-NITROANILINE	44	1	2	3	12.38	14.24		
3,3'-DICHLOROBENZIDINE	44	1	2	1	4.91	5.71	1	0.14940341
4-BROMOPHENYL-PHENYLETHER	44	1	2	1	4.91	5.71		
4-CHLOROANILINE	44	1	2	1	4.91	5.71	0	146
4-CHLOROPHENYL-PHENYLETHER	44	1	2	1	4.91	5.71		
4-CHLORO-3-METHYLPHENOL	44	1	2	1	4.91	5.71		
4-METHYLPHENOL	44	5	11	230	9.93	34.43	1	182.5

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 3 of 6)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
4-NITROANILINE	44	1	2	3	12.49	14.96		
4-NITROPHENOL	44	3	7	3	12.44	14.19	0	2263
4,6-DINITRO-2-METHYLPHENOL	44	4	9	3	12.48	14.16		
ACENAPHTHENE	46	5	11	3	4.68	5.64	0	365
ACENAPHTHYLENE	46	1	2	1	4.74	5.64		
ANTHRACENE	46	1	2	1	4.69	5.68	0	1825
BENZO(A)ANTHRACENE	46	1	2	1	4.69	5.68	1	0.09209799
BIS(2-CHLOROETHYL)ETHER	44	1	2	1	4.91	5.71	1	0.00977978
BIS(2-CHLOROETHOXY)METHANE	44	1	2	1	4.91	5.71		
BIS(2-ETHYLHEXYL)PHTHALATE	44	5	11	63	6.17	9.92	2	4.80225245
BUTYLBENZYLPHTHALATE	44	4	9	1	4.59	5.83	0	7300
CARBAZOLE	44	1	2	1	4.91	5.71	0	3.36157672
CHRYSENE	46	1	2	1	4.69	5.68	0	9.20979923
DIBENZOFURAN	44	2	5	1	4.81	5.75	0	24.3333333
DIETHYLPHTHALATE	44	3	7	1	4.89	5.73	0	29200
DIMETHYLPHTHALATE	44	1	2	1	4.91	5.71	0	365000
DI-N-BUTYLPHTHALATE	44	8	18	0.9	4.46	5.88	0	3650
DI-N-OCTYLPHTHALATE	42	1	2	0.3	5	5.82	0	730
FLUORENE	46	5	11	2	4.57	5.69	0	243.333333
FLUORANTHENE	46	1	2	1	4.69	5.68	0	1460
HEXACHLOROBENZENE	44	1	2	1	4.91	5.71	1	0.04201971
HEXACHLOROBUTADIENE	44	1	2	1	4.91	5.71	1	0.86194275
HEXACHLOROCYCLOPENTADIENE	44	4	9	1	4.94	5.69	0	255.5
HEXACHLOROETHANE	44	1	2	1	4.91	5.71	0	4.80225245
ISOPHORONE	44	1	2	1	4.91	5.71	0	70.7700362
NAPHTHALENE	46	4	9	1	4.7	5.65	0	6.2029408
NITROBENZENE	44	1	2	1	4.91	5.71	0	3.39534884
N-NITROSO-DI-N-PROPYLAMINE	44	2	5	1	4.92	5.7	2	0.0096045
N-NITROSODIPHENYLAMINE (1)	44	2	5	3	4.86	5.72	0	13.7207213

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 4 of 6)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
SEMIVOLATILE ORGANIC COMPOUNDS (CONTINUED)								
PENTACHLOROPHENOL	44	4	9	3	12.48	14.16	4	0.56026279
PHENOL	44	2	5	2	4.84	5.73	0	21900
PHENANTHRENE	46	2	4	2	4.65	5.67		
PYRENE	46	2	4	1	4.68	5.69	0	182.5
TOTAL METALS								
ALUMINUM	26	25	96	68800	11902.71	15359.08	2	36500
ANTIMONY	26	1	4	29.1	14.81	4.05	1	14.6
ARSENIC	26	8	31	24.5	3.98	4.57	8	0.04482102
BARIUM	26	26	100	761	188.54	177.34	0	2555
BERYLLIUM	26	8	31	2.5	0.56	0.52	0	73
CADMIUM	26	1	4	18	1.73	3.44	0	18.25
CALCIUM	26	26	100	250000	73440.77	58430.95		
CHROMIUM	26	17	65	130	21.81	28.63		
COBALT	26	14	54	38.1	6.7	10.02	0	2190
COPPER	26	15	58	106	13.59	22.46	0	1355.71429
IRON	26	26	100	80900	14128.85	18732.85	9	10950
LEAD	26	14	54	48.2	8.96	11.73	12	4
MAGNESIUM	26	26	100	987000	106651.92	209169.96		
MANGANESE	26	26	100	2280	672.94	579.48	2	1703.09
MERCURY	26	7	27	0.66	0.15	0.19	0	10.95
MOLYBDENUM	1	1	100	1.1	1.1	0.0	0	1.8E+02
NICKEL	26	21	81	117	24.49	26.87	0	730
POTASSIUM	26	19	73	480000	47693.19	112122.18		
SELENIUM	24	5	21	25.7	4.29	5.59	0	182.5
SILVER	20	2	10	45.8	3.28	10.01	0	182.5
SODIUM	26	26	100	8120000	974800	2123038.59		
THALLIUM	25	1	4	52.9	4.32	10.55		
VANADIUM	26	19	73	179	27.77	38.14	0	255.5
ZINC	26	14	54	257	45.7	61.45	0	10950

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 5 of 6)

Analyte	FREQUENCY Total Samples	FREQUENCY Detected	Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
DISSOLVED METALS								
ALUMINUM	26	2	8	984	101.59	243.17	0	36500
ARSENIC	26	5	19	4.5	2.05	1.08	5	0.04482102
BARIUM	26	26	100	232	69.11	46.18	0	2555
CALCIUM	26	26	100	250000	70522.69	58725.99		
DISSOLVED METALS								
CHROMIUM	26	2	8	10.9	1.8	1.92		
COBALT	26	3	12	3.9	1.3	0.71	0	2190
COPPER	26	9	35	104	8.6	20.36	0	1355.71429
IRON	26	19	73	2270	398.98	611.05	0	10950
LEAD	26	5	19	11.3	1.59	2.28	2	4
MAGNESIUM	26	26	100	963000	101208.46	205860.45		
MANGANESE	26	26	100	1430	434.13	449.63	0	1703.09
MERCURY	26	1	4	0.44	0.08	0.09	0	10.95
MOLYBDENUM	1	1	100	2	2.0	0.0	0	1.8E+02
NICKEL	26	16	62	12	4.44	2.86	0	730
POTASSIUM	26	17	65	460000	44280.65	109356.29		
SELENIUM	24	3	13	2.9	2.63	2.67	0	182.5
SODIUM	26	26	100	9960000	1032976.92	2377833.7		
VANADIUM	26	8	31	5.7	1.46	1.18	0	255.5
ZINC	26	8	31	23.1	5.53	6.26	0	10950
GENERAL CHEMISTRY								
BIOCHEMICAL OXYGEN DEMAND	3	2	67	14000	6833.33	6788.47		
CHLORIDE	11	11	100	7400000	743363.64	2208717.15		
FLUORIDE	10	10	100	1900	731	469.19	0	2190
NITRATE	11	4	36	960	320.45	367.66	0	10000
NITRITE	11	1	9	60	119.09	292.42	0	1000
ORTHOPHOSPHATE	10	5	50	2500	347	757.26		

TABLE 4-10

NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 - SOUTH SHORELINE
GROUNDWATER DATA SUMMARY (µg/L)
(Page 6 of 6)

Analyte	FREQUENCY		Percent Frequency Detection	Maximum Detection	Mean	Standard Deviation	No. of Samples > PRG	PRG
	Total Samples	Detected						
GENERAL CHEMISTRY (CONTINUED)								
SULFATE	11	11	100	2300000	509663.64	886301.38		
TOTAL DISSOLVED SOLIDS	11	11	100	13000000	1693000	3754804.55		
TOTAL ORGANIC CARBON	7	7	100	6300	4400	1113.55		

Notes:

– Not Applicable
BTEX Benzene, toluene, ethylbenzene, and xylene
µg/L Micrograms per liter
PAH Polycyclic aromatic hydrocarbons
PRG EPA Region 9 preliminary remediation goals for residential soil
TPH Total petroleum hydrocarbons

Analytes not detected in any laboratory analysis are not presented in this table.

Field duplicate samples were not included in frequency of detection or summary statistical calculations.

Compounds analyzed by multiple methods (for example, BTEX and PAH compounds) are summarized together in the frequency of detection and summary statistics tables. Results for these multiple analyses have been grouped together for reporting purposes and to avoid double counting. If multiple results are non-detect, the lowest non-detect is used. If a detected value is available, the highest detect is used.

Non-detect values are incorporated into the calculation of the mean for each analyte using a value of one-half the detection limit.

Extraction wells and soil boring water samples were not included in the frequency of detection or summary statistic calculations. These data are considered field screening level data because purging and sample collection protocols are not consistent with other monitoring well samples.

TABLE 4-11

NFD POINT MOLATE FINAL PHASE II RI REPORT
CTO 112 SEMIANNUAL GROUNDWATER SAMPLING EVENT NO. 3
JANUARY 1999 WATER LEVEL AND PRODUCT THICKNESS MEASUREMENTS

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
NORTH SHORELINE MONITORING WELLS						
ERM-03	24.5		17.6	6.90		TOC elevation is estimated
MW11-02	24.3		17.85	6.45		
MW11-04	23.47		15.42	8.05		
MW11-05	22.91		16.63	6.28		
MW11-06	22.6		17.33	5.27		
MW11-07	20.4		17.24	3.16		
MW11-08	Removed	Removed	Removed	Removed	Removed	Removed in 1995
TREATMENT PONDS AREA MONITORING WELLS						
PZ11-01	31.52		13.11	18.41		
PZ11-02	23.52		5.78	17.74		
MW11-09	17.55		17.64	-0.09		
MW11-10	17.28		16.15	1.13		
MW11-11	17.45	16.18	16.18	1.27	0	Bunker fuel globules
PZ11-11A	17.85		16.36	1.49		Bunker fuel globules
MW11-12	17.6		15.86	1.74		Clear
MW11-13	17.52	14.86	14.87	2.66	0.01	
MW11-14	18.05			18.05		Could not be found
MW11-15	Removed	Removed	Removed	Removed	Removed	Removed in 1995
MW11-16	Removed	Removed	Removed	Removed	Removed	Removed in 1998
MW11-25	21.19		18.06	3.13		
MW11-26	16.43		11.51	4.92		Fuel type unknown
MW11-27	16.57	14.08	14.1	2.49	0.02	Black diesel/bunker fuel
PZ11-27A	16.92	14.35	14.91	2.57	0.56	Black diesel/bunker fuel
PZ11-27B	16.61		13.78	2.83		Black diesel/bunker fuel
MW11-28	16.57	12.91	13.2	3.66	0.29	Black diesel/bunker fuel
MW11-29	19.12		8.3	10.82		Diesel fuel globules
MW11-30	16.41		9.8	6.61		Diesel sheen
MW11-31	17.05		14.56	2.49		Strong odor
PZ11-31A	16.97	13.8	15.15	3.17	1.35	Diesel fuel
PZ11-35	19.04		5.55	13.49		
MW11-32	17.12	11.01		6.11	?	Could not read water level, heavy bunker fuel
PZ11-34	19.17		5.29	13.88		
MW11-33	17.55		5.89	11.66		
PZ11-33A	17.79	12.01	12.04	5.78	0.03	
MW11-36	17.43	10.58		6.85	?	Skimmer would not allow DTW measurement
MW11-37	18.02	11.14	12.61	6.88	1.47	Medium/light bunker fuel
PZ11-37A	18.24	11.36	12.03	6.88	0.67	Light bunker fuel
PZ11-37B	18.16	11.28	12.16	6.88	0.88	Light bunker fuel
MW11-38	18.65	NM	NM			Covered by Baker tank

TABLE 4-11

NFD POINT MOLATE FINAL PHASE II RI REPORT
CTO 112 SEMIANNUAL GROUNDWATER SAMPLING EVENT NO. 3
JANUARY 1999 WATER LEVEL AND PRODUCT THICKNESS MEASUREMENTS

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
TREATMENT PONDS AREA MONITORING WELLS (Continued)						
PZ11-38A	18.74	NM	NM			Covered by Baker tank
MW11-40	22.88		9.24	13.64		
MW11-41	22.47		8.61	13.86		Slight odor
MW11-43	22.05	7.96	9.98	14.09	2.02	Fuel type ?
MW11-44	21.28		7.54	13.74		
MW11-45	19.85	6.18	6.48	13.67	0.3	Diesel fuel?
MW11-46	23.16		11.65	11.51		No petroleum detected
MW11-47	22.9		8.49	14.41		Sheen
MW11-49	20.98	3.31	3.34	17.67	0.03	Bunker fuel
MW11-51	25.78		7	18.78		No petroleum detected
MW11-52	18.11	15.07	15.08	3.04	0.01	
MW11-53	19.76		17.87	1.89		
MW11-91	40.18		19.28	20.9		
MW11-92	17.69	16.34	16.36	1.35	0.02	Bunker fuel
MW11-93	17.66	14.68	14.69	2.98	0.01	
MW11-94			8.98			Bunker fuel globules, heavy sheen
BR11-96			12.58			Slight petroleum odor
DRUM LOT NO.1 MONITORING WELLS (MEASURED 3/31/98)						
MW11-19	20.31		16.26	4.05		TD=23.76
MW11-20	19.06		15.05	4.01		
MW11-21	20.45		16.45	4		
MW11-22	21.74		16.18	5.56		
MW11-23	22.02		17.3	4.72		
MW11-54	17.42		13.09	4.33		Diesel/bunker fuel mix (was almost 7 ft. in Feb. 98)
MW11-55	Removed	Removed	Removed	Removed	Removed	Removed in 1998
MW11-56	Removed	Removed	Removed	Removed	Removed	Removed in 1998
MW11-57	17.74		13.62	4.12		TD=23.03
PZ11-70	17.29	NM	NM			Not measured
PZ11-71	17.92		13.35	4.57		1/21/99
PZ11-72	Removed	Removed	Removed	Removed	Removed	Removed in 1998
PZ11-73	17.76		13.71	4.05		TD=23.32
PZ11-74	14.99		10.42	4.57		TD=20.29
PZ11-75	Removed	Removed	Removed	Removed	Removed	Removed in 1998
PZ11-76	Removed	Removed	Removed	Removed	Removed	Removed in 1998
PZ11-77	19.39		15.4	3.99		
PZ11-78	20.35		16.36	3.99		
PZ11-79	20.71		16.75	3.96		
MW11-80			13.38			Slight petroleum odor
MW11-81			11.2			Sheen, slight petroleum odor
MW11-85			9.98			Slight solvent or petroleum odor, slight sheen
MW11-86			10.5			Solvent odor, sheen
MW11-88			14.35			Solvent odor, sheen
MW11-89			12.32			Solvent odor, slight sheen

TABLE 4-11

NFD POINT MOLATE FINAL PHASE II RI REPORT
CTO 112 SEMIANNUAL GROUNDWATER SAMPLING EVENT NO. 3
JANUARY 1999 WATER LEVEL AND PRODUCT THICKNESS MEASUREMENTS

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
SOUTH SHORELINE MONITORING WELLS						
MW10-02	22.34		9.33	13.01		Broken well cap, slight sheen
MW10-03	21.61	19.01	19.03	2.6	0.02	Diesel fuel; TD=19.30
MW10-04	21.43		16.17	5.26		TD=21.34
MW10-05	21.79		16.52	5.27		TD=19.70
MW10-08	21.65		11.14	10.51		TD=25.16
MW10-09	22.38		9.32	13.06		TD=19.97
MW10-10	20.56		11.93	8.63		TD=21.78
MW10-11	19.41		7.01	12.4		TD=22.08
MW10-12	16.9		2	14.9		(19:17)
MW10-14	19.61		10.43	9.18		(19:20)
MW10-15	42.82			42.82		Dry
MW10-16	16.24		10.62	5.62		(19:25)
MW10-17			14.76		0.0_?	Sheen, slight petroleum odor
MW10-18			14.57			Sheen, slight petroleum odor
BR10-19			12.55			No petroleum detected
ERM10-01	22.69		16.8	5.89		Oily sheen, odor; TD=24.20
ERM10-02	22.62		15.17	7.45		TD=19.37
DISPOSAL AREA MOITORING WELLS						
MW02-01	137.14		22.95	114.19		
MW02-04	49.7		26.02	23.68		
MW02-06	114.33		19.05	95.28		Oily sheen
MW02-07	50.89		18.61	32.28		No product detected; slight sheen
MW02-13			0			No product detected, water at top of casing
MW02-15			11.43			No product detected
MW02-16			10.27			Hydrocarbon odor, sheen
MW02-17			5.73			No product detected
BR02-18			9.47			Slight hydrocarbon odor
BR02-19			0			No product detected, water at top of casing
BR02-20			10.15			Very slight sheen
PZ02-01			11.99			No product detected
PZ02-02			27.59			All mud, no product detected
PZ02-03			12.81			Hydrocarbon odor, slight sheen
PZ02-04			Dry			Dry
PZ02-04A			22.4			Slight sheen
PZ02-05			17.31			No product detected
ERM-EW1	106.29	15.33	15.81	90.96	0.48	Diesel fuel/JP-5
ERM-EW2	63.1		4.4	58.7		
OTHER FACILITY MONITORING WELLS						
MW03-01	41.51		18.63	22.88		
MW03-02			8.08			Sheen, slight hydrocarbon odor
BLDG 6 EW1		NM	NM			Not measured
MW04-02	55.98		17.85	38.13		Measured on 2/3/99
P86-1/2		12.15		-12.15	?	Could not read water level
P86-9/10			18.15	-18.15	?	Could not read water level
P86-11/12	NM	NM	18.61			Belt skimmer in place
P86-13/14		15.88	15.94	-15.88	0.06	Light diesel fuel
P86-15/16			15.61	-15.61		No petroleum detected

TABLE 4-11

NFD POINT MOLATE FINAL PHASE II RI REPORT
CTO 112 SEMIANNUAL GROUNDWATER SAMPLING EVENT NO. 3
JANUARY 1999 WATER LEVEL AND PRODUCT THICKNESS MEASUREMENTS

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
EXTRACTION TRENCH WELLS						
EW-A	21.34		18.23	3.11		Petroleum odor
EW-B	21.51		19.82	1.69		Sheen
EW-C	20.44	19.05	19.15	1.39	0.1	Heavy Bunker fuel
EW-D	20.41		21.88	-1.47		No petroleum detected/missing cap
MW-1	19.68	15.88	15.88	3.8	0	Diesel sheen
MW-2	19.55		17.62	1.93		No petroleum detected
MW-3	19.92		17.6	2.32		Oily Sheen
MW-4	21.39		16.62	4.77		
MW13+27	19.64		17.04	2.6		Diesel fuel
MW16+25	20.8		19.28	1.52		Bunker fuel globules

Notes:

NM	Not measured
TOC	Top of casing
amsl	above mean sea level
bgs	below ground surface

Elevations are referenced to top of water or top of product (if present).

Empty cells indicate that no measurable product was present

TABLE 4-12

NFD POINT MOLATE
FINAL PHASE II RI REPORT
WATER LEVELS AND PRODUCT THICKNESS AT NEW RI WELLS
(Measured January/February 1999, except where indicated)

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
TREATMENT PONDS AREA MONITORING WELLS						
MW11-94	17.2		8.98	8.22		Bunker fuel globules, heavy sheen
BR11-96	18.19		12.58	5.61		Slight petroleum odor
DRUM LOT NO.1 MONITORING WELLS (MEASURED 3/31/98)						
MW11-80	18.25		13.38	4.87		Slight petroleum odor
MW11-81	22		11.2	10.8		Sheen, slight petroleum odor
MW11-82	18.49			18.49		Well development data sheet missing
MW11-83	18.58			18.58		Well development data sheet missing
MW11-85	16.23		9.98	6.25		Slight solvent or petroleum odor, slight sheen
MW11-86	16.76		10.5	6.26		Solvent odor, sheen
MW11-88	20.31		14.35	5.96		Solvent odor, sheen
MW11-89	21.17		12.32	8.85		Solvent odor, slight sheen
BR11-90	17.93			17.93		Well development data sheet missing
SOUTH SHORELINE MONITORING WELLS						
MW10-17	21.61		14.76	6.85		Sheen, slight petroleum odor
MW10-18	21.52		14.57	6.95		Sheen, slight petroleum odor
BR10-19	21.85		12.55	9.3		No petroleum detected
WASTE DISPOSAL AREA MONITORING WELLS						
MW02-13	88.05		0	88.05		No product detected, water at top of casing
MW02-15	84.53		11.43	73.1		No product detected
MW02-16	73.84		10.27	63.57		Hydrocarbon odor, sheen
MW02-17	29.62		5.73	23.89		No product detected
BR02-18	160.09		9.47	150.62		Slight hydrocarbon odor
BR02-19	91.56		0	91.56		Artesian
BR02-20	51.79		10.15	41.64		Very slight sheen
PZ02-01	112.23		11.99	100.24		No product detected
PZ02-02			Dry			All mud, no product detected
PZ02-03	149.87		12.81	137.06		Hydrocarbon odor, slight sheen

TABLE 4-12

NFD POINT MOLATE
FINAL PHASE II RI REPORT
WATER LEVELS AND PRODUCT THICKNESS AT NEW RI WELLS
(Measured January/February 1999, except where indicated)

Well No.	TOC Elev. (feet amsl)	Depth to Product (depth bgs)	Depth to Water (depth bgs)	Water/Product Elevation (feet amsl)	Product Thickness (total feet)	Product Type Comments
PZ02-04	136.17		Dry			Dry
PZ02-05	123.74		17.31	106.43		No product detected
OTHER FACILITY MONITORING WELLS						
MW03-02	75.53		8.08	67.45		Sheen, slight hydrocarbon odor
UST DRAINAGE AREA WELLS						
MW01-01	48.3		1.31	46.99		Artesian
MW01-02	60.36		12.41	47.95		
MW03-03	104.02		6.48	97.54		
MW04-02	73.8		15.04	58.76		
MW04-03	56.09		11.14	44.95		
MW07-01	53.58		0	53.58		Artesian

Notes:

NM	Not measured
TOC	Top of casing
amsl	above mean sea level
bgs	below ground surface

Elevations are referenced to top of water or top of product (if present).

TABLE 4-13

NFD POINT MOLATE
FINAL PHASE II RI REPORT
HISTORIC PRODUCT THICKNESSES (IN FEET) AT IR SITE 3

Well Number	May 1994	July 1994	September 1994	December 1994	August 1995	November 1997	April 1998	January 1999
MW11-11	0.36	0.3	0.24	0.52	0.02	0.09	0	~
PZ11-11A	0.42	~	0.54	0.23	0	~	0.03	~
MW11-12	0.01	0.02	0.01	0.08	0	~	~	0
MW11-13	0.08	0.06	0.1	0.01	0	NM	0	0.01
MW11-25	0.11	0.01	~	0.01	0	0.01	0	0
MW11-26	0	0	0	0	0	0	0.01	0
MW11-27	0.32	0.07	Odor	~	0	0.18	0.25	0.02
PZ11-27A	0	0	0	0	0	0.64	0.52	0.56
PZ11-27B	0.87	0.91	0.66	0.54	0	0.28	0.57	0
MW11-28	0.9	0.9	0.03	0.84	1.13	0.56	0.38	0.29
MW11-29	0	0	0	0	0	0	~	~
MW11-30	0.01	0.03	0.12	0.2	0	0.05	~	~
PZ11-31A	3.27	~	4.04	3.6	2.93	0.13	0.32	1.35
MW11-32	0.01	0	0	Trace	0	0.005	*	*
PZ11-33A	0.8	0.85	0.13	0.21	0	0.13	*	0.03
PZ11-34	0.01	0.02	0.01	0	0.02	~	0	0
MW11-36	0.7	0.8	0.77	0.43	0.12	0.57	0.58	NM
MW11-37	Trace	Trace	0.005	~	1.25	0.57	1.15	1.47
PZ11-37A	0.7	~	0.71	0.36	1.12	0.72	0.86	0.67
PZ11-37B	0	0	0	0	0	0.88	0.37	0.88
MW11-40	0.01	0.01	0.07	0.02	0	0.01	0	0
MW11-43	Trace	Trace	Trace	0.02	0	0	0.01	2.02
MW11-45	Trace	Trace	0.005	0.02	0	0.16	0.17	0.3
MW11-47	Odor	Trace	0.005	0	0	0	0	~
MW11-49	0	0	0	0	0	0.03	0.11	0.03
MW11-51	0	0	0	0	0	~	0	0
MW11-52	0	0	0	0	0	0.05	0	0.01
MW11-53	0	0	0	0	0	0	NM	0
MW11-92	0.19	0.34	0.35	0.66	0.37	0.06	0.03	0.02
MW11-93	1.49	0.59	0.3	3.74	4.31	0.16	0	0.01
MW13+27	0	0	0	0	0	0.17	1.05	~
P86-1/2	0	0	0	0	0	0.37	0.24	*
P86-9/10	0	0	0	0	0	0.19	*	*
P86-11/12	0	0	0	0	0	NM	*	~
P86-13/14	0	0	0	0	0	0	0.97	0.06
EW-B	0	0	0	0	0	~	0	~
EW-C	0	0	0	0	0	0.31	0.02	0.1
EW-D	0	0	0	0	0	0	0	0
MW-1	0	0	0	0	0	0	0.02	~
MW-3	0	0	0	0	0	0	0	~

Notes:

NM Not Measured

* Bunker fuel present but too viscous to be measured, interface probe fouled upon contact

~ Not enough product present yet accurately measure

Bolded wells are displayed on graphs

5.0 CONTAMINANT FATE AND TRANSPORT

Beneath NFD Point Molate, soil and groundwater are contaminated with free-phase and dissolved-phase petroleum products. Spilled petroleum products include bunker fuel oil, diesel fuel (F-76), jet fuel (JP-5), and gasoline. The basic chemical and physical properties of petroleum that are relevant to fate and transport properties are discussed in Section 5.1. Sections 5.1.1 through 5.1.3 discuss in detail the three primary petroleum products released at the facility, bunker fuel oil, diesel fuel, and jet fuel. Section 5.2 discusses the mobility of the fuel contaminants at the three IR sites. Finally, the fate of the fuel contamination is discussed in Section 5.3.

5.1 PETROLEUM HYDROCARBONS

Petroleum hydrocarbons are complex mixtures of straight chain (alkanes), branched, cyclic, and aromatic hydrocarbons as well as asphaltic compounds and nonhydrocarbons. Petroleum products include gasoline, jet fuels, fuel oil, lubricating oils, and raw materials for manufacturing. In general, petroleum fuels are prepared by a distillation process that separates the hydrocarbon mixture into fractions based on boiling point. For example, the lower molecular weight fractions make up gasoline, generally from C_4 (4 carbon alkane, butane) to C_{10} (decane). In addition to the alkanes, gasoline contains numerous branched, cyclic, and aromatic compounds, including BTEX. Figure 5-1 shows a gas chromatogram of Prudhoe Bay crude oil with approximate hydrocarbon ranges for various fuels and oils.

Volatilization of fuel constituents is an important transport mechanism, particularly for the lighter fuels, but less so for oils. The lighter fuels are characterized by high vapor pressures bounded by 430 millimeters of mercury (mm Hg) for pentane (C_5) to 2.7 mm Hg for decane (C_{10}). Studies conducted on marine oil spills suggest that the petroleum hydrocarbons with vapor pressures greater than that for octane will not persist in a spill, while hydrocarbons with vapor pressures less than C_{25} do not evaporate appreciably (Clark and Brown 1977). Henry's Law constants for many petroleum hydrocarbons are not overly high because aqueous solubilities of these contaminants tend to be low.

Aqueous solubilities of petroleum hydrocarbons are variable, with the single and two-ring aromatics being somewhat soluble, while the alkanes and three or more ring aromatics are characterized by low solubilities (all less than 10 mg/L and many less than 1 mg/L). The aqueous solubility of decane is 3.7 μg/L, more than 400,000 times lower than the solubility of benzene (1,740 mg/L). As a result of the large differences in solubility, petroleum spills in the subsurface that reach groundwater may have the lighter aromatic fraction preferentially removed. Thus, fuels such as today's automobile gasolines that have a high aromatic content may be substantially altered if the gasoline is in contact with groundwater for an extended time. However, jet

fuels such as JP-5 that are largely composed of alkanes with low aqueous solubilities may not be substantially dissolved by contact with groundwater.

Also, as a result of these low aqueous solubilities, fuels, and oils tend to migrate as a separate (nonaqueous) phase in aquatic and groundwater systems. Most petroleum products are less dense than water and tend to accumulate at the interface of the saturated and unsaturated zone in shallow aquifer systems such as the one at NFD Point Molate. Typically, a NAPL released to the subsurface will migrate independently of water, while a portion will become trapped in soil pores and rock fractures (API 1979). Product viscosity is one of the important factors affecting partitioning between the free phase and the trapped or sorbed petroleum (API 1980). In general, more viscous hydrocarbon mixtures are not as mobile and tend to become stranded. Petroleum product viscosity increases with increasing molecular weight of the hydrocarbons making up the product. Thus, heavier petroleum products such as bunker fuel oil and lubricating oils tend to be the least mobile fuels in the environment.

Sorption of petroleum is an important fate and transport process, particularly for fuels composed of low aqueous solubility alkanes and larger multi-ring aromatic hydrocarbons. Most fuel oils and probably lubricating oils would fall into this category. Organic carbon partition coefficients (K_{oc}) for the four- and five-ring PAHs are quite high, indicative of the sorptive tendency of these contaminants, and range from 1E+06 to 1E+08 milliliters per gram (mL/g). K_{oc} values for alkanes tend to increase with increasing molecular weight. For example, the K_{oc} value for n-pentane (C_5) is 568 mL/g, the value for n-hexane is 1,097 mL/g, and the value for n-heptane (C_7) is 2,361 mL/g. In comparison, the more water-soluble, single-ring aromatic hydrocarbons benzene (C_6) and o-xylene (C_8) have K_{oc} values of 50 and 255 mL/g, respectively. The strong sorptive tendency of the larger alkanes, branched hydrocarbons, and PAHs may lead to product fractionation in soils containing moderate amount of organic carbon (1 to 2 percent). Overall, the strong tendency for many of the petroleum hydrocarbons to sorb to organic material suggests sorption will limit the transport of petroleum products in the subsurface.

Because petroleum hydrocarbons are not thermodynamically stable in aerobic environments, many microorganisms can use hydrocarbons as a cellular energy source. As a result, biodegradation is probably the primary hydrocarbon removal mechanism in many aerobic soil and groundwater environments. In general, the biodegradation of petroleum products appears to be a successive process, with microorganisms first using the alkanes, followed by the branched and cyclic hydrocarbons, and then eventually by the small aromatic compounds (Jordan and Payne 1980). The larger, four- and five-member aromatic hydrocarbons appear to be biodegraded, but to much lesser extents (Jordan and Payne 1980), and some not at all.

Biodegradation of petroleum products under anaerobic conditions has been reported under denitrifying (Hutchins and Wilson 1991) and sulfate reducing (Karrick 1977) conditions. However, the low levels of nitrate in most nonagricultural environments and the observed persistence of hydrocarbons in natural

anaerobic terrestrial environments suggest bioremediation under denitrifying conditions may be limited. In some marine environments, anaerobic biodegradation (sulfate reduction) has been found to be more significant than aerobic biodegradation (Karrick 1977).

5.1.1 Bunker Fuel

Bunker fuel is formulated from residual crude petroleum remaining from the distillation process. It has been used to power steam boilers to produce electricity, heat large buildings, and to power marine vessels. As with all petroleum products, the chemical composition of the fuel depends on the crude oil from which the fuel is made. In general, bunker fuel is composed of hydrocarbons with more than 30 carbon atoms; of these, 15 percent are paraffins, 45 percent naphthenes, 25 percent aromatics, and 15 percent nonhydrocarbons (National Academy of Sciences 1975). Table 5-1 shows the chemical and physical properties of bunker fuel. As a residual product, bunker fuel is a viscous (approximately 1,000 centipoise [cP] at 38 °C) and has a specific gravity of 0.950 (Rashid 1974). The aqueous solubility of bunker fuel is difficult to measure but has been reported to be 6.3 mg/L in seawater (Anderson and others 1974).

The viscosity of bunker fuel at NFD point Molate varies from highly viscous clean bunker to less viscous mixes of bunker, diesel, and JP-5 in varying proportions. Viscosity measured in a product sample from monitoring well MW11-92 in March 1994 gave a kinematic viscosity of 66 centistokes (cST) at a temperature of 60 degrees Fahrenheit (°F). The product was typed as mixture of diesel and bunker fuels.

A literature value for unweathered bunker fuel oil at 60 °F is listed as greater than 750 cST (Curl 1977). Therefore the probable weathered condition of the Point Molate sample and the mixture with diesel fuel has reduced the viscosity significantly. Fuels at Point Molate, especially in the IR Site 3 area are expected to display a wide range of viscosities because of these factors.

The future significance of hydraulic flushing and other transport mechanisms on bunker fuel at IR Site 3 will be evaluated during the EE/CA. The bunker fuel's viscosity, soil sorption, and composition of predominantly higher weight carbon molecules makes it less susceptible to hydraulic flushing effects than light fuels.

5.1.2 Diesel Fuel

Diesel fuels or No. 2 fuel oils are produced from the middle distillate of crude petroleum and contain hydrocarbons ranging from C_{10} to C_{20}. The specific gravity of diesel fuel ranges from 0.82 to 0.85 and the viscosity is approximately 40 cP. A typical diesel fuel contains approximately 30 percent paraffins, 45

percent naphthenes, and 25 percent aromatics (Clark and Brown 1977). Table 5-1 provides chemical and physical characteristics of diesel fuel. The aqueous solubility of diesel fuel in seawater is reported to be 8.7 mg/L (Anderson and Others 1974).

5.1.3 Jet Fuel

Jet fuel is a light refined petroleum product with a carbon range from C_8 to C_{17}. The estimated composition of jet fuel is 40 to 50 percent paraffins, 30 to 40 percent naphthenes and 10 to 20 percent aromatics (estimated from Smith and Others 1981). The specific gravity of jet fuel is 0.81. Measured specific gravities for jet fuel contamination at NFD Point Molate range from 0.822 to 0.842 (Battelle 1998). The measured viscosity for jet fuel is approximately 10 cP (Smith and Others 1981). For the most part, the water soluble portion of jet fuel is made of up aromatic and substituted aromatic compounds. Partitioning studies with jet fuel found aqueous solubilities (in deionized water) lower than reported values ranging from 0.03 mg/L (ethylbenzene) to 0.46 mg/L for naphthalene. Xylenes, 1,2,4-trimethylbenzene, n-decane, 2-methylnaphthalene, and 1-methylnephthalene all have aqueous solubilities between 0.10 mg/L and 0.25 mg/L.

5.1.4 Benzene, Toluene, Ethylbenzene, and Xylene

BTEX is a common acronym for the monocyclic (single-ring) aromatic hydrocarbons benzene, toluene, ethylbenzene, and the three xylene isomers (ortho, meta, and para). Benzene, structurally the most simple, is composed of six carbons each bound to two others to form a ring and six hydrogen atoms. The structure includes three double bonds each separated by a pair of single-bond carbons. Toluene, ethylbenzene, and the xylenes are all substituted benzenes, incorporating the basic benzene structure and methyl or ethyl groups. Xylenes consist of two methyl groups attached to the benzene ring that can be adjacent to each other (ortho), separated by a single carbon (meta), or opposite each other (para).

BTEX constituents are derived from crude petroleum and are major components of present automobile and aviation gasolines, as well as some jet fuels (see Figure 5-1). The principal fate and transport properties affecting BTEX are volatilization, advective transport in groundwater, sorption to soil and aquifer materials, and biodegradation.

Based on vapor pressure and Henry's Law constant data, the volatilization of BTEX from soils and water is an important transfer mechanism. The vapor pressure of benzene is 76 mm Hg, toluene is 22 mm Hg, ethylbenzene is 7 mm Hg, and ortho(o)-xylene is 5 mm Hg (all at 20°C). These data suggest benzene will

volatilize most rapidly from soils followed by toluene, ethylbenzene, and the xylenes. Volatilization of BTEX from aqueous solutions does not greatly favor one compound over another. The Henry's Law constant for benzene is 0.005 atmospheres per cubic meter per mole (atm m^3/mol), toluene is 0.006 atm m^3/mol, and ethylbenzene 0.007 atm m^3/mol. Mackay and Leinonen (1975) estimated the half-life of benzene dissolved in a 1-meter thick water column at 10°C to be 5 hours. The same study estimated the volatilization half-lives of toluene and ethylbenzene under similar conditions to be between 5 and 6 hours.

Movement of dissolved BTEX by surface and groundwater is also an important transport mechanism. Benzene, the most soluble compound, will be transported in the greatest quantities. The aqueous solubility of benzene is 1,780 mg/L, toluene is 515 mg/L, ethylbenzene is 152 mg/L, and o-xylene is 175 mg/L.

The sorption of dissolved benzene to soils or aquifer materials is not expected to substantially impact its transport; however, the stronger sorptive tendencies of toluene, ethylbenzene, and xylene may impact the mobility of these chemicals. The logarithm of K_{oc} for benzene is 1.4 mL/g, toluene is 3.0 mL/g, ethylbenzene is 2.8 mL/g, and o-xylene is 2.4 mL/g. These results indicate the tendency of toluene to sorb to soil organic matter is 40 times that of benzene.

5.2 CONTAMINANT MIGRATION

The subsurface movement of LNAPL is generally a complex process driven by gravity and the surface tension of water on which the petroleum floats (API 1979). At NFD Point Molate, observation of site petroleum contaminants during field drilling and excavations suggest the primary factors affecting the migration of fuels are fuel composition (Section 5.1), site hydrogeology, preferential pathways (natural and man-made), and climatic factors. These factors and their impact on the LNAPL transport at NFD Point Molate are discussed in the following sections.

5.2.1 Hydrogeology

Section 3.0 discusses the groundwater at NFD Point Molate and the hydrogeologic properties of the geologic materials. Movement of groundwater at NFD Point Molate is controlled by topography, geology, and seasonal rainfall which are highly variable even within individual parcels. Groundwater movement generally occurs within higher permeability alluvial materials, unconsolidated emplaced fill, relatively loose horizons within colluvium, or fractured and fissile bedrock zones.

The steep topography at NFD Point Molate controls surface water and groundwater flow from higher elevations toward the bay. Mounding of groundwater and preferential flow pathways are present. Field

investigation results suggest pathways affect the migration of both groundwater and free product at NFD Point Molate. These pathways are discussed in Section 3.0. Groundwater mounding is observed at the treatment ponds, resulting from recharge by the unlined ponds combined with the presence of a subsurface cutoff wall. A preferential flow pathway is observed just north of outcropping bedrock along Diesel Road and by Tank G, channeling flow toward the bay along the south end of the treatment ponds. The sources of fuel in the preferential pathway are releases from Tanks B and C, as well as possible pipeline leaks along Diesel Road. The preferential pathway is thought to be the pipeline bedding under Diesel Road.

The pipelines under Diesel Road were removed during early 2000 and data on contamination encountered is being compiled. These data will be provided by the remedial contractor upon completion of the pipeline removals. The Tank B and C area is currently being investigated under the UST characterization program (TtEMI 2000b).

The bedrock and unconsolidated materials at NFD Point Molate have varying hydrogeologic properties. Section 3.0 describes the variations in grain size and hydraulic conductivity permeability of various lithologies. The effects on contaminant transport vary from area to area.

Fill material, containing abundant reworked colluvium and bedrock fragments, is not uniform or cohesive and exhibits highly variable hydraulic conductivity permeability. Physical samples of fill from the Treatment Ponds Area yielded an average K of 1×10^{-6} cm/s (PRC 1994b), although examination of excavated fill during extraction trench construction indicate much greater permeability within fill.

At monitoring well MW11-54, data indicate a seasonal accumulation of free product in the immediate vicinity of this well. Product accumulation occurs (up to seven feet was observed in the spring of 1998) in direct correlation with heavy rain events. The accumulation may result from a flushing mechanism by rainfall that is not fully understood. The migration of product from the source area appears to follow a preferred pathway as none of the nearby monitoring wells exhibit the same behavior.

These observations suggest fuel migration from tank overfills, pipeline leaks, or VB releases at NFD Point Molate are controlled by topography, and having migrated to the subsurface, will continue along lines of least resistance such as pipeline or utility conduits or permeable geological units.

5.2.2 Climatic Affects on Contaminant Transport

The climate at NFD Point Molate is typical of California coastal areas with extended periods of warm and dry weather during the summer and fall, and cool, wet winters. Winter storms vary from long periods of steady

rain to short heavy rainfall events. The combination of heavy rainfall during winter months with accumulation and possible transport of fuels by preferential pathways suggest flushing by infiltrating water may be an important transport process at NFD Point Molate.

The flushing mechanism may result from infiltrating precipitation and increased groundwater gradients in areas of preferential flow that is saturated with fuels. In preferential flow channels containing large amounts of fuel, infiltrating water may accumulate over the fuel. The accumulation of infiltration water may reach a point that sufficient hydraulic pressure is created to induce movement of the fuel. In preferential pathways containing residual fuel contamination, the flow of water may dislodge fuel stranded by topography, or permeability barriers, dissolve soluble fuel constituents, or induce aerobic biodegradation of biodegradable fuel compounds.

The appearance of increasing amounts of LNAPLs in monitoring wells during the rainy season (in conjunction with observations of fuel contamination entering the bay after rain events) is the best evidence that hydraulic flushing occurs at the site. However, there has been little direct investigation of this migration pathway due to its complexity. As a result, it is presently impossible to estimate the amount of fuel removed from the site by this process or the future significance of this process to the removal of site fuel contamination.

5.3 CONTAMINANT FATE

This section evaluates the fate of petroleum contamination at Sites 1, 3, and 4. Migration of the fuel offsite, biodegradation, volatilization, and dissolution are the primary processes affecting contaminants at Sites 1, 3, and 4. This section also evaluates the fate of site petroleum contamination (BTEX, bunker fuel, diesel fuel, and jet fuel) in San Francisco Bay. The primary fate processes affecting petroleum contamination in the bay are slick formation and dispersion, evaporation, dissolution, biodegradation.

5.3.1 Contaminant Fate at Sites 1, 3, and 4

The fate options for petroleum contamination at IR Sites 1, 3, and 4 are migration to San Francisco Bay, biodegradation, dissolution to infiltrating water and, in turn, groundwater, and volatilization. The process of volatilization is discussed in Section 5.1 and migration is discussed in Section 5.2. Many aerobic, as well as some anaerobic bacteria, are capable of biodegrading petroleum hydrocarbons. However, not all petroleum hydrocarbons are biodegradable at the same rate and some are not biodegraded to any measurable extent. Initially, the straight-chain hydrocarbons are biodegraded followed by branched cyclic and finally the

aromatic hydrocarbons (Jordan and Payne 1980). Thus, fuels that are composed of numerous straight and branched alkane hydrocarbons, such as JP-5, are readily biodegraded. While bunker fuel with few straight or branched hydrocarbons (paraffins) and many larger aromatic compounds cannot be biodegraded to a great extent (only 10 to 15 percent).

Dissolution is the transfer of petroleum hydrocarbons from LNAPL form to the dissolved phase in underlying groundwater. In general, aqueous solubilities of the petroleum hydrocarbons have been used to estimate the extent of partitioning from the LNAPL to the groundwater. Typically, studies have found petroleum hydrocarbon concentrations in groundwater below the LNAPL much lower than predicted by solubility data. Again, some fuels such as JP-5 contain more soluble hydrocarbons including toluene and xylenes, while other fuels, such as bunker fuel, contain relatively few soluble hydrocarbons.

5.3.1.1 Site 1

The waste disposal area contains diesel and jet fuel contamination from tank overflows and leaking pipes. As discussed in Section 5.2, the diesel and jet fuel are migrating toward San Francisco Bay following the site topography and preferential pathways. Fuels that have been released and move as surface flow will lose some volatile hydrocarbons to the atmosphere at the time of the release. In addition, some biodegradation is expected in the near surface soils. However, little biodegradation may occur afterward, as a result of oxygen limitation. Thus, the jet fuel and diesel plumes are expected to migrate to San Francisco Bay with some loss of volatiles and possible alkanes (biodegradation).

5.3.1.2 Site 3

The Treatment Pond Area contains predominantly bunker fuel contamination with lesser amounts of diesel fuel, gasoline, and JP-5. Data also suggest mixing of LNAPL bunker and diesel fuel have occurred at the site. Bunker fuel was also detected in beach sediment samples suggesting it has migrated to, and is entering the bay.

Bunker fuel at the site will continue to migrate to the bay. Eventually, migration will stop, leaving residual bunker contamination in the subsurface. A finite mass of bunker fuel was left in soil and groundwater when the sump pond was closed in 1975. No new fuel bunker sources have been available. Removal of bunker fuel by the Navy and natural attenuation continue to reduce the finite mass of bunker fuel. Eventually, only bunker fuel sorbed on soil as a residual phase will remain and no significant amount of the mobile phase will be released without human physical intervention such as soil heating. However, the time required for contamination to attenuate is likely to be long enough that remedial action will be necessary. The residual

bunker fuel will not biodegrade or dissolve to any meaningful extent. Residual bunker fuel will likely remain unaltered for some time in this environment. Over time, the rise and fall of the groundwater may lead to some weathering and the formation of a tar-like material.

Diesel, jet fuel, and gasoline contamination may be mobile. Residuals of these fuels can be biodegraded; however, the rate of biodegradation may be limited by available oxygen. Some of the hydrocarbons, including the BTEX compounds, are water soluble and will dissolve into groundwater. Dissolved contaminants will eventually be transported to the bay.

5.3.1.3 Site 4

Several areas of the shoreline are contaminated with fuel or degradation products. Free product has been observed in some wells and in one sediment sample.

The shoreline is a much higher energy environment compared to groundwater. Waves, wind, and tidal action will accelerate volatilization of fuel hydrocarbons. Volatilization can be a very rapid process for light fuels such as gasoline or jet fuel. These light fuels may volatilize completely. Residual fuels such as bunker fuel will not evaporate significantly. However, wave action may breakup the bunker fuel into small, one micron (1 μm), droplets that can be transported by water currents in the bay. At a bunker fuel spill in Chedabucto, Nova Scotia, small droplets of bunker fuel were transported by currents 250 kilometer (km) southwestward in a 25 km band offshore. The bunker fuel in Chedabucto sediments was also found to be weathered with a pronounced loss of hydrocarbons. Weathering also resulted in an increase in specific gravity from 0.95 to 0.96 (up to 0.98), and a viscosity increase up to 1,000,000 cP in a moderate energy coastal environmental (Rashid 1974). The increase in specific gravity approaching the specific gravity of water suggests that weathered bunker fuel transported through the intertidal zone may sink in the bay. Residuals of light fuel may be present only in the lowest energy intertidal zones and unexposed areas.

5.3.2 Fate of Petroleum Products in San Francisco Bay

This section discusses the fate of the various petroleum products found at NFD Point Molate in San Francisco Bay. The primary fate and transport processes affecting petroleum released to the bay are: spreading, evaporation, dissolution, emulsification, and biodegradation. Figure 5-2 shows an overview of these processes in an ocean environment. The following sections discuss these major processes and the fate of the various products in San Francisco Bay. For the most part, the discussion is based on information from Malins (1977) and Jordan and Payne (1980). The reader is referred to these references for additional information regarding the fate of petroleum in marine environments.

5.3.2.1 Spreading

On water, oil spreads to form a thin continuous layer. The force of gravity causes the oil to spread horizontally on the surface of the water, and spreading is aided by the greater surface tension of water. Other factors such as water currents, waves, and wind also increase fuel spreading. Spreading is retarded by inertia and the viscosity of the fuel. Fuel viscosity may increase rapidly as the lower molecular weight components of the fuel volatilize to the atmosphere. Complete volatilization of lower molecular weight components may occur within hours of the fuel entering the water.

5.3.2.2 Evaporation

Evaporation is one of the most important factors affecting petroleum spills in water environments. Petroleum hydrocarbons smaller than C_{15} (boiling point less than 250 °C) are volatilized to the atmosphere within 10 days (Clark and Brown 1977). Hydrocarbons ranging from C_{15} to C_{25} will volatilize to a lesser extent while hydrocarbons above C_{25} do not appreciably volatilize. Fuels composed of volatile constituents such as gasoline and kerosene may volatilize completely.

Approximately, 75 percent of a No. 2 fuel oil and only 10 percent of a bunker fuel spill are expected to volatilize (Clark and Brown 1977). An oil test spill conducted in ocean water at 5°C and a wind velocity of 17 to 22 kilometers per hour (km/hr) found the hydrocarbons less than C_{12} were reduced by 50 percent in 8 hours. Most of the reduction was attributed to evaporation.

5.3.2.3 Dissolution

For this discussion, dissolution refers to the solubility of fuel components in water, although dissolution could also consider the break up of fuels into fine particles or emulsions. In general, only petroleum hydrocarbons smaller than C_8 have appreciable solubilities (excluding the more soluble BTEX compounds). Branched paraffins, olefins, and acetylenes tend to be more soluble than alkanes of equal carbon number. Naphthalene and methyl substituted naphthalenes are the only PAHs with appreciable solubilities, and PAH solubility rapidly decreases with increasing number of rings.

5.3.2.4 Emulsification

Emulsification is the dispersion of one liquid into a second immiscible phase. In the case of fuel spills, this can be the dispersion of oil droplets into the water or the incorporation of water into the oil (mousse). Fuel in water emulsion is not typically stable; however, it can be maintained with constant agitation. Without agitation the fuel will return to the water surface and form a slick.

Emulsification is an important transport mechanism for residual oils such as bunker fuel. Following the Arrow marine spill, Bunker C from the spill was dispersed in Chedabucto Bay by surf and wave action. The oil particles were approximately 1 millimeter (mm) in size. Two weeks later, oil particles in a 10 km band were found 70 km to the east of Nova Scotia (Clark and Brown 1977).

Water in oil emulsions may also be important to the fate of Bunker C in bays and estuaries. The amount of water taken up by oil varies and may be related to the amount of natural surfactants within the oil.

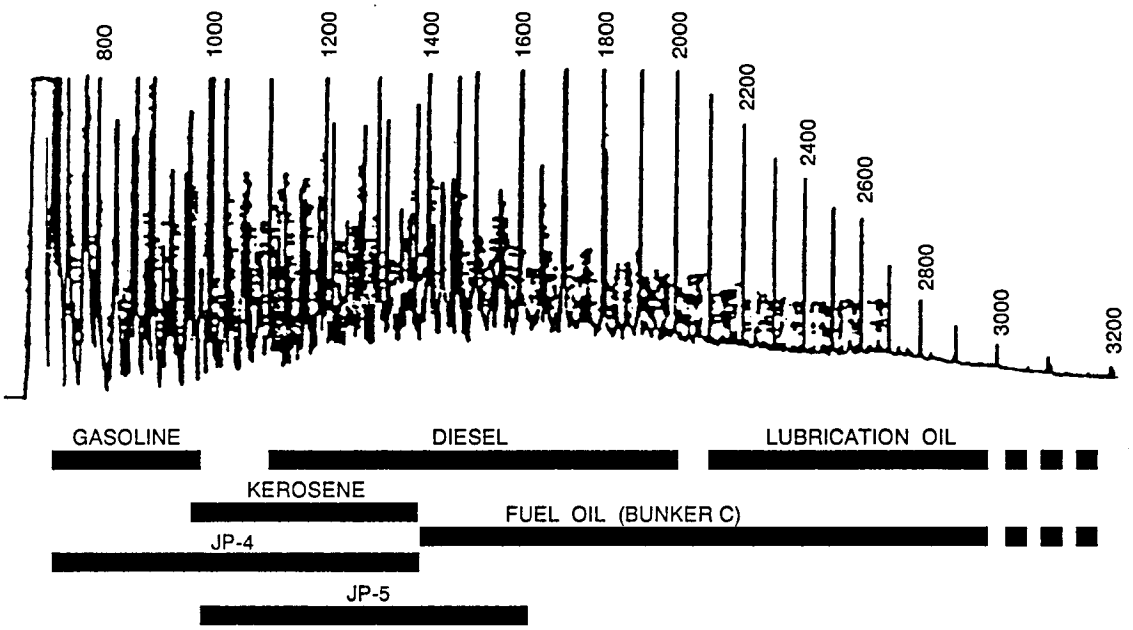
5.3.2.5 Biodegradation

Biodegradation may not be one of the most important fate processes for site contaminants entering the bay. This opinion is based on the rapid volatilization of free phase light fuels that form sheens on the bay and the somewhat recalcitrant nature expected of bunker fuel. Fuel contaminants dissolved in groundwater may be biodegraded to a large extent in the nearshore sediments of the site as the groundwater enters the bay. Sulfate-reducing bacteria are common in these environments and are capable of using alkanes (Karrick 1977). Dissolved fuel products that enter the bay are not likely to be further biodegraded as contact with degrading microorganisms is limited.

The lighter fuels (gasoline, jet fuel, and diesel) are all expected to rapidly volatilize, once they enter the marine environment. Some biodegradation of diesel and jet fuel may occur in nearshore environments. The extent of biodegradation will likely depend on the residence time of the fuel in the nearshore environment. Fuels released during storm events may be rapidly transported through the nearshore environment to the bay.

Bunker fuel is sometimes affected by prolonged rainfall (rainy season) and appears to migrate into wells. This process is not completely understood in terms of where and how much of the petroleum is moving during these events. In fact, these changes may be attributable to capillary fringe effects on wells that cause changes in apparent thickness of LNAPL (Fussell 1981). If this is the case, there may be little or no lateral movement of bunker fuel.

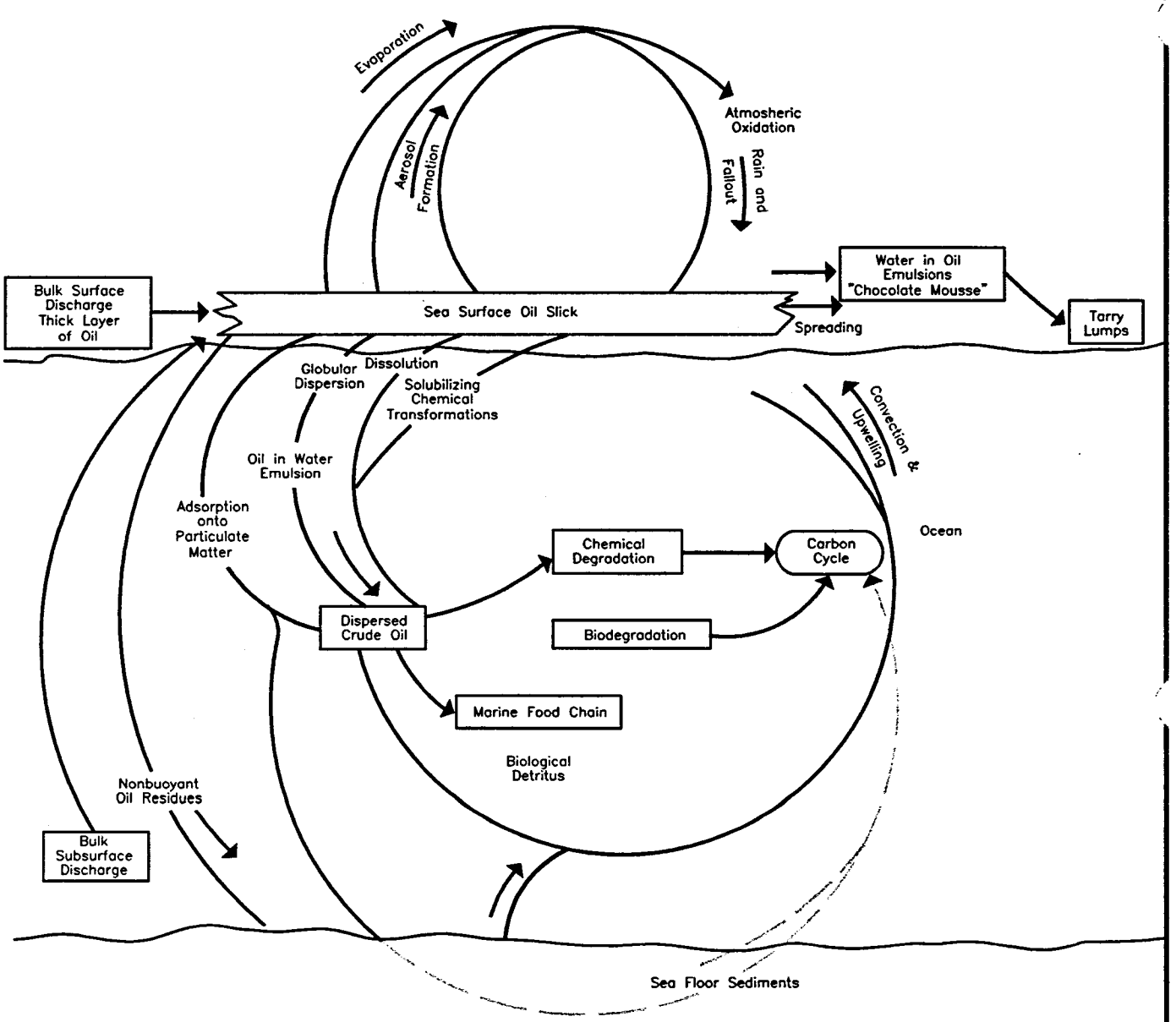
The fate and transport of bunker fuel in the bay will depend on the extent of weathering of the fuel prior to entering the bay. Bunker fuel that is released during storm events may be highly weathered by wave action in the surf zone. The weathering process will increase the fuel's viscosity and may also force water into the fuel leading to the formation of mousse. Continued weathering (evaporation) of mousse in the bay may lead to the formation of tar balls. Finally, the increase of product viscosity will also increase the chance the fuel will become stranded in nearshore sands and sediment. The fate of bunker fuel released during calm periods is probably similar; however, the process may be somewhat slower.



NOTE: NUMBERS ABOVE CHROMATOGRAM ARE KOVAT INDICIES AND CORRESPOND TO ALKANES. FOR EXAMPLE, 1700 CORRESPONDS TO C_{17} (KOVATS 1958).

FIGURE 5-1
NFD POINT MOLATE
PRUDHOE BAY CRUDE OIL
CHROMATOGRAM

DATE: 04/26/99 JAY DN FILE NAME: 069\005B\050101\HYDROC.DS4



Not To Scale

Source: Adapted from Burwood and Speers, 1974.

FIGURE 5-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
OIL SPILL WEATHERING PROCESS

R:\069\112B\0404\ Arrow.dwg 04/25/2000 TURONEM DN

TABLE 5-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
CHEMICAL AND PHYSICAL
CHARACTERISTICS OF DIESEL FUEL

Characteristic/ Component	Diesel Fuel [1] (No. 2 Fuel Oil)	Bunker C [1] Fuel Oil	JP-5 [2] Jet Fuel	Prudhoe Bay [3] Crude Oil
API Gravity	31.6	7.3	42.6	27.8
Sulfur (wt. %)	0.32	1.46	0.1	0.94
Nitrogen (wt. %)	0.024	.094	-	0.23
Nickel (mg/L)	0.5	89	-	10
Vanadium (mg/L)	1.5	73	-	20
Saturates (wt %)	61.8	21.1	-	14.4
n-paraffins	8.07	1.73	17.7	5.8
C_{10} and C_{11}	1.26	0	4.74	0.12
C_{12}	0.84	0	3.94	0.25
C_{13}	0.96	0.07	3.45	0.42
C_{14}	1.03	0.11	2.72	0.50
C_{15}	1.13	0.12	1.67	0.44
C_{16}	1.05	0.14	1.07	0.50
C_{17}	0.65	0.15	0.12	0.51
C_{18}	0.55	0.12	0	0.47
C_{19}	0.33	0.14	0	0.43
C_{20}	0.18	0.12	0	0.37
C_{21}	0.09	0.11	0	0.32
C_{22}	0	0.10	0	0.24
C_{23}	0	0.09	0	0.21
C_{24}	0	0.08	0	0.20
C_{25}	0	0.07	0	0.17
C_{26}	0	0.05	0	0.15
C_{27}	0	0.04	0	0.10
C_{28}	0	0.05	0	0.09
C_{29}	0	0.04	0	0.08
C_{30}	0	0.04	0	0.08

Notes:

API American Petroleum Institute
C_{10} Carbon molecules

TABLE 5-1 (Continued)

NFD POINT MOLATE
FINAL PHASE II RI REPORT
CHEMICAL AND PHYSICAL
CHARACTERISTICS OF DIESEL FUEL

Characteristic/ Component	Diesel Fuel [1] (No. 2 Fuel Oil)	Bunker C [1] Fuel Oil	JP-5 [2] Jet Fuel	Prudhoe Bay [3] Crude Oil
C_{31}	0	0.04	0	0.08
C_{32}	0	0.05	0	0.07
iso-paraffins	22.3	5.0	-	-
1-ring cycloparaffins	17.5	3.9	-	9.9
2-ring cycloparaffins	9.4	3.4	-	7.7
3-ring cycloparaffins	4.5	2.9	-	5.5
4-ring cycloparaffins	0	2.7	-	5.4
5-ring cycloparaffins	0	1.9	-	-
6-ring cycloparaffins	0	0.4	-	-
Aromatics	38.2	34.2	16.1 (vol %)	25
Benzenes	10.3	1.9	-	7.0
Idenans and tetralins	7.3	2.1	-	-
Dinaphtheno benzenes	4.6	2.0	-	-
Naphthalene	0.2	-	0.57	9.9 total
Methylnaphthalene	2.1	2.6	2.8	-
Dimethylnaphthalene	3.2	-	1.6	-
Acenaphthene	3.8	3.1	-	-
Acenaphthalenes	5.4	7.0	-	-
Phenanthrenes	0	11.6	-	3.1
Pyrenes	0	1.7	0	-
Chrysenes	0	0	0	-
Benzothiophenes	0.9	1.5	-	-
Dibenzothiophenes	0	0.7	-	-
Polar materials	0	30.3	0	-
Insolubles	0	14.4	0	-

Notes:

– Not reported
API American Petroleum Institute

[1] Malins 1997.
[2] Smith and Others 1981.
[3] Jordan and Payne 1980.

TABLE 5-2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
1994 PRODUCT SAMPLES
PHYSICAL PROPERTIES AND CHEMICAL ANALYSES RESULTS[1]

WELL NO. Site Date Sampled	MW11-92[2] Treat. Ponds Area 3/31/94	MW11-93 Treat. Ponds Area 3/16/94	MW11-54 Drum Lot No. 1 3/17/94	MW10-03 South Shoreline 3/24/94	ERM-EW2 Waste Disp. Area 3/16/94
Fuel Type	Diesel & Bunker	Diesel	Diesel	JP-5 (Diesel)	JP-5 (Diesel)
Specific Gravity	0.9212	0.8733	0.8641	0.8225	0.8416
Viscosity (cSt)[3]	66	5.6	5.8	2.5	2.9
Diesel Range TPH (ppm)	3,100	4,200	4,600	6,700	11,000
Boiling Range	n-C8 to n-C25	n-C8 to n-C30	n-C8 to n-C30	n-C7 to n-C20	n-C7 to n-C18
Max. Boiling Range	n-C17	n-C18	n-C18	n-C12	n-C11
n-Alkanes Present	no (weathered)	no (weathered)	no (weathered)	yes (fresh)	no (degraded)
BTEX (ppm):					
Benzene	<100	<400	<1000	<5	<1100
Toluene	<50	<150	<400	<700	**600**[4]
Ethylbenzene	<60	<500	<1000	<100	**480**
m,p,o Xylene	<100	<100	<500	<2000	**130**
PAHs (ppm):					
Naphthalene	<30	<30	<30	<30	**430**
Acenaphthylene	<30	<30	<30	<30	<30
Acenaphthene	**68**	**97**	**61**	<30	**88**
Fluorene	**170**	**360**	**210**	**56**	**92**
Phenanthrene	**93**	**300**	**240**	**48**	<30
Anthracene	**84**	**100**	**80**	<30	<30
Fluoranthene	<30	<30	<30	<30	<30
Pyrene	**74**	**65**	**47**	<30	<30
Benzo[a]anthracene	**61**	**38**	<30	<30	<30
Chrysene	**94**	**54**	**42**	<30	<30
Benzo[b]fluoranthene	<30	<30	<30	<30	<30
Benzo[k]fluoranthene	<30	<30	<30	<30	<30
Benzo[a]pyrene	**59**	<30	<30	<30	<30
Dibenzo[ah]anthracene	<30	<30	<30	<30	<30
Idenopyrene	<30	<30	<30	<30	<30
Benzo[ghi]perylene	<30	<30	<30	<30	<30
Organic Lead (ppm)	**15**	**42**	**300**	<1	<1
Total Lead (ppm)	**11**	**34**	**300**	<2	<2

Notes:

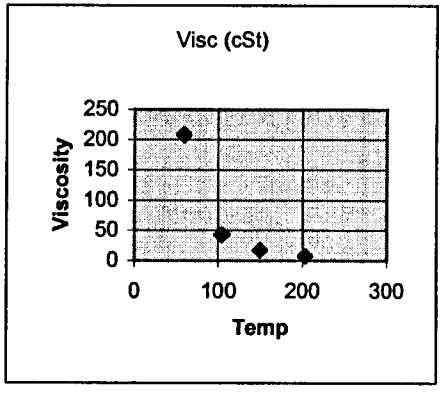
1. Laboratory analyses performed by Friedman and Bruya, Inc., Seattle, Wa. (800-487-8231)
2. Product sample MW11-92 contained a second heavy boiling range from n-C25 to n-C32 with a maximum at n-C28.
3. Viscosity measured in centistokes (cSt); to convert centistokes to centipoise, multiply cSt by fluid density (at 60 degrees F).
4. Interferences were present in the BTEX analysis which interfered with the identification and quantification of values.

TABLE 5-3
NFD POINT MOLATE FINAL PHASE II RI REPORT
SITE 3 PILOT TEST
1998 BATTELLE VISCOSITY RESULTS OF PRODUCT SAMPLES

Viscosity vs Temperature Results

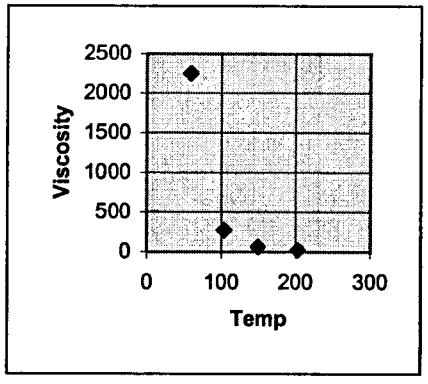
MW11-36:

Temp (F)	Visc (cSt)	Density
59	208.24	0.9417
104	42.55	0.9251
149	17.05	0.9085
203	7.53	



P86-1/2:

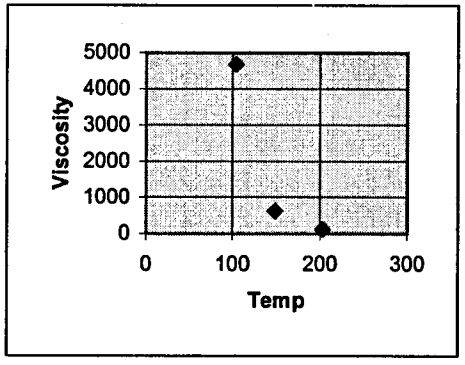
Temp (F)	Visc (cSt)	Density
59	2244.36	0.971
104	268.98	0.9543
149	59.57	0.9374
203	18.72	



P86-11/12:

Temp (F)	Visc (cSt)	Density
59	NA	0.9942
104	4679.14	0.9817
149	612.11	0.9585
203	112.12	

NA = not able to analyze



6.0 BASELINE RISK ASSESSMENT FOR THE POINT MOLATE PUBLIC BEACH

This section presents the baseline HHRA for the IR Site 4 Public Beach area and an assessment of risks associated with ingestion of shellfish collected along the NFD Point Molate shoreline. The methods applied in this risk assessment are consistent with EPA and California Department of Toxic Substances Control (DTSC) guidance provided in "Risk Assessment Guidance for Superfund, Part A" (RAGS Part A) (EPA 1989a); "Risk Assessment Guidance for Superfund, Part D" (RAGS Part D) (EPA 1998a); and "Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities" (DTSC 1992).

Methodologies presented in RAGS Part A and the DTSC guidance document were the basis for risk assessments conducted at CERCLA sites in California over the past several years. These guidance documents provide a standard four-step process for conducting an HHRA. To enhance the efficiency of risk assessment implementation, EPA recently released RAGS Part D. The new guidance builds on RAGS Part A by providing standardized approaches to risk assessment planning, reporting, and reviewing. Two elements of the RAGS Part D guidance are particularly significant to the development of risk assessments for NFD Point Molate. The first element is the use of "standard tables" for presenting the risk assessment data, calculations, and conclusions. Consistent with guidance, the IR Site 4 Public Beach area risk assessment has been prepared using the RAGS Part D Standard Tables and these tables are presented in this section. Templates for these tables are provided by EPA in an electronic format that includes a standard format for data presentation and standardized terms and abbreviations. To maintain consistency with the table numbering conventions used in this RI report, as well as the numbering conventions of EPA's Standard Tables, each RAGS Part D table is numbered using both conventions.

The second significant element of EPA's RAGS Part D guidance is the provision for continuous involvement of the EPA risk assessor to ensure that risk assessment issues are considered during each step of the CERCLA RI/FS process. EPA reviewed the draft RI and HHRA work plan (TtEMI 1998c), which identified the receptors and exposure pathways for evaluation in the risk assessment and the exposure parameters for estimating chemical intakes. EPA's comments were addressed in the final RI and HHRA work plan (TtEMI 1998k).

The remainder of this section defines the risk assessment scope, specifies objectives, and presents the HHRA for the Public Beach area. The section is organized to reflect the four basic steps of the HHRA as defined in RAGS Part A, as follows:

- Data evaluation and identification of COPCs

- Exposure assessment
- Toxicity assessment
- Risk characterization

6.1 RISK ASSESSMENT SCOPE

As previously discussed in the introduction to this report, the Navy held strategy meetings with the BCT on June 8 and 9, 1998 that resulted in the significant redirection of the RI and cleanup efforts at IR Sites 1 through 4. The framework for addressing each site is summarized below, and the timing and approach for conducting the HHRAs in support of the proposed strategies is presented. For Site 2, where a risk assessment has already been completed (TtEMI 1999l), a summary of the risk assessment results is presented.

6.1.1 IR Site 1 – Former Waste Disposal Area

The Navy intends to proceed with a presumptive remedy to expedite closure of the landfill. In accordance with EPA guidance (EPA 1993b, 1996e), the presumptive remedy will entail containment or removal of the landfill source, largely eliminating contaminant exposure pathways between the landfill and potential human receptors. An exposure pathway assessment was conducted during development of the EE/CA (TtEMI 1999e). Consistent with EPA guidance (EPA 1993b, 1996e), further risk evaluation of the landfill will be prepared after the remedy is implemented, as needed.

6.1.2 IR Site 2 – Former Sandblast Grit Disposal Area

Site 2, the Sandblast Grit Areas, consists of five noncontiguous areas (Areas 2A, 2B, 2C, 2D, and 2E) associated with historical sandblasting activities or sandblast grit disposal (Plate 1). Sandblasting was conducted at these areas to prepare metal surfaces for painting; no sandblasting of painted surfaces was known to have occurred at these locations so that the only expected contaminants are metals intrinsic to the sandblast grit material.

TtEMI conducted a time-critical removal action in June and July 1997 and August 1998 to remove sandblast (and soil) materials at Site 2 Areas 2A, 2D, and 2E, and collected confirmation samples in the 0- to 0.5-foot depth interval. Sandblast grit was not observed during SIs of Areas 2B and 2C and so a removal action was not conducted at these locations. However, surface soil samples were collected at Areas 2B and 2C to confirm the absence of elevated metal concentrations and to provide data for the risk assessment. The samples from the five

areas were analyzed for nine indicator metals that had been previously determined to indicate sandblast grit contamination (antimony, cadmium, chromium, cobalt, copper, lead, nickel, thallium, and zinc); some samples were also analyzed for hexavalent chromium.

A risk-based screening evaluation using EPA Region 9 PRGs was conducted for each of the five areas to estimate the potential cancer risks and noncancer hazard indices (HIs) associated with residential and occupational exposure to soil. Cancer risks and noncancer HIs were estimated for residential and commercial/industrial land-use scenarios based on the ratio of detected contaminant concentrations to the EPA Region 9 PRGs. The complete risk assessment was presented in the "Sandblast Grit Areas (Site 2) Removal Action Final Completion Report" (TtEMI 1998). The assessment was based on the post-removal site conditions, using the analytical data from the confirmation samples. All of the metals detected in the confirmation samples were retained as COPCs and quantitatively evaluated in the risk assessment. That is, no background screen or other selection process was applied to the data for the purpose of selecting COPCs.

The results of the screening risk assessment are presented on Table 6-1. The estimated cancer risks for the five areas ranged from 2×10^{-7} to 3×10^{-6} and the cumulative HIs were all well below one, the level of concern. For lead, the estimates of blood-lead levels were below the level of concern (10 micrograms per deciliter [µg/dL]), with one exception. At Area 2B, the blood-lead level of 10.8 µg/dL for the child slightly exceeded the level of concern. Based on the risk assessment results, the Navy has recommended no further action at IR Site 2.

6.1.3 IR Site 3 – Treatment Ponds Area

The planned closure of operational systems at IR Site 3 include removal of the Treatment Ponds, pipelines, and free product underlying the Treatment Ponds. These actions are likely to disturb surface and subsurface soil, such that analytical data from soil samples collected previously would not represent post-removal site conditions. For this reason, the site will be recharacterized after the removal action work is complete. A risk assessment will be prepared based on the post-removal data set.

6.1.4 IR Site 4 – Drum Lot 1 and Shoreline Areas

The Navy is currently removing the pipelines that run along the shoreline area of IR Site 4. Given the lateral extent of these pipelines, the removal is expected to result in extensive disturbance of surface and subsurface soil. As a result, site characterization data required to support an HHRA and terrestial ERA will be collected after the

removal action is complete, and a risk assessment will be prepared based on that post-removal data set. The HHRA is being scoped in the summer of 2000 and field work will occur during the second quarter of 2001.

Part of Site 4, the Public Beach area at the southernmost end of the site (see Plate 1), will not be affected by the pipeline removal. Access to this area is unrestricted, and the public currently uses it for picnicking and other recreational activities. An evaluation of the potential risks associated with exposures at this area was performed and is presented in the following subsections.

An additional potential health concern associated with IR Site 4 is ingestion of shellfish collected along the NFD Point Molate shoreline. Because offshore sediments will not be affected by the proposed removal action at IR Site 4, an evaluation of the potential risks associated with this pathway was made and this evaluation is presented in the following subsections.

In summary, this HHRA comprises an evaluation of potential risks associated with recreational use of the Public Beach area at IR Site 4 and ingestion of shellfish collected along the entire NFD Point Molate shoreline. After the planned removal actions at IR Site 3 and along the remaining shoreline areas of IR Site 4 are complete, a separate HHRA work plan will be developed in conjunction with the sampling and analysis plans to characterize post-removal conditions at those sites. For IR Site 1, a screening level assessment will be prepared in support of the presumptive remedy.

6.2 RISK ASSESSMENT OBJECTIVES

A baseline HHRA is prepared to evaluate potential heath risks associated with a site under current and potential future land use conditions. The specific objectives of the risk assessment for the IR Site 4 Public Beach area are as follows:

- Estimate the magnitude of potential human health risk associated with current and future site conditions at the Public Beach area
- Identify the environmental media and contaminants that pose the primary health concerns
- Identify the environmental media and contaminants that pose little or no threat to human health
- Provide a basis to support decisions regarding the need for removal or remedial action at the Public Beach area

In addition, this HHRA evaluates potential risks associated with ingestion of shellfish collected along the NFD Point Molate shoreline. This assessment is not specific to the Public Beach area because under future conditions, shellfish may be collected at any point along the shoreline.

6.3 DATA EVALUATION AND IDENTIFICATION OF CHEMICALS OF POTENTIAL CONCERN

This section describes the process used to evaluate data quality and usability for the HHRA, followed by the rationale for identification of COPCs used to estimate cancer risks and noncancer hazards.

6.3.1 Data Evaluation

The data used for the Public Beach area risk assessment includes results from the analysis of shoreline soil and sediment samples that were collected as part of the Phase II RI, as described in Section 4.0. Samples were not collected at the Public Beach area during any of the previous investigations at NFD Point Molate.

Asian clams were collected and analyzed for petroleum-related constituents as part of the Phase II offshore ecological risk assessment (Entrix, Inc. and TtEMI 1999b). Shellfish sample locations were selected along the IR Site 4 shoreline based on areas of historical spills, discharges, and former activities along the shoreline. The data for the Asian clams were used to assess the shellfish ingestion pathway for the HHRA. As a bivalve, the Asian clam does not support extensive PAH metabolism (mediated by a mixed function monooxygenase system) when compared to other shellfish, and thus, is a conservative indicator of petroleum contamination in shellfish species (Livingstone 1991). Asian clams were also collected at Paradise Cove, identified as the reference (background) location for the offshore ecological risk assessment. The analytical data for shellfish collected at Paradise Cove are evaluated separately in the HHRA.

A rigorous evaluation of the sampling and analysis methodology employed during the Phase II RI was conducted to verify that the quality of the sampling data was acceptable for use in a quantitative risk assessment. As part of the data validation process, the entire Phase II RI data set was subject to a cursory review, and 10 percent of the data was fully validated. The cursory review evaluated the effects on the data of critical quality assurance and quality control (QA/QC) information, such as holding times, calibration requirements, and spiking accuracy. The full review evaluated additional QA/QC criteria and included examination of raw data to check calculations and analyte identifications. The overall objective of data validation was to ensure that the quality of the analytical data was adequate for its intended purposes, as defined by the following parameters: precision, accuracy,

representativeness, completeness, and comparability. At each stage of validation, qualifiers were assigned to the results according to EPA guidelines (EPA 1991a, 1994d), the QAPP (TtEMI 1998b), and associated analytical methods.

The data collected as part of the Phase II RI met all requirements of "definitive data" as described in "Data Quality Objectives Process for Superfund" (EPA 1993a). Consistent with EPA guidance (EPA 1990b), all data without qualifiers and all data qualified as estimated (J) are used in the risk assessment. In general, only data qualified as rejected (R) was considered unusable for risk assessment purposes.

The Phase II RI sampling results include tentatively identified compounds (TIC). TICs are compounds (or classes of compounds) the laboratory has attempted to identify using the gas chromatography/mass spectrometry technique. Although this technique is qualitatively certain when compounds or classes of compounds are detected, it is quantitatively uncertain. TICs were reviewed during the data validation process and evaluated for co-occurrence with detected analytes. The majority of TICs are attributable to detected analytes (or analyte groups). For example, many TICs are unknown hydrocarbons, branched alkanes, substituted alkenes, and substituted aromatic compounds that occur in conjunction with detected petroleum hydrocarbons. Because TICs were largely attributable to detected compounds whose analytical results have a high degree of certainty, only positively identified analytes were included in the risk assessment data set.

Information on the occurrence and distribution of chemicals detected in each exposure medium at the Public Beach area and in shellfish are presented in Tables 6-2A through 6-2D (RAGS Part D Tables 2.1 through 2.4). Specifically, for each detected analyte the tables include the chemical abstract service (CAS) number, minimum concentration and qualifier, maximum concentration and qualifier, sample location of the maximum detected concentration, detection frequency, and range of detection limits. The use of this data for selecting COPCs for evaluation in the HHRA is discussed in the following section.

6.3.2 Identification of Chemicals of Potential Concern

COPCs are identified for three exposure media of concern identified in the exposure assessment: (1) soil and sediment, (2) air, and (3) shellfish (see Section 6.4). Soil and sediment are being evaluated as a single exposure medium because individuals would be similarly exposed to shoreline soil and sediment while engaged in recreational activities at the public beach. For this reason, the data sets for soil and sediment were combined for COPC selection.

Although a multi-step selection process is usually applied to reduce the number of COPCs carried through a risk assessment, the number of steps have been reduced for the Public Beach area assessment because the samples collected for site characterization were not analyzed for a full suite of constituents, and the total number of samples collected is relatively small. Specifically, the soil, sediment, and shellfish samples collected for risk assessment purposes were not analyzed for metals because no source of metals is known to have been associated with historical operations at NFD Point Molate (except metals in spent sandblast abrasive, as discussed in Section 1.0). In the absence of metals data, no screening to eliminate background metals and essential nutrients was needed.

Further, although background concentrations of PAHs in surface soil have been developed for NFD Point Molate (see Section 7.0), a background screen was not used to eliminate PAHs. This approach is consistent with EPA guidance (EPA 1989a), which indicates that a background screen is appropriate only for metals and that all organic compounds must be carried through a risk assessment. However, the information on background concentrations of organic compounds such as PAHs can be used to help interpret the risk assessment results for these compounds. PAHs are ubiquitous in the environment, and information on background concentrations can be used to distinguish site-related concentrations from concentrations associated with natural sources (for example, forest fires) and anthropogenic sources (for example, motor vehicles and manufacturing facilities that use fossil fuels).

Finally, because the number of samples collected at the area was less than 20, screening on the basis of detection frequency was not appropriate; typically, at least 20 samples are required for that purpose. As a result, all analytes detected in one or more site samples were chosen to be evaluated in the risk assessment.

The COPCs developed using the above screening process for the media of concern at the Public Beach area (soil and sediment, air, and shellfish), are presented in Tables 6-2A through 6-2D (RAGS Part D Tables 2.1 through 2.4).

6.4 EXPOSURE ASSESSMENT

The purpose of the exposure assessment is to evaluate the nature and magnitude of potential exposures to COPCs during recreational activities at the IR Site 4 Public Beach area and from collection and ingestion of shellfish along the NFD Point Molate shoreline. The assessment includes a description of the exposure setting and land use, identifies potential receptors and exposure pathways, estimates exposure point concentrations (EPC), and estimates chemical intakes.

6.4.1 Exposure Setting and Land Use

General information on the physical setting at NFD Point Molate, including the location, topography, geology, hydrogeology, climate, and land-use history, is provided in Section 3.0 of this RI report.

The Public Beach area (referred to as the Shoreline Park in the Point Molate Reuse Plan) is a 1,500-foot-long by 500-foot-wide park at the southern end of IR Site 4, bounded by Western Drive and San Francisco Bay (see Plate 1). The area is open space with recreational facilities including play structures, picnic tables, and barbecue pits. The Navy has leased the park to the City of Richmond for the past 20 years, and the lease is currently being continued on a month-to-month basis. The city is responsible for maintenance of the park (City of Richmond 1997).

In March 1997, the City of Richmond completed a final reuse plan to describe the proposed future land uses of NFD Point Molate (City of Richmond 1997). The plan provides for orderly and phased development of the NFD Point Molate property for civilian use over the next 20 years. For purposes of the reuse plan, NFD Point Molate was divided into six distinct land-use areas: the Core Historic District, Central Development Area, Northern Development Area, Southern Development Area, Shoreline Park, and Hillside Open Space Areas.

The Public Beach area is within the proposed Shoreline Park, designated to run the entire length of the NFD Point Molate waterfront. Existing recreational facilities would be repaired or replaced and a trail (the Bay Trail) would run the length of the Shoreline Park. The park is to provide view opportunities and waterfront access, and could serve as a trailhead for the Bay Trail and other planned trails extending into the hillside area. The reuse plan reports that the beach area is currently underutilized; promotion of NFD Point Molate as a destination point for the Bay Area community, in view of its shoreline, waterfront, scenic, historical, and cultural resources, has been identified as a reuse goal (City of Richmond 1997). Thus, use of the park, including the IR Site 4 Public Beach area and the shoreline where shellfish may be collected, is projected to increase over time.

6.4.2 Identification of Receptors and Exposure Pathways

Receptors and exposure pathways for the risk assessment for the Public Beach area and along the shoreline were identified based on site conditions and current and projected land uses.

6.4.2.1 Potential Receptors

Because land use in these areas is not expected to change in the future, the same receptors are identified under both current and proposed future land-use scenarios. The potential receptors include recreational visitors (for example, a child at the playground area and an individual fishing or collecting shellfish) and park maintenance employees. In particular, two receptors that are assumed to have the greatest potential exposure were selected for detailed evaluation in this HHRA: a child (4- to 16-year old) assumed to visit the beach area, and an adult who collects shellfish for personal consumption. Children at the Public Beach area will have the greatest potential for exposure to soil (as compared to an adult) because of the higher soil ingestion rates and lower body weights used to estimate the potential risks for a child, and the greater potential for dermal contact with soil. It is possible that a child could also ingest shellfish collected along the NFD Point Molate shoreline. In the assessment, risks for the child recreational visitor are presented for the soil-related pathways (ingestion, dermal contact, and inhalation of airborne particulates), the shellfish ingestion pathway, and the soil and shellfish pathways combined. Because an adult is assumed to ingest larger quantities of shellfish and to be exposed over a greater number of years as compared to a child, the risks to an adult from shellfish ingestion were also evaluated. The risks for the adult shellfisher include exposure to soil and sediments while collecting shellfish and ingestion of shellfish.

6.4.2.2 Exposure Pathways

An exposure pathway analysis was conducted to identify all complete exposure pathways for the IR Site 4 Public Beach area and shoreline. A complete exposure pathway has four fundamental components: (1) a source and mechanism of chemical release, (2) an affected environmental medium and probable contaminant migration process, (3) an exposure point, and (4) an exposure route that allows humans to come into direct contact with a contaminant.

Potentially contaminated environmental media at the Public Beach area and along the shoreline include air, soil, sediment, groundwater, and surface water. Of these media, air, soil, and sediment are identified as those with complete exposure pathways that allow humans to potentially be exposed to site contaminants at the Public Beach area. Accordingly, those media are considered in the risk assessment. The rationale for this determination, on a medium-by-medium basis, is presented in the following subsections. Table 6-3 (RAGS Part D Table 1) presents information concerning the exposure pathways that were examined and excluded, and identifies the pathways that will be qualitatively and quantitatively evaluated in the HHRA. In addition, a site conceptual model, identifying the complete exposure pathways for evaluation in the HHRA, is presented in Figure 6-1.

Air

COPCs in soil may migrate to air through volatilization and resuspension of soil particles by wind. These transfer mechanisms are applicable at the Public Beach area, where VOCs in exposed soil can migrate to air and the exposed surface soil can be eroded and particles entrained in air. Individuals visiting the Public Beach area may inhale these VOCs and particles and thus be exposed to site contaminants. This pathway was evaluated in the risk assessment.

Soil

Individuals may ingest COPCs in soil either inadvertently (for example, by transfer of soil on hands and fingers to food) or intentionally (pica). This risk assessment evaluated inadvertent or incidental soil ingestion from unintentional hand-to-mouth transfer. In addition, individuals may be exposed to COPCs through dermal contact with soil, and this pathway is also evaluated.

Sediment

Individuals walking or engaging in recreational activities along the shoreline may come in contact with contaminated sediment. The probability of significant exposure is believed to be limited by mixing of surface water and sediment in the intertidal zone, and consequent dilution of contaminants. However, because potential contaminants in sediment could be linked to sources at NFD Point Molate, exposure to sediment was evaluated in the risk assessment. Because the potential for contact with sediment is similar to contact with soil, the risk assessment includes an evaluation of incidental sediment ingestion and dermal contact with sediment.

Groundwater

The pathways for exposure to groundwater are considered to be incomplete due to two factors. First, no groundwater wells are currently located at the Public Beach area so the ingestion of groundwater is an incomplete pathway. Second, it is highly unlikely that wells would be installed at the Public Beach because the quantity and quality of extractable groundwater at this area are poor. Groundwater quality (in particular, levels of TDS) and production yields are to be evaluated for NFD Point Molate under the Corrective Action Plan (CAP), including IR Site 4. If it is later concluded that groundwater at the Public Beach area is a potential source of drinking water, the need to evaluate potential risks associated with this pathway will be considered.

Surface Water

No freshwater bodies are present at the Public Beach area. The pathways for exposure to contaminants in San Francisco Bay are considered to be potentially complete, but insignificant relative to other pathways evaluated in the HHRA due to two factors. First, any contaminants released from NFD Point Molate to San Francisco Bay would disperse quickly through tidal action; during one tidal cycle, up to 24 percent of the water volume in the bay can be exchanged (RWQCB 1994). Thus, it would be difficult to establish that contaminants detected in surface water samples were attributable to activities or runoff from NFD Point Molate. Second, cold water and strong currents are a strong deterrent from swimming in the bay, minimizing the potential for direct contact with the surface water. Based on these considerations, exposure to surface water while swimming is not considered a complete exposure pathway and is not evaluated in the HHRA. Although minor exposure to surface water could occur while wading or collecting shellfish, exposure to contaminants in sediments is likely to result in greater exposure than exposure to contaminants in surface water, so any potential concerns associated with activities involving exposure to both surface water and sediment are addressed in the assessment of the sediment exposure pathways.

Fish and Shellfish

Fish in San Francisco Bay have historically been caught and eaten by humans. Because fish caught in the bay are typically migratory and do not live and feed exclusively in one area, contaminants detected in fish tissues would be difficult to link to a discrete source or NFD Point Molate IR site. Furthermore, a study by the RWQCB documented that ingesting fish caught in the San Francisco Bay area may result in adverse health effects (California Environmental Protection Agency [Cal/EPA] 1995a). Moreover, the Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA) has published health advisories warning that high levels of contaminants may be present in fish in San Francisco Bay (Cal/EPA 1995b). In view of these factors, fish ingestion is assumed to induce a health risk, but one that cannot be readily related to activities at the NFD Point Molate IR sites. Therefore, consumption of fish is not evaluated in the risk assessment. However, a summary of the findings and recommendations of OEHHA and the RWQCB studies is presented in Appendix I of this report.

Several bivalve species are present in San Francisco Bay that are sometimes used for human consumption. These species are the blue mussel (*Mytilus edulis*), native bent-nose clam (*Macoma nasuta*), edible soft shell clam (*Mya arenaria*), Japanese littleneck clam (*Venerupis phillipinarum*, formerly known as *Tapes japonica*), native littleneck clam (*Protothaca staminea*), Asian clam (*Potamocorbula amurensis*), Pacific oyster (*Crassostrea gigas*), and native oyster (*Ostrea lurida*) (Herbold and others 1992). The bay shoreline at NFD Point Molate consists of riprap around the pier areas and areas of mud flats. The blue mussel and the Asian clam are found in

the intertidal area (Miles and Roster Undated; Entrix, Inc.; and TtEMI 1999) at NFD Point Molate, while other bivalves may be found in the mud flats.

Although shellfish are known to be present at NFD Point Molate, information on whether edible species are present in sufficient quantity to allow harvest and consumption is limited. Based on conversations with the California Department of Fish and Game (TtEMI 1998g), commercial harvesting of clams or mussels does not occur in San Francisco Bay. In general, tracking of mussel or clam consumption in San Francisco Bay is difficult and there are no harvest records since 1948 (TtEMI 1998h; Cohen and Carlton 1995).

Personnel at the base have reportedly stated that, on occasion, individuals have been observed trying to collect shellfish for personal consumption. However, because individuals collecting shellfish have been observed only sporadically, information on the species collected and consumption rates is not available. Although considerable uncertainty exists regarding the need to address this pathway, the HHRA includes an evaluation of the potential risks associated with shellfish ingestion.

6.4.3 Estimation of Exposure Point Concentrations

Exposure points are defined as the location of potential human contact with a COPC within an environmental medium (for example, soil and air), and an EPC is defined as the COPC concentration at the exposure point. The derivation of EPCs for the exposure media identified in Section 6.4.2.2 (soil and sediment, air, and shellfish) is described below.

6.4.3.1 Soil and Sediment

EPCs in shoreline soil and sediment are calculated using the combined analytical data set for these media obtained during Phase II site characterization efforts. To derive these EPCs, a concentration term (also referred to as the medium EPC) was calculated for each COPC detected in shoreline soil and sediment. Consistent with EPA guidance (EPA 1989a), the concentration term is the 95 percent upper confidence limit on the arithmetic mean (UCL_{95}). However, if the UCL_{95} exceeded the maximum detected concentration, the maximum concentration was used as the soil concentration term. The methods for calculating the concentration terms are described in Appendix I. The estimated EPCs for soil and sediment are presented in Table 6-4A (RAGS Part D Table 3.1).

6.4.3.2 Air

The EPCs for VOCs and particles released from soil to air are estimated using methodology provided by EPA Region 9 in its memorandum regarding the derivation of PRGs (EPA 1998b). To derive the EPC in air (also

referred to as the route EPC), the soil EPC (Table 6-4B (RAGS Part D Table 3.2) is multiplied by the reciprocal of a chemical-specific volatilization factor (VF) or particulate emission factor (PEF). These factors, obtained from the EPA PRG document, relate chemical concentrations in soil to airborne concentrations that may be inhaled. Volatilization factors were applied to volatile chemicals, defined as chemicals having a Henry's Law constant greater than 10^{-5} atm m^3/mol and a molecular weight less than 200 grams per mole. The chemical-specific VFs are presented in the table below. The default PEF from EPA Region 9 of 1.316×10^9 cubic meters per kilogram (m^3/kg) was applied to all other chemicals (EPA 1998b). The calculated route EPCs for the air pathway are presented in Tables 6-8C, 6-8D, 6-9C, and 6-9D (RAGS Part D Tables 7.3, 7.4, 8.3, and 8.4).

Chemical of Potential Concern	Volatilization Factor (m^3/kg)
Acenaphthene	5.20E+04
Anthracene	5.30E+05
Chrysene	1.10E+07
Dibenzofuran	6.50E+05
Fluorene	2.70E+05
Pyrene	4.30E+06

6.4.3.3 Shellfish

Exposure point concentrations in shellfish (specifically, Asian clams) are calculated using analytical data obtained during the Phase II site characterization efforts. As previously discussed in Section 6.3.1, Asian clams were collected off the NFD Point Molate shoreline and analyzed for petroleum-related constituents, including PAHs. The Asian clam is considered a conservative indicator species for estimating PAH tissue concentrations, so that the EPCs estimated for this species are considered appropriate surrogates for other shellfish species that might be ingested. The concentration term for shellfish was calculated using the same methodology as for shoreline soil and sediment (Section 6.4.3.1), as described in Appendix I. However, because the concentrations in shellfish were reported on a dry-weight basis and shellfish consumption rates are expressed on a wet-weight basis, dry-weight concentrations were converted to wet weight concentrations as follows:

$$\text{Wet-weight concentration} = \text{Dry-weight concentration} \times (1 - \text{moisture content})$$

The moisture content of 82 percent reported in Table 10-80 of the Exposure Factors Handbook (EPA 1997d) for raw mixed clam tissue was used for the dry-weight to wet-weight conversion.

The shellfish site EPCs are presented in Table 6-4C (RAGS Part D Table 3.3). The shellfish background EPCs are presented in Table 6-4D (RAGS Part D Table 3.4).

6.4.4 Estimation of Chemical Intakes

EPA-derived exposure algorithms are used to estimate the chemical intakes for each route of exposure evaluated in the HHRA. The chemical intake is expressed as milligrams of chemical per kilogram body weight per day (mg/kg-d). Equation 6-1 presents a generic method for calculating chemical intake (EPA 1989a):

$$I = \frac{C \times CR \times EF \times ED}{BW \times AT} \qquad \text{(Equation 6-1)}$$

where

I	=	Intake: the amount of chemical at the exchange boundary (that is, skin, lungs, or gastrointestinal tract) (mg/kg-d)
C	=	Chemical concentration: the EPC (for example, mg/kg for soil)
CR	=	Contact rate: the amount of contaminated medium contacted per unit of time or event and may be the ingestion rate, inhalation rate, or dermal contact rate (for example, milligrams per day [mg/day] for the ingestion rate of soil)
EF	=	Exposure frequency: how often the exposure occurs (days per year)
ED	=	Exposure duration: the number of years that a receptor comes in contact with the contaminated medium (years)
BW	=	Body weight: the average body weight of the receptor in kilograms (kg) over the exposure period
AT	=	Averaging time: the period over which exposure is averaged (days); for carcinogens, the averaging time is 25,550 days based on a lifetime exposure of 70 years (average life expectancy); for noncarcinogens, the averaging time is equal to the exposure duration multiplied by the number of days in a year (365 days).

Typically, intake is evaluated for both a reasonable maximum exposure (RME) case and a central tendency exposure (CTE) case (for example, the average case). The RME case represents the highest exposure reasonably expected to occur at a site and is calculated using the UCL_{95} value for the exposure medium concentration term and RME exposure parameters. Because of the focused nature of the HHRA for the Public Beach area and the lack of default exposure parameters for the receptors considered (that is, the child recreational visitor and shellfisher), only the RME exposure case was evaluated.

Pathway-specific variations of Equation 6-1 are used to calculate intakes of COPCs. These equations and the exposure parameters for the pathways that are evaluated in the HHRA are presented in Tables 6-5A through 6-5F (RAGS Part D Tables 4.1 through 4.6).

Neither EPA nor Cal/EPA have established standard exposure conditions for recreational and fish consumption scenarios. Therefore, physiological exposure parameter values (for example breathing rate and body weight) used in the intake equations are age-related values from EPA's Exposure Factors Handbook (EPA 1997c). Other exposure parameter values, such as exposure time, frequency, and duration, and soil and shellfish ingestion rates, are based on best professional judgment. Although no information exists on the number of hours per day and days per year people spend at the IR Site 4 Public Beach area or the amount of shellfish collected from that area, and no survey was conducted for the risk assessment, the parameter values chosen are believed to be reasonable maximum estimates. How each exposure parameter value was derived is explained in the following sections. The exposure parameters common to all equations are discussed in Section 6.4.4.1, and pathway-specific equations and exposure parameters are discussed in Sections 6.4.4.2 through 6.4.4.5.

6.4.4.1 General Exposure Parameters

The exposure parameter values used in the intake equations are based on a series of reported and assumed factors regarding current and potential land use patterns at the IR Site 4 Public Beach area. Exposure parameters also account for a number of physiological factors such as daily breathing rate and surface area of exposed skin. Exposure parameters common to all intake equations are the exposure frequency, exposure time, exposure duration, body weight, and averaging time.

Exposure Time, Exposure Frequency, and Exposure Duration

The three parameters – exposure time, exposure frequency, and exposure duration – together define the total extent of exposure of a receptor. The exposure time is the number of hours per day (h/day) (or hours per event) that a receptor is present at a specific exposure point; the exposure frequency is the number of days per year (or events per year) that exposure occurs; and the exposure duration is the total number of years over which exposure occurs.

The child recreational visitor is assumed to visit the Public Beach area for 2 h/day, 64 days per year over 12 years. These values are based on best professional judgment, with the exposure frequency based on an

assumption of four exposure events per week for 14 weeks during the summer months and one exposure event per week for four weeks during both late spring and early fall. The exposure duration corresponds to the period when the child recreational visitor, from ages 4 to 16, visits the area.

The adult shellfisher is assumed to be exposed to onsite soil and sediment 2 h/day for 26 days per year over 30 years while collecting shellfish. The exposure time (2 h/day) is based on best professional judgment of the time spent collecting shellfish; the exposure frequency (26 days per year) assumes that the individual collects shellfish along the NFD Point Molate shoreline an average of once every 2 weeks. The value for the exposure duration is the national upper-bound value (90th percentile) for time spent at one residence (EPA 1989a), and is considered a conservative estimate of the number of years during which an individual would be living in the area.

For the evaluation of the ingestion of shellfish pathway, the adult shellfisher is assumed to eat shellfish from the site 350 days per year for 30 years, and the child is assumed to eat shellfish from the site 350 days per year for 12 years. Although it is unlikely that an individual would eat shellfish daily, the exposure frequency (350 days per year) is selected to correspond to the shellfish ingestion rate, which is expressed as the average daily ingestion rate rather than the average amount of shellfish ingested per meal. For example, consumption by an individual of 150 grams (g) of shellfish per meal, 3 days per week (for a total of 450 g per week), would correspond to an average daily ingestion rate of about 64 grams per day (g/day). The actual ingestion rates used in this assessment are discussed in Section 6.4.4.5.

Body Weight

In accordance with EPA guidance (EPA 1989a), the value for body weight is the average weight of the receptor over the exposure period. An average value of 36 kg was calculated for the child recreational visitor (4 to 16 years of age), based on the mean body weight for boys and girls presented for 1-year incremental age groups in Table 7-3 of the "Exposure Factors Handbook" (EPA 1997c). In accordance with EPA guidance (EPA 1989a, 1991d), a value of 70 kg was used as the average body weight for the adult shellfisher.

Averaging Time

Consistent with EPA guidance (EPA 1989a), the averaging time for the assessment of noncancer effects is equal to the exposure duration times 365 days per year. The averaging time used for the assessment of carcinogenic effects is the number of days in a 70-year lifetime, which is equal to 25,550 days. The averaging time for

carcinogens is taken to be 70 years (regardless of the actual exposure duration) because the slope factors (SF) used to estimate carcinogenic risks are based on an exposure period of 70 years (see Section 6.5.2).

6.4.4.2 Equation and Exposure Parameters for Ingestion of Soil and Sediment

Individuals may be exposed to COPCs in soil and sediment by inadvertently ingesting contaminated soil or sediment. The intake (applied dose) is estimated as the amount of chemical at the exchange boundary (gastrointestinal tract). The exposure parameters specific to the ingestion of soil (and sediment) pathway are the soil ingestion rate and the fraction of ingested soil assumed to be contaminated.

EPA guidance for soil ingestion rates recommends the following values: 100 mg/day for adults and 200 mg/day for children 1 to 6 years of age (EPA 1991d). However, these are the rates recommended for a resident, assuming ingestion of both outdoor soil and indoor dust over a 24-hour period. Although not directly applicable to the recreational scenario evaluated for the Public Beach area, the ingestion rate of 200 mg/day is assumed for both the child recreational visitor and the adult shellfisher. This value is considered to represent a reasonable upper bound estimate of the ingestion rate because the activities at the beach would be expected to involve greater soil contact than activities typically associated with residential exposure. However, the assumed time of exposure (2 hours per visit) is considerably shorter than the 24-hour exposure time assumed for a residential setting. Similarly, because collection of shellfish involves direct contact with sediment, a higher ingestion rate than is typically assumed for a resident adult was considered appropriate.
The term "fraction ingested" is used to account for the fraction of soil and sediment contacted that is assumed to be contaminated. For this HHRA, all soil and sediment contacted is conservatively assumed to be contaminated (that is, the fraction ingested is equal to 1).

The intake equation and exposure parameters for the ingestion of soil and sediment pathway for the child and adult are presented in Tables 6-5A and 6-5B (RAGS Part D Tables 4.1 and 4.2).

6.4.4.3 Equation and Exposure Parameters for Dermal Contact with Soil and Sediment

Individuals may be exposed to COPCs in soil and sediment by direct contact with the skin. For the dermal pathway, the intake is estimated as an absorbed dose, which is the amount of chemical that crosses the skin, enters the body, and passes into the bloodstream. (This absorbed dose is in contrast to an applied dose, which is used to estimate intake for all other exposure routes.) The exposure parameters specific to the assessment of the dermal pathway are the skin surface area (the amount of skin in contact with soil or sediment), the amount of soil

adhering to the skin (adherence factor), and the chemical-specific absorption fraction (that is, the fraction of chemical in contact with the skin that actually crosses the skin barrier).

A receptor-specific value for the exposed skin surface area of 7,600 square centimeters (cm^2) was derived for the child recreational visitor, assuming that the exposed skin surface includes the head, hands, arms, legs, and feet. This value was based on information provided in Tables 6-6, 6-7, and 6-8 of the "Exposure Factors Handbook" (EPA 1997c). The value is equivalent to 66 percent of the total body surface area for male and female children aged 4 to 16 years where the value for the total body surface area was taken to be 1.15 square meters (the 50th percentile of the distribution). For the adult shellfisher, a value of 10,000 cm^2 (the 50th percentile of the distribution) was derived, assuming that the exposed skin surface includes the head, hands, arms, legs, and feet (EPA 1997c). Although it is likely that during the cooler months the exposed skin surface would be less than the area assumed in these calculations, the assumed area accounts for soil adherence under clothing. Recent studies have shown that soil can get under clothing and be deposited on the skin (EPA 1997c). In addition, combining conservative assumptions about the type of clothing worn with average estimates of the surface area of exposed body parts is consistent with EPA guidance for estimating the RME (EPA 1992a).

The receptor-specific dermal adherence factors are 0.3 milligrams per square centimeter (mg/cm^2) for the child recreational visitor and 0.08 mg/cm^2 for the shellfisher. These values were taken from the EPA Region 9 memorandum on derivation of PRGs (EPA 1998b), which in turn, were based on recent EPA dermal risk assessment guidance (EPA 1998c). The values are based on measured soil adherence factors of individuals engaged in relatively high soil-contact activities; that is, the value for the child was based on children playing in soil and that for the adult was based on an outdoor gardener.

A dermal absorption fraction of 0.15 was used for the PAHs and 0.1 for all other organic compounds (DTSC 1994), as listed below. The intake equation and exposure parameters for the dermal contact pathway for the child and adult are presented on Tables 6-5A and 6-5B (RAGS Part D Tables 4.1 and 4.2).

Chemical of Potential Concern	Dermal Absorption Factor (unitless)
Acenaphthene	0.15
Anthracene	0.15
Benzo(a)anthracene	0.15
Benzo(a)pyrene	0.15
Benzo(b)fluoranthene	0.15
Benzo(g,h,i)perylene	0.15

Chemical of Potential Concern	Dermal Absorption Factor (unitless)
Benzo(k)fluoranthene	0.15
Carbazole	0.1
Chrysene	0.15
Dibenz(a,h)anthracene	0.15
Dibenzofuran	0.03
Fluoranthene	0.15
Fluorene	0.15
Indeno(1,2,3-cd)pyrene	0.15
2-Methylnaphthalene	0.15
4-Methylphenol	0.1
Phenanthrene	0.15
Pyrene	0.15

6.4.4.4 Equation and Exposure Parameters for Inhalation of Airborne Particles and Volatile Organic Compounds Released from Soil

Individuals may be exposed to COPCs through inhalation of airborne particles released from contaminated soil. Scenario-specific inhalation rates of 1.2 cubic meter per hour (m^3/hr) and 1.6 m^3/hr were used for the child recreational visitor and adult shellfisher, respectively, for the 2 hours they are assumed to be present at the site. These are the average inhalation rates for children and adults engaged in moderate-level activities, as given on Table 5-23 of the "Exposure Factors Handbook" (EPA 1997c).

The intake equation and exposure parameters for the inhalation pathway for the child and adult are presented on Tables 6-5C and 6-5D (RAGS Part D Tables 4.3 and 4.4).

6.4.4.5 Equation and Exposure Parameters for Ingestion of Shellfish

Individuals may be exposed to COPCs in shellfish by ingesting potentially contaminated shellfish collected along the NFD Point Molate shoreline. Exposure parameters specific to this pathway are the shellfish consumption rate and the fraction of ingested shellfish collected at NFD Point Molate.

The California Environmental Protection Agency (Cal/EPA) recently published a comprehensive report on national and local fish and shellfish consumption rates (Cal/EPA 1997). The report presents the results from a large number of studies and discusses their applicability to California. The applicability of the per capita fish and shellfish consumption rates recommended by EPA for use in risk assessments is also discussed. In particular, the Cal/EPA report suggests that per-capita consumption rates derived for the general population (including

nonconsumers) are not appropriate for determining potential health risks from consumption of contaminated fish or shellfish by sport or subsistence fishers taking fish or shellfish from a local water body. Cal/EPA states that the appropriate consumption rate is the rate for individuals who actually consume sport fish (or shellfish), rather than per capita estimates. For application in a site-specific risk assessment, the total consumption rates should then be adjusted to account for the fraction of total fish and shellfish consumed that originate from the water body under investigation.

Based on a review of all available studies, Cal/EPA concluded that the Santa Monica Bay Seafood Consumption Study (SCCWRP and MBC 1994) provides the best available data set for estimating consumption of sport fish or shellfish in California. The fish and shellfish consumption rate reported in this study for the 95th percentile of the distribution was 161 g/day. This value represents the total fish and shellfish consumption rate from all sources (that is, commercial and sport fishing), and was recommended for evaluation of subsistence fishers. Of the 161 g/day, 5.7 percent was shellfish, which equates to a shellfish consumption rate of 9.2 g/day for an adult. Although the value of 9.2 g/day is the best available estimate of shellfish consumption rates from all sources, little site-specific data exist to support the use of this value for NFD Point Molate. As previously discussed in Section 6.4.2.2, individuals collecting shellfish were reportedly observed only sporadically and it is considered unlikely that NFD Point Molate would be the only source of shellfish in an individual's diet. For this reason, the total consumption rate is adjusted to account for the fraction of total shellfish consumed that originate from NFD Point Molate. This fraction is assumed to be 0.20. That is, it is assumed that 20 percent of the shellfish ingested by an individual are collected from along the NFD Point Molate shoreline, and 80 percent are collected at other locations or purchased from commercial sources. Because of the uncertainty in this estimate, risk estimates are also presented for the assumption that NFD Point Molate is the sole source of the shellfish consumed by the child and adult receptors (that is, the fraction collected from the site is 1).

Because the child recreational visitor could also ingest shellfish collected at NFD Point Molate, a consumption rate was derived for this receptor. A total shellfish ingestion rate of 5 g/day was calculated by multiplying the adult ingestion rate by the ratio of the child to adult body weights (that is 38/70, or 54 percent). EPA (1994e) has used body weight ratios of children and adults to derive fish consumption rates of children based on fish consumption rates of adults. In addition, the percentage (54 percent) used to estimate the child consumption rate agrees with the dietary intake rates used by DTSC (1992) to assess risks associated consuming homegrown produce. That is, the consumption rate for the child was 59 percent of that of adults, which agrees well with the 54 percent used in this HHRA to estimate the shellfish consumption rate of the child.

The intake equation and exposure parameters for the shellfish ingestion pathway for the child and adult are presented in Tables 6-5E and 6-5F, respectively (RAGS Part D Tables 4.5 and 4.6).

6.5 TOXICITY ASSESSMENT

A toxicity assessment typically includes two components: (1) a listing of reference doses (RfDs) and SFs used in the risk assessment to characterize carcinogenic risk and noncancer HIs, and (2) brief descriptions of the major toxicological effects associated with the COPCs identified for a site (toxicity profiles). The toxicity values that will be used for the NFD Point Molate risk assessment are discussed in Sections 6.5.1 and 6.5.2. The toxicity assessment of petroleum hydrocarbon mixtures is discussed in Section 6.5.3. The toxicity profiles for site COPCs are presented in Appendix I.

6.5.1 Toxicity Values for Noncarcinogens

The potential for noncancer health effects resulting from exposure to toxic chemicals is assessed by comparing an exposure estimate (intake) to an RfD. The RfD represents an average daily intake, expressed in mg/kg-d, that is expected to pose no appreciable risk of adverse health effects to humans (including sensitive populations) during a lifetime of exposure.

An RfD is specific to the chemical and route of exposure (ingestion, inhalation, and dermal contact). Separate RfDs are available to evaluate oral and inhalation exposures. For this assessment, oral RfDs were used to assess dermal exposures in the absence of route-specific dermal RfDs. In addition, RfDs are specific to the duration of exposure. For this assessment, in which exposures are assumed to occur over periods of more than 7 years, only chronic RfDs were used.

Oral RfDs are derived by EPA work groups. Formerly, EPA also derived RfDs for the assessment of inhalation exposures; however, reference concentrations (RfC), which are reported in milligrams per cubic meter (mg/m^3), are now derived instead. For the risk assessment calculations, the RfCs are converted to their corresponding RfDs by dividing the RfC by 70 kg (an assumed body weight) and multiplying by 20 cubic meter per day (m^3/d), which is an assumed inhalation rate. Because RfCs are analogous to RfDs, the term RfD is used in the following discussion to represent both the inhalation RfDs and RfCs.

EPA work groups review all relevant human and animal studies for each chemical and select the study (or studies) pertinent to the derivation of the specific RfD. RfDs are often derived from a measured or estimated no observed

adverse effect level (NOAEL). The NOAEL corresponds to the dose, in mg/kg-d, that can be administered without inducing observable adverse effects. If a NOAEL cannot be determined, the lowest observed adverse effect level (LOAEL) is used. The LOAEL corresponds to the lowest daily dose administered that induces an observable adverse effect. The toxic effect characterized by the LOAEL is referred to as the "critical effect."

NOAELs are most often based on data from experimental studies in animals. Both the experimental parameters and the extrapolation of animal data to humans are potential sources of uncertainty. Hence, in deriving an RfD, the NOAEL or LOAEL is divided by uncertainty factors to ensure that the RfD will be protective of human health. The uncertainty factors usually occur in multiples of 10, and each factor represents a specific area of uncertainty inherent in the extrapolation from available data. Uncertainty factors account for (1) extrapolation of data from animals to humans (interspecies extrapolation), (2) variation in human sensitivity to the toxic effects of a compound (intraspecies differences), (3) derivation of a chronic RfD based on a subchronic rather than a chronic study, and (4) derivation of an RfD based on a LOAEL instead of a NOAEL. Modifying factors between 0 and 10 may also be applied to accommodate other factors or additional uncertainty associated with the data. For most compounds, the modifying factor is 1.

For this assessment, the primary sources of the chronic RfDs for the oral and inhalation exposure routes were EPA's Integrated Risk Information System (IRIS), an on-line database that contains current health risk and regulatory information on a large number of chemicals (EPA 1999), and EPA's Health Effects Assessment Summary Tables (HEAST) (EPA 1997a). Additionally, chronic RfDs listed in the EPA Region 9 table of PRGs (EPA 1998b) were used in the absence of a value from IRIS or HEAST.

For some COPCs, an RfD was available for only the oral route of exposure. In this case, a route-to-route extrapolation was made using the oral RfD to assess the inhalation route. The underlying assumption is that a chemical that causes adverse systemic effects by one route of exposure causes the same or similar effects if it is absorbed by another route of exposure to give an internal dose. This assumption is considered to be valid for most organic chemicals, but not for inorganic constituents.
Finally, for COPCs for which an RfD was not available for either the oral or inhalation route, RfDs for chemicals of similar structure (surrogates) were applied. Specifically, the RfDs for the following compounds were used:

COPC	RfD Used
Benzo(g,h,i)perylene	Anthracene
2-Methylnaphthalene	Naphthalene
Phenanthrene	Pyrene

Use of surrogates is consistent with "Risk Assessment Guidance for Superfund" (EPA 1989a), which states that the known toxicologic activity of one compound may be used to estimate the toxicity of another structurally related compound for which specific toxicity data is lacking.

The chronic oral, dermal, and inhalation RfDs used in the risk assessment are presented on Tables 6-6A and 6-6B (RAGS Part D Tables 5.1 and 5.2). In addition to RfDs, the tables summarize the source, primary target organ, and uncertainty factor for each COPC. The use of RfDs to characterize potential noncancer health effects is described in Section 6.6.

6.5.2 Toxicity Values for Carcinogens

The toxicity information considered in the assessment of potential carcinogenic risks includes a weight-of-evidence classification and an SF. The weight-of-evidence classification qualitatively describes the likelihood that a chemical is a human carcinogen and is based on an evaluation of the available data from human and animal studies. A chemical may be assigned to one of three groups to indicate its potential for carcinogenic effects: Group A, a known human carcinogen; Group B1 or B2, a probable human carcinogen; and Group C, a possible human carcinogen. Chemicals that cannot be classified as human carcinogens because of lack of data are categorized in Group D, and chemicals for which there is evidence of noncarcinogenicity in humans are categorized in Group E.

The SF is defined as the plausible upper-bound estimate of the probability of a response per unit intake .of a chemical over a lifetime (EPA 1989a). It is used to calculate an upper-bound probability that an individual will develop cancer as a result of a lifetime of exposure to a carcinogen. Slope factors are derived from studies of carcinogenicity in humans or experimental animals and are typically calculated for chemicals in Groups A, B1, and B2. As with RfDs, SFs are specific to a chemical and route of exposure and are available for both the oral and inhalation routes. EPA typically lists oral SFs for the assessment of oral exposures and an inhalation unit risk in units of 1/(micrograms per cubic meter [$\mu g/m^3$]) for the assessment of inhalation exposures. The unit risk can be converted to an inhalation SF by multiplying by 70 kg (an assumed body weight) and a unit conversion factor of 1,000 micrograms per milligram ($\mu g/mg$), and dividing by 20 m^3/day (an assumed inhalation rate). The oral SFs are used to assess the dermal pathway in the absence of route-specific dermal SFs.

For this assessment, the primary sources of the SFs for the oral and inhalation exposure routes were IRIS (EPA 1999) and Cal/EPA (1994). In cases where SFs were available from both IRIS and Cal/EPA, the IRIS value was used. Additionally, SFs were taken from HEAST (EPA 1997a) and the EPA Region 9 table of PRGs (EPA 1998b) in the absence of values from IRIS or Cal/EPA.

The oral, dermal, and inhalation SFs used in the risk assessment are presented on Tables 6-7A and 6-7B (RAGS Part D Tables 6.1 and 6.2). In addition to SFs, the tables summarize information on the SF source and weight-of-evidence classification for each carcinogenic COPC. The use of SFs to characterize potential carcinogenic health effects is described in Section 6.6.

6.5.3 Assessment of Total Petroleum Hydrocarbons

In contrast to metals and organic compounds, total petroleum hydrocarbons (TPH) are specifically excluded from the CERCLA process. The sources of the compounds in TPH usually are petroleum-based fuels (such as gasoline and diesel) and lubricants (such as motor oil). The most toxic compounds in these petroleum-based products are BTEX and PAH compounds. Lighter range petroleum fractions, such as gasoline, contain a high percentage of BTEX, whereas PAH compounds are present in heavier range fractions such as diesel fuel and motor oils. According to Cal/EPA (1993), the American Society for Testing and Materials (ASTM 1995), and the Standard Guide for Risk-Based Corrective Action Applied at Petroleum Release Sites, risk estimates based on the most toxic components of petroleum-based fuels and lubricants suffice when TPH is detected. PAHs were detected in soil samples from the Point Molate Public Beach area and risk estimates for each of these compounds are calculated. In general, lighter-end fuels and VOCs have not been detected in samples of sediment or surface soils at Point Molate. No hydrocarbons, other than heavier-end fuels and their constituents, have been detected in surface samples collected at the Public Beach area and no historical releases in this area have been documented.

6.6 RISK CHARACTERIZATION

The final step in the HHRA is the characterization of potential risks associated with exposure to site-specific chemicals. Cancer risks and noncancer health hazards are characterized separately. The risk characterization methodology is presented in Sections 6.6.1 and 6.6.2 and the risk results are presented in Section 6.6.3.

6.6.1 Characterization of Noncancer Hazards

For COPCs that are not classified as carcinogens and for those carcinogens known to cause adverse health effects other than cancer, the potential for exposure to result in noncancer health effects is evaluated by comparing the intake with an RfD. When calculated for a single chemical, this comparison yields a ratio termed the hazard quotient (HQ):

$$\textit{Hazard Quotient} = \textit{Intake (mg/kg-d)} \div \textit{RfD (mg/kg-d)} \qquad \text{(Equation 6-2)}$$

To evaluate the potential for noncancer adverse health effects from simultaneous exposure to multiple chemicals for a single exposure pathway, the HQs for all chemicals are summed, yielding an HI as follows:

$$\textit{Pathway-Specific Hazard Index} = \sum HQ \qquad \text{(Equation 6-3)}$$

Pathway-specific HIs are then summed to estimate a total HI for each receptor identified at a site. When the total HI exceeds 1, further evaluation in the form of a segregation of HI analysis is conducted to determine whether noncancer hazards are a concern at the site (EPA 1989a). This approach is used because the noncancer effects of chemicals with different target organs are generally not additive. Because the HI did not exceed 1 for any of the receptors evaluated in this HHRA, a segregation of HI was not performed in this risk assessment.

6.6.2 Characterization of Cancer Risks

Risks associated with exposure to COPCs classified as carcinogens are estimated as the incremental probability that an individual will develop cancer over a lifetime as a direct result of an exposure (EPA 1989a). The estimated risk is expressed as a unitless probability.

To aid in the interpretation of the risk assessment results, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and EPA guidance on exposure levels considered protective of human health is presented. In the NCP, EPA defined general remedial action goals for sites on the National Priorities List (Title 40 Code of Federal Regulations Part 300.430). These goals include a range for residual carcinogenic risk, which is "an excess upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}," or 1 in 10,000 to 1 in 1,000,000. The goals set out in the NCP are applied once a decision to remediate a site has been made. A more

recent EPA directive (EPA 1991c) provides additional guidance on the role of the HHRA in supporting risk management decisions, and in particular, determining whether remedial action is necessary at a site. Specifically, the guidance states,

> "Where cumulative carcinogenic site risk to an individual based on reasonable maximum exposure for both current and future land use is less than 10^{-4}, and the noncarcinogenic hazard quotient is less than 1, action generally is not warranted unless there are adverse environmental impacts."

However, in comments to the Navy, EPA has stated that action may be taken to address risks between 10^{-4} and 10^{-6} and DTSC has stated that the agency considers 10^{-6} as the point of departure for risk management decisions. For this reason, the range between 10^{-4} and 10^{-6} is referred to as the "risk management range" in this discussion, and chemicals with a risk greater than 10^{-6} are identified.

For COPCs that are classified as carcinogens, the carcinogenic risks resulting from exposure to site COPCs are estimated using the following three steps:

First, to derive a cancer risk estimate for a single chemical and pathway, the chemical intake is multiplied by the chemical-specific SF. This calculation is based on the following relationship:

$$\textit{Chemical-Specific Cancer Risk} = \textit{Intake (mg/kg-d)} \times \textit{SF (mg/kg-d)}^{-1} \qquad \text{(Equation 6-4)}$$

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

$$\textit{Pathway-Specific Cancer Risk} = \sum \textit{Chemical-Specific Cancer Risk} \qquad \text{(Equation 6-5)}$$

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

6.6.3 Risk Characterization Results

Tables 6-8 through 6-10 (RAGS Part D Tables 7 through 9) present the pathway- and chemical-specific risks and HQs for each receptor evaluated for the IR Site 4 Public Beach area, and an overall summary of the risk characterization results is presented in Table 6-11.

For the child recreational visitor, the estimated cancer risk associated with exposure to COPCs in soil, sediment, and air is 5.8×10^{-7}, less than EPA's risk management range of 1×10^{-4} to 1×10^{-6}. The cancer risk associated with eating shellfish is 1.4×10^{-7}. Because it is possible that a child who is exposed to soil and sediment while playing at the Public Beach Area also eats shellfish, the risk from the soil-related pathways and shellfish ingestion pathways were summed, giving a total risk for all pathways of 7.2×10^{-7}. The HIs for the soil-related pathways and the shellfish ingestion pathway are less than 1, as is the total HI for all pathways combined, indicating little or no potential for adverse noncancer health effects.

For the adult shellfisher, the estimated cancer risk from exposure to COPCs in soil, sediment, and air while collecting shellfish is 1.8×10^{-7}. The estimated cancer risk for the shellfish ingestion pathway is 3.3×10^{-7}, and the total risk from all pathways combined is 5.1×10^{-7}, which is less than EPA's risk management range. The HI for all pathways combined is less than 1.

The cancer risk and HI estimates presented above for the shellfish ingestion pathway are based on the assumption that 20 percent of the shellfish consumed by an individual during a year is taken from the NFD Point Molate shoreline. (That is, 80 percent of the shellfish consumed would come from sources other than the site.) To address the possibility that a higher fraction of shellfish consumed is from the site, cancer risks and HIs were also estimated assuming that 100 percent of the shellfish consumed is taken from the NFD Point Molate shoreline. Assuming 100 percent of the shellfish ingested is from the site provides an upper bound on the risk estimates for this pathway. Based on this assumption, the estimated risks for the shellfish ingestion pathway for the child and adult are 6.9×10^{-7} and 1.6×10^{-6}, respectively. Benzo(a)pyrene (1.0×10^{-6}) is the primary contributor to the cancer risk for this pathway.

To help place these risk estimates in perspective, the risks associated with consumption of shellfish collected from Paradise Cove (used as the reference location for the offshore ecological risk assessment) are also presented. The estimated cancer risks associated with eating shellfish collected from Paradise Cove are 3.9×10^{-7} and 9.1×10^{-7}, assuming 100 percent of the ingested shellfish are collected from this location. These results suggest that the cancer risks from ingesting shellfish collected at the NFD Point Molate shoreline are comparable to or just slightly higher than risks from ingesting shellfish taken from the background location. However, because of the small sample size for Paradise Cove and the biased sampling regime used at NFD Point Molate (samples were collected from locations most likely to have been impacted by site releases), risk comparisons should be made with caution.

6.7 UNCERTAINTIES ASSOCIATED WITH THE RISK ASSESSMENT

A number of uncertainties are inherent in the estimates of potential cancer risks and HIs presented in a risk assessment. These uncertainties are generally associated with either (1) the sampling strategy and site characterization process, or (2) the assumptions, models, and extrapolations that comprise the risk assessment process. The potential effect of these uncertainties on estimates of risk (overestimation or underestimation) varies from readily predicted to difficult to assess. The following discussion focuses on site-specific issues related to the IR Site 4 Public Beach area risk assessment.

6.7.1 Site Characterization Data and Exposure Point Concentrations

The IR Site 4 Public Beach area HHRA is based on the soil, sediment, and shellfish analytical data collected during the Phase II RI. As described in Section 2.0, 14 surface soil and sediment samples were collected at the Public Beach area and analyzed for petroleum-related constituents. This data set is considered adequate for characterization of this relatively discrete area and provides good confidence in the site characterization data and estimates of EPCs used in the risk assessment.

The Asian clam was used as a surrogate species for shellfish that might be collected along the IR Site 4 shoreline. Specimens were collected at targeted areas along the shoreline and analyzed for petroleum-related constituents, including PAHs. Specifically, samples were collected in areas of suspected contamination based on knowledge of historical spills, discharges, and former activities along the shoreline. In addition, because the Asian clam is limited in its capacity to metabolize PAHs, it is considered a conservative indicator of petroleum hydrocarbon contamination in shellfish species. The EPCs estimated based on these nonrandom samples of Asian clams are likely to overestimate the chemical concentrations in edible shellfish species, as well as the actual dose and risks to individuals consuming shellfish from this area.

6.7.2 Exposure Pathways

The HHRA for the Public Beach area evaluates potential exposure to soil and sediment via incidental ingestion, dermal contact, and inhalation of particles and VOCs released from soil and sediment to air. These pathways represent the most significant exposures and risks associated with this area. Examples of pathways not evaluated quantitatively in this assessment include incidental ingestion of and dermal contact with surface water (San Francisco Bay). As previously discussed, these pathways were not evaluated because it would be difficult to

establish that contaminants detected in surface water samples were attributable to activities or runoff from NFD Point Molate. Second, cold water and strong currents are a strong deterrent from swimming in the bay, minimizing the potential for direct contact with surface water. In general, the potential risks associated with these pathways is expected to be small relative to the risks for pathways evaluated and thus exclusion of these pathways is not expected to significantly affect the risk assessment results.

The risk estimates for the inhalation pathway are expected to be overestimated, because the models used to estimate airborne particle and VOC concentrations did not account for the high moisture content of soil and sediment at the Public Beach area. However, because the risks estimated for this pathway are insignificant relative to the ingestion and dermal contact pathways, this overestimation has little affect on the risk estimates.

The greatest uncertainty in the exposure assessment is associated with the ingestion of shellfish pathway. Although edible shellfish are known to be present along the NFD Point Molate shoreline, information on whether edible species are present in sufficient quantity to allow harvest and consumption is not available. Asian clams were observed in abundance, but the small size of these clams makes it unlikely that they would contribute significantly to the overall shellfish consumption rate. Further, base personnel have reported observing individuals collecting shellfish only very sporadically. Thus, considerable uncertainty is associated with the exposure parameters (for example, exposure frequency and ingestion rates) for this pathway. Although few individuals have been observed collecting shellfish under current site conditions, where access to most areas along the shoreline is restricted, under future conditions, shellfish collection could increase. Finally, the total shellfish consumption rate was adjusted to account for the fraction of total shellfish consumed that originate from NFD Point Molate. To account for the uncertainty in this value, risks were estimated assuming that 20 percent and 100 percent of the shellfish ingested are from the site. Overall, the exposure assumptions for shellfish collection were conservatively selected to address the possibility that the frequency of shellfish collection increases in the future.

6.7.3 Exposure Assumptions

Because nonstandard exposure scenarios were evaluated for the Public Beach area, agency-recommended default exposure assumptions were generally not available. Receptor-specific exposure assumptions were derived for the exposure variables (that is, exposure time, frequency, and duration) and intake and physiological variables (that is, ingestion rate, breathing rate, dermal contact rate, and body weight) used in the intake equations. The exposure variables were generally based on best professional judgment, using

knowledge of typical activity patterns. For example, estimates were made of the frequency of visits to the beach area, considering factors such as local climate and time spent at other activities such as school. The intake and physiological variables were estimated based on information provided in the "Exposure Factors Handbook" (EPA 1997c) and, for shellfish consumption, best professional judgment. The values were derived with the intent that the combination of variables for a given pathway would result in an estimate of the RME for that pathway. An RME estimate was achieved by combining high-end estimates for one or more of the most sensitive parameters in each pathway-specific intake equation (for example, exposure duration and exposure frequency) with average values for others (for example, body weight). This approach is consistent with EPA's memorandum "Guidance on Risk Characterization for Risk Managers and Risk Assessors" (EPA 1992b), which states that the RME is best estimated by identifying the most sensitive parameters, using high-end estimates for one or two of these parameters, and average values for all other parameters. In general, the values identified for the exposure parameters are considered conservative, resulting in upper end estimates of potential exposure of the receptors evaluated in this HHRA.

6.7.4 Toxicity Values

The toxicity values used in this assessment were developed by EPA and Cal/EPA to be protective of human health and are generally conservative. The SFs are typically upper-bound estimates based on experimental studies using very high doses that are associated with observations of tumors. Considerable uncertainty is associated with the extrapolation of the dose-response relationships derived from these studies to the very low dose and risk levels observed in an environmental setting. Additionally, the SFs are typically based on results for the most sensitive species tested and large differences in cancer potency are common, so the extrapolation of the dose-response relationships from experimental animals to humans is an uncertain process.

The RfDs are also typically based on the results from studies of the most sensitive species tested. The results of that testing is combined with uncertainty factors to provide a level of protection against unknown and unquantified factors associated with (1) interspecies extrapolations, (2) using the results of tests of less-than-lifetime exposures to evaluate lifetime exposures, (3) using the results of testing by one exposure route to evaluate exposure via another route, (4) uncharacterized variability within the human population, and (4) the overall quality of the database. The corresponding uncertainty factors associated with the RfDs typically range from 100 to 1,000, but can be as high as 10,000.

6.8 SUMMARY AND CONCLUSIONS

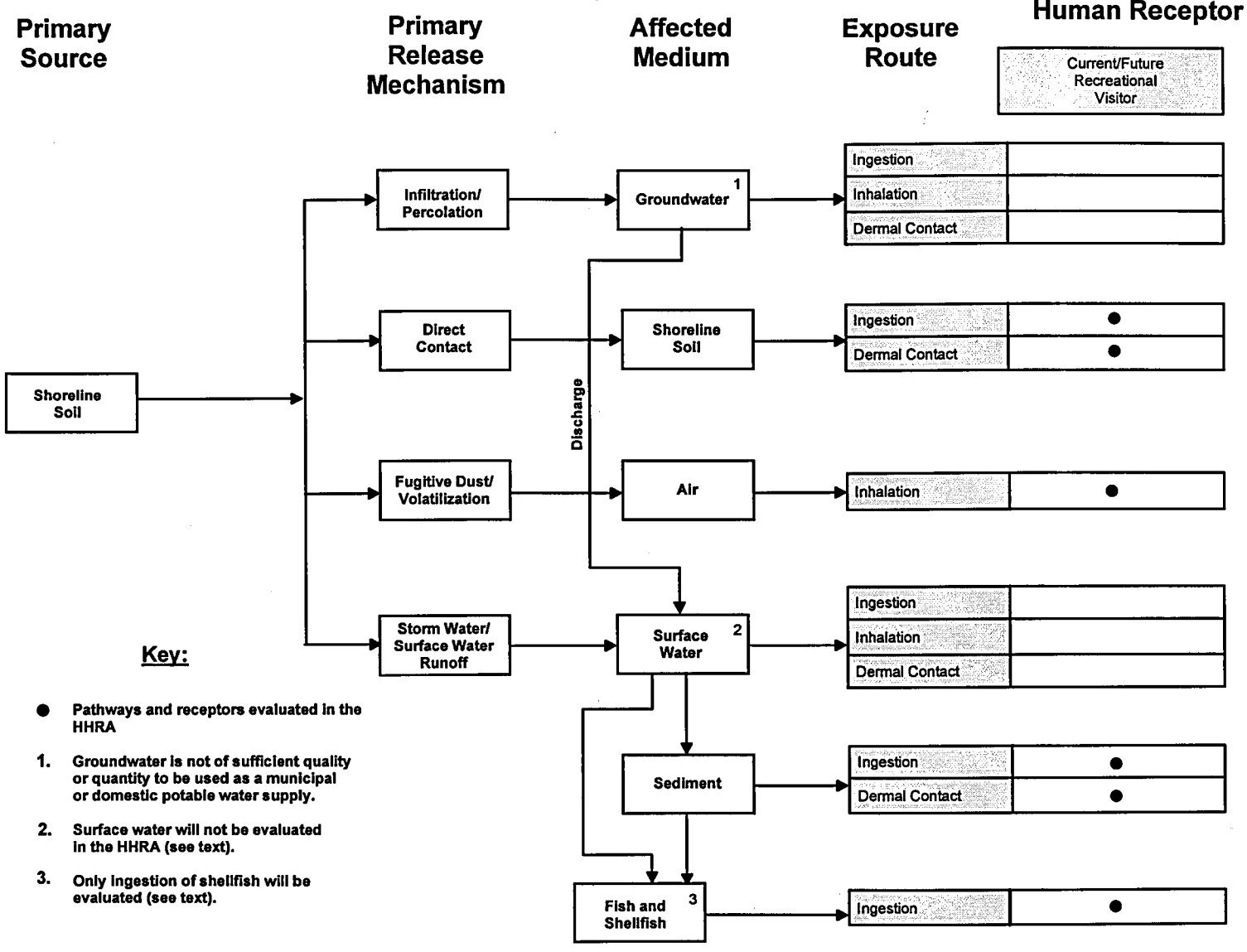
This section summarizes the results of the HHRA evaluating risks associated with potential exposures to soil and sediment at the IR Site 4 Public Beach Area and from ingestion of shellfish collected along the NFD Point Molate shoreline. Although no source of contamination was identified at the Public Beach area in a review of historical records and the potential for contaminant transport to the beach from adjacent IR sites was considered low, the Navy conducted this focused risk assessment to address public concerns for continued safe use of the area. Shellfish ingestion was evaluated because of concerns that shellfish along other areas of the shoreline may have been contaminated by petroleum hydrocarbons released into the offshore area.

The HHRA was conducted consistent with EPA and DTSC risk assessment guidance. The assessment was based on a series of conservative (health protective) assumptions related to exposure, chemical toxicity, and COPC concentrations in environmental media. The COPCs evaluated in the risk assessment were PAHs and other SVOCs. Based on the current and future use of the Public Beach Area for recreational purposes, two receptors were evaluated: a child recreational visitor assumed to play at this area and an adult who collects shellfish for personal consumption. The exposure pathways evaluated for these receptors were incidental ingestion of soil and sediment, dermal contact with soil and sediment, inhalation of airborne particles and VOCs released from soil and sediment, and consumption of shellfish taken from the NFD Point Molate shoreline. Because site-specific information was not available on the fraction of shellfish that would be taken from the site, the HHRA calculated risk estimates assuming that 20 percent and 100 percent of shellfish consumed by an individual comes from the NFD Point Molate shoreline.

For both receptors, the total cancer risks for all pathways are less than the risk management range and the total HIs are below the threshold value of 1, indicating little potential for adverse noncarcinogenic health effects for individuals engaged in recreational activities at the IR Site 4 Public Beach area. These estimates are based on the assumption that 20 percent of the shellfish collected and consumed by the child recreational visitor and adult shellfisher was taken from the NFD Point Molate shoreline. Under the assumption that 100 percent of shellfish consumed comes from the site, the total cancer risks for all exposure pathways are 1.3×10^{-6} for the child recreational visitor and 1.8×10^{-6} for the adult shellfisher, both at the lower end of the risk management range. For both the child recreational visitor and adult shellfisher, the total HIs for all pathways are less than 1 for both shellfish scenarios.

The results of the HHRA indicate that exposure to soil and sediment at the IR Site 4 Public Beach area and ingestion of shellfish collected along the shoreline do not pose a significant health risk to children or adults. Recommendations based on the results of the RI and HHRA are presented in Section 8.5.3.

Figure 6-1
Human Health Conceptual Site Model
Final Phase II RI Report
Naval Fuel Depot Point Molate
IR-4, Public Beach Area



Key:

- ● Pathways and receptors evaluated in the HHRA
1. Groundwater is not of sufficient quality or quantity to be used as a municipal or domestic potable water supply.
2. Surface water will not be evaluated in the HHRA (see text).
3. Only ingestion of shellfish will be evaluated (see text).

TABLE 6-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
SITE 2 SUMMARY OF HUMAN HEALTH RISK ASSESSMENT RESULTS[a]

Site 2 Area	Resident			Occupational Worker		
	Cancer Risk	Hazard Index	Blood Lead	Cancer Risk	Hazard Index	Blood Lead[b]
2A	3×10^{-6}	0.5	8.5	2×10^{-10}	0.03	4.2
2B	7×10^{-7}	0.2	10.4	4×10^{-10}	0.01	4.5
2C	2×10^{-7}	0.08	--	9×10^{-11}	0.004	--
2D	3×10^{-7}	0.09	8.6	5×10^{-11}	0.005	4.2
2E	2×10^{-7}	0.09	--	1×10^{-10}	0.005	--

Notes:

a From TtEMI 1998l
b Blood-lead level in micrograms per deciliter

TABLE 6-2A
(RAGS PART D TABLE 2.1)
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area

CAS Number	Chemical	Min. Conc. (1)	Min. Qual.	Max. Conc. (1)	Max. Qual.	Units	Location of Max. Conc.	Detect. Freq.	Range of DLs	Conc. Used for Screen (2)	Bkg. Value (2)	Screen Tox. Value (2)	ARAR/ TBC Value (2)	ARAR/ TBC Source	COPC Flag (3)	Rationale for Chemical Deletion or Selection
91-57-6	2-Methylnaphthalene	5	J	5	J	ug/kg	SDPB-03	1/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
106-44-5	4-Methylphenol	5	J	56	J	ug/kg	SSPB-07	3/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
86-74-8	Carbazole	13	J	84	J	ug/kg	SSPB-07	4/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-64-9	Dibenzofuran	8	J	8	J	ug/kg	SDPB-03	1/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
83-32-9	Acenaphthene	27	J	140	J	ug/kg	SDPB-03	1/14	54 - 560	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Anthracene	0.5	J	40	J	ug/kg	SDPB-03	9/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
56-55-3	Benzo(a)anthracene	1	J	88	J	ug/kg	SDPB-03	13/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
50-32-8	Benzo(a)pyrene	0.6	J	112	J	ug/kg	SDPB-03	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
205-99-2	Benzo(b)fluoranthene	2	J	98	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
191-24-2	Benzo(g,h,i)perylene	1.1		190	J	ug/kg	SSPB-05	11/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
207-08-9	Benzo(k)fluoranthene	1	J	42	J	ug/kg	SDPB-03	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
218-01-9	Chrysene	1	J	153	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
53-70-3	Dibenz(a,h)anthracene	2	J	43	J	ug/kg	SSPB-05	7/14	5.4 - 56	N/A	N/A	N/A	N/A	N/A	YES	(4)
206-44-0	Fluoranthene	3	J	276	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
193-39-5	Indeno(1,2,3-cd)pyrene	1.1		49		ug/kg	SSPB-05	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
85-01-8	Phenanthrene	3	J	158	J	ug/kg	SDPB-03	13/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
129-00-0	Pyrene	5.7	J	240		ug/kg	SDBP-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)

Notes to table are given at the end of Table 6-2D.

TABLE 6-2B
(RAGS PART D TABLE 2.2)
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area

CAS Number	Chemical	Min. Conc. (1)	Min. Qual.	Max. Conc. (1)	Max. Qual.	Units	Location of Max. Conc.	Detect. Freq.	Range of DLs	Conc. Used for Screen (2)	Bkg. Value (2)	Screen Tox. Value (2)	ARAR/ TBC Value (2)	ARAR/ TBC Source	COPC Flag (3)	Rationale for Chemical Deletion or Selection
91-57-6	2-Methylnaphthalene	5	J	5	J	ug/kg	SDPB-03	1/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
106-44-5	4-Methylphenol	5	J	56	J	ug/kg	SSPB-07	3/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
86-74-8	Carbazole	13	J	84	J	ug/kg	SSPB-07	4/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-64-9	Dibenzofuran	8	J	8	J	ug/kg	SDPB-03	1/14	35 - 2000	N/A	N/A	N/A	N/A	N/A	YES	(4)
83-32-9	Acenaphthene	27	J	140	J	ug/kg	SDPB-03	1/14	54 - 560	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Anthracene	0.5	J	40	J	ug/kg	SDPB-03	9/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
56-55-3	Benzo(a)anthracene	1	J	88	J	ug/kg	SDPB-03	13/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
50-32-8	Benzo(a)pyrene	0.6	J	112	J	ug/kg	SDPB-03	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
205-99-2	Benzo(b)fluoranthene	2	J	98	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
191-24-2	Benzo(g,h,i)perylene	1.1		190	J	ug/kg	SSPB-05	11/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
207-08-9	Benzo(k)fluoranthene	1	J	42	J	ug/kg	SDPB-03	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
218-01-9	Chrysene	1	J	153	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
53-70-3	Dibenz(a,h)anthracene	2	J	43	J	ug/kg	SSPB-05	7/14	5.4 - 56	N/A	N/A	N/A	N/A	N/A	YES	(4)
206-44-0	Fluoranthene	3	J	276	J	ug/kg	SDPB-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
193-39-5	Indeno(1,2,3-cd)pyrene	1.1		49		ug/kg	SSPB-05	12/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
85-01-8	Phenanthrene	3	J	158	J	ug/kg	SDPB-03	13/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)
129-00-0	Pyrene	5.7	J	240		ug/kg	SDBP-03	14/14	2.2 - 22	N/A	N/A	N/A	N/A	N/A	YES	(4)

Notes to table are given at the end of Table 6-2D.

TABLE 6-2C
(RAGS PART D TABLE 2.3)
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline

CAS Number	Chemical	Min. Conc. (1)	Min. Qual.	Max. Conc. (1)	Max. Qual.	Units	Location of Max. Conc.	Detect. Freq.	Range of DLs	Conc. Used for Screen (2)	Bkg. Value (2)	Screen Tox. Value (2)	ARAR/ TBC Value (2)	ARAR/ TBC Source	COPC Flag (3)	Rationale for Chemical Deletion or Selection
83-32-9	Acenaphthene	0.8	J	3	J	ug/kg	T6	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
208-96-8	Acenaphthylene	0.3	J	0.5	J	ug/kg	DL-1-1, T9-1, T10-1-1, T11-1, T11A	6/10	0.2	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Anthracene	2	J	8		ug/kg	T5	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
56-55-3	Benzo(a)anthracene	11		33	J	ug/kg	T2	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
50-32-8	Benzo(a)pyrene	10		18		ug/kg	T6	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
205-99-2	Benzo(b)fluoranthene	13	J	24		ug/kg	T6	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)
191-24-2	Benzo(g,h,i)perylene	8		14		ug/kg	T5	10/10	0.4	N/A	N/A	N/A	N/A	N/A	YES	(4)
207-08-9	Benzo(k)fluoranthene	8		21	J	ug/kg	T2, T6	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
218-01-9	Chrysene	15		43	J	ug/kg	T2	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
53-70-3	Dibenzo(a,h)anthracene	1	J	4	J	ug/kg	T9-1	6/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-64-9	Dibenzofuran	1	J	3	J	ug/kg	T6	10/10	0.3	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-65-0	Dibenzothiophene	1	J	1	J	ug/kg	T3-1-1, T5, T6	3/10	0.3	N/A	N/A	N/A	N/A	N/A	YES	(4)
206-44-0	Fluoranthene	27		62		ug/kg	T6	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Fluorene	1	J	3	J	ug/kg	T6	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
193-39-5	Indeno(1,2,3-cd)pyrene	9	J	15		ug/kg	T5	10/10	0.7	N/A	N/A	N/A	N/A	N/A	YES	(4)
91-57-6	2-Methylnaphthalene	7		7		ug/kg	T6	1/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
91-20-3	Naphthalene	8		8		ug/kg	T6	1/10	0.4	N/A	N/A	N/A	N/A	N/A	YES	(4)
85-01-8	Phenanthrene	8		22	J	ug/kg	T2	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)
129-00-0	Pyrene	20		52		ug/kg	T6	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)

Notes to table are given at the end of Table 6-2D.

TABLE 6-2D
(RAGS PART D TABLE 2.4)
OCCURRENCE, DISTRIBUTION, AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove

CAS Number	Chemical	Min. Conc. (1)	Min. Qual.	Max. Conc. (1)	Max. Qual.	Units	Location of Max. Conc.	Detect. Freq.	Range of DLs	Conc. Used for Screen (2)	Bkg. Value (2)	Screen Tox. Value (2)	ARAR/ TBC Value (2)	ARAR/ TBC Source	COPC Flag (3)	Rationale for Chemical Deletion or Selection
83-32-9	Acenaphthene	0.7	J	0.7	J	ug/kg	REF-1, REF-2, REF-3	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
208-96-8	Acenaphthylene	0.5	J	0.6	J	ug/kg	REF-2	6/10	0.2	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Anthracene	2	J	4	J	ug/kg	REF-2	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
56-55-3	Benzo(a)anthracene	7	J	9		ug/kg	REF-1	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
50-32-8	Benzo(a)pyrene	9		9		ug/kg	REF-1, REF-2, REF-3	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
205-99-2	Benzo(b)fluoranthene	7		8		ug/kg	REF-2, REF-3	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)
191-24-2	Benzo(g,h,i)perylene	9		11	J	ug/kg	REF-3	10/10	0.4	N/A	N/A	N/A	N/A	N/A	YES	(4)
207-08-9	Benzo(k)fluoranthene	6		6		ug/kg	REF-1, REF-2, REF-3	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
218-01-9	Chrysene	9		10		ug/kg	REF-1	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
53-70-3	Dibenzo(a,h)anthracene	1	J	1	J	ug/kg	REF-1, REF-2	6/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-64-9	Dibenzofuran	0.7	J	1	J	ug/kg	REF-1	10/10	0.3	N/A	N/A	N/A	N/A	N/A	YES	(4)
132-65-0	Dibenzothiophene	0.6	J	0.9	J	ug/kg	REF-1	3/10	0.3	N/A	N/A	N/A	N/A	N/A	YES	(4)
206-44-0	Fluoranthene	16		21		ug/kg	REF-1	10/10	0.6	N/A	N/A	N/A	N/A	N/A	YES	(4)
120-12-7	Fluorene	1	J	1	J	ug/kg	REF-1, REF-2, REF-3	10/10	0.5	N/A	N/A	N/A	N/A	N/A	YES	(4)
193-39-5	Indeno(1,2,3-cd)pyrene	9		11	J	ug/kg	REF-3	10/10	0.7	N/A	N/A	N/A	N/A	N/A	YES	(4)
85-01-8	Phenanthrene	8		10		ug/kg	REF-1	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)
129-00-0	Pyrene	16		17		ug/kg	REF-2, REF-3	10/10	0.8	N/A	N/A	N/A	N/A	N/A	YES	(4)

Notes:
(1) Minimum/maximum detected concentration.
(2) Screening values, background concentrations, and ARARs/TBCs were not used for selecting COPCs (see Section 6.3.2).
(3) COPC Flag: Yes indicates the analyte is selected as a COPC for evaluation in the risk assessment.
(4) All analytes detected in one or more samples were retained as COPCs (see Section 6.3.2).

ARAR	Applicable or relevant and appropriate requirement	J	Estimated value
Bkg.	Background	Max.	Maximum
CAS	Chemical abstract service	Min.	Minimum
Conc.	Concentration	N/A	Not applicable
COPC	Chemical of potential concern	TBC	To be considered
Detect.	Detection	Tox.	Toxicity
DLs	Detection limits	Qual.	Qualifier
Freq.	Frequency	ug/kg	Microgram per kilogram
IR	Installation restoration		

TABLE 6-3
(RAGS PART D TABLE 1)
SELECTION OF EXPOSURE PATHWAYS
NFD POINT MOLATE

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis (1)	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future	Surface Soil and Sediment	Surface Soil and Sediment	IR Site 4 Public Beach Area	Recreational Visitor	Child	Dermal	On-Site	Quant	Children may have dermal contact with soil/sediment during recreational activities at the beach.
						Ingestion	On-Site	Quant	Children may ingest soil/sediment through the inadvertent transfer of soil on hands to the mouth.
				Shellfisher	Adult	Dermal	On-Site	Quant	The shellfisher may have dermal contact with soil/sediment on the beach.
						Ingestion	On-Site	Quant	The shellfisher may ingest soil/sediment through the inadvertent transfer of soil on hands to the mouth.
				Park Maintenance Employee	Adult	Dermal	On-Site	None	The child recreational visitor and adult shellfisher have the greatest potential for exposure.
						Ingestion	On-Site	None	The child recreational visitor and adult shellfisher have the greatest potential for exposure.
		Air	IR Site 4 Public Beach Area	Recreational Visitor	Child	Inhalation	On-Site	Quant	Children may inhale soil/sediment particles and volatile organic compounds released from soil.
				Shellfisher	Adult	Inhalation	On-Site	Quant	The shellfisher may inhale soil/sediment particles and volatile organic compounds released from soil.
				Park Maintenance Employee	Adult	Inhalation	On-Site	None	The child recreational visitor and adult shellfisher have the greatest potential for exposure.
	Surface Water	Surface Water	IR Site 4 Shoreline	Recreational Visitor	Child	Dermal	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.
						Ingestion	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.
				Shellfisher	Adult	Dermal	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.
						Ingestion	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.

TABLE 6-3
(RAGS PART D TABLE 1)
SELECTION OF EXPOSURE PATHWAYS
NFD POINT MOLATE

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis (1)	Rationale for Selection or Exclusion of Exposure Pathway
Current/ Future	Surface Water	Surface Water	IR Site 4 Shoreline	Park Maintenance Employee	Adult	Dermal	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.
						Ingestion	On-Site	None	Excluded because contaminants disperse through tidal action, and it is difficult to establish that contaminants are attributable to NFD Point Molate. Cold water and strong currents are a deterrent from swimming.
	Groundwater	Groundwater	IR Site 4 Public Beach Area	Recreational Visitor	Child	Dermal	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
						Ingestion	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
				Shellfisher	Adult	Dermal	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
						Ingestion	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
				Park Maintenance Employee	Adult	Dermal	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
						Ingestion	On-Site	None	Pathway excluded because groundwater does not meet requirements for drinking water.
	Shellfish	Shellfish	IR Site 4 Shoreline	Recreational Visitor	Child	Ingestion	On-Site	Quant	Children may ingest shellfish collected along the shoreline.
				Shellfisher	Adult	Ingestion	On-Site	Quant	The shellfisher is assumed to ingest shellfish collected along the shoreline.
				Park Maintenance Employee	Adult	Ingestion	On-Site	None	The shellfisher has the greatest potential for exposure.

Notes:
(1) Quant indicates the pathway was quantitatively evaluated in the risk assessment; none indicates the pathway was not evaluated.

TABLE 6-4A
(RAGS PART D TABLE 3.1)
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area

Chemical of Potential Concern	Units	Arith. Mean (1)	95% UCL (2)	Max. Detect. Conc.	Max. Qual.	EPC Units	Reasonable Maximum Exposure			Central Tendency Exposure		
							Medium EPC Value	Medium EPC Statistic (3)	Medium EPC Rationale (4)	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
2-Methylnaphthalene	mg/kg	5.00E-03	8.74E-01	5.00E-03	J	mg/kg	5.00E-03	Max	W-Test (L, Max)	N/A	N/A	N/A
4-Methylphenol	mg/kg	2.47E-02	1.02E+00	5.60E-02	J	mg/kg	5.60E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Carbazole	mg/kg	4.80E-02	1.12E+00	8.40E-02	J	mg/kg	8.40E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Dibenzofuran	mg/kg	8.00E-03	1.13E+00	8.00E-03	J	mg/kg	8.00E-03	Max	W-Test (L, Max)	N/A	N/A	N/A
Acenaphthene	mg/kg	1.40E-01	1.52E-01	1.40E-01	J	mg/kg	1.40E-01	Max	W-Test (N, Max)	N/A	N/A	N/A
Anthracene	mg/kg	9.44E-03	2.27E-02	4.00E-02	J	mg/kg	2.27E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benzo(a)anthracene	mg/kg	2.30E-02	1.18E-01	8.80E-02	J	mg/kg	8.80E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(a)pyrene	mg/kg	4.36E-02	2.23E-01	1.12E-01	J	mg/kg	1.12E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(b)fluoranthene	mg/kg	3.07E-02	1.14E-01	9.80E-02	J	mg/kg	9.80E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(g,h,i)perylene	mg/kg	6.37E-02	3.10E-01	1.90E-01	J	mg/kg	1.90E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(k)fluoranthene	mg/kg	1.50E-02	4.37E-02	4.20E-02	J	mg/kg	4.20E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Chrysene	mg/kg	4.08E-02	3.17E-01	1.53E-01	J	mg/kg	1.53E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Dibenz(a,h)anthracene	mg/kg	2.02E-02	3.85E-02	4.30E-02	J	mg/kg	3.85E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Fluoranthene	mg/kg	7.03E-02	4.16E-01	2.76E-01	J	mg/kg	2.76E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	mg/kg	2.05E-02	5.69E-02	4.90E-02		mg/kg	4.90E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Phenanthrene	mg/kg	5.38E-02	2.74E-01	1.58E-01	J	mg/kg	1.58E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Pyrene	mg/kg	7.36E-02	2.74E-01	2.40E-01		mg/kg	2.40E-01	Max	W-Test (L, Max)	N/A	N/A	N/A

Notes to table are given at the end of Table 6-4D.

TABLE 6-4B
(RAGS PART D TABLE 3.2)
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area

Chemical of Potential Concern	Units	Arith. Mean (1)	95% UCL (2)	Max. Detect. Conc.	Max. Qual.	EPC Units	Reasonable Maximum Exposure			Central Tendency Exposure		
							Medium EPC Value	Medium EPC Statistic (3)	Medium EPC Rationale (4)	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
2-Methylnaphthalene	mg/kg	5.00E-03	8.74E-01	5.00E-03	J	mg/kg	5.00E-03	Max	W-Test (L, Max)	N/A	N/A	N/A
4-Methylphenol	mg/kg	2.47E-02	1.02E+00	5.60E-02	J	mg/kg	5.60E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Carbazole	mg/kg	4.80E-02	1.12E+00	8.40E-02	J	mg/kg	8.40E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Dibenzofuran	mg/kg	8.00E-03	1.13E+00	8.00E-03	J	mg/kg	8.00E-03	Max	W-Test (L, Max)	N/A	N/A	N/A
Acenaphthene	mg/kg	1.40E-01	1.52E-01	1.40E-01	J	mg/kg	1.40E-01	Max	W-Test (N, Max)	N/A	N/A	N/A
Anthracene	mg/kg	9.44E-03	2.27E-02	4.00E-02	J	mg/kg	2.27E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benzo(a)anthracene	mg/kg	2.30E-02	1.18E-01	8.80E-02	J	mg/kg	8.80E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(a)pyrene	mg/kg	4.36E-02	2.23E-01	1.12E-01	J	mg/kg	1.12E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(b)fluoranthene	mg/kg	3.07E-02	1.14E-01	9.80E-02	J	mg/kg	9.80E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(g,h,i)perylene	mg/kg	6.37E-02	3.10E-01	1.90E-01	J	mg/kg	1.90E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Benzo(k)fluoranthene	mg/kg	1.50E-02	4.37E-02	4.20E-02	J	mg/kg	4.20E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Chrysene	mg/kg	4.08E-02	3.17E-01	1.53E-01	J	mg/kg	1.53E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Dibenz(a,h)anthracene	mg/kg	2.02E-02	3.85E-02	4.30E-02	J	mg/kg	3.85E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Fluoranthene	mg/kg	7.03E-02	4.16E-01	2.76E-01	J	mg/kg	2.76E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	mg/kg	2.05E-02	5.69E-02	4.90E-02		mg/kg	4.90E-02	Max	W-Test (L, Max)	N/A	N/A	N/A
Phenanthrene	mg/kg	5.38E-02	2.74E-01	1.58E-01	J	mg/kg	1.58E-01	Max	W-Test (L, Max)	N/A	N/A	N/A
Pyrene	mg/kg	7.36E-02	2.74E-01	2.40E-01		mg/kg	2.40E-01	Max	W-Test (L, Max)	N/A	N/A	N/A

Notes to table are given at the end of Table 6-4D.

TABLE 6-4C
(RAGS PART D TABLE 3.3)
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline

Chemical of Potential Concern	Units	Arith. Mean (1)	95% UCL (2)	Max. Detect. Conc.	Max. Qual.	EPC Units	Reasonable Maximum Exposure			Central Tendency Exposure		
							Medium EPC Value	Medium EPC Statistic (3)	Medium EPC Rationale (4)	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Acenaphthene	mg/kg	1.16E-03	1.54E-03	3.00E-03	J	mg/kg	1.54E-03	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Acenaphthylene	mg/kg	1.28E-03	1.89E-03	5.00E-04	J	mg/kg	5.00E-04	Max	W-Test (U, Max)	N/A	N/A	N/A
Anthracene	mg/kg	4.10E-03	5.82E-03	8.00E-03		mg/kg	5.82E-03	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benz(a)anthracene	mg/kg	1.68E-02	2.13E-02	3.30E-02	J	mg/kg	2.13E-02	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Benzo(a)pyrene	mg/kg	1.28E-02	1.45E-02	1.80E-02		mg/kg	1.45E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benzo(b)fluoranthene	mg/kg	1.70E-02	1.93E-02	2.40E-02		mg/kg	1.93E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benzo(g,h,i)perylene	mg/kg	1.01E-02	1.13E-02	1.40E-02		mg/kg	1.13E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Benzo(k)fluoranthene	mg/kg	1.39E-02	1.69E-02	2.10E-02	J	mg/kg	1.69E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Chrysene	mg/kg	2.37E-02	3.09E-02	4.30E-02	J	mg/kg	3.09E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Dibenzo(a,h)anthracene	mg/kg	2.14E-03	3.05E-03	4.00E-03	J	mg/kg	3.05E-03	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Dibenzofuran	mg/kg	1.30E-03	1.69E-03	3.00E-03	J	mg/kg	1.69E-03	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Dibenzothiophene	mg/kg	4.05E-04	6.40E-04	1.00E-03	J	mg/kg	6.40E-04	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Fluoranthene	mg/kg	3.62E-02	4.37E-02	6.20E-02		mg/kg	4.37E-02	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Fluorene	mg/kg	1.70E-03	2.09E-03	3.00E-03	J	mg/kg	2.09E-03	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	mg/kg	1.16E-02	1.31E-02	1.50E-02		mg/kg	1.31E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
2-Methylnaphthalene	mg/kg	2.95E-03	3.77E-03	7.00E-03		mg/kg	3.77E-03	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Naphthalene	mg/kg	3.05E-03	4.06E-03	8.00E-03		mg/kg	4.06E-03	95% UCL-N	W-Test (U)	N/A	N/A	N/A
Phenanthrene	mg/kg	1.20E-02	1.48E-02	2.20E-02	J	mg/kg	1.48E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A
Pyrene	mg/kg	3.10E-02	3.85E-02	5.20E-02		mg/kg	3.85E-02	95% UCL-L	W-Test (L)	N/A	N/A	N/A

Notes to table are given at the end of Table 6-4D.

TABLE 6-4D
(RAGS PART D TABLE 3.4)
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove

							Reasonable Maximum Exposure			Central Tendency Exposure		
Chemical of Potential Concern	Units	Arith. Mean (1)	95% UCL (2)	Max. Detect. Conc.	Max. Qual.	EPC Units	Medium EPC Value	Medium EPC Statistic (3)	Medium EPC Rationale (4)	Medium EPC Value	Medium EPC Statistic	Medium EPC Rationale
Acenaphthene	mg/kg	7.00E-04	7.00E-04	7.00E-04	J	mg/kg	7.00E-04	95% UCL-N, Max	W-Test (U, Max)	N/A	N/A	N/A
Acenaphthylene	mg/kg	1.20E-03	3.10E-03	6.00E-04	J	mg/kg	6.00E-04	Max	W-Test (U, Max)	N/A	N/A	N/A
Anthracene	mg/kg	3.00E-03	4.69E-03	4.00E-03	J	mg/kg	4.00E-03	Max	W-Test (U, Max)	N/A	N/A	N/A
Benz(a)anthracene	mg/kg	8.00E-03	9.69E-03	9.00E-03		mg/kg	9.00E-03	Max	W-Test (U, Max)	N/A	N/A	N/A
Benzo(a)pyrene	mg/kg	9.00E-03	9.00E-03	9.00E-03		mg/kg	9.00E-03	95% UCL-N, Max	W-Test (U, Max)	N/A	N/A	N/A
Benzo(b)fluoranthene	mg/kg	7.67E-03	8.64E-03	8.00E-03		mg/kg	8.00E-03	Max	W-Test (U, Max)	N/A	N/A	N/A
Benzo(g,h,i)perylene	mg/kg	1.00E-02	1.17E-02	1.10E-02	J	mg/kg	1.10E-02	Max	W-Test (U, Max)	N/A	N/A	N/A
Benzo(k)fluoranthene	mg/kg	6.00E-03	6.00E-03	6.00E-03		mg/kg	6.00E-03	95% UCL-N, Max	W-Test (U, Max)	N/A	N/A	N/A
Chrysene	mg/kg	9.33E-03	1.03E-02	1.00E-02		mg/kg	1.00E-02	Max	W-Test (U, Max)	N/A	N/A	N/A
Dibenzo(a,h)anthracene	mg/kg	1.50E-03	2.96E-03	1.00E-03	J	mg/kg	1.00E-03	Max	W-Test (U, Max)	N/A	N/A	N/A
Dibenzofuran	mg/kg	8.67E-04	1.12E-03	1.00E-03	J	mg/kg	1.00E-03	Max	W-Test (U, Max)	N/A	N/A	N/A
Dibenzothiophene	mg/kg	5.50E-04	1.19E-03	9.00E-04	J	mg/kg	9.00E-04	Max	W-Test (U, Max)	N/A	N/A	N/A
Fluoranthene	mg/kg	1.77E-02	2.25E-02	2.10E-02		mg/kg	2.10E-02	Max	W-Test (U, Max)	N/A	N/A	N/A
Fluorene	mg/kg	1.00E-03	1.00E-03	1.00E-03	J	mg/kg	1.00E-03	95% UCL-N, Max	W-Test (U, Max)	N/A	N/A	N/A
Indeno(1,2,3-cd)pyrene	mg/kg	1.00E-02	1.17E-02	1.10E-02	J	mg/kg	1.10E-02	Max	W-Test (U, Max)	N/A	N/A	N/A
Phenanthrene	mg/kg	8.67E-03	1.06E-02	1.00E-02		mg/kg	1.00E-02	Max	W-Test (U, Max)	N/A	N/A	N/A
Pyrene	mg/kg	1.67E-02	1.76E-02	1.70E-02		mg/kg	1.70E-02	Max	W-Test (U, Max)	N/A	N/A	N/A

TABLE 6-4D
(RAGS PART D TABLE 3.4)
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
NFD POINT MOLATE

Notes:

Arith.	Arithmetic
Conc.	Concentration
Detect.	Detected
EPC	Exposure point concentration
J	Estimated value
Max.	Maximum
mg/kg	Milligram per kilogram
Qual.	Qualifier
UCL	Upper confidence limit on the arithmetic mean
N/A	Not applicable

(1) Arithmetic mean of detected concentrations.
(2) The value presented is the 95% UCL on the arithmetic mean, calculated using distribution-dependent formulas. Substitute values of one-half the sample detection limit were used for all analytical results reported as not detected.
(3) Indicates the medium EPC is (1) the 95% UCL of a normally distributed data set (95% UCL-N), (2) the 95% UCL of a lognormally distributed data set (95% UCL-L), or (3) the maximum detected concentration (Max).
(4) The Shapiro-Wilks test indicates the data has a normal, W-Test (N); lognormal, W-Test (L); or unknown, W-Test (U) distribution. The 95% UCL of a normal distribution is assumed for data sets with an unknown distribution and for data sets with 3 or fewer detected concentrations. "Max" indicates the maximum detected concentration is used as the EPC because it is less than the 95% UCL (N, L, or U).

TABLE 6-5A
(RAGS PART D TABLE 4.1)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational visitor
Receptor Age: Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Ingestion	EPC	Exposure point concentration in soil	mg/kg	See Table 6-4A	See Table 6-4A	--	--	Intake (mg/kg-d) = EPCsoil x FI x IRS x EF x ED x MCF / BW x AT
	FI	Fraction ingested	unitless	1	EPA 1989a, 1991d	--	--	
	IRS	Soil ingestion rate	mg/day	200	(1)	--	--	
	EF	Exposure frequency	days/year	64	(2)	--	--	
	ED	Exposure duration	years	12	(3)	--	--	
	MCF	Mass conversion factor	kg/mg	10^{-6}	--	--	--	
	BW	Body weight	kg	36	(4)	--	--	
	AT-NC	Averaging time for noncarcinogens	days	4,380	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	
Dermal	EPC	Exposure point concentration in soil	mg/kg	See Table 6-4A	See Table 6-4A	--	--	Intake (mg/kg-d) = EPCsoil x SA x AF x ABS x EF x ED x MCF / BW x AT
	SA	Body surface area	cm^2/day	7,600	EPA 1997c (See Section 6.4.4.3)	--	--	
	AF	Soil adherence factor	mg/cm^2	0.3	EPA 1998b,d	--	--	
	ABS	Dermal absorption factor	unitless	Chemical-specific	See Section 6.4.4.3	--	--	

TABLE 6-5A
(RAGS PART D TABLE 4.1)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational visitor
Receptor Age: Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Dermal (cont'd)	EF	Exposure frequency	days/year	64	(2)	--	--	Intake (mg/kg-d) = $\frac{EPCsoil \times SA \times AF \times ABS \times EF \times ED \times MCF}{BW \times AT}$
	ED	Exposure duration	years	12	(3)	--	--	
	MCF	Mass conversion factor	kg/mg	10^{-6}	--	--	--	
	BW	Body weight	kg	36	(4)	--	--	
	AT-NC	Averaging time for noncarcinogens	days	4,380	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) The soil ingestion rate is assumed to be the same as the default rate for a child resident (see Section 6.4.2.2).
(2) The exposure frequency is for a child visiting the area 4 days a week for 14 weeks during the summer months and 1 day a week during May and September, that is, 8 additional weeks (see Section 6.4.4.1).
(3) The exposure duration for the child recreational visitor is 12 years, based on the assumed age of 4 to 16 years (see Section 6.4.1.1).
(4) The body weight is calculated from the average weights reported for 1-year-incremental age groups (4 to 16 years of age), for males and females (EPA 1997c).

cm^2/day	Square centimeter per day	mg/cm^2	Milligram per square centimeter
CTE	Central tendency exposure	mg/day	Milligram per day
IR	Installation restoration	mg/kg	Milligram per kilogram
kg	Kilogram	mg/kg-d	Milligram per kilogram per day
kg/mg	Kilogram per milligram	RME	Reasonable maximum exposure

TABLE 6-5B
(RAGS PART D TABLE 4.2)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Ingestion	EPC	Exposure point concentration in soil	mg/kg	See Table 6-4A	See Table 6-4A	--	--	Intake (mg/kg-d) = EPCsoil x FI x IRS x EF x ED x MCF / BW x AT
	FI	Fraction ingested	unitless	1	EPA 1989a, 1991d	--	--	
	IRS	Soil ingestion rate	mg/day	200	(1)	--	--	
	EF	Exposure frequency	days/year	26	(2)	--	--	
	ED	Exposure duration	years	30	EPA 1989a, 1991d	--	--	
	MCF	Mass conversion factor	kg/mg	10^{-6}	--	--	--	
	BW	Body weight	kg	70	EPA 1989a, 1991d	--	--	
	AT-NC	Averaging time for noncarcinogens	days	10,950	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	
Dermal	EPC	Exposure point concentration in soil	mg/kg	See Table 6-4A	See Table 6-4A	--	--	Intake (mg/kg-d) = EPCsoil x SA x AF x ABS x EF x ED x MCF / BW x AT
	SA	Body surface area	cm^2/day	10,000	EFA 1997c (See Section 6.4.4.3)	--	--	
	AF	Soil adherence factor	mg/cm^2	0.08	EPA 1998b,d	--	--	
	ABS	Dermal absorption factor	unitless	Chemical-specific	See Section 6.4.4.3	--	--	

TABLE 6-5B
(RAGS PART D TABLE 4.2)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Dermal (cont'd)	EF	Exposure frequency	days/year	26	(2)	--	--	Intake (mg/kg-d) = $\frac{EPCsoil \times SA \times AF \times ABS \times EF \times ED \times MCF}{BW \times AT}$
	ED	Exposure duration	years	30	EPA 1989a, 1991d	--	--	
	MCF	Mass conversion factor	kg/mg	10^{-6}	--	--	--	
	BW	Body weight	kg	70	EPA 1989a, 1991d	--	--	
	AT-NC	Averaging time for noncarcinogens	days	10,950	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) Because collecting shellfish involves extensive contact with soil, a high soil ingestion rate of 200 mg/day was assumed based on professional judgment (see Section 6.4.2.2).
(2) The exposure frequency assumes that an individual collects shellfish an average of once every 2 weeks (see Section 6.4.4.1).

cm^2/day	Square centimeter per day	mg/cm^2	Milligram per square centimeter
CTE	Central tendency exposure	mg/day	Milligram per day
IR	Installation restoration	mg/kg	Milligram per kilogram
kg	Kilogram	mg/kg-d	Milligram per kilogram per day
kg/mg	Kilogram per milligram	RME	Reasonable maximum exposure

TABLE 6-5C
(RAGS PART D TABLE 4.3)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational visitor
Receptor Age: Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Inhalation	EPC	Exposure point concentration in air	mg/m^3	See Table 6-8C	See Table 6-8A	--	--	Intake (mg/kg-d) = $\frac{EPCair \times IR \times ET \times EF \times ED}{BW \times AT}$
	IR	Inhalation rate	m^3/hr	1.2	EPA 1997c	--	--	
	ET	Exposure time	hr/day	2	(1)	--	--	
	EF	Exposure frequency	days/year	64	(2)	--	--	
	ED	Exposure duration	years	12	(3)	--	--	
	BW	Body weight	kg	36	(4)	--	--	
	AT-NC	Averaging time for noncarcinogens	days	4,380	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) The exposure time is based on professional judgment (see Section 6.4.1.1).
(2) The exposure frequency is for a child visiting the area 4 days a week for 14 weeks during the summer months and 1 day a week during May and September, that is, 8 additional weeks (see Section 6.4.4.1).
(3) The exposure duration for the child recreational visitor is 12 years, based on the assumed age of 4 to 16 years (see Section 6.4.1.1).
(4) The body weight is calculated from the average weights reported for 1-year-incremental age groups (4 to 16 years of age), for males and females (EPA 1997c).

CTE	Central tendency exposure	m^3/hr	Cubic meter per hour
kg	Kilogram	mg/kg-d	Milligram per kilogram per day
hr/day	Hour per day	mg/m^3	Milligram per cubic meter
IR	Installation restoration	RME	Reasonable maximum exposure

TABLE 6-5D
(RAGS PART D TABLE 4.4)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Inhalation	EPC	Exposure point concentration in air	mg/m^3	See Table 6-8D	See Table 6-8D	--	--	
	IR	Inhalation rate	m^3/hr	1.6	EPA 1997c	--	--	Intake (mg/kg-d) =
	ET	Exposure time	hr/day	2	(1)	--	--	$\frac{EPCair \times IR \times ET \times EF \times ED}{BW \times AT}$
	EF	Exposure frequency	days/year	26	(2)	--	--	
	ED	Exposure duration	years	30	EPA 1989a, 1991d	--	--	
	BW	Body weight	kg	70	EPA 1989a, 1991d	--	--	
	AT-NC	Averaging time for noncarcinogens	days	10,950	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) The exposure time is based on professional judgment (see Section 6.4.1.1).
(2) The exposure frequency assumes that an individual collects shellfish an average of once every 2 weeks (see Section 6.4.4.1).

CTE	Central tendency exposure	m^3/hr	Cubic meter per hour
kg	Kilogram	mg/kg-d	Milligram per kilogram per day
hr/day	Hour per day	mg/m^3	Milligram per cubic meter
IR	Installation restoration	RME	Reasonable maximum exposure

TABLE 6-5E
(RAGS PART D TABLE 4.5)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Recreational visitor
Receptor Age: Child

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Ingestion	EPC	Exposure point concentration in shellfish	mg/kg	See Table 6-4C	See Table 6-4C	--	--	Intake (mg/kg-d) = $\frac{EPCshellfish \times FI \times CR \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction ingested	unitless	0.2	See Section 6.4.4.5	--	--	
	CR	Shellfish consumption rate	g/day	5	See Section 6.4.4.5	--	--	
	EF	Exposure frequency	days/year	350	(1)	--	--	
	ED	Exposure duration	years	12	(2)	--	--	
	CF	Conversion factor	kg/g	10^{-3}	--	--	--	
	BW	Body weight	kg	36	(3)	--	--	
	AT-NC	Averaging time for noncarcinogens	days	4,380	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) The exposure frequency corresponds to the shellfish ingestion rate, given as the average daily value.
(2) The exposure duration for the child is based on the assumed age of 4 to 16 years (see Section 6.4.1.1).
(3) The body weight is calculated from the average weights reported for 1-year-incremental age groups (4 to 16 years of age), for males and females (EPA 1997c).

CTE	Central tendency exposure	kg/g	Kilogram per gram
g/day	Gram per day	mg/kg	Milligram per kilogram
IR	Installation restoration	mg/kg-d	Milligram per kilogram per day
kg	Kilogram	RME	Reasonable maximum exposure

TABLE 6-5F
(RAGS PART D TABLE 4.6)
VALUES FOR DAILY INTAKE CALCULATIONS
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Parameter Code	Parameter Definition	Units	RME Value	RME Rationale/ Reference	CTE Value	CTE Rationale/ Reference	Intake Equation/Model Name
Ingestion	EPC	Exposure point concentration in shellfish	mg/kg	See Table 6-4A	See Table 6-4A	--	--	Intake (mg/kg-d) = $\frac{EPCshellfish \times FI \times CR \times EF \times ED \times CF}{BW \times AT}$
	FI	Fraction ingested	unitless	0.2	See Section 6.4.4.5	--	--	
	CR	Shellfish consumption rate	g/day	9.2	(1)	--	--	
	EF	Exposure frequency	days/year	350	(2)	--	--	
	ED	Exposure duration	years	30	EPA 1989a, 1991d	--	--	
	CF	Conversion factor	kg/g	10^{-3}	--	--	--	
	BW	Body weight	kg	70	EPA 1989a, 1991d	--	--	
	AT-NC	Averaging time for noncarcinogens	days	10,950	EPA 1989a, 1991d	--	--	
	AT-C	Averaging time for carcinogens	days	25,550	EPA 1989a, 1991d	--	--	

Notes:

(1) The shellfish consumption rate is based on the 95th percentile consumption rate determined in a Santa Monica Bay study (Southern California Coastal Water Research Plan and MBC Applied Environmental Sciences 1994), 161 g/day. Of the 161 g/day amount, 5.7 percent was shellfish, which equates to a shellfish consumption rate of 9.2 g/day.
(2) The exposure frequency corresponds to the shellfish ingestion rate, given as the average daily value.

CTE	Central tendency exposure	kg/g	Kilogram per gram
g/day	Gram per day	mg/kg	Milligram per kilogram
IR	Installation restoration	mg/kg-d	Milligram per kilogram per day
kg	Kilogram	RME	Reasonable maximum exposure

TABLE 6-6A
(RAGS PART D TABLE 5.1)
NON-CANCER TOXICITY DATA -- ORAL/DERMAL
NFD POINT MOLATE

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD Value	Units	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal RfD (2)	Units	Primary Target Organ	Combined Uncertainty/ Modifying Factors	Sources of RfD and Target Organ (3)	Date (4)
2-Methylnaphthalene	Chronic	2.00E-02	mg/kg-d	100%	2.00E-02	mg/kg-d	Decreased body weight	3000	(5)	(5)
4-Methylphenol	Chronic	5.00E-03	mg/kg-d	100%	5.00E-03	mg/kg-d	Lung, CNS, whole body	na	HEAST	07/31/97
Carbazole	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Dibenzofuran	Chronic	4.00E-03	mg/kg-d	100%	4.00E-03	mg/kg-d	na	na	(6)	(6)
Dibenzothiophene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Acenaphthene	Chronic	6.00E-02	mg/kg-d	100%	6.00E-02	mg/kg-d	Liver	3000	IRIS	03/17/99
Acenaphthylene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Anthracene	Chronic	3.00E-01	mg/kg-d	100%	3.00E-01	mg/kg-d	NOAEL	3000	IRIS	03/17/99
Benzo(a)anthracene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Benzo(a)pyrene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Benzo(b)fluoranthene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Benzo(g,h,i)perylene	Chronic	3.00E-02	mg/kg-d	100%	3.00E-02	mg/kg-d	Kidney	3000	(5)	(5)
Benzo(k)fluoranthene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Chrysene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Dibenz(a,h)anthracene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Fluoranthene	Chronic	4.00E-02	mg/kg-d	100%	4.00E-02	mg/kg-d	Kidney, liver, blood	3000	IRIS	03/17/99
Fluorene	Chronic	4.00E-02	mg/kg-d	100%	4.00E-02	mg/kg-d	Blood	3000	IRIS	03/17/99
Indeno(1,2,3-cd)pyrene	Chronic	na	N/A	N/A	N/A	N/A	na	na	N/A	N/A
Naphthalene	Chronic	2.00E-02	mg/kg-d	100%	2.00E-02	mg/kg-d	Decreased body weight	3000	IRIS	03/17/99
Phenanthrene	Chronic	3.00E-01	mg/kg-d	100%	3.00E-01	mg/kg-d	NOAEL	3000	(5)	(5)
Pyrene	Chronic	3.00E-02	mg/kg-d	100%	3.00E-02	mg/kg-d	Kidney	3000	IRIS	03/17/99

Notes:

(1) Default value of 100% oral absorption was assumed.
(2) The adjusted dermal RfD is the product of the oral RfD times the dermal adjustment factor.
(3) HEAST (EPA 1997a), IRIS (EPA 1999), Region 9 (EPA 1998b)
(4) Date provided is the date IRIS was accessed or the document date for HEAST and Region 9.
(5) Toxicity values for naphthalene, pyrene, and anthracene were used for 2-methylnaphthalene, benzo(g,h,i)perylene, and phenanthrene, respectively.
(6) No target organ is available for RfDs taken from the Region PRG document (EPA 1998b).

CNS	Central nervous sytem	na	Not available
EPA	U.S. Environmental Protection Agency	N/A	Not applicable
HEAST	Health Effects Assessment Summary Tables	NOAEL	No observed adverse effects level
IRIS	Integrated Risk Information System	Region 9	EPA Region 9
mg/kg-d	Milligram per kilogram per day	RfD	Reference dose

TABLE 6-6B
(RAGS PART D TABLE 5.2)
NON-CANCER TOXICITY DATA -- INHALATION
NFD POINT MOLATE

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC Value	Units	Inhalation RfD	Units	Primary Target Organ	Combined Uncertainty/ Modifying Factors	Sources of RfC, RfD and Target Organ	Date of RfC and Target Organ
2-Methylnaphthalene	Chronic	3.00E-03	mg/m^3	8.57E-04	mg/kg-d	Respiratory tract	3000	(1)	(1)
4-Methylphenol	Chronic	na	N/A	5.00E-03	mg/kg-d	Lung, CNS, whole body	na	(2)	00/00/98
Carbazole	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Dibenzofuran	Chronic	na	N/A	4.00E-03	mg/kg-d	N/A	na	(2)	00/00/98
Dibenzothiophene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Acenaphthene	Chronic	na	N/A	6.00E-02	mg/kg-d	Liver	3000	(2)	00/00/98
Acenaphthylene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Anthracene	Chronic	na	N/A	3.00E-01	mg/kg-d	NOAEL	3000	(2)	00/00/98
Benzo(a)anthracene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Benzo(a)pyrene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Benzo(b)fluoranthene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Benzo(g,h,i)perylene	Chronic	na	N/A	3.00E-02	mg/kg-d	Kidney	3000	(1)	(1)
Benzo(k)fluoranthene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Chrysene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Dibenz(a,h)anthracene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Fluoranthene	Chronic	na	N/A	4.00E-02	mg/kg-d	Kidney, liver, blood	3000	(2)	00/00/98
Fluorene	Chronic	na	N/A	4.00E-02	mg/kg-d	Blood	3000	(2)	00/00/98
Indeno(1,2,3-cd)pyrene	Chronic	na	N/A	na	N/A	N/A	na	N/A	N/A
Naphthalene	Chronic	3.00E-03	mg/m^3	8.57E-04	mg/kg-d	Respiratory tract	3000	IRIS	03/17/98
Phenanthrene	Chronic	na	N/A	3.00E-01	mg/kg-d	NOAEL	3000	(1)	(1)
Pyrene	Chronic	na	N/A	3.00E-02	mg/kg-d	Kidney	3000	(2)	00/00/98

Notes:

(1) Toxicity values for naphthalene, pyrene, and anthracene were used for 2-methylnaphthalene, benzo(g,h,i)perylene, and phenanthrene, respectively.
(2) RfD based on route-to-route extrapolation, as presented in the Region 9 PRG table (EPA 1998b).

EPA	U.S. Environmental Protection Agency	N/A	Not applicable
IRIS	Integrated Risk Information System	NOAEL	No observed adverse effects level
mg/m^3	Milligrams per cubic meter	Region 9	EPA Region 9
mg/kg-d	Milligrams per kilogram per day	RfC	Reference concentration
na	Not available	RfD	Reference dose

TABLE 6-7A
(RAGS PART D TABLE 6.1)
CANCER TOXICITY DATA -- ORAL/DERMAL
NFD POINT MOLATE

Chemical of Potential Concern	Oral Cancer Slope Factor	Oral to Dermal Adjustment Factor (1)	Adjusted Dermal Cancer Slope Factor (2)	Units	EPA Weight of Evidence (3)	Source (4)	Date (5)
2-Methylnaphthalene	na	N/A	N/A	N/A	C	IRIS	03/17/99
4-Methylphenol	na	N/A	N/A	N/A	C	IRIS	03/17/99
Carbazole	2.00E-02	100%	2.00E-02	$(mg/kg\text{-}d)^{-1}$	B2	HEAST	07/31/97
Dibenzofuran	na	N/A	N/A	N/A	D	IRIS	03/17/99
Dibenzothiophene	na	N/A	N/A	N/A	na	IRIS	05/01/00
Acenaphthene	na	N/A	N/A	N/A	na	IRIS	03/17/99
Acenaphthylene	na	N/A	N/A	N/A	D	IRIS	05/01/00
Anthracene	na	N/A	N/A	N/A	D	IRIS	03/17/99
Benzo(a)anthracene	7.30E-01	100%	7.30E-01	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Benzo(a)pyrene	7.30E+00	100%	7.30E+00	$(mg/kg\text{-}d)^{-1}$	B2	IRIS	03/17/99
Benzo(b)fluoranthene	7.30E-01	100%	7.30E-01	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Benzo(g,h,i)perylene	na	N/A	N/A	N/A	D	IRIS	03/17/99
Benzo(k)fluoranthene	7.30E-02	100%	7.30E-02	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Chrysene	7.30E-03	100%	7.30E-03	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Dibenz(a,h)anthracene	7.30E+00	100%	7.30E+00	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Fluoranthene	na	N/A	N/A	N/A	D	IRIS	03/17/99
Fluorene	na	N/A	N/A	N/A	D	IRIS	03/17/99
Indeno(1,2,3-cd)pyrene	7.3E-01	100%	7.30E-01	$(mg/kg\text{-}d)^{-1}$	B2	Region 9	00/00/98
Naphthalene	na	N/A	N/A	N/A	C	IRIS	03/17/99
Phenanthrene	na	N/A	N/A	N/A	D	IRIS	03/17/99
Pyrene	na	N/A	N/A	N/A	D	IRIS	03/17/99

Notes:

(1) Default value of 100% oral absorption was assumed.
(2) The adjusted dermal slope factor is the product of the oral slope factor times the dermal adjustment factor.
(3) EPA Weight-of-Evidence
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
(4) HEAST (EPA 1997a), IRIS (EPA 1999), Region 9 (EPA 1998b)
(5) Date provided is the date IRIS was accessed or the document date for HEAST and Region 9.

EPA	U.S. Environmental Protection Agency	N/A	Not applicable
HEAST	Health Effects Assessment Summary Tables	na	Not available
IRIS	Integrated Risk Information System	Region 9	EPA Region 9
$(mg/kg\text{-}d)^{-1}$	1/Milligram per kilogram per day		

TABLE 6-7B
(RAGS PART D TABLE 6.2)
CANCER TOXICITY DATA -- INHALATION
NFD POINT MOLATE

Chemical of Potential Concern	Unit Risk	Units	Adjustment	Inhalation Cancer Slope Factor	Units	Weight of Evidence (1)	Source (2)	Date (3)
2-Methylnaphthalene	na	N/A	N/A	na	N/A	C	(4)	(4)
4-Methylphenol	na	N/A	N/A	na	N/A	C	IRIS	03/17/99
Carbazole	na	N/A	N/A	2.00E-02	N/A	B2	(6)	(6)
Dibenzofuran	na	N/A	N/A	na	N/A	D	IRIS	03/17/99
Acenaphthene	na	N/A	N/A	na	N/A	na	IRIS	03/17/99
Anthracene	na	N/A	N/A	na	N/A	D	IRIS	03/17/99
Benzo(a)anthracene	1.1E-04	$(\mu g/m^3)^{-1}$	(5)	3.90E-01	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Benzo(a)pyrene	1.1E-03	$(\mu g/m^3)^{-1}$	(5)	3.90E+00	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Benzo(b)fluoranthene	1.1E-04	$(\mu g/m^3)^{-1}$	(5)	3.90E-01	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Benzo(g,h,i)perylene	na	N/A	N/A	na	N/A	D	(4)	(4)
Benzo(k)fluoranthene	1.1E-04	$(\mu g/m^3)^{-1}$	(5)	3.90E-01	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Chrysene	1.1E-05	$(\mu g/m^3)^{-1}$	(5)	3.90E-02	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Dibenz(a,h)anthracene	1.1E-03	$(\mu g/m^3)^{-1}$	(5)	3.90E+00	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Fluoranthene	na	N/A	N/A	na	N/A	D	IRIS	03/17/99
Fluorene	na	N/A	N/A	na	N/A	D	IRIS	03/17/99
Indeno(1,2,3-cd)pyrene	1.1E-04	$(\mu g/m^3)^{-1}$	(5)	3.90E-01	$(mg/kg\text{-}d)^{-1}$	B2	Cal/EPA	04/04/95
Naphthalene	na	N/A	N/A	na	N/A	C	IRIS	03/17/99
Phenanthrene	na	N/A	N/A	na	N/A	D	(4)	(4)
Pyrene	na	N/A	N/A	na	N/A	D	IRIS	03/17/99

Notes:
(1) EPA Weight-of-Evidence
A - Human carcinogen
B1 - Probable human carcinogen - indicates that limited human data are available
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans
C - Possible human carcinogen
D - Not classifiable as a human carcinogen
(2) HEAST (EPA 1997a), IRIS (EPA 1999), Region 9 (EPA 1998b)
(3) Date provided is the date IRIS was accessed or the document date for HEAST and Cal/EPA.
(4) Toxicity values for naphthalene, pyrene, and anthracene were used for 2-methylnaphthalene, benzo(g,h,i)perylene, and phenanthrene, respectively.
(5) Adjustment factor applied to Unit Risk to calculate Inhalation Slope Factor = Unit Risk/2.86 x 10^{-4}.
(6) Route to route extrapolation.

Cal/EPA	California Environmental Protection Agency	$(mg/kg\text{-}d)^{-1}$	1/Milligram per kilogram per day
EPA	U.S. Environmental Protection Agency	na	Not available
HEAST	Health Effects Assessment Summary Tables	N/A	Not applicable
IRIS	Integrated Risk Information System	$(\mu g/m^3)^{-1}$	1/Microgram per cubic meter

TABLE 6-8A
(RAGS PART D TABLE 7.1)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	4.87E-09	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	2.44E-07
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	5.46E-08	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	1.09E-05
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	8.18E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	7.79E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	1.95E-06
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	1.36E-07	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	2.27E-06
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	2.21E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	7.36E-08
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	8.57E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.09E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	9.55E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	1.85E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	6.17E-06
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	4.09E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	1.49E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	3.75E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	2.69E-07	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	6.72E-06
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	4.77E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	1.54E-07	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	5.13E-07
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	2.34E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	7.79E-06
	(total)												3.66E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8A
(RAGS PART D TABLE 7.1)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Dermal	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	8.33E-09	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	4.16E-07
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	6.22E-08	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	1.24E-05
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	9.33E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	2.67E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	6.66E-07
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	2.33E-07	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	3.89E-06
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	3.77E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.26E-07
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	1.47E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.87E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	1.63E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	3.16E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.05E-05
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	7.00E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	2.55E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	6.42E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	4.60E-07	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	1.15E-05
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	8.16E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	2.63E-07	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	8.77E-07
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	4.00E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.33E-05
	(total)												5.37E-05
												Total Hazard Index Across All Exposure Routes/Pathways	9.04E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8A
(RAGS PART D TABLE 7.1)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	4.87E-09	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	2.44E-07
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	5.46E-08	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	1.09E-05
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	8.18E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	7.79E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	1.95E-06
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	1.36E-07	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	2.27E-06
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	2.21E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	7.36E-08
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	8.57E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.09E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	9.55E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	1.85E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	6.17E-06
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	4.09E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	1.49E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	3.75E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	2.69E-07	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	6.72E-06
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	4.77E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	1.54E-07	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	5.13E-07
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	2.34E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	7.79E-06
	(total)												3.66E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8A
(RAGS PART D TABLE 7.1)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Dermal	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	8.33E-09	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	4.16E-07
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	6.22E-08	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	1.24E-05
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	9.33E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	2.67E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	6.66E-07
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	2.33E-07	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	3.89E-06
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	3.77E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.26E-07
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	1.47E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.87E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	1.63E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	3.16E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.05E-05
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	7.00E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	2.55E-07	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	6.42E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	4.60E-07	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	1.15E-05
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	8.16E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	2.63E-07	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	8.77E-07
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	4.00E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.33E-05
	(total)												5.37E-05
												Total Hazard Index Across All Exposure Routes/Pathways	9.04E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8B
(RAGS PART D TABLE 7.2)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	1.02E-09	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	5.09E-08
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	1.14E-08	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	2.28E-06
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	1.71E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	1.63E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	4.07E-07
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	2.85E-08	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	4.75E-07
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	4.61E-09	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.54E-08
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	1.79E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	2.28E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	1.99E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	3.87E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.29E-06
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	8.55E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	3.11E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	7.84E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	5.62E-08	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	1.40E-06
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	9.97E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	3.22E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.07E-07
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	4.88E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.63E-06
	(total)												7.66E-06

Notes to table are given at the end of Table 6-8H.

TABLE 6-8B
(RAGS PART D TABLE 7.2)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Dermal	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	6.11E-10	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	3.05E-08
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	4.56E-09	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	9.12E-07
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	6.84E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	1.95E-10	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	4.88E-08
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	1.71E-08	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	2.85E-07
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	2.77E-09	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	9.24E-09
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	1.07E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.37E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	1.20E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	2.32E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	7.73E-07
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	5.13E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	1.87E-08	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	4.70E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	3.37E-08	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	8.43E-07
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	5.98E-09	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	1.93E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	6.43E-08
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	2.93E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	9.77E-07
	(total)												3.94E-06
												Total Hazard Index Across All Exposure Routes/Pathways	1.16E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8C
(RAGS PART D TABLE 7.3)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/Sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Inhalation	2-Methylnaphthalene	5.00E-03	mg/kg	3.80E-12	mg/m^3	R	4.44E-14	mg/kg-d	8.57E-04	mg/kg-d	N/A	N/A	5.18E-11
	4-Methylphenol	5.60E-02	mg/kg	4.26E-11	mg/m^3	R	4.97E-13	mg/kg-d	5.00E-03	mg/kg-d	N/A	N/A	9.95E-11
	Carbazole	8.40E-02	mg/kg	6.38E-11	mg/m^3	R	7.46E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	1.23E-08	mg/m^3	R	1.44E-10	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	3.60E-08
	Acenaphthene	1.40E-01	mg/kg	2.69E-06	mg/m^3	R	3.15E-08	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	5.25E-07
	Anthracene	2.27E-02	mg/kg	4.28E-08	mg/m^3	R	5.00E-10	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.67E-09
	Benzo(a)anthracene	8.80E-02	mg/kg	6.69E-11	mg/m^3	R	7.82E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	8.51E-11	mg/m^3	R	9.95E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	7.45E-11	mg/m^3	R	8.70E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.44E-10	mg/m^3	R	1.69E-12	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	5.63E-11
	Benzo(k)fluoranthene	4.20E-02	mg/kg	3.19E-11	mg/m^3	R	3.73E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.39E-08	mg/m^3	R	1.63E-10	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	2.93E-11	mg/m^3	R	3.42E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.10E-10	mg/m^3	R	2.45E-12	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	6.13E-11
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	3.72E-11	mg/m^3	R	4.35E-13	mg/kg-d	N/A	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.20E-10	mg/m^3	R	1.40E-12	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	4.66E-12
	Pyrene	2.40E-01	mg/kg	5.58E-08	mg/m^3	R	6.52E-10	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	2.17E-08
	(total)												5.84E-07
												Total Hazard Index Across All Exposure Routes/Pathways	5.84E-07

Notes to table are given at the end of Table 6-8H.

TABLE 6-8D
(RAGS PART D TABLE 7.4)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/Sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Inhalation	2-Methylnaphthalene	5.00E-03	mg/kg	3.80E-12	mg/m^3	R	1.24E-14	mg/kg-d	8.57E-04	N/A	N/A	N/A	1.44E-11
	4-Methylphenol	5.60E-02	mg/kg	4.26E-11	mg/m^3	R	1.39E-13	mg/kg-d	5.00E-03	N/A	N/A	N/A	2.77E-11
	Carbazole	8.40E-02	mg/kg	6.38E-11	mg/m^3	R	2.08E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenzofuran	8.00E-03	mg/kg	1.23E-08	mg/m^3	R	4.01E-11	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	1.00E-08
	Acenaphthene	1.40E-01	mg/kg	2.69E-06	mg/m^3	R	8.77E-09	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	1.46E-07
	Anthracene	2.27E-02	mg/kg	4.28E-08	mg/m^3	R	1.39E-10	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	4.64E-10
	Benzo(a)anthracene	8.80E-02	mg/kg	6.69E-11	mg/m^3	R	2.18E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(a)pyrene	1.12E-01	mg/kg	8.51E-11	mg/m^3	R	2.77E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(b)fluoranthene	9.80E-02	mg/kg	7.45E-11	mg/m^3	R	2.42E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.44E-10	mg/m^3	R	4.70E-13	mg/kg-d	3.00E-02	N/A	N/A	N/A	1.57E-11
	Benzo(k)fluoranthene	4.20E-02	mg/kg	3.19E-11	mg/m^3	R	1.04E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Chrysene	1.53E-01	mg/kg	1.39E-08	mg/m^3	R	4.53E-11	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	2.93E-11	mg/m^3	R	9.53E-14	mg/kg-d	N/A	N/A	N/A	N/A	--
	Fluoranthene	2.76E-01	mg/kg	2.10E-10	mg/m^3	R	6.83E-13	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	1.71E-11
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	3.72E-11	mg/m^3	R	1.21E-13	mg/kg-d	N/A	N/A	N/A	N/A	--
	Phenanthrene	1.58E-01	mg/kg	1.20E-10	mg/m^3	R	3.90E-13	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.30E-12
	Pyrene	2.40E-01	mg/kg	5.58E-08	mg/m^3	R	1.82E-10	mg/kg-d	3.00E-02	N/A	N/A	N/A	6.06E-09
	(total)												1.63E-07
												Total Hazard Index Across All Exposure Routes/Pathways	1.63E-07

Notes to table are given at the end of Table 6-8H.

TABLE 6-8E
(RAGS PART D TABLE 7.5)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	Acenaphthene	1.54E-03	mg/kg	1.54E-03	mg/kg	M	7.38E-09	mg/kg-d	6.00E-02	mg/kg/d	N/A	N/A	1.23E-07
	Acenaphthylene	5.00E-04	mg/kg	5.00E-04	mg/kg	M	9.06E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Anthracene	5.82E-03	mg/kg	5.82E-03	mg/kg	M	2.79E-08	mg/kg-d	3.00E-01	mg/kg/d	N/A	N/A	9.30E-08
	Benzo(a)anthracene	2.13E-02	mg/kg	2.13E-02	mg/kg	M	1.02E-07	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(a)pyrene	1.45E-02	mg/kg	1.45E-02	mg/kg	M	6.94E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(b)fluoranthene	1.93E-02	mg/kg	1.93E-02	mg/kg	M	9.24E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(g,h,i)perylene	1.13E-02	mg/kg	1.13E-02	mg/kg	M	5.43E-08	mg/kg-d	3.00E-02	mg/kg/d	N/A	N/A	1.81E-06
	Benzo(k)fluoranthene	1.69E-02	mg/kg	1.69E-02	mg/kg	M	8.08E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Chrysene	3.09E-02	mg/kg	3.09E-02	mg/kg	M	1.48E-07	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenz(a,h)anthracene	3.05E-03	mg/kg	3.05E-03	mg/kg	M	1.46E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenzofuran	1.69E-03	mg/kg	1.69E-03	mg/kg	M	8.10E-09	mg/kg-d	4.00E-03	mg/kg/d	N/A	N/A	2.03E-06
	Dibenzothiophene	6.40E-04	mg/kg	6.40E-04	mg/kg	M	3.07E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Fluoranthene	4.37E-02	mg/kg	4.37E-02	mg/kg	M	2.09E-07	mg/kg-d	4.00E-02	mg/kg/d	N/A	N/A	5.24E-06
	Fluorene	2.09E-03	mg/kg	2.09E-03	mg/kg	M	1.00E-08	mg/kg-d	4.00E-02	mg/kg/d	N/A	N/A	2.51E-07
	Indeno(1,2,3-cd)pyrene	1.31E-02	mg/kg	1.31E-02	mg/kg	M	6.30E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	2-Methylnaphthalene	3.77E-03	mg/kg	3.77E-03	mg/kg	M	1.81E-08	mg/kg-d	2.00E-02	mg/kg/d	N/A	N/A	9.04E-07
	Naphthalene	4.06E-03	mg/kg	4.06E-03	mg/kg	M	1.95E-08	mg/kg-d	2.00E-02	mg/kg/d	N/A	N/A	9.73E-07
	Phenanthrene	1.48E-02	mg/kg	1.48E-02	mg/kg	M	7.11E-08	mg/kg-d	3.00E-01	mg/kg/d	N/A	N/A	2.37E-07
	Pyrene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	1.85E-07	mg/kg-d	3.00E-02	mg/kg/d	N/A	N/A	6.16E-06
	(total)												1.78E-05
												Total Hazard Index Across All Exposure Routes/Pathways	1.78E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8F
(RAGS PART D TABLE 7.6)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	Acenaphthene	1.54E-03	mg/kg	1.54E-03	mg/kg	M	6.99E-09	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	1.16E-07
	Acenaphthylene	5.00E-04	mg/kg	5.00E-04	mg/kg	M	8.57E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Anthracene	5.82E-03	mg/kg	5.82E-03	mg/kg	M	2.64E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	8.80E-08
	Benzo(a)anthracene	2.13E-02	mg/kg	2.13E-02	mg/kg	M	9.67E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(a)pyrene	1.45E-02	mg/kg	1.45E-02	mg/kg	M	6.57E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(b)fluoranthene	1.93E-02	mg/kg	1.93E-02	mg/kg	M	8.74E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(g,h,i)perylene	1.13E-02	mg/kg	1.13E-02	mg/kg	M	5.14E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.71E-06
	Benzo(k)fluoranthene	1.69E-02	mg/kg	1.69E-02	mg/kg	M	7.65E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Chrysene	3.09E-02	mg/kg	3.09E-02	mg/kg	M	1.40E-07	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenz(a,h)anthracene	3.05E-03	mg/kg	3.05E-03	mg/kg	M	1.38E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenzofuran	1.69E-03	mg/kg	1.69E-03	mg/kg	M	7.67E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	1.92E-06
	Dibenzothiophene	6.40E-04	mg/kg	6.40E-04	mg/kg	M	2.90E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Fluoranthene	4.37E-02	mg/kg	4.37E-02	mg/kg	M	1.98E-07	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	4.95E-06
	Fluorene	2.09E-03	mg/kg	2.09E-03	mg/kg	M	9.48E-09	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	2.37E-07
	Indeno(1,2,3-cd)pyrene	1.31E-02	mg/kg	1.31E-02	mg/kg	M	5.96E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	2-Methylnaphthalene	3.77E-03	mg/kg	3.77E-03	mg/kg	M	1.71E-08	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	8.55E-07
	Naphthalene	4.06E-03	mg/kg	4.06E-03	mg/kg	M	1.84E-08	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	9.21E-07
	Phenanthrene	1.48E-02	mg/kg	1.48E-02	mg/kg	M	6.73E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	2.24E-07
	Pyrene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	1.75E-07	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	5.83E-06
	(total)												1.69E-05
												Total Hazard Index Across All Exposure Routes/Pathways	1.69E-05

Notes to table are given at the end of Table 6-8H.

TABLE 6-8G
(RAGS PART D TABLE 7.7)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	Acenaphthene	7.00E-04	mg/kg	7.00E-04	mg/kg	M	3.36E-09	mg/kg-d	6.00E-02	mg/kg/d	N/A	N/A	5.59E-08
	Acenaphthylene	6.00E-04	mg/kg	6.00E-04	mg/kg	M	2.88E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Anthracene	4.00E-03	mg/kg	4.00E-03	mg/kg	M	1.92E-08	mg/kg-d	3.00E-01	mg/kg/d	N/A	N/A	6.39E-08
	Benzo(a)anthracene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	4.32E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(a)pyrene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	4.32E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(b)fluoranthene	8.00E-03	mg/kg	8.00E-03	mg/kg	M	3.84E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(g,h,i)perylene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	5.27E-08	mg/kg-d	3.00E-02	mg/kg/d	N/A	N/A	1.76E-06
	Benzo(k)fluoranthene	6.00E-03	mg/kg	6.00E-03	mg/kg	M	2.88E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Chrysene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	4.79E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenz(a,h)anthracene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.79E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenzofuran	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.79E-09	mg/kg-d	4.00E-03	mg/kg/d	N/A	N/A	1.20E-06
	Dibenzothiophene	9.00E-04	mg/kg	9.00E-04	mg/kg	M	4.32E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Fluoranthene	2.10E-02	mg/kg	2.10E-02	mg/kg	M	1.01E-07	mg/kg-d	4.00E-02	mg/kg/d	N/A	N/A	2.52E-06
	Fluorene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.79E-09	mg/kg-d	4.00E-02	mg/kg/d	N/A	N/A	1.20E-07
	Indeno(1,2,3-cd)pyrene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	5.27E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	2-Methylnaphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	2.00E-02	mg/kg/d	N/A	N/A	--
	Naphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	2.00E-02	mg/kg/d	N/A	N/A	--
	Phenanthrene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	4.79E-08	mg/kg-d	3.00E-01	mg/kg/d	N/A	N/A	1.60E-07
	Pyrene	1.70E-02	mg/kg	1.70E-02	mg/kg	M	8.15E-08	mg/kg-d	3.00E-02	mg/kg/d	N/A	N/A	2.72E-06
	(total)												8.60E-06
												Total Hazard Index Across All Exposure Routes/Pathways	8.60E-06

Notes to table are given at the end of Table 6-8H.

TABLE 6-8H
(RAGS PART D TABLE 7.8)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Hazard Calc.	Intake (Non-Cancer)	Intake (Non-Cancer) Units	RfD	RfD Units	Ref. Conc.	Ref. Conc. Units	Hazard Quotient
Ingestion	Acenaphthene	7.00E-04	mg/kg	7.00E-04	mg/kg	M	3.18E-09	mg/kg-d	6.00E-02	mg/kg-d	N/A	N/A	5.29E-08
	Acenaphthylene	6.00E-04	mg/kg	6.00E-04	mg/kg	M	2.72E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Anthracene	4.00E-03	mg/kg	4.00E-03	mg/kg	M	1.81E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	6.05E-08
	Benzo(a)anthracene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	4.08E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(a)pyrene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	4.08E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(b)fluoranthene	8.00E-03	mg/kg	8.00E-03	mg/kg	M	3.63E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Benzo(g,h,i)perylene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	4.99E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	1.66E-06
	Benzo(k)fluoranthene	6.00E-03	mg/kg	6.00E-03	mg/kg	M	2.72E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Chrysene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	4.54E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenz(a,h)anthracene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.54E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Dibenzofuran	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.54E-09	mg/kg-d	4.00E-03	mg/kg-d	N/A	N/A	1.13E-06
	Dibenzothiophene	9.00E-04	mg/kg	9.00E-04	mg/kg	M	4.08E-09	mg/kg-d	N/A	N/A	N/A	N/A	--
	Fluoranthene	2.10E-02	mg/kg	2.10E-02	mg/kg	M	9.53E-08	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	2.38E-06
	Fluorene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	4.54E-09	mg/kg-d	4.00E-02	mg/kg-d	N/A	N/A	1.13E-07
	Indeno(1,2,3-cd)pyrene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	4.99E-08	mg/kg-d	N/A	N/A	N/A	N/A	--
	2-Methylnaphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	--
	Naphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	2.00E-02	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	4.54E-08	mg/kg-d	3.00E-01	mg/kg-d	N/A	N/A	1.51E-07
	Pyrene	1.70E-02	mg/kg	1.70E-02	mg/kg	M	7.71E-08	mg/kg-d	3.00E-02	mg/kg-d	N/A	N/A	2.57E-06
	(total)												8.12E-06
												Total Hazard Index Across All Exposure Routes/Pathways	8.12E-06

TABLE 6-8H
(RAGS PART D TABLE 7.8)
CALCULATION OF NON-CANCER HAZARDS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Notes:

(1) The route EPC is the same as the medium EPC for the exposure media soil/sediment and shellfish. For the exposure medium air, the route EPC is the medium EPC divided by the chemical-specific volatilization factor (volatile compounds) or the particulate emission factor (nonvolatile compounds) (see Section 6.4.3.2).

Calc.	Calculation
EPC	Exposure point concentration
IR	Installation restoration
M	Medium EPC used for hazard calculation
mg/kg-d	Milligram per kilogram per day
mg/kg	Milligram per kilogram
mg/m^3	Milligram per cubic meter
N/A	Not applicable
ND	Not detected
R	Route EPC used for hazard calculation
Ref. Conc.	Reference concentration
RfD	Reference dose
--	Not available

TABLE 6-9A
(RAGS PART D TABLE 8.1)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/Sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	8.35E-10	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	9.35E-09	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	1.40E-08	mg/kg-d	2.00E-02	$(mg/kg\text{-}d)^{-1}$	2.81E-10
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	1.34E-09	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	2.34E-08	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	3.78E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	1.47E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.07E-08
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	1.87E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	1.37E-07
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	1.64E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.19E-08
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	3.17E-08	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	7.01E-09	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	5.12E-10
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	2.55E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	1.87E-10
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	6.43E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	4.70E-08
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	4.61E-08	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	8.18E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	5.97E-09
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	2.64E-08	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	4.01E-08	mg/kg-d	N/A	N/A	--
	(total)										2.13E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9A
(RAGS PART D TABLE 8.1)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/Sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	1.43E-09	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	1.07E-08	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	1.60E-08	mg/kg-d	2.00E-02	$(mg/kg\text{-}d)^{-1}$	3.20E-10
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	4.57E-10	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	4.00E-08	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	6.47E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	2.51E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.83E-08
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	3.20E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	2.33E-07
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	2.80E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	2.04E-08
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	5.43E-08	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	1.20E-08	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	8.76E-10
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	4.37E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	3.19E-10
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	1.10E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	8.03E-08
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	7.88E-08	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	1.40E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.02E-08
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	4.51E-08	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	6.85E-08	mg/kg-d	N/A	N/A	--
	(total)										3.64E-07
										Total Risk Across All Exposure Routes/Pathways	5.77E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9B
(RAGS PART D TABLE 8.2)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/Sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	4.36E-10	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	4.88E-09	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	7.33E-09	mg/kg-d	2.00E-02	$(mg/kg\text{-}d)^{-1}$	1.47E-10
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	6.98E-10	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	1.22E-08	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	1.98E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	7.68E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	5.60E-09
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	9.77E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	7.13E-08
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	8.55E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	6.24E-09
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	1.66E-08	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	3.66E-09	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	2.67E-10
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	1.33E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	9.74E-11
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	3.36E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	2.45E-08
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	2.41E-08	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	4.27E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	3.12E-09
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	1.38E-08	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	2.09E-08	mg/kg-d	N/A	N/A	--
	(total)										1.11E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9B
(RAGS PART D TABLE 8.2)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Soil/Sediment
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Dermal	2-Methylnaphthalene	5.00E-03	mg/kg	5.00E-03	mg/kg	M	2.62E-10	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	5.60E-02	mg/kg	M	1.95E-09	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	8.40E-02	mg/kg	M	2.93E-09	mg/kg-d	2.00E-02	$(mg/kg\text{-}d)^{-1}$	5.86E-11
	Dibenzofuran	8.00E-03	mg/kg	8.00E-03	mg/kg	M	8.37E-11	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	1.40E-01	mg/kg	M	7.33E-09	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	2.27E-02	mg/kg	M	1.19E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	8.80E-02	mg/kg	M	4.61E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	3.36E-09
	Benzo(a)pyrene	1.12E-01	mg/kg	1.12E-01	mg/kg	M	5.86E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	4.28E-08
	Benzo(b)fluoranthene	9.80E-02	mg/kg	9.80E-02	mg/kg	M	5.13E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	3.74E-09
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.90E-01	mg/kg	M	9.94E-09	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	4.20E-02	mg/kg	M	2.20E-09	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	1.60E-10
	Chrysene	1.53E-01	mg/kg	1.53E-01	mg/kg	M	8.01E-09	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	5.85E-11
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	2.02E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	1.47E-08
	Fluoranthene	2.76E-01	mg/kg	2.76E-01	mg/kg	M	1.44E-08	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	4.90E-02	mg/kg	M	2.56E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.87E-09
	Phenanthrene	1.58E-01	mg/kg	1.58E-01	mg/kg	M	8.27E-09	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	2.40E-01	mg/kg	M	1.26E-08	mg/kg-d	N/A	N/A	--
	(total)										6.68E-08
										Total Risk Across All Exposure Routes/Pathways	1.78E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9C
(RAGS PART D TABLE 8.3)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Soil/sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Inhalation	2-Methylnaphthalene	5.00E-03	mg/kg	3.80E-12	mg/m^3	R	7.61E-15	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	4.26E-11	mg/m^3	R	8.53E-14	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	6.38E-11	mg/m^3	R	1.28E-13	mg/kg-d	2.00E-02	$(mg/kg/d)^{-1}$	2.56E-15
	Dibenzofuran	8.00E-03	mg/kg	1.23E-08	mg/m^3	R	2.47E-11	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	2.69E-06	mg/m^3	R	5.40E-09	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	4.28E-08	mg/m^3	R	8.57E-11	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	6.69E-11	mg/m^3	R	1.34E-13	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	5.23E-14
	Benzo(a)pyrene	1.12E-01	mg/kg	8.51E-11	mg/m^3	R	1.71E-13	mg/kg-d	3.90E+00	$(mg/kg/d)^{-1}$	6.65E-13
	Benzo(b)fluoranthene	9.80E-02	mg/kg	7.45E-11	mg/m^3	R	1.49E-13	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	5.82E-14
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.44E-10	mg/m^3	R	2.89E-13	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	3.19E-11	mg/m^3	R	6.40E-14	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	2.49E-14
	Chrysene	1.53E-01	mg/kg	1.39E-08	mg/m^3	R	2.79E-11	mg/kg-d	3.90E-02	$(mg/kg/d)^{-1}$	1.09E-12
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	2.93E-11	mg/m^3	R	5.87E-14	mg/kg-d	3.90E+00	$(mg/kg/d)^{-1}$	2.28E-13
	Fluoranthene	2.76E-01	mg/kg	2.10E-10	mg/m^3	R	4.20E-13	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	3.72E-11	mg/m^3	R	7.46E-14	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	2.90E-14
	Phenanthrene	1.58E-01	mg/kg	1.20E-10	mg/m^3	R	2.40E-13	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	5.58E-08	mg/m^3	R	1.12E-10	mg/kg-d	N/A	N/A	--
	(total)										2.15E-12
										Total Risk Across All Exposure Routes/Pathways	2.15E-12

Notes to table are given at the end of Table 6-9H.

TABLE 6-9D
(RAGS PART D TABLE 8.4)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shoreline soil/Sediment
Exposure Medium: Air
Exposure Point: IR Site 4 Public Beach Area
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Used for Risk Calc.	Intake (Cancer)	Intake (Cancer) Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Inhalation	2-Methylnaphthalene	5.00E-03	mg/kg	3.80E-12	mg/m^3	R	5.30E-15	mg/kg-d	N/A	N/A	--
	4-Methylphenol	5.60E-02	mg/kg	4.26E-11	mg/m^3	R	5.94E-14	mg/kg-d	N/A	N/A	--
	Carbazole	8.40E-02	mg/kg	6.38E-11	mg/m^3	R	8.91E-14	mg/kg-d	2.00E-02	$(mg/kg/d)^{-1}$	1.78E-15
	Dibenzofuran	8.00E-03	mg/kg	1.23E-08	mg/m^3	R	1.72E-11	mg/kg-d	N/A	N/A	--
	Acenaphthene	1.40E-01	mg/kg	2.69E-06	mg/m^3	R	3.76E-09	mg/kg-d	N/A	N/A	--
	Anthracene	2.27E-02	mg/kg	4.28E-08	mg/m^3	R	5.97E-11	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	8.80E-02	mg/kg	6.69E-11	mg/m^3	R	9.33E-14	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	3.64E-14
	Benzo(a)pyrene	1.12E-01	mg/kg	8.51E-11	mg/m^3	R	1.19E-13	mg/kg-d	3.90E+00	$(mg/kg/d)^{-1}$	4.63E-13
	Benzo(b)fluoranthene	9.80E-02	mg/kg	7.45E-11	mg/m^3	R	1.04E-13	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	4.05E-14
	Benzo(g,h,i)perylene	1.90E-01	mg/kg	1.44E-10	mg/m^3	R	2.01E-13	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	4.20E-02	mg/kg	3.19E-11	mg/m^3	R	4.45E-14	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	1.73E-14
	Chrysene	1.53E-01	mg/kg	1.39E-08	mg/m^3	R	1.94E-11	mg/kg-d	3.90E-02	$(mg/kg/d)^{-1}$	7.57E-13
	Dibenz(a,h)anthracene	3.85E-02	mg/kg	2.93E-11	mg/m^3	R	4.08E-14	mg/kg-d	3.90E+00	$(mg/kg/d)^{-1}$	1.59E-13
	Fluoranthene	2.76E-01	mg/kg	2.10E-10	mg/m^3	R	2.93E-13	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	4.90E-02	mg/kg	3.72E-11	mg/m^3	R	5.20E-14	mg/kg-d	3.90E-01	$(mg/kg/d)^{-1}$	2.02E-14
	Phenanthrene	1.58E-01	mg/kg	1.20E-10	mg/m^3	R	1.67E-13	mg/kg-d	N/A	N/A	--
	Pyrene	2.40E-01	mg/kg	5.58E-08	mg/m^3	R	7.79E-11	mg/kg-d	N/A	N/A	--
	(total)										1.50E-12
										Total Risk Across All Exposure Routes/Pathways	1.50E-12

Notes to table are given at the end of Table 6-9H.

TABLE 6-9E
(RAGS PART D TABLE 8.5)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Selected for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Acenaphthene	1.54E-03	mg/kg	1.54E-03	mg/kg	M	1.27E-09	mg/kg-d	N/A	N/A	--
	Acenaphthylene	5.00E-04	mg/kg	5.00E-04	mg/kg	M	4.11E-10	mg/kg-d	N/A	N/A	--
	Anthracene	5.82E-03	mg/kg	5.82E-03	mg/kg	M	4.78E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	2.13E-02	mg/kg	2.13E-02	mg/kg	M	1.75E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.28E-08
	Benzo(a)pyrene	1.45E-02	mg/kg	1.45E-02	mg/kg	M	1.19E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	8.69E-08
	Benzo(b)fluoranthene	1.93E-02	mg/kg	1.93E-02	mg/kg	M	1.58E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.16E-08
	Benzo(g,h,i)perylene	1.13E-02	mg/kg	1.13E-02	mg/kg	M	9.30E-09	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	1.69E-02	mg/kg	1.69E-02	mg/kg	M	1.39E-08	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	1.01E-09
	Chrysene	3.09E-02	mg/kg	3.09E-02	mg/kg	M	2.54E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	1.85E-10
	Dibenz(a,h)anthracene	3.05E-03	mg/kg	3.05E-03	mg/kg	M	2.51E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	1.83E-08
	Dibenzofuran	1.69E-03	mg/kg	1.69E-03	mg/kg	M	1.39E-09	mg/kg-d	N/A	N/A	--
	Dibenzothiopene	6.40E-04	mg/kg	6.40E-04	mg/kg	M	5.26E-10	mg/kg-d	N/A	N/A	--
	Fluoranthene	4.37E-02	mg/kg	4.37E-02	mg/kg	M	3.59E-08	mg/kg-d	N/A	N/A	--
	Fluorene	2.09E-03	mg/kg	2.09E-03	mg/kg	M	1.72E-09	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	1.31E-02	mg/kg	1.31E-02	mg/kg	M	1.08E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	7.88E-09
	2-Methylnaphthalene	3.77E-03	mg/kg	3.77E-03	mg/kg	M	3.10E-09	mg/kg-d	N/A	N/A	--
	Naphthalene	4.06E-03	mg/kg	4.06E-03	mg/kg	M	3.34E-09	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.48E-02	mg/kg	1.48E-02	mg/kg	M	1.22E-08	mg/kg-d	N/A	N/A	--
	Pyrene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	3.17E-08	mg/kg-d	N/A	N/A	--
	(total)										1.39E-07
										Total Risk Across All Exposure Routes/Pathways	1.39E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9F
(RAGS PART D TABLE 8.6)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: IR Site 4 Shoreline
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Selected for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Acenaphthene	1.54E-03	mg/kg	1.54E-03	mg/kg	M	2.99E-09	mg/kg-d	N/A	N/A	--
	Acenaphthylene	5.00E-04	mg/kg	5.00E-04	mg/kg	M	9.72E-10	mg/kg-d	N/A	N/A	--
	Anthracene	5.82E-03	mg/kg	5.82E-03	mg/kg	M	1.13E-08	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	2.13E-02	mg/kg	2.13E-02	mg/kg	M	4.15E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	3.03E-08
	Benzo(a)pyrene	1.45E-02	mg/kg	1.45E-02	mg/kg	M	2.82E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	2.06E-07
	Benzo(b)fluoranthene	1.93E-02	mg/kg	1.93E-02	mg/kg	M	3.75E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	2.74E-08
	Benzo(g,h,i)perylene	1.13E-02	mg/kg	1.13E-02	mg/kg	M	2.20E-08	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	1.69E-02	mg/kg	1.69E-02	mg/kg	M	3.28E-08	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	2.39E-09
	Chrysene	3.09E-02	mg/kg	3.09E-02	mg/kg	M	6.00E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	4.38E-10
	Dibenz(a,h)anthracene	3.05E-03	mg/kg	3.05E-03	mg/kg	M	5.93E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	4.33E-08
	Dibenzofuran	1.69E-03	mg/kg	1.69E-03	mg/kg	M	3.29E-09	mg/kg-d	N/A	N/A	--
	Dibenzothiopene	6.40E-04	mg/kg	6.40E-04	mg/kg	M	1.24E-09	mg/kg-d	N/A	N/A	--
	Fluoranthene	4.37E-02	mg/kg	4.37E-02	mg/kg	M	8.49E-08	mg/kg-d	N/A	N/A	--
	Fluorene	2.09E-03	mg/kg	2.09E-03	mg/kg	M	4.06E-09	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	1.31E-02	mg/kg	1.31E-02	mg/kg	M	2.55E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.86E-08
	2-Methylnaphthalene	3.77E-03	mg/kg	3.77E-03	mg/kg	M	7.33E-09	mg/kg-d	N/A	N/A	--
	Naphthalene	4.06E-03	mg/kg	4.06E-03	mg/kg	M	7.89E-09	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.48E-02	mg/kg	1.48E-02	mg/kg	M	2.88E-08	mg/kg-d	N/A	N/A	--
	Pyrene	3.85E-02	mg/kg	3.85E-02	mg/kg	M	7.49E-08	mg/kg-d	N/A	N/A	--
	(total)										3.28E-07
										Total Risk Across All Exposure Routes/Pathways	3.28E-07

Notes to table are given at the end of Table 6-9H.

TABLE 6-9G
(RAGS PART D TABLE 8.7)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove
Receptor Population: Recreational Visitor
Receptor Age: Child

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Selected for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Acenaphthene	7.00E-04	mg/kg	7.00E-04	mg/kg	M	5.75E-10	mg/kg-d	N/A	N/A	--
	Acenaphthylene	6.00E-04	mg/kg	6.00E-04	mg/kg	M	4.93E-10	mg/kg-d	N/A	N/A	--
	Anthracene	4.00E-03	mg/kg	4.00E-03	mg/kg	M	3.29E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	7.40E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	5.40E-09
	Benzo(a)pyrene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	7.40E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	5.40E-08
	Benzo(b)fluoranthene	8.00E-03	mg/kg	8.00E-03	mg/kg	M	6.58E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	4.80E-09
	Benzo(g,h,i)perylene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	9.04E-09	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	6.00E-03	mg/kg	6.00E-03	mg/kg	M	4.93E-09	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	3.60E-10
	Chrysene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	8.22E-09	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	6.00E-11
	Dibenz(a,h)anthracene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	8.22E-10	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	6.00E-09
	Dibenzofuran	1.00E-03	mg/kg	1.00E-03	mg/kg	M	8.22E-10	mg/kg-d	N/A	N/A	--
	Dibenzothiopene	9.00E-04	mg/kg	9.00E-04	mg/kg	M	7.40E-10	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.10E-02	mg/kg	2.10E-02	mg/kg	M	1.73E-08	mg/kg-d	N/A	N/A	--
	Fluorene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	8.22E-10	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	9.04E-09	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	6.60E-09
	2-Methylnaphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	N/A	N/A	--
	Naphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	8.22E-09	mg/kg-d	N/A	N/A	--
	Pyrene	1.70E-02	mg/kg	1.70E-02	mg/kg	M	1.40E-08	mg/kg-d	N/A	N/A	--
	(total)										7.72E-08
										Total Risk Across All Exposure Routes/Pathways	7.72E-08

Notes to table are given at the end of Table 6-9H.

TABLE 6-9H
(RAGS PART D TABLE 8.8)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Medium: Shellfish
Exposure Medium: Shellfish
Exposure Point: Reference Station, Paradise Cove
Receptor Population: Shellfisher
Receptor Age: Adult

Exposure Route	Chemical of Potential Concern	Medium EPC Value	Medium EPC Units	Route EPC Value (1)	Route EPC Units	EPC Selected for Risk Calc.	Intake (Cancer)	Intake Units	Cancer Slope Factor	Cancer Slope Factor Units	Cancer Risk
Ingestion	Acenaphthene	7.00E-04	mg/kg	7.00E-04	mg/kg	M	1.36E-09	mg/kg-d	N/A	N/A	--
	Acenaphthylene	6.00E-04	mg/kg	6.00E-04	mg/kg	M	1.17E-09	mg/kg-d	N/A	N/A	--
	Anthracene	4.00E-03	mg/kg	4.00E-03	mg/kg	M	7.78E-09	mg/kg-d	N/A	N/A	--
	Benzo(a)anthracene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	1.75E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.28E-08
	Benzo(a)pyrene	9.00E-03	mg/kg	9.00E-03	mg/kg	M	1.75E-08	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	1.28E-07
	Benzo(b)fluoranthene	8.00E-03	mg/kg	8.00E-03	mg/kg	M	1.56E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.14E-08
	Benzo(g,h,i)perylene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	2.14E-08	mg/kg-d	N/A	N/A	--
	Benzo(k)fluoranthene	6.00E-03	mg/kg	6.00E-03	mg/kg	M	1.17E-08	mg/kg-d	7.30E-02	$(mg/kg\text{-}d)^{-1}$	8.52E-10
	Chrysene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	1.94E-08	mg/kg-d	7.30E-03	$(mg/kg\text{-}d)^{-1}$	1.42E-10
	Dibenz(a,h)anthracene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	1.94E-09	mg/kg-d	7.30E+00	$(mg/kg\text{-}d)^{-1}$	1.42E-08
	Dibenzofuran	1.00E-03	mg/kg	1.00E-03	mg/kg	M	1.94E-09	mg/kg-d	N/A	N/A	--
	Dibenzothiopene	9.00E-04	mg/kg	9.00E-04	mg/kg	M	1.75E-09	mg/kg-d	N/A	N/A	--
	Fluoranthene	2.10E-02	mg/kg	2.10E-02	mg/kg	M	4.08E-08	mg/kg-d	N/A	N/A	--
	Fluorene	1.00E-03	mg/kg	1.00E-03	mg/kg	M	1.94E-09	mg/kg-d	N/A	N/A	--
	Indeno(1,2,3-cd)pyrene	1.10E-02	mg/kg	1.10E-02	mg/kg	M	2.14E-08	mg/kg-d	7.30E-01	$(mg/kg\text{-}d)^{-1}$	1.56E-08
	2-Methylnaphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	N/A	N/A	--
	Naphthalene	ND	mg/kg	ND	mg/kg	M	--	mg/kg-d	N/A	N/A	--
	Phenanthrene	1.00E-02	mg/kg	1.00E-02	mg/kg	M	1.94E-08	mg/kg-d	N/A	N/A	--
	Pyrene	1.70E-02	mg/kg	1.70E-02	mg/kg	M	3.31E-08	mg/kg-d	N/A	N/A	--
	(total)										1.83E-07
										Total Risk Across All Exposure Routes/Pathways	1.83E-07

TABLE 6-9H
(RAGS PART D TABLE 8.8)
CALCULATION OF CANCER RISKS, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Notes:

(1) The route EPC is the same as the medium EPC for the exposure media soil/sediment and shellfish. For the exposure medium air, the route EPC is the medium EPC divided by the chemical-specific volatilization factor (volatile compounds) or the particulate emission factor (nonvolatile compounds) (see Section 6.4.3.2).

Calc.	Calculation
EPC	Exposure point concentration
IR	Installation restoration
M	Medium EPC used for risk calculation
mg/kg	Milligram per kilogram
mg/kg-d	Milligram per kilogram per day
$(mg/kg\text{-}d)^{-1}$	1/Milligram per kilogram per day
mg/m^3	Milligram per cubic meter
N/A	Not applicable
ND	Not detected
R	Route EPC used for risk calculation
--	Not available

TABLE 6-10A
(RAGS PART D TABLE 9.1)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Recreational Visitor
Receptor Age: Child

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Soil and Sediment	Soil and Sediment	IR Site 4 Public Beach Area	2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Decreased body weight	2.44E-07	--	4.16E-07	6.60E-07
			4-Methylphenol	--	--	--	--	4-Methylphenol	Lungs, CNS, whole body	1.09E-05	--	1.24E-05	2.33E-05
			Carbazole	2.81E-10	--	3.20E-10	6.00E-10	Carbazole	--	--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran	--	1.95E-06	--	6.66E-07	2.61E-06
			Acenaphthene	--	--	--	--	Acenaphthene	Liver	2.27E-06	--	3.89E-06	6.16E-06
			Anthracene	--	--	--	--	Anthracene	NOAEL	7.36E-08	--	1.26E-07	1.99E-07
			Benzo(a)anthracene	1.07E-08	--	1.83E-08	2.91E-08	Benzo(a)anthracene	--	--	--	--	--
			Benzo(a)pyrene	1.37E-07	--	2.33E-07	3.70E-07	Benzo(a)pyrene	--	--	--	--	--
			Benzo(b)fluoranthene	1.19E-08	--	2.04E-08	3.24E-08	Benzo(b)fluoranthene	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	6.17E-06	--	1.05E-05	1.67E-05
			Benzo(k)fluoranthene	5.12E-10	--	8.76E-10	1.39E-09	Benzo(k)fluoranthene	--	--	--	--	--
			Chrysene	1.87E-10	--	3.19E-10	5.05E-10	Chrysene	--	--	--	--	--
			Dibenz(a,h)anthracene	4.70E-08	--	8.03E-08	1.27E-07	Dibenz(a,h)anthracene	--	--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, liver, blood	6.72E-06	--	1.15E-05	1.82E-05
			Indeno(1,2,3-cd)pyrene	5.97E-09	--	1.02E-08	1.62E-08	Indeno(1,2,3-cd)pyrene	--	--	--	--	--
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	5.13E-07	--	8.77E-07	1.39E-06
			Pyrene	--	--	--	--	Pyrene	Kidney	7.79E-06	--	1.33E-05	2.11E-05
			(total)	**2.13E-07**	--	**3.64E-07**	**5.77E-07**	(total)		**3.66E-05**	--	**5.37E-05**	**9.04E-05**

Notes tr[illegible]e are given at the end of Table 6-10B.

TABLE 6-10A
(RAGS PART D TABLE 9.1)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Recreational Visitor
Receptor Age: Child

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Soil and Sediment	Air	IR Site 4 Public Beach Area	2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Decreased body weight	--	5.18E-11	--	5.18E-11
			4-Methylphenol	--	--	--	--	4-Methylphenol	Lungs, CNS, whole body	--	9.95E-11	--	9.95E-11
			Carbazole	--	2.56E-15	--	2.56E-15	Carbazole		--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran		--	3.60E-08	--	3.60E-08
			Acenaphthene	--	--	--	--	Acenaphthene	Liver	--	5.25E-07	--	5.25E-07
			Anthracene	--	--	--	--	Anthracene	NOAEL	--	1.67E-09	--	1.67E-09
			Benzo(a)anthracene	--	5.23E-14	--	5.23E-14	Benzo(a)anthracene		--	--	--	--
			Benzo(a)pyrene	--	6.65E-13	--	6.65E-13	Benzo(a)pyrene		--	--	--	--
			Benzo(b)fluoranthene	--	5.82E-14	--	5.82E-14	Benzo(b)fluoranthene		--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	--	5.63E-11	--	5.63E-11
			Benzo(k)fluoranthene	--	2.49E-14	--	2.49E-14	Benzo(k)fluoranthene		--	--	--	--
			Chrysene	--	1.09E-12	--	1.09E-12	Chrysene		--	--	--	--
			Dibenz(a,h)anthracene	--	2.28E-13	--	2.28E-13	Dibenz(a,h)anthracene		--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, Liver, Blood	--	6.13E-11	--	6.13E-11
			Indeno(1,2,3-cd)pyrene	--	2.90E-14	--	2.90E-14	Indeno(1,2,3-cd)pyrene		--	--	--	--
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	--	4.66E-12	--	4.66E-12
			Pyrene	--	--	--	--	Pyrene	Kidney	--	2.17E-08	--	2.17E-08
			(total)	--	**2.15E-12**	--	**2.15E-12**	(total)		--	**5.84E-07**	--	**5.84E-07**

Notes to table are given at the end of Table 6-10B.

TABLE 6-10A
(RAGS PART D TABLE 9.1)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Recreational Visitor
Receptor Age: Child

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Shellfish	Shellfish	IR Site 4 Shoreline	Acenaphthene	--	--	--	--	Acenaphthene	Liver	1.23E-07	--	--	1.23E-07
			Acenaphthylene	--	--	--	--	Acenaphthylene		--	--	--	--
			Anthracene	--	--	--	--	Anthracene	NOAEL	9.30E-08	--	--	9.30E-08
			Benzo(a)anthracene	1.28E-08	--	--	1.28E-08	Benzo(a)anthracene		--	--	--	--
			Benzo(a)pyrene	8.69E-08	--	--	8.69E-08	Benzo(a)pyrene		--	--	--	--
			Benzo(b)fluoranthene	1.16E-08	--	--	1.16E-08	Benzo(b)fluoranthene		--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	1.81E-06	--	--	1.81E-06
			Benzo(k)fluoranthene	1.01E-09	--	--	1.01E-09	Benzo(k)fluoranthene		--	--	--	--
			Chrysene	1.85E-10	--	--	1.85E-10	Chrysene		--	--	--	--
			Dibenz(a,h)anthracene	1.83E-08	--	--	1.83E-08	Dibenz(a,h)anthracene		--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran	N/A	2.03E-06	--	--	2.03E-06
			Dibenzothiophene	--	--	--	--	Dibenzothiophene		--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, Liver, Blood	5.24E-06	--	--	5.24E-06
			Fluorene	--	--	--	--	Fluorene	Blood	2.51E-07	--	--	2.51E-07
			Indeno(1,2,3-cd)pyrene	7.88E-09	--	--	7.88E-09	Indeno(1,2,3-cd)pyrene		--	--	--	--
			2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Body weight	9.04E-07	--	--	9.04E-07
			Naphthalene	--	--	--	--	Naphthalene	Body weight	9.73E-07	--	--	9.73E-07
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	2.37E-07	--	--	2.37E-07
			Pyrene	--	--	--	--	Pyrene	Kidney	6.16E-06	--	--	6.16E-06
			(total)	1.39E-07	--	--	1.39E-07	(total)		1.78E-05	--	--	1.78E-05
			Total Risk Across All Media and All Exposure Routes				7.16E-07	Total Hazard Index Across All Media and All Exposure Routes					1.09E-04

Notes to are given at the end of Table 6-10B.

TABLE 6-10B
(RAGS PART D TABLE 9.2)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Shellfisher
Receptor Age: Adult

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Soil and Sediment	Soil and Sediment	IR Site 4 Public Beach Area	2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Decreased body weight	5.09E-08	--	3.05E-08	8.14E-08
			4-Methylphenol	--	--	--	--	4-Methylphenol	Lungs, CNS, whole body	2.28E-06	--	9.12E-07	3.19E-06
			Carbazole	1.47E-10	--	5.86E-11	2.05E-10	Carbazole	--	--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran	--	4.07E-07	--	4.88E-08	4.56E-07
			Acenaphthene	--	--	--	--	Acenaphthene	Liver	4.75E-07	--	2.85E-07	7.60E-07
			Anthracene	--	--	--	--	Anthracene	NOAEL	1.54E-08	--	9.22E-09	2.46E-08
			Benzo(a)anthracene	5.60E-09	--	3.36E-09	8.97E-09	Benzo(a)anthracene	--	--	--	--	--
			Benzo(a)pyrene	7.13E-08	--	4.28E-08	1.14E-07	Benzo(a)pyrene	--	--	--	--	--
			Benzo(b)fluoranthene	6.24E-09	--	3.74E-09	9.98E-09	Benzo(b)fluoranthene	--	--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	1.29E-06	--	7.73E-07	2.06E-06
			Benzo(k)fluoranthene	2.67E-10	--	1.60E-10	4.28E-10	Benzo(k)fluoranthene	--	--	--	--	--
			Chrysene	9.74E-11	--	5.85E-11	1.56E-10	Chrysene	--	--	--	--	--
			Dibenz(a,h)anthracene	2.45E-08	--	1.47E-08	3.92E-08	Dibenz(a,h)anthracene	--	--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, liver, blood	1.40E-06	--	8.43E-07	2.25E-06
			Indeno(1,2,3-cd)pyrene	3.12E-09	--	1.87E-09	4.99E-09	Indeno(1,2,3-cd)pyrene	--	--	--	--	--
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	1.07E-07	--	6.43E-08	1.71E-07
			Pyrene	--	--	--	--	Pyrene	Kidney	1.63E-06	--	9.77E-07	2.61E-06
			(total)	**1.11E-07**	--	**6.68E-08**	**1.78E-07**	**(total)**	--	**7.66E-06**	--	**3.94E-06**	**1.16E-05**

Notes to table are given at the end of Table 6-10B.

TABLE 6-10B
(RAGS PART D TABLE 9.2)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Shellfisher
Receptor Age: Adult

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Soil and Sediment	Air	IR Site 4 Public Beach Area	2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Decreased body weight	--	1.44E-11	--	1.44E-11
			4-Methylphenol	--	--	--	--	4-Methylphenol	Lungs, CNS, whole body	--	2.61E-11	--	2.61E-11
			Carbazole		1.78E-15		1.78E-15	Carbazole		--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran		--	1.00E-08	--	1.00E-08
			Acenaphthene	--	--	--	--	Acenaphthene	Liver	--	1.46E-07	--	1.46E-07
			Anthracene	--	--	--	--	Anthracene	NOAEL	--	4.64E-10	--	4.64E-10
			Benzo(a)anthracene		3.64E-14	--	3.64E-14	Benzo(a)anthracene			--	--	--
			Benzo(a)pyrene	--	4.63E-13	--	4.63E-13	Benzo(a)pyrene		--	--	--	--
			Benzo(b)fluoranthene	--	4.05E-14	--	4.05E-14	Benzo(b)fluoranthene		--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	--	1.57E-11	--	1.57E-11
			Benzo(k)fluoranthene	--	1.73E-14	--	1.73E-14	Benzo(k)fluoranthene		--	--	--	--
			Chrysene	--	7.57E-13	--	7.57E-13	Chrysene		--	--	--	--
			Dibenz(a,h)anthracene	--	1.59E-13	--	1.59E-13	Dibenz(a,h)anthracene		--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, Liver, Blood	--	1.71E-11	--	1.71E-11
			Indeno(1,2,3-cd)pyrene	--	2.02E-14	--	--	Indeno(1,2,3-cd)pyrene		--	--	--	--
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	--	1.30E-12	--	1.30E-12
			Pyrene	--	--	--	--	Pyrene	Kidney	--	6.06E-09	--	6.06E-09
			(total)	--	**1.50E-12**	--	**1.50E-12**	(total)		--	**1.63E-07**	--	**1.63E-07**

Notes to table are given at the end of Table 6-10B.

TABLE 6-10B
(RAGS PART D TABLE 9.2)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Shellfisher
Receptor Age: Adult

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Shellfish	Shellfish	IR Site 4 Shoreline	Acenaphthene	--	--	--	--	Acenaphthene	Liver	1.16E-07	--	--	1.16E-07
			Acenaphthylene	--	--	--	--	Acenaphthylene		--	--	--	--
			Anthracene	--	--	--		Anthracene	NOAEL	8.80E-08	--	--	8.80E-08
			Benzo(a)anthracene	3.03E-08	--	--	3.03E-08	Benzo(a)anthracene		--	--	--	--
			Benzo(a)pyrene	2.06E-07	--	--	2.06E-07	Benzo(a)pyrene		--	--	--	--
			Benzo(b)fluoranthene	2.74E-08	--	--	2.74E-08	Benzo(b)fluoranthene		--	--	--	--
			Benzo(g,h,i)perylene	--	--	--	--	Benzo(g,h,i)perylene	Kidney	1.71E-06	--	--	1.71E-06
			Benzo(k)fluoranthene	2.39E-09	--	--	2.39E-09	Benzo(k)fluoranthene		--	--	--	--
			Chrysene	4.38E-10	--	--	4.38E-10	Chrysene		--	--	--	--
			Dibenz(a,h)anthracene	4.33E-08	--	--	4.33E-08	Dibenz(a,h)anthracene		--	--	--	--
			Dibenzofuran	--	--	--	--	Dibenzofuran	N/A	1.92E-06	--	--	1.92E-06
			Dibenzothiophene	--	--	--	--	Dibenzothiophene		--	--	--	--
			Fluoranthene	--	--	--	--	Fluoranthene	Kidney, liver, blood	4.95E-06	--	--	4.95E-06
			Fluorene	--	--	--	--	Fluorene	Blood	2.37E-07	--	--	2.37E-07
			Indeno(1,2,3-cd)pyrene	1.86E-08	--	--	1.86E-08	Indeno(1,2,3-cd)pyrene		--	--	--	--
			2-Methylnaphthalene	--	--	--	--	2-Methylnaphthalene	Body weight	8.55E-07	--	--	8.55E-07

Notes to table are given at the end of Table 6-10B.

TABLE 6-10B
(RAGS PART D TABLE 9.2)
SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs, REASONABLE MAXIMUM EXPOSURE
NFD POINT MOLATE

Scenario Timeframe: Current/Future
Receptor Population: Shellfisher
Receptor Age: Adult

Medium	Exp. Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Chemical of Potential Concern	Non-Carcinogenic Hazard Quotient				
				Ing.	Inh.	Derm.	Exp. Routes Total		Primary Target Organ	Ing.	Inh.	Derm.	Exp. Routes Total
Shellfish	Shellfish	IR Site 4 Shoreline	Naphthalene	--	--	--	--	Naphthalene	Body weight	9.21E-07	--	--	9.21E-07
			Phenanthrene	--	--	--	--	Phenanthrene	NOAEL	2.24E-07	--	--	2.24E-07
			Pyrene	--	--	--	--	Pyrene	Kidney	5.83E-06	--	--	5.83E-06
			(total)	3.28E-07	--	--	3.28E-07	(total)		1.69E-05	--	--	1.69E-05
			Total Risk Across All Media and All Exposure Routes				5.07E-07	Total Hazard Index Across All Media and All Exposure Routes					2.86E-05

Notes:

CNS	Central nervous system
COPC	Chemical of potential concern
Derm.	Dermal
Exp.	Exposure
Ing.	Ingestion
Inh.	Inhalation
IR	Installation restoration
NOAEL	No observed adverse effect level
--	Not evaluated

Notes to table are given at the end of Table 6-10B.

TABLE 6-11

NFD POINT MOLATE
FINAL PHASE II RI REPORT
SUMMARY OF HUMAN HEALTH RISKS

Receptor	Exposure Medium	Exposure Pathway	Cancer Risk	Hazard Index
Child Recreational Visitor	Soil and sediment	Ingestion Dermal contact	2.1E-07 3.6E-07	<0.0001 <0.001
	Air	Inhalation	2.9E-12	<0.001
	TOTAL		**5.8E-07**	**<0.001**
Child Recreational Visitor, Including Shellfish Ingestion	Soil and sediment	Ingestion Dermal contact	2.1E-07 3.6E-07	<0.0001 <0.001
	Air	Inhalation	2.9E-12	<0.001
	Shellfish	Ingestion	1.4E-07	<0.001
	TOTAL		**7.2E-07**	**<0.001**
Adult Shellfisher	Soil and sediment	Ingestion Dermal contact	1.1E-07 6.7E-08	<0.001
	Air	Inhalation	1.1E-12	<0.001
	Shellfish	Ingestion	3.3E-07	<0.001
	TOTAL		**5.1E-07**	**<0.001**

Notes:

a The cancer risk and hazard index for the shellfish ingestion pathway were calculated assuming that shellfish collected from the NFD Point Molate shoreline comprise 20 percent of the total shellfish consumed. The cancer risks and hazard indices for the shellfish ingestion pathway would be five-fold higher under the assumption that 100 percent of the consumed shellfish come from the NFD Point Molate shoreline.

7.0 BACKGROUND SOIL INVESTIGATION FOR POLYCYCLIC AROMATIC HYDROCARBON

Sixteen surface soil samples collected from background areas at Point Molate were analyzed for PAH compounds, percent moisture, and pH. The background sample locations are shown on Plate 1. Section 5.0 of the Final Phase II RI Work Plan contains an extensive discussion of the methodology used in selecting these samples. Basically, historical aerial photographs taken shortly after construction of the hillside tanks revealed areas that were undisturbed by construction. These areas are those shaded on Plate 1 that were presented in the Work Plan.

The validated data were compiled and evaluated to determine characteristics of the background population. Results of this evaluation are presented in the following paragraphs.

7.1 SUMMARY STATISTICS

This section discusses the detections of PAH compounds, the ranges of these detections, and discusses graphic analysis of data and the qualitative evaluation of these distributions.

Detection Rates

The data were sorted by analyte and concentration, and the rate of detection was calculated for each analyte. Detection rates ranged from 0 percent (for 8 of the 16 PAHs) to 81.3 percent for benzo(b)fluoranthene (Table 7-1). Percent moisture and pH values were reported for all samples: percent moisture ranged from 6.9 to 16.0 percent, and pH ranged from 4.78 to 6.66 pH units.

Only 3 of the 16 PAH compounds had detection rates greater than or equal to 50 percent. Chrysene was detected in 50 percent of samples, fluoranthene was detected in 56.3 percent of samples, and benzo(b)fluoranthene was detected in 81.3 percent of samples. Acenaphthene, acenaphthylene, anthracene, benzo(g,h,i)perylene, dibenzo(a,h)anthracene, fluorene, indeno(1,2,3-cd)pyrene, and naphthalene were not detected in any of the 16 background soil samples. The remaining 5 PAH compounds for which data were reported showed detection rates between 12.5 and 43.8 percent (see Table 7-1). Table 7-2 provides all data for PAH compounds in the background data set.

Detected and Nondetected Values

The minimum and maximum detection limits and the minimum and maximum detected concentrations show a range of values for each compound (see Table 7-1). In many cases, the reported detection limit is greater than the maximum reported detected concentration, and the range of reported detection limits is rather large (2.2 to 270 micrograms per kilogram [µg/kg]). Upon closer inspection, one sample in particular (SSBK-05) shows high-value nondetects. Sample SSBK-05 has reported detection limits that exceed the maximum detected values reported for 13 PAH compounds. The following PAH compounds (and their associated high-value detection limits) are reported for sample SSBK-05: acenaphthene (270 µg/kg), acenaphthylene (110 µg/kg), anthracene (11 µg/kg), benzo(a)anthracene (11 µg/kg), benzo(a)pyrene (11 µg/kg), benzo(g,h,i)perylene (11 µg/kg), benzo(k)fluoranthene (11 µg/kg), chrysene (11 µg/kg), dibenzo(a,h)anthracene 27 µg/kg), fluorene (11 µg/kg), indeno(1,2,3-cd)pyrene (11 µg/kg), naphthalene (270 µg/kg), and pyrene (11 µg/kg).

A dilution of 5 times (5X) was required for sample SSBK-05. The adjusted contract required quantitation limit (CRQL) for sample SSBK-05 is below the preliminary remediation goal (PRG) for the PAHs of interest. In accordance with Navy guidance and standard statistical practices, non-detected values greater than the highest detected value are not used in comparisons between background and site data sets. Therefore, reanalysis of sample SSBK-05 is not considered necessary at this time.

The maximum detected concentration for each PAH compound ranged from 1.0 µg/kg for benzo(a)anthracene and benzo(k)fluoranthene, to 5.6 µg/kg for pyrene. The lowest detected concentration (0.4 µg/kg) was reported for benzo(k)fluoranthene (see Table 7-1). The complete range of detected and nondetected values for each PAH compound is shown in a box-and-whisker plot (Figure 7-1), and in the data listing (Table 7-2).

Normal Probability Plots, Histograms, and Data Distributions

For the 3 PAH compounds that have detection rates greater than or equal to 50 percent, normal probability plots and histograms show the distribution of data values (Figures 7-2a to 7-4b). Nondetect values are marked as such on the normal probability plots (Figures 7-2b, 7-3b, and 7-4b). (Note: Although data for 16 samples were collected for each compound, identical values do not show as separate points on the probability plots; hence any plot showing fewer than 16 points has identical-value data.)

Data distributions (that is, probability density functions [PDFs]) can be qualitatively evaluated from the histograms and probability plots; although the relatively small sample size (N = 16) and the high rate of nondetections for each PAH compound limit the utility of both qualitative and quantitative determinations of data distributions. Results of the Shapiro-Wilk W test, which was applied to quantitatively evaluate data distributions, range from p-values of 0.000 to 0.0322 for the 3 PAH compounds with detection rates greater than or equal to 50 percent (see Figures 7-2a, 7-3a, and 7-4a). These p-values indicate non-normality at the 95 percent confidence level.

7.2 COMPARISON OF ANALYTICAL RESULTS AND PRG VALUES

The current PRGs (EPA 1998b) are included in Table 7-1 for a general comparison of background concentrations of PAH compounds to risk-related values. The residential PRG values are shown in this table, and indicate acceptable levels of risk ($<10^{-6}$) from exposure to ambient concentrations of PAH compounds in surface soil.

7.3 UTILITY OF BACKGROUND DATA IN SITE-TO-BACKGROUND COMPARISONS

The work plan for CTO 112 stated that "a facility-wide background data set for PAHs is required to evaluate the environmental impact of site operations on surface soil" and that a "background data set is necessary to distinguish between potential site-related contamination and naturally occurring and anthropogenic background levels." This acknowledges that some level of PAH concentrations in environmental media is the result of human activities throughout the Bay Area.

Analytical data were collected for this study to establish an "ambient background" for each PAH compound in surface soil. The intent was to use these data in site-to-background comparisons for IR sites at NFD Point Molate. However, the low rate of detected concentrations for most of the PAH compounds (see Table 7-1) precludes the use of most statistical comparison tests, although the data can be used to provide qualitative comparisons. Certain statistical tests can be applied to data sets with a moderate proportion of nondetect values, and each possible comparison should be evaluated on a case-by-case basis.

7.4 CONCLUSIONS AND RECOMMENDATIONS

The analytical data for surface soil samples collected from background areas in and around NFD Point Molate show that ambient concentrations of PAH compounds are well below PRG values. Therefore, any

site data collected for PAH compounds should also be less than PRG values if site-related activities have not contributed significant concentrations of these chemicals to the site soils.

In general, it is recommended that site data for PAH compounds be evaluated by comparison with the risk-based concentrations (that is, PRG values). The utility of the background data set for site-to-background comparisons of PAH compounds is limited by the low rate of detection for most compounds.

FIGURE 7-1

NFD POINT MOLATE
FINAL PHASE II RI REPORT
PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

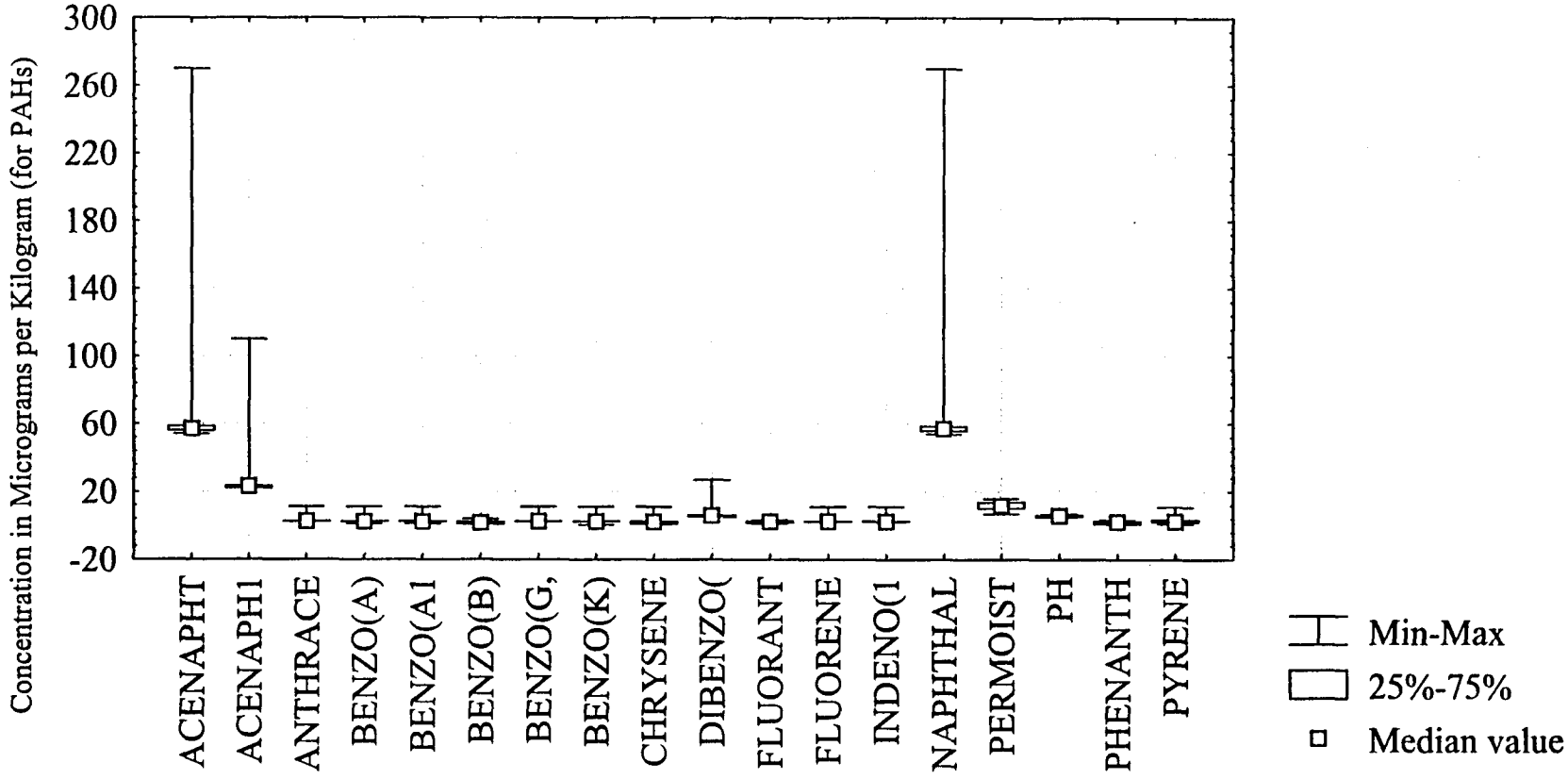
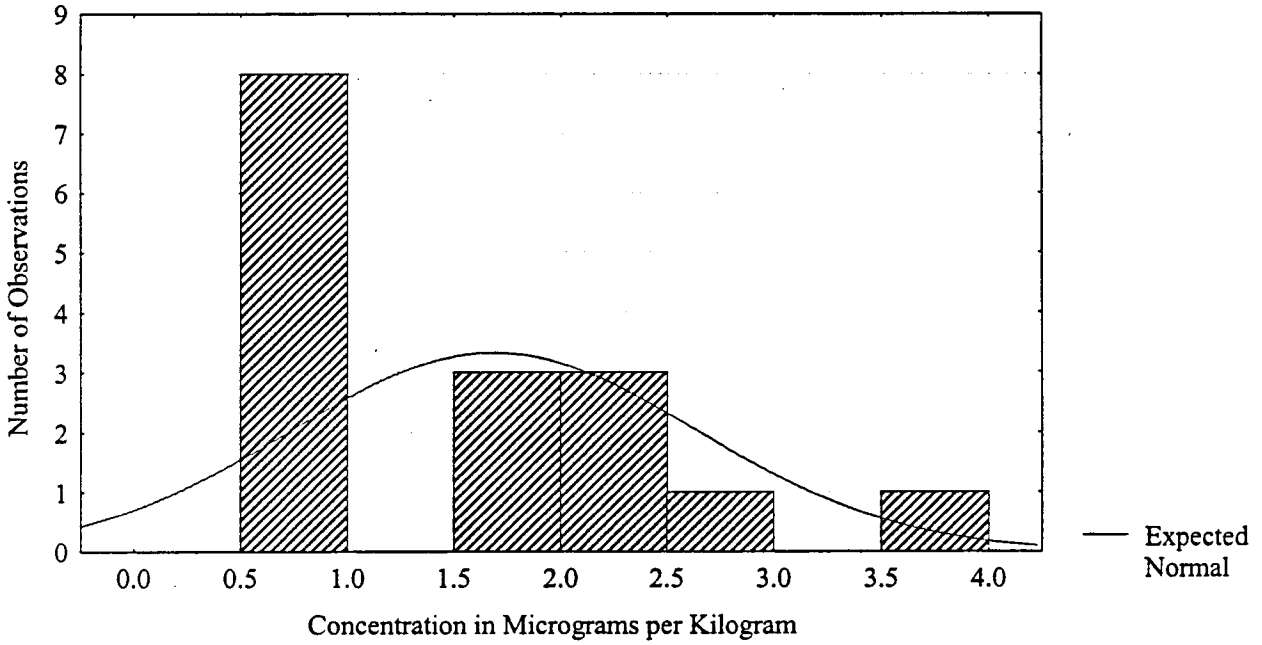


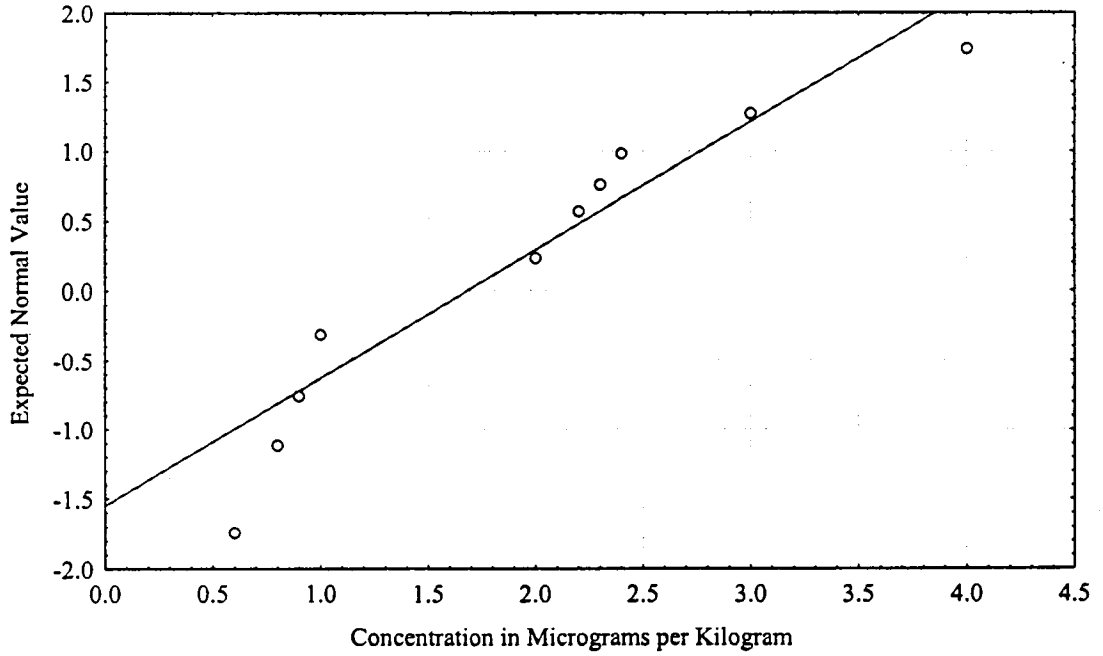
FIGURE 7-2A AND 7-2B

NFD POINT MOLATE
FINAL PHASE II RI REPORT
PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

BENZO(b)FLUORANTHENE IN BACKGROUND SURFACE SOIL
Detection Rate = 81.3 Percent, Shapiro-Wilk W=.87487, p = .0322



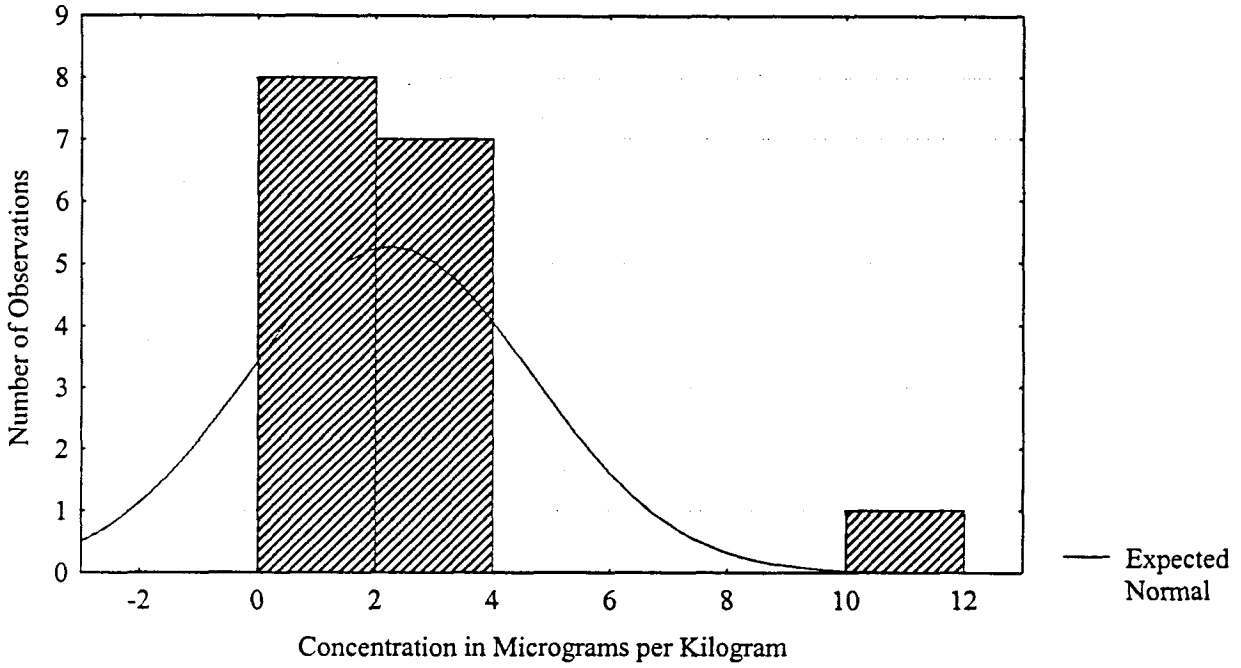
BENZO(b)FLUORANTHENE IN BACKGROUND SURFACE SOIL
NORMAL PROBABLITY PLOT



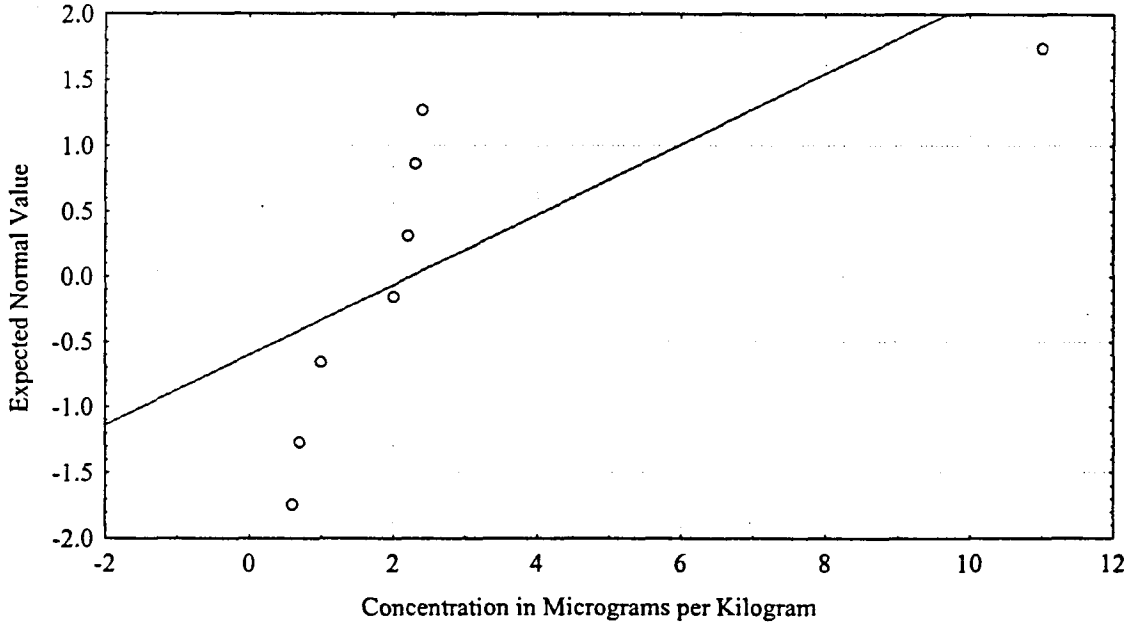
FIGURES 7-3A AND 7-3B

NFD POINT MOLATE
FINAL PHASE II RI REPORT
PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

CHRYSENE IN BACKGROUND SURFACE SOIL
Detection Rate = 56.3 Percent, Shapiro-Wilk W=.50891, p<.0000



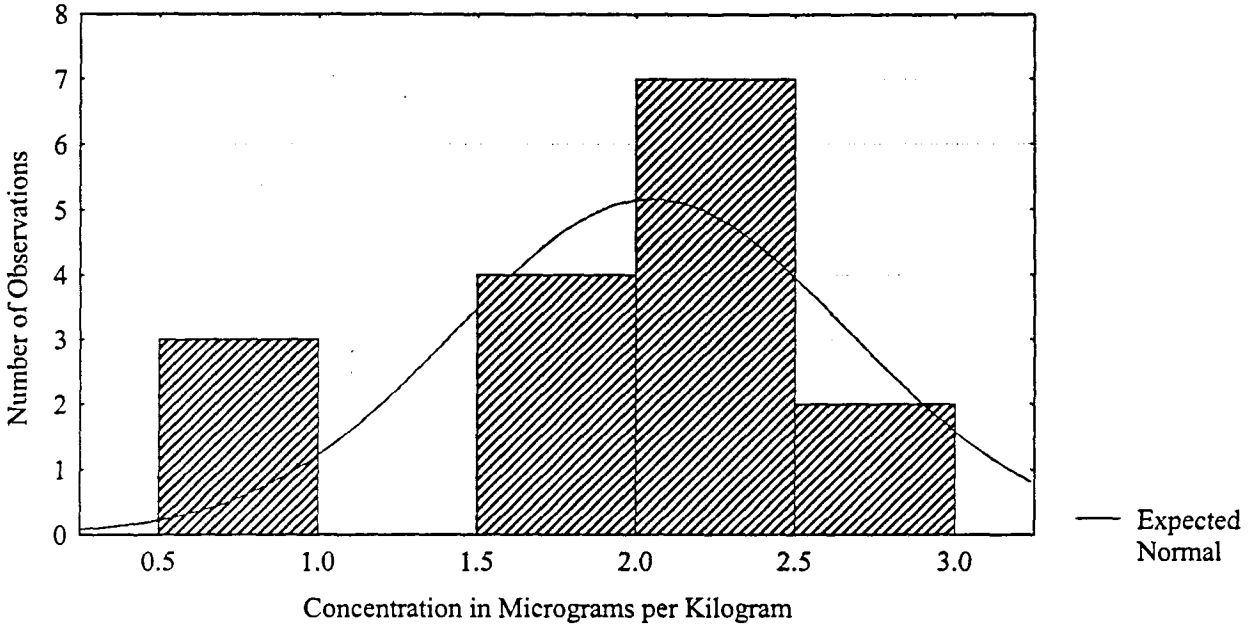
CHRYSENE IN BACKGROUND SURFACE SOIL
NORMAL PROBABILITY PLOT



FIGURES 7-4A AND 7-4B

NFD POINT MOLATE
FINAL PHASE II RI REPORT
PAH CONCENTRATONS IN BACKGROUND SURFACE SOIL

FLUORANTHENE IN BACKGROUND SURFACE SOIL
Shapiro-Wilk W=.85811, p<.0175



FLUORANTHENE IN BACKGROUND SURFACE SOIL
NORMAL PROBABILITY PLOT

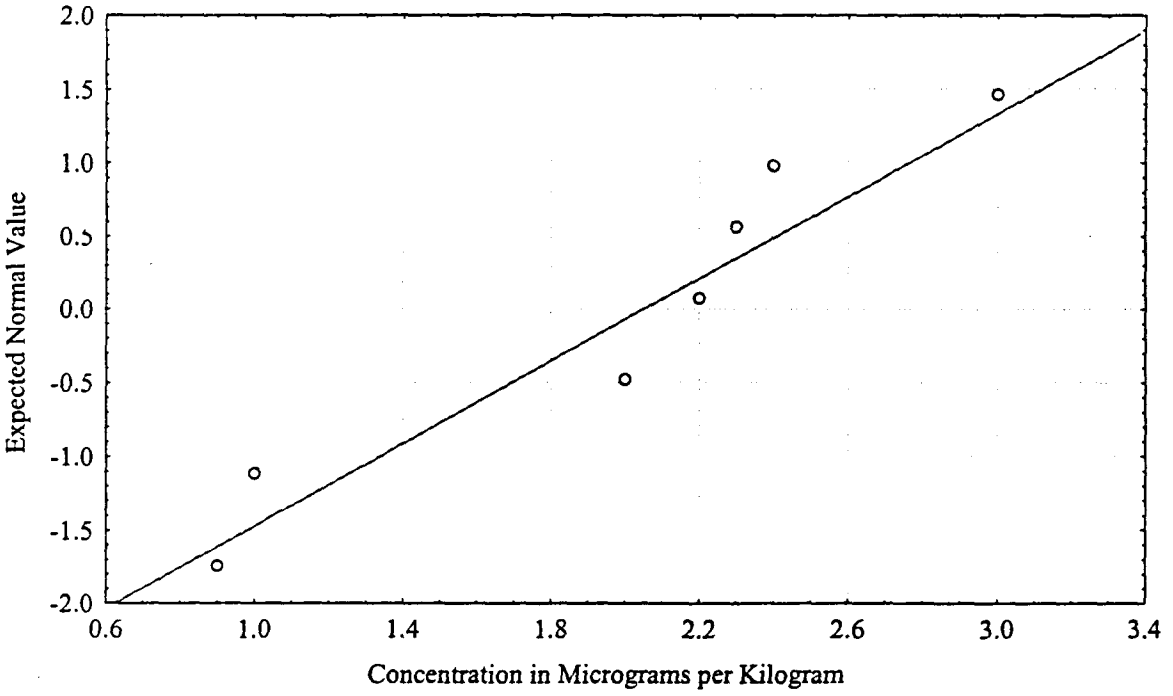


TABLE 7-1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SUMMARY INFORMATION FOR PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

ANALYTE	N	Number of Detects	Number of Nondetects	%DET	MIN-U	MAX-U	MIN	MAX	EPA PRGs	UNITS
ACENAPHTHENE	16	0	16	0.0%	54-U	270-U	N/A	N/A	2.60E+06	UG/KG
ACENAPHTHYLENE	16	0	16	0.0%	22-U	110-U	N/A	N/A	ND	UG/KG
ANTHRACENE	16	0	16	0.0%	2.2-U	11-U	N/A	N/A	1.40E+07	UG/KG
BENZO(A)ANTHRACENE	16	2	14	12.5%	2.2-U	11-U	1	1	560	UG/KG
BENZO(A)PYRENE	16	2	14	12.5%	2.2-U	11-U	1	2	56	UG/KG
BENZO(B)FLUORANTHENE	16	13	3	81.3%	2.2-U	2.4-U	0.6	4	560	UG/KG
BENZO(G,H,I)PERYLENE	16	0	16	0.0%	2.2-U	11-U	N.A	N/A	ND	UG/KG
BENZO(K)FLUORANTHENE	16	2	14	12.5%	2.2-U	11-U	0.4	1	5,600	UG/KG
CHRYSENE	16	8	8	50.0%	2.2-U	11-U	0.6	2	56,000	UG/KG
DIBENZO(A,H)ANTHRACENE	16	0	16	0.0%	5.4-U	27-U	N/A	N/A	56	UG/KG
FLUORANTHENE	16	9	7	56.3%	2.2-U	2.4-U	0.9	3	2.00E+06	UG/KG
FLUORENE	16	0	16	0.0%	2.2-U	11-U	N/A	N/A	1.80E+06	UG/KG
INDENO(1,2,3-CD)PYRENE	16	0	16	0.0%	2.2-U	11-U	N/A	N/A	560	UG/KG
NAPHTHALENE	16	0	16	0.0%	54-U	270-U	N/A	N/A	55,000	UG/KG
PHENANTHRENE	16	7	9	43.8%	2.2-U	2.4-U	0.7	3	ND	UG/KG
PYRENE	16	6	10	37.5%	2.2-U	11-U	1	5.6	1.50E+06	UG/KG
PERCENT MOISTURE	16	16	0	100.0%	N/A	N/A	6.9	16	N/A	%
pH	16	16	0	100.0%	N/A	N/A	4.78	6.66	N/A	pH units

Notes:

PAH	Polyaromatic hydrocarbon
N	Number of samples collected and analyzed
%DET	Detection rate
MIN-U	Minimum reported detection limit
MAX-U	Maximum reported detection limit
MIN	Minimum detected concentration
MAX	Maximum detected concentration
UG/KG	Micrograms per kilogram
EPA	U.S. Environmental Protection Agency
PRGs	Preliminary remediation goals (These are updated periodically; values shown are from 1998 for Region 9 of the EPA.)
N/A	Not applicable

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-07	12-Nov-98	SSBK-07	83-32-9	ACENAPHTHENE	54	UG/KG	U	54
SSBK-03	12-Nov-98	SSBK-03	83-32-9	ACENAPHTHENE	55	UG/KG	U	55
SSBK-14	12-Nov-98	SSBK-14	83-32-9	ACENAPHTHENE	55	UG/KG	U	55
SSBK-01	12-Nov-98	SSBK-01	83-32-9	ACENAPHTHENE	56	UG/KG	U	56
SSBK-02	12-Nov-98	SSBK-02	83-32-9	ACENAPHTHENE	56	UG/KG	U	56
SSBK-06	12-Nov-98	SSBK-06	83-32-9	ACENAPHTHENE	56	UG/KG	U	56
SSBK-11	12-Nov-98	SSBK-11	83-32-9	ACENAPHTHENE	56	UG/KG	U	56
SSBK-08	12-Nov-98	SSBK-08	83-32-9	ACENAPHTHENE	57	UG/KG	U	57
SSBK-09	12-Nov-98	SSBK-09	83-32-9	ACENAPHTHENE	57	UG/KG	U	57
SSBK-16	12-Nov-98	SSBK-16	83-32-9	ACENAPHTHENE	57	UG/KG	U	57
SSBK-10	12-Nov-98	SSBK-10	83-32-9	ACENAPHTHENE	58	UG/KG	U	58
SSBK-13	12-Nov-98	SSBK-13	83-32-9	ACENAPHTHENE	58	UG/KG	U	58
SSBK-04	12-Nov-98	SSBK-04	83-32-9	ACENAPHTHENE	59	UG/KG	U	59
SSBK-15	12-Nov-98	SSBK-15	83-32-9	ACENAPHTHENE	59	UG/KG	U	59
SSBK-12	12-Nov-98	SSBK-12	83-32-9	ACENAPHTHENE	60	UG/KG	U	60
SSBK-05	12-Nov-98	SSBK-05	83-32-9	ACENAPHTHENE	270	UG/KG	U	270
SSBK-02	12-Nov-98	SSBK-02	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-03	12-Nov-98	SSBK-03	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-06	12-Nov-98	SSBK-06	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-07	12-Nov-98	SSBK-07	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-11	12-Nov-98	SSBK-11	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-14	12-Nov-98	SSBK-14	208-96-8	ACENAPHTHYLENE	22	UG/KG	U	22
SSBK-01	12-Nov-98	SSBK-01	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-08	12-Nov-98	SSBK-08	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-09	12-Nov-98	SSBK-09	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-10	12-Nov-98	SSBK-10	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-13	12-Nov-98	SSBK-13	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-16	12-Nov-98	SSBK-16	208-96-8	ACENAPHTHYLENE	23	UG/KG	U	23
SSBK-04	12-Nov-98	SSBK-04	208-96-8	ACENAPHTHYLENE	24	UG/KG	U	24
SSBK-12	12-Nov-98	SSBK-12	208-96-8	ACENAPHTHYLENE	24	UG/KG	U	24
SSBK-15	12-Nov-98	SSBK-15	208-96-8	ACENAPHTHYLENE	24	UG/KG	U	24
SSBK-05	12-Nov-98	SSBK-05	208-96-8	ACENAPHTHYLENE	110	UG/KG	U	110
SSBK-02	12-Nov-98	SSBK-02	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	120-12-7	ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-13	12-Nov-98	SSBK-13	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	120-12-7	ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	120-12-7	ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	120-12-7	ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	120-12-7	ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	120-12-7	ANTHRACENE	11	UG/KG	U	11
SSBK-01	12-Nov-98	SSBK-01	56-55-3	BENZO(A)ANTHRACENE	1	UG/KG	J	2.3
SSBK-13	12-Nov-98	SSBK-13	56-55-3	BENZO(A)ANTHRACENE	1	UG/KG	J	2.3
SSBK-02	12-Nov-98	SSBK-02	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	56-55-3	BENZO(A)ANTHRACENE	2.2	UG/KG	U	2.2

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-08	12-Nov-98	SSBK-08	56-55-3	BENZO(A)ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	56-55-3	BENZO(A)ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	56-55-3	BENZO(A)ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	56-55-3	BENZO(A)ANTHRACENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	56-55-3	BENZO(A)ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	56-55-3	BENZO(A)ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	56-55-3	BENZO(A)ANTHRACENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	56-55-3	BENZO(A)ANTHRACENE	11	UG/KG	U	11
SSBK-16	12-Nov-98	SSBK-16	50-32-8	BENZO(A)PYRENE	1	UG/KG	J	2.3
SSBK-13	12-Nov-98	SSBK-13	50-32-8	BENZO(A)PYRENE	2	UG/KG		2.3
SSBK-02	12-Nov-98	SSBK-02	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	50-32-8	BENZO(A)PYRENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	50-32-8	BENZO(A)PYRENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	50-32-8	BENZO(A)PYRENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	50-32-8	BENZO(A)PYRENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	50-32-8	BENZO(A)PYRENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	50-32-8	BENZO(A)PYRENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	50-32-8	BENZO(A)PYRENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	50-32-8	BENZO(A)PYRENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	50-32-8	BENZO(A)PYRENE	11	UG/KG	U	11
SSBK-06	12-Nov-98	SSBK-06	205-99-2	BENZO(B)FLUORANTHENE	0.6	UG/KG	J	2.2
SSBK-03	12-Nov-98	SSBK-03	205-99-2	BENZO(B)FLUORANTHENE	0.8	UG/KG	J	2.2
SSBK-10	12-Nov-98	SSBK-10	205-99-2	BENZO(B)FLUORANTHENE	0.8	UG/KG	J	2.3
SSBK-11	12-Nov-98	SSBK-11	205-99-2	BENZO(B)FLUORANTHENE	0.9	UG/KG	J	2.2
SSBK-01	12-Nov-98	SSBK-01	205-99-2	BENZO(B)FLUORANTHENE	1	UG/KG	J	2.3
SSBK-02	12-Nov-98	SSBK-02	205-99-2	BENZO(B)FLUORANTHENE	1	UG/KG	J	2.2
SSBK-09	12-Nov-98	SSBK-09	205-99-2	BENZO(B)FLUORANTHENE	1	UG/KG	J	2.3
SSBK-16	12-Nov-98	SSBK-16	205-99-2	BENZO(B)FLUORANTHENE	1	UG/KG	J	2.3
SSBK-04	12-Nov-98	SSBK-04	205-99-2	BENZO(B)FLUORANTHENE	2	UG/KG	J	2.4
SSBK-14	12-Nov-98	SSBK-14	205-99-2	BENZO(B)FLUORANTHENE	2	UG/KG	J	2.2
SSBK-15	12-Nov-98	SSBK-15	205-99-2	BENZO(B)FLUORANTHENE	2	UG/KG	J	2.4
SSBK-07	12-Nov-98	SSBK-07	205-99-2	BENZO(B)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-08	12-Nov-98	SSBK-08	205-99-2	BENZO(B)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-12	12-Nov-98	SSBK-12	205-99-2	BENZO(B)FLUORANTHENE	2.4	UG/KG	U	2.4
SSBK-13	12-Nov-98	SSBK-13	205-99-2	BENZO(B)FLUORANTHENE	3	UG/KG		2.3
SSBK-05	12-Nov-98	SSBK-05	205-99-2	BENZO(B)FLUORANTHENE	4	UG/KG	J	11
SSBK-02	12-Nov-98	SSBK-02	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	191-24-2	BENZO(G,H,I)PERYLENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-13	12-Nov-98	SSBK-13	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	191-24-2	BENZO(G,H,I)PERYLENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	191-24-2	BENZO(G,H,I)PERYLENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	191-24-2	BENZO(G,H,I)PERYLENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	191-24-2	BENZO(G,H,I)PERYLENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	191-24-2	BENZO(G,H,I)PERYLENE	11	UG/KG	U	11

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-04	12-Nov-98	SSBK-04	207-08-9	BENZO(K)FLUORANTHENE	0.4	UG/KG	J	2.4
SSBK-13	12-Nov-98	SSBK-13	207-08-9	BENZO(K)FLUORANTHENE	1	UG/KG	J	2.3
SSBK-02	12-Nov-98	SSBK-02	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	207-08-9	BENZO(K)FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	207-08-9	BENZO(K)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	207-08-9	BENZO(K)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	207-08-9	BENZO(K)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	207-08-9	BENZO(K)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	207-08-9	BENZO(K)FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-12	12-Nov-98	SSBK-12	207-08-9	BENZO(K)FLUORANTHENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	207-08-9	BENZO(K)FLUORANTHENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	207-08-9	BENZO(K)FLUORANTHENE	11	UG/KG	U	11
SSBK-02	12-Nov-98	SSBK-02	218-01-9	CHRYSENE	0.6	UG/KG	J	2.2
SSBK-04	12-Nov-98	SSBK-04	218-01-9	CHRYSENE	0.7	UG/KG	J	2.4
SSBK-09	12-Nov-98	SSBK-09	218-01-9	CHRYSENE	1	UG/KG	J	2.3
SSBK-14	12-Nov-98	SSBK-14	218-01-9	CHRYSENE	1	UG/KG	J	2.2
SSBK-15	12-Nov-98	SSBK-15	218-01-9	CHRYSENE	1	UG/KG	J	2.4
SSBK-16	12-Nov-98	SSBK-16	218-01-9	CHRYSENE	1	UG/KG	J	2.3
SSBK-01	12-Nov-98	SSBK-01	218-01-9	CHRYSENE	2	UG/KG	J	2.3
SSBK-13	12-Nov-98	SSBK-13	218-01-9	CHRYSENE	2	UG/KG	J	2.3
SSBK-03	12-Nov-98	SSBK-03	218-01-9	CHRYSENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	218-01-9	CHRYSENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	218-01-9	CHRYSENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	218-01-9	CHRYSENE	2.2	UG/KG	U	2.2
SSBK-08	12-Nov-98	SSBK-08	218-01-9	CHRYSENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	218-01-9	CHRYSENE	2.3	UG/KG	U	2.3
SSBK-12	12-Nov-98	SSBK-12	218-01-9	CHRYSENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	218-01-9	CHRYSENE	11	UG/KG	U	11
SSBK-07	12-Nov-98	SSBK-07	53-70-3	DIBENZO(A,H)ANTHRACENE	5.4	UG/KG	U	5.4
SSBK-03	12-Nov-98	SSBK-03	53-70-3	DIBENZO(A,H)ANTHRACENE	5.5	UG/KG	U	5.5
SSBK-14	12-Nov-98	SSBK-14	53-70-3	DIBENZO(A,H)ANTHRACENE	5.5	UG/KG	U	5.5
SSBK-01	12-Nov-98	SSBK-01	53-70-3	DIBENZO(A,H)ANTHRACENE	5.6	UG/KG	U	5.6
SSBK-02	12-Nov-98	SSBK-02	53-70-3	DIBENZO(A,H)ANTHRACENE	5.6	UG/KG	U	5.6
SSBK-06	12-Nov-98	SSBK-06	53-70-3	DIBENZO(A,H)ANTHRACENE	5.6	UG/KG	U	5.6
SSBK-11	12-Nov-98	SSBK-11	53-70-3	DIBENZO(A,H)ANTHRACENE	5.6	UG/KG	U	5.6
SSBK-08	12-Nov-98	SSBK-08	53-70-3	DIBENZO(A,H)ANTHRACENE	5.7	UG/KG	U	5.7
SSBK-09	12-Nov-98	SSBK-09	53-70-3	DIBENZO(A,H)ANTHRACENE	5.7	UG/KG	U	5.7
SSBK-16	12-Nov-98	SSBK-16	53-70-3	DIBENZO(A,H)ANTHRACENE	5.7	UG/KG	U	5.7
SSBK-10	12-Nov-98	SSBK-10	53-70-3	DIBENZO(A,H)ANTHRACENE	5.8	UG/KG	U	5.8
SSBK-13	12-Nov-98	SSBK-13	53-70-3	DIBENZO(A,H)ANTHRACENE	5.8	UG/KG	U	5.8
SSBK-04	12-Nov-98	SSBK-04	53-70-3	DIBENZO(A,H)ANTHRACENE	5.9	UG/KG	U	5.9
SSBK-15	12-Nov-98	SSBK-15	53-70-3	DIBENZO(A,H)ANTHRACENE	5.9	UG/KG	U	5.9
SSBK-12	12-Nov-98	SSBK-12	53-70-3	DIBENZO(A,H)ANTHRACENE	6	UG/KG	U	6
SSBK-05	12-Nov-98	SSBK-05	53-70-3	DIBENZO(A,H)ANTHRACENE	27	UG/KG	U	27
SSBK-03	12-Nov-98	SSBK-03	206-44-0	FLUORANTHENE	0.9	UG/KG	J	2.2
SSBK-14	12-Nov-98	SSBK-14	206-44-0	FLUORANTHENE	1	UG/KG	J	2.2
SSBK-15	12-Nov-98	SSBK-15	206-44-0	FLUORANTHENE	1	UG/KG	J	2.4
SSBK-04	12-Nov-98	SSBK-04	206-44-0	FLUORANTHENE	2	UG/KG		2.4
SSBK-09	12-Nov-98	SSBK-09	206-44-0	FLUORANTHENE	2	UG/KG		2.3
SSBK-11	12-Nov-98	SSBK-11	206-44-0	FLUORANTHENE	2	UG/KG	J	2.2
SSBK-16	12-Nov-98	SSBK-16	206-44-0	FLUORANTHENE	2	UG/KG		2.3
SSBK-02	12-Nov-98	SSBK-02	206-44-0	FLUORANTHENE	2.2	UG/KG	U	2.2

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-06	12-Nov-98	SSBK-06	206-44-0	FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	206-44-0	FLUORANTHENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	206-44-0	FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	206-44-0	FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	206-44-0	FLUORANTHENE	2.3	UG/KG	U	2.3
SSBK-12	12-Nov-98	SSBK-12	206-44-0	FLUORANTHENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	206-44-0	FLUORANTHENE	3	UG/KG	J	11
SSBK-13	12-Nov-98	SSBK-13	206-44-0	FLUORANTHENE	3	UG/KG		2.3
SSBK-02	12-Nov-98	SSBK-02	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	86-73-7	FLUORENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-13	12-Nov-98	SSBK-13	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	86-73-7	FLUORENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	86-73-7	FLUORENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	86-73-7	FLUORENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	86-73-7	FLUORENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	86-73-7	FLUORENE	11	UG/KG	U	11
SSBK-02	12-Nov-98	SSBK-02	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	193-39-5	INDENO(1,2,3-CD)PYRENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-09	12-Nov-98	SSBK-09	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-13	12-Nov-98	SSBK-13	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-16	12-Nov-98	SSBK-16	193-39-5	INDENO(1,2,3-CD)PYRENE	2.3	UG/KG	U	2.3
SSBK-04	12-Nov-98	SSBK-04	193-39-5	INDENO(1,2,3-CD)PYRENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	193-39-5	INDENO(1,2,3-CD)PYRENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	193-39-5	INDENO(1,2,3-CD)PYRENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	193-39-5	INDENO(1,2,3-CD)PYRENE	11	UG/KG	U	11
SSBK-07	12-Nov-98	SSBK-07	91-20-3	NAPHTHALENE	54	UG/KG	U	54
SSBK-03	12-Nov-98	SSBK-03	91-20-3	NAPHTHALENE	55	UG/KG	U	55
SSBK-14	12-Nov-98	SSBK-14	91-20-3	NAPHTHALENE	55	UG/KG	U	55
SSBK-01	12-Nov-98	SSBK-01	91-20-3	NAPHTHALENE	56	UG/KG	U	56
SSBK-02	12-Nov-98	SSBK-02	91-20-3	NAPHTHALENE	56	UG/KG	U	56
SSBK-06	12-Nov-98	SSBK-06	91-20-3	NAPHTHALENE	56	UG/KG	U	56
SSBK-11	12-Nov-98	SSBK-11	1	NAPHTHALENE	56	UG/KG	U	56
SSBK-08	12-Nov-98	SSBK-08	91-20-3	NAPHTHALENE	57	UG/KG	U	57
SSBK-09	12-Nov-98	SSBK-09	91-20-3	NAPHTHALENE	57	UG/KG	U	57
SSBK-16	12-Nov-98	SSBK-16	91-20-3	NAPHTHALENE	57	UG/KG	U	57
SSBK-10	12-Nov-98	SSBK-10	91-20-3	NAPHTHALENE	58	UG/KG	U	58
SSBK-13	12-Nov-98	SSBK-13	91-20-3	NAPHTHALENE	58	UG/KG	U	58
SSBK-04	12-Nov-98	SSBK-04	91-20-3	NAPHTHALENE	59	UG/KG	U	59
SSBK-15	12-Nov-98	SSBK-15	91-20-3	NAPHTHALENE	59	UG/KG	U	59
SSBK-12	12-Nov-98	SSBK-12	91-20-3	NAPHTHALENE	60	UG/KG	U	60
SSBK-05	12-Nov-98	SSBK-05	91-20-3	NAPHTHALENE	270	UG/KG	U	270

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-05	12-Nov-98	SSBK-05	1	PERMOIST	6.9	%MST		0
SSBK-07	12-Nov-98	SSBK-07	1	PERMOIST	7.9	%MST		0
SSBK-03	12-Nov-98	SSBK-03	1	PERMOIST	9.4	%MST		0
SSBK-14	12-Nov-98	SSBK-14	1	PERMOIST	9.9	%MST		0
SSBK-06	12-Nov-98	SSBK-06	1	PERMOIST	10.3	%MST		0
SSBK-02	12-Nov-98	SSBK-02	1	PERMOIST	10.5	%MST		0
SSBK-11	12-Nov-98	SSBK-11	2	PERMOIST	10.7	%MST		0
SSBK-01	12-Nov-98	SSBK-01	1	PERMOIST	11.5	%MST		0
SSBK-08	12-Nov-98	SSBK-08	1	PERMOIST	11.6	%MST		0
SSBK-16	12-Nov-98	SSBK-16	1	PERMOIST	12.8	%MST		0
SSBK-09	12-Nov-98	SSBK-09	1	PERMOIST	13	%MST		0
SSBK-10	12-Nov-98	SSBK-10	1	PERMOIST	13.4	%MST		0
SSBK-13	12-Nov-98	SSBK-13	1	PERMOIST	14.1	%MST		0
SSBK-04	12-Nov-98	SSBK-04	1	PERMOIST	15.7	%MST		0
SSBK-15	12-Nov-98	SSBK-15	1	PERMOIST	15.8	%MST		0
SSBK-12	12-Nov-98	SSBK-12	1	PERMOIST	16	%MST		0
SSBK-14	12-Nov-98	SSBK-14	2	PH	4.78	PH		0.01
SSBK-08	12-Nov-98	SSBK-08	2	PH	4.9	PH		0.01
SSBK-15	12-Nov-98	SSBK-15	2	PH	5.13	PH		0.01
SSBK-09	12-Nov-98	SSBK-09	2	PH	5.4	PH		0.01
SSBK-01	12-Nov-98	SSBK-01	2	PH	5.42	PH		0.01
SSBK-05	12-Nov-98	SSBK-05	2	PH	5.43	PH		0.01
SSBK-02	12-Nov-98	SSBK-02	2	PH	5.44	PH		0.01
SSBK-10	12-Nov-98	SSBK-10	2	PH	5.62	PH		0.01
SSBK-03	12-Nov-98	SSBK-03	2	PH	5.82	PH		0.01
SSBK-12	12-Nov-98	SSBK-12	2	PH	5.9	PH		0.01
SSBK-04	12-Nov-98	SSBK-04	2	PH	5.91	PH		0.01
SSBK-13	12-Nov-98	SSBK-13	2	PH	5.92	PH		0.01
SSBK-16	12-Nov-98	SSBK-16	2	PH	6.02	PH		0.01
SSBK-11	12-Nov-98	SSBK-11		PH	6.08	PH		0.01
SSBK-07	12-Nov-98	SSBK-07	2	PH	6.62	PH		0.01
SSBK-06	12-Nov-98	SSBK-06	2	PH	6.66	PH		0.01
SSBK-11	12-Nov-98	SSBK-11	85-01-8	PHENANTHRENE	0.7	UG/KG	J	2.2
SSBK-09	12-Nov-98	SSBK-09	85-01-8	PHENANTHRENE	0.8	UG/KG	J	2.3
SSBK-01	12-Nov-98	SSBK-01	85-01-8	PHENANTHRENE	0.9	UG/KG	J	2.3
SSBK-04	12-Nov-98	SSBK-04	85-01-8	PHENANTHRENE	1	UG/KG	J	2.4
SSBK-13	12-Nov-98	SSBK-13	85-01-8	PHENANTHRENE	1	UG/KG	J	2.3
SSBK-16	12-Nov-98	SSBK-16	85-01-8	PHENANTHRENE	1	UG/KG	J	2.3
SSBK-02	12-Nov-98	SSBK-02	85-01-8	PHENANTHRENE	2.2	UG/KG	U	2.2
SSBK-03	12-Nov-98	SSBK-03	85-01-8	PHENANTHRENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	85-01-8	PHENANTHRENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	85-01-8	PHENANTHRENE	2.2	UG/KG	U	2.2
SSBK-14	12-Nov-98	SSBK-14	85-01-8	PHENANTHRENE	2.2	UG/KG	U	2.2
SSBK-08	12-Nov-98	SSBK-08	85-01-8	PHENANTHRENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	85-01-8	PHENANTHRENE	2.3	UG/KG	U	2.3
SSBK-12	12-Nov-98	SSBK-12	85-01-8	PHENANTHRENE	2.4	UG/KG	U	2.4
SSBK-15	12-Nov-98	SSBK-15	85-01-8	PHENANTHRENE	2.4	UG/KG	U	2.4
SSBK-05	12-Nov-98	SSBK-05	85-01-8	PHENANTHRENE	3	UG/KG	J	11
SSBK-03	12-Nov-98	SSBK-03	129-00-0	PYRENE	1	UG/KG	J	2.2
SSBK-02	12-Nov-98	SSBK-02	129-00-0	PYRENE	2.2	UG/KG	U	2.2
SSBK-06	12-Nov-98	SSBK-06	129-00-0	PYRENE	2.2	UG/KG	U	2.2
SSBK-07	12-Nov-98	SSBK-07	129-00-0	PYRENE	2.2	UG/KG	U	2.2
SSBK-11	12-Nov-98	SSBK-11	129-00-0	PYRENE	2.2	UG/KG	U	2.2
SSBK-01	12-Nov-98	SSBK-01	129-00-0	PYRENE	2.3	UG/KG	U	2.3
SSBK-08	12-Nov-98	SSBK-08	129-00-0	PYRENE	2.3	UG/KG	U	2.3
SSBK-10	12-Nov-98	SSBK-10	129-00-0	PYRENE	2.3	UG/KG	U	2.3

TABLE 7-2
NFD POINT MOLATE FINAL PHASE II RI REPORT
DATA LISTING OF PAH CONCENTRATIONS IN BACKGROUND SURFACE SOIL

PT_NAME	SDATE	ID	CASNO	ANALYTE	CONC	UNITS	QUAL	DETLIM
SSBK-04	12-Nov-98	SSBK-04	129-00-0	PYRENE	2.4	UG/KG	U	2.4
SSBK-12	12-Nov-98	SSBK-12	129-00-0	PYRENE	2.4	UG/KG	U	2.4
SSBK-09	12-Nov-98	SSBK-09	129-00-0	PYRENE	3	UG/KG		2.3
SSBK-16	12-Nov-98	SSBK-16	129-00-0	PYRENE	3	UG/KG		2.3
SSBK-13	12-Nov-98	SSBK-13	129-00-0	PYRENE	4	UG/KG		2.3
SSBK-14	12-Nov-98	SSBK-14	129-00-0	PYRENE	4	UG/KG		2.2
SSBK-15	12-Nov-98	SSBK-15	129-00-0	PYRENE	5.6	UG/KG		2.4
SSBK-05	12-Nov-98	SSBK-05	129-00-0	PYRENE	11	UG/KG	U	11

Notes:

PT_NAME	Point name (location where sample was collected)
SDATE	Date sample was collected
ID	Sample identification number
CASNO	Chemical abstracts number for chemical compound
CONC	ONC = Concentration measured and reported by analytical laboratory
UG/KG	Micrograms per kilogram
QUAL	Result qualifier
U	Nondetected
J	Estimated (concentration > instrument detection limit but < contract-required detection limit)
Blank	Detected
DETLIM	Detection limit reported by the laboratory
PERMOIST	Percent moisture measured for soil sample
PH	Negative logarithm of hydrogen ion activity (a measure of acidity)

8.0 SUMMARY AND CONCLUSIONS

This section presents a brief summary for each IR site. This summary reflects the current status of each site in light of the total historical IR program for the site. The section also presents the conclusions and recommendations for each of the three sites.

8.1 SUMMARY FOR IR SITE 1 - WASTE DISPOSAL AREA

The Waste Disposal Area has been investigated under several programs since the SI. The IR Site 1 Phase II RI was scoped to provide the Navy with data needed to move toward an EE/CA or presumptive remedy. Preliminary scoping suggested either capping or excavation and removal as options.

Data gathered during the Phase II RI have addressed the data gaps presented in the RI FWP. Data gathered during Phase II have:

- Refined the conceptual site model
- Brought the model and data up to date
- Refined the area and volume of fill estimates
- Provided a more detailed characterization of the wastes in the area
- Refined and updated the groundwater conceptual model
- Better defined the bedrock geology and hydrogeology

8.1.1 Nature and Extent of Contamination

The Waste Disposal Area contains two or more lenses of fuel saturated and altered sandy and silty soil horizons mixed with wood debris. The full extent and volume of these lenses are unknown, but they probably constitute less than 40 percent of the fill. The wastes have laboratory determinations of gasoline, motor oil, and JP-5 range organics up to 6,900 mg/kg. These are 1999 data. 1994 data had a JP-5 range petroleum hydrocarbon maximum detection in soil of 41,000 mg/kg. The new bedrock soil boring immediately downgradient of the Waste Disposal Area exhibited maximum gasoline (12,000 mg/kg) and JP-5 (9,400 mg/kg) detections in soil samples collected from depths ranging from 12-13 feet and 24-25 feet bgs, respectively. The overall volume of fill in the Waste Disposal Area is approximately 21,400 cubic yards. This is reduced from an estimate of 96,000 cubic yards presented in the Phase I RI. The data generated in the

Phase II RI field investigation showed the depth of fill to be less than previously estimated. TCLP data will be evaluated during the EE/CA and may indicate special disposal requirements if the wastes are excavated. Three primary contaminant sources are present in the Waste Disposal Area (see Plate 13). They are: the lenses of hydrocarbon saturated wastes within the Waste Disposal Area footprint, the hydrocarbon plume originating upgradient from VB 9 and Tank 14 releases, and a fuel plume moving with the groundwater into the east side of the Waste Disposal Area presumably from Tank 18 releases and possibly the D Road pipeline release.

Hydrocarbon contaminants in soils below the water table within the Waste Disposal Area are weathered. The petroleum components detected are nearly all very low solubilitiy PAHs, well below their solubility constant. Additionally, monitoring well MW02-06 is directly downgradient (within 40 feet) of trench TR1-7, where these waste materials were found. Only low levels of TPH and associated compounds have been detected in samples from this well indicating minimal migration is occurring now. These contaminants are considered a relatively stable, low-release source. Concentrations of SVOCs in these soils are relatively low.

The hydrocarbons previously released from VB 9 and Tank 14 have migrated through and under the fill materials in the Waste Disposal Area. TPH analyses in samples from the new upgradient bedrock well, BR02-18, are nondetect to trace levels. Samples from well MW02-01 have shown consistent reduction of TPH concentrations through time. It is probable that this contaminant source is largely exhausted of mobile phase constituents and will continue to weaken as an ongoing source of groundwater contamination.

The third source is the eastern, groundwater contaminant plume originating from Tank 18 and possibly the D Road pipeline releases. This plume has mobile, relatively fresh JP-5. Concentration of JP-5 was 6,900 mg/kg in a soil sample in Trench TR1-1. This source of groundwater borne contamination is affecting the fill and underlying colluvium in approximately the lower one third of the Waste Disposal Area. This inflow of contaminated groundwater will need to be considered in the evaluation of removal options for the Waste Disposal Area and investigated further during the UST characterization.

Based upon the Phase II RI, it is concluded that:

- The areal extent of the fill materials in the Waste Disposal Area is about the same as presented in the Phase I RI.
- The thickness of fill determined in the Phase II RI is less (maximum 35 feet thick and an average of about 16 feet) than presented in the Phase I RI (50 feet maximum).
- The fill was placed in the erosional ravine and the more contaminated materials appear to have been placed in the deeper axis of the ravine.

- Debris or wastes appear to consist of, but were not limited to, wood, steel pipe, wire, rail, logs, burned building demolition materials, concrete, minor paper wastes, and petroleum-saturated soils.

- Plots of various TPH-p and TPH-e concentrations in soil versus depth show most of the contaminant volume lies 10 to 20 feet bgs but some TPH detections in soils occurred from approximately 6 to 28 feet bgs.

- Debris is mostly covered by a variable thickness of relatively debris free fill, 0 to 7 feet thick.

- The fill was not fully compacted and contains voids and will probably experience some subsidence or piping in the future. If settlement occurred following cap emplacement, it would require additional maintenance.

- Petroleum contaminants in soils are weathered and contain PAH compounds. TCLP analysis detected arsenic, barium, cadmium, lead, and chloroform as leachable constituents.

- Groundwater saturated the lower one third to one half of the waste. Seasonal water level variations are being monitored with the newly installed Phase II RI piezometers. Some control of groundwater inflow may be needed for an excavation and removal option. Inflow of groundwater from the eastern, Tank 18 and D Road area may present a problem during excavation and to the recontoured area after removal. Excavation could encounter the water table and cause surface seepage.

- Sources in the Waste Disposal Area are:

  - The petroleum hydrocarbon saturated soils within the fill.

  - The fuels migrating down the ravine from VB 9 and Tank 14 releases.

  - The JP-5 fuels moving with the groundwater from east of the Waste Disposal Area; this fuel is believed to originate from the Tank 18 and possibly a D Road pipeline release and is migrating at depth through approximately the southern third of the wastes.

- Of the three sources, only the JP-5 fuels appear fresh and at a concentration indicating potential for a longer term source.

8.1.2 Fate and Transport

Most of the petroleum hydrocarbons in the Waste Disposal Area have undergone weathering and degradation. The migration from releases from upgradient in the ravine appear nearly exhausted of mobile phase material. The wastes directly within the fill of the Waste Disposal Area only exhibit low levels of TPH-p and TPH-e, and low-level detections of PAH and SVOC compounds. The only VOCs detected within the fill are two TCLP hits of 0.5 and 0.8 µg/L of chloroform. No other VOCs were detected in recent soil data within the fill. TCLP analysis of two samples detected several leachable metals also; one detection of arsenic at 18.5

µg/L; barium two detections of 1,280 and 953 µg/L; cadmium had one detection of 8.4 µg/L; and two detections of lead at 234 and 35.5 µg/L.

It is concluded that sources upgradient of the Waste Disposal Area proper and the sources directly within the fill material are not contributing significant contaminant mass to the groundwater system, and contaminant concentrations will continue to decrease. The JP-5 source, apparently from the Tank 18, valve box 7, and D Road area, is continuing to release petroleum hydrocarbons into the groundwater system underlying the ravine and beneath the downgradient area that comprises approximately one third of the Waste Disposal Area and the area farther downgradient. The highest contaminant concentration from 1999 groundwater sampling was 4.2 mg/L of JP-5 in samples from the new downgradient well MW02-16. The historical high concentration of JP-5 detected downgradient of the Waste Disposal Area was detected in samples from MW02-07 in August of 1994 at 400 mg/L. Samples from this well had JP-5 detections of 38 mg/L in October 1997, and was further reduced to 16 mg/L in April 1998. Therefore, it is concluded that the migration of historical releases to groundwater from the IR Site 1 fill itself appear to be attenuating. Recent data from the UST characterization indicates the Tank 18 and valve box 7 area does still remain a significant source. At the end of May, 2000 approximately 2,800 gallons of product have been removed from the Tank 18 skim pit. This source is being scoped for further removal action under the UST program.

8.1.3 Risk Assessment

During scoping meetings for the Phase II RI, it was decided to proceed with a presumptive remedy and perform a risk assessment after the removal action. A risk assessment for the Waste Disposal Area will be conducted after the removal action and in concert with the basewide UST program and Fuel Product Action Level Development Report (FPALDR).

8.1.4 Conclusions IR Site 1 - Waste Disposal Area

Sufficient data have been collected to support a streamlined EE/CA and select a removal option.
The materials in the Waste Disposal Area contain a limited suite of wastes and contaminants. The concentration of petroleum hydrocarbons in groundwater have decreased since the SI. There is little evidence of free product in wells within the footprint of the Waste Disposal Area, only odor and a slight sheen were observed on water samples taken from new and existing wells in early 1999. Well ERM EW-1, which has free product, is cross gradient from the toe of the Waste Disposal Area. Therefore free product in ERM EW-1 comes from a source other than within the Waste Disposal Area. This well has been investigated as part of

the UST program. Data gathered during the Phase II UST characterization indicate Tank 18 and valve box 7 is the source for product in ERM-EW1.

The wastes and groundwater conditions have been characterized sufficiently to determine a removal option. After choosing an option, some additional data may be needed for engineering design. The design team will need a topographic survey of the area. A slope stability analysis may be needed for the hillside along the northwest and west side of the area if the option chosen would undercut the slope or surcharge the hillside. An in place closure may require a seismic stability evaluation. An excavation and removal option will require sampling and analysis to segregate wastes if more than one class of landfill is needed for various waste disposal. Additional design data may also be needed depending on the option chosen.

Removal or in place closure of the Waste Disposal Area will not eliminate all downgradient groundwater problems. The source of the eastern JP-5 plume is being evaluated under the UST program. Additional groundwater remediation measures may be needed downgradient of the Waste Disposal Area. Selected cleanup levels will determine appropriate responses and the need for additional groundwater monitoring. An additional monitoring well is being installed at the toe of the Waste Disposal Area in June, 2000.

8.2 SUMMARY FOR IR SITE 3 - TREATMENT PONDS AREA

The Treatment Ponds Area was investigated extensively during site characterization efforts in 1992. The interim removal efforts completed to date have provided some subsequent characterization data. No other characterization reports have been released since the Treatment Ponds Area Final Site Characterization Report was submitted in 1994 (PRC 1994d).

The Phase II RI consisted of a limited investigation and further evaluation and interpretation of previous data for IR Site 3.

The Phase II RI was scoped to support pilot testing and evaluate the potential for migration of contaminants through bedrock. These data gaps were addressed by the information gathered. A sample from the bedrock well detected TPH-p as gasoline at 0.19 mg/L. Preliminary water level data indicate an upward-directed vertical gradient from the bedrock. Water levels will be measured again and evaluated.

Data gathered during the Phase II RI have:

- Indicated an upward-directed vertical gradient from bedrock
- Shown the bedrock is saturated and capable of yielding minor amounts of groundwater
- Indicated possible low-level dissolved TPH impacts at depth in the bedrock
- Confirmed continuing decreases in free product volume through removal and attenuation
- Confirmed decreasing dissolved petroleum hydrocarbon impacts to the water table groundwater system
- Indicated the ability of several removal options to enhance and remove hydrocarbons (see Appendix J)

Data re-evaluated during the Phase II RI have:

- Refined the conceptual site model
- Refined the areal extent and volume of soils impacted by petroleum hydrocarbons
- Refined the distribution of petroleum hydrocarbons versus depth at IR Site 3 and adjacent areas

8.2.1 Nature and Extent of Contamination

The Treatment Ponds Area contains a full range of petroleum hydrocarbons in soils and groundwater. Different petroleum products have been intermingled by natural and anthropogenic processes and have been subjected to varying degrees of weathering and degradation. No detailed mapping of soils has been performed since 1994 and subsequent base operational closure in 1995. Further mixing and degradation have likely taken place. Current accurate mapping of individual TPH range products is not available, and any evaluation of remedial options for the whole area must consider the full range of products present.

The re-evaluation of chemical and borelog data has refined the extent and volume of impacted soils. No clean up goals or target concentrations have been selected at this time. Therefore, an arbitrary value of 100 mg/kg TPH or visible free product was chosen for estimating volumes of contaminated soils. The treatment ponds area is estimated to cover 8.8 acres containing approximately 132,100 cubic yards of soils exceeding 100 mg/kg of TPH (see Plate 19B). Most of the contaminated soil is between about 5 feet bgs and 20 feet below the water table.

Based on samples taken from a limited set of wells from 1997 to 1999, groundwater is still impacted but free product thickness and dissolved phase contaminant concentrations are decreasing. Containment and removal have supplemented natural attenuation.

8.2.2 Fate and Transport

Petroleum hydrocarbon concentrations in the Treatment Ponds Area will probably continue to decrease. Since the base is closed, there is no source of new product available. The only potential remaining source for introducing more petroleum hydrocarbons to the Treatment Ponds Area is subsurface migration from petroleum releases near Tanks B and C and contaminated pipeline backfill underlying Diesel Road. The pipelines under Diesel Road were removed in early 2000. Hydrocarbon contaminated soils encountered were removed and disposed of off-site. The hydrocarbons remaining in the subsurface at the B and C Tank area were investigated during the Phase I and Phase II UST Characterization investigations and are being monitored as part of the ongoing drainage area monitoring program. This source should be contained before or concurrent with the Treatment Ponds Area remediation.

Containment and removal of hydrocarbons has measurably reduced the hydrocarbon mass. Attenuation through various mechanisms seems to be occurring based on groundwater sampling results although the mechanisms and rate are undefined.

Results of the Final Offshore Ecological Risk Assessment (Entrix Inc. and TtEMI 1999b) indicate environmental receptors in the bay are not currently being impacted.

8.2.3 Risk Assessment

During the scoping meetings for the Phase II RI it was decided to proceed with a presumptive remedy and evaluate potential risks during or after a removal action. A risk assessment for the Treatment Ponds Area will be conducted after any removal actions and in concert with the basewide UST program and FPALDR development.

8.2.4 Conclusions for IR Site 3 - Treatment Ponds Area

Recent data for IR Site 3 are of limited quantity. Several monitoring wells have been sampled since 1997 to provide additional indication of water quality trends. Floating product levels in some wells have increased in recent years. However, the long-term trend in product thickness has decreased since 1994 in nearly all wells.

Plots of thickness against time for both increasing and decreasing product in wells are provided in Section 4.0 of this IR. The plots emphasize longer-term trends in given wells rather than at individual measurement events. A comprehensive table of water levels and product thickness since the site investigation (SI) is included in Appendix F. Soil sampling and analysis has been limited since the 1994 Characterization Report. Because of the base operational closure in 1995, release of additional petroleum hydrocarbons to soil or groundwater has been eliminated. The only possible addition of hydrocarbons to the area is through migration from upgradient sources such as Diesel Road pipeline leaks or from Treatment Pond Area seepage.

Petroleum hydrocarbon contamination in soil at IR Site 3 is being reduced by active removal of product, degradation, and transport.

Sufficient data exist to begin the EE/CA process. Data from pilot testing will support the EE/CA. Additional data requirements may be identified during the EE/CA depending upon the proposed removal options. These data may be acquired during the EE/CA process.

8.3 SUMMARY FOR IR SITE 4 - NORTH SHORELINE AREA

The Phase II RI of the North Shoreline Area was limited to two semi-annual groundwater events at monitoring well MW11-05. Samples from this well have had consistent, low-level detections of 1,2-DCE and TCE since 1994. Both 1,2-DCE and TCE were again detected during the second and third semi-annual groundwater sampling events. Concentrations were 2 μg/L and 1 μg/L, respectively. Concentrations in the third event were below PRGs.

No soil samples have been collected in the North Shoreline area since 1992. Samples from soil boring SB11-02 had the highest TPH hits of 9,000 mg/kg bunker fuel and 2,100 other heavy compounds. All soil boring samples had TPH detections.

No free product has been detected in North Shoreline monitoring wells.

8.3.1 Fate and Transport

Current lack of free product, and low level detections of TPH in 1994 indicate this area is exhausted of mobile phase petroleum hydrocarbons. This area is not considered a current or future potential source of petroleum hydrocarbons transported to San Francisco Bay via groundwater.

8.3.2 Risk Assessment

An HHRA and terrestrial ERA will be conducted with the rest of IR Site 4 in 2001.

8.3.3 Conclusions IR Site 4 - North Shoreline

Data are old, but levels can only have decreased since base closure. These data are considered complete. No new site characterization is recommended other than data needed for the HHRA and ERA. The area may be evaluated as an extension of the Site 3 removal if necessary.

8.4 SUMMARY FOR IR SITE 4 - DRUM LOT NO. 1

The Phase II RI focused on characterization of the Drum Lot No. 1 interior. The Drum Lot has historically had detections of all TPH range organics in soil and groundwater. Groundwater has an 83 percent detection frequency of light TPH components presented as other compounds (no clear chromatographic signature comparable to a standard). Diesel and gasoline detections are also 56 and 38 percent, respectively.

The DQO focus of the Phase II RI was to better characterize the interior of the Drum Lot No. 1 and look for contaminant sources in the interior area. The Phase II RI further characterized the hydrogeology of the Drum Lot, but did not find any specific sources or origin of petroleum hydrocarbons.

8.4.1 Nature and Extent of Contamination

The Drum Lot No. 1 area has widespread, low level detections of TPH gasoline and diesel range organics in groundwater. All TPH ranges of petroleum hydrocarbons are present in soils but with lower maximum detections than the Treatment Ponds Area. Contamination in soil is primarily between 10 foot to 20 foot bgs.

Samples from the new bedrock well BR11-90 had TPH detections as diesel at 0.22 mg/L and gasoline at 0.13 mg/L. BTEX compounds were also detected at low levels (benzene at 0.0004 mg/L).

8.4.2 Risk Assessment

During the scoping meetings for the Phase II RI it was decided by the BCT to proceed with the pipeline removals and evaluate risk after completion. A risk assessment for Drum Lot No. 1 will be conducted after pipeline removal and in concert with the basewide UST program and FPALDR development. A risk assessment for human health and terrestrial ecological receptors is being scheduled for scoping in Fall of 2000, and implementation in early 2001.

8.4.3 Conclusions for IR Site 4 - Drum Lot No. 1

The Drum Lot site characterization did not find a source for the widespread gasoline, BTEX, and diesel detections in groundwater. MTBE was also widely detected. Concentrations of most compounds is very equally distributed across the Drum Lot.

The Draft Offshore Ecological Risk Assessment did not indicate risk to biota along the shoreline near the Drum Lot. A human health risk assessment and terrestrial ecological survey will be conducted after the pipeline removals in Drum Lot No. 1 are completed. No additional removal options will be recommended for Drum Lot No. 1 until results of these risk assessments are available.

8.5 SUMMARY FOR IR SITE 4 - SOUTH SHORELINE

The South Shoreline is the longest stretch of shoreline at NFD Point Molate. The Phase II RI was scoped to:

- Perform an offshore ecological risk assessment along all Site 4 areas of NFD Point Molate
- Perform a focused HHRA at the NFD Point Molate Public Beach area
- Assess migration pathways along this stretch of shoreline near monitoring wells where contamination was previously detected, and downgradient of IR Site 1

All of these data gaps scoped through the DQO process were addressed.

8.5.1 Nature and Extent

Contamination along the South Shoreline has been associated with migration from the IR Site 1 ravine area, ruptures in pipelines, and possibly other subsurface migrations of petroleum. Soil data indicates primarily motor oil range organics detected at 85 percent frequency, organics identified as other light TPH components at 58 percent frequency, and diesel range organics detected at 31 percent frequency. Groundwater detections are primarily diesel and organics identified as other heavy components. The highest groundwater detection was 84.0 mg/L JP-5, associated with the IR Site 1 ravine plume.

8.5.2 Risk Assessment

A limited HHRA was performed as part of the Phase II RI. This assessment focused on the Point Molate Public Beach area. No human health risks were found for recreational users of the park. This HHRA is discussed in Section 6.0 of this report. An HHRA will be performed for the remainder of the shoreline after

the pipeline removals are completed along the South Shoreline. The HHRA and terrestrial ERA are scheduled for 2001.

An offshore ecological risk assessment was performed for the entire Point Molate shoreline. This risk assessment is presented under a separate cover (Entrix, Inc. and TtEMI 1999). The report found no risk to ecological receptors.

8.5.3 Conclusions for IR Site 4 - South Shoreline

The pipeline removals should proceed as planned. The excavations should be logged and sampled to support an HHRA and to document any areas where pipeline releases were likely. Some of the contaminant detections in groundwater are not related to known pipeline releases. Data from pipeline removals should be correlated to previous petroleum hydrocarbon detections to confirm the sources are accounted for.

After the pipeline removals are completed, an HHRA and terrestrial ecological risk assessment will be completed. The need for assessing any additional removal options should be addressed after the results of these risk assessments are evaluated.

9.0 REFERENCES

American Society for Testing and Materials (ASTM). 1995. Risk-Based Corrective Action at Petroleum Release Sites. ASTM Designation E 1739-95.

American Petroleum Institute (API). 1979. Underground Movement of Gasoline on Groundwater and Enhanced Recovery with Surfactants. Washington, D.C.

API. 1980. The Migration of Petroleum Products in Soil and Groundwater, Principles and Countermeasures. API Publication No. 4149. Washington, D.C.

Anderson, J.W., J.M. Neff, B.A. Cox, H.E. Tatem, and G.H. Hightower. 1974. Characteristics of Dispersions and Water-soluble Extracts of Crude and Refined Oils and Their Toxicity to Estuarine Crustaceans and Fish. Marine Biology (Berl.) 27: 75-88.

Atwater, T. 1970. Implications of Plate Tectronics for the Cenozoic Tectonic Evolution of Western North America: GSA Bull. v. 81, no. 12, p. 3513-3536.

Battelle. 1998. Results of NAPL Analysis from Site 3 NFD Point Molate. U.S. Navy Project No. TG337375-T28, 20 pp.

Bechtel Environmental, Inc. and Dames and Moore (BEDM). 1991. Hydrogeologic Investigation Alkane, Office Hill, S.P. Hill and Quarry Tankfields. Prepared for Chevron U.S.A. Inc., Richmond, California. September 30, 1991.

BEDM. 1992. Hydrogeologic Investigation Point Orient, Poleyard, and Asphalt Tankfields. Prepared for Chevron U.S.A. Inc., Richmond, California. June 23, 1992.

BEDM. 1993. Additional Hydrogeologic Investigation S.P. Hill Tankfield. Prepared for Chevron U.S.A. Products Company, Richmond, California June 30, 1993.

Blake, M.C., Jr., and others. 1974. Preliminary Geologic Map of Marin and San Francisco Counties and Parts of Alameda, Contra Costa and Sonoma Counties, California. U.S. Geological Survey, Miscellaneous Field Studies Map, JF 574.

Blake, M.C., Jr., ed., Howell, D.G., and A.S. Jayko. 1984. Tectonostratigraphic Terranes of the San Francisco Bay Region. In Blake: Franciscan Geology of Northern California, Pacific Section S.E.P.M., Vol. 43, p. 5-22.

California Environmental Protection Agency (Cal/EPA). 1993. Memorandum Regarding Policy for the Evaluation of Risk from Total Petroleum Hydrocarbons (TPH) at a Hazardous Waste Site. From TPH Task Group, Office of Scientific Affairs, and Department of Toxic Substances Control (DTSC). To DTSC Toxicologists. April 26.

Cal/EPA. 1994. Memorandum Regarding Cancer Potency Factors: Update. From Standards and Criteria Work Group, OEHHA. To Cal/EPA Departments, Boards, and Office. November 1.

Cal/EPA. 1995a. Chemical Contamination in Fish from San Francisco Bay, Study Results. Regional Water Quality Control Board and OEHHA. June.

Cal/EPA. 1995b. Health Advisory, Catching and Eating Sport Fish in California. Office of Environmental Health Hazard Assessment.

Cal/EPA. 1997. Chemicals in Fish, Report No. 1, Consumption of Fish and Shellfish in California and the United States. Final Draft Report Pesticide and Environmental Toxicology Section, OEHAA. July.

California Native Plant Society (CNPS), East Bay Chapter. 1996. Point Molate Navy Base CNPS Plant Survey. May 16.

Chavez, David and John Holson. 1985. "Cultural/Archaeological Resources Investigation at the Naval Supply Center Fuel Department, Point Molate, Contra Costa County, California." Prepared for Navy Public Works Center, San Francisco Bay, Oakland, California.

City of Richmond. 1997. Point Molate Reuse Plan, Richmond, California. March.

Clark, R.C. and D.W. Brown. 1977. Petroleum: Properties and Analyses in Biotic and Abiotic Systems In:Effects of Petroleum on Arctic and Subarctic Marine Environments and Organisms. Volume 1: Nature and Fate of Petroleum. D.C. Malins (Ed) Academic Press, Inc. New York.

Cohen, A.N. and J.T. Carlton. 1995. Nonindigenous Aquatic Species in a United States Estuary: A Case Study of the Biological Invasions of the San Francisco Bay and Delta. A Report for the U.S. Fish and Wildlife Service, Washington, DC, and the National Sea Grant College Program, Connecticut Sea Grant Program.

Department of Water Resources. 1980. Groundwater Basins in California, A Report to the Legislature in Response to Water Code Section 12924, Bulletin 118-80. January.

Department of Toxic Substances Control (DTSC). 1992. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities. July.

DTSC. 1994. Preliminary Endangerment Assessment Guidance Manual. January.

Dragun, James. 1988. The Soil Chemistry of Hazardous Materials. Hazardous Materials Control Institute.

Engineering Field Activity West (EFA West). 1996a. BRAC Cleanup Team Issues Summary at NFD Point Molate. Issued by Mark Bonino, Base Conversion Manager. March 20.

EFA West. 1996b. Comments to Preliminary Draft BRAC Cleanup Plan. William VanPeeter. June.

EFA West. 1996c. Background Information Navy Existing Condition, NFD Point Molate. February.

Entrix, Inc. and Tetra Tech EMI. 1999a. Draft Offshore Ecological Risk Assessment for Naval Fuel Depot Point Molate. Richmond, California. April 1.

Entrix, Inc. and Tetra Tech EMI. 1999b. Final Offshore Ecological Risk Assessment for Naval Fuel Depot Point Molate. Richmond, California. November 24, 1999.

ERM-West. 1990. Shallow Soil Investigation for Point Molate Naval Fuel Depot, Navy Delivery Order N62474-85-D-5627-0069. ERM-West, Inc. September 24.

Fetter, C.W. 1993. Contaminant Hydrogeology. Macmillan Publishing Company. New York.
Freeze, R. A. and J.A. Cherry. 1979. Groundwater. Prentice-Hall, Inc.

Fussell, D.R., and others. 1981. Revised Inland Oil Spill Clean-up Manual. Prepared by Concawe's Oil Spill Clean-up Technology (OSCUT) Special Task Force NO. 3, Den Haag. June 1981.

Goldman, Harold B., editor. 1969. Geologic and Engineering Aspects of San Francisco Bay Fill. California Division of Mines and Geology, Special Report 97.

Herbold, B., A.D. Jassby, and P.B. Moyle. 1992. *Status and Trends Report on Aquatic Resources in the San Francisco Estuary.* San Francisco Estuary Project, Oakland, California.

Hutchins, S.R. and J.T. Wilson. 1991. Laboratory and Field Studies on BTEX Biodegradation in a Fuel-Contaminated Aquifer Under Denitrifying Conditions. In Situ Bioreclamation. Butterworth-Heinemann. Stoneham, MA. Pages 157-172.

Irwin, W.P. 1990. Geology and Plate-Tectonic Development, in: Wallace, R.E., ed. The San Andreas Fault System. USGS Paper 15125. pp. 63-64.

Jordan, R.E. and Payne, J.R. 1980. Fate and Weathering of Petroleum Spills in the Marine Environment. Ann Arbor Science Publishers, Inc. Ann Arbor, Michigan.

Karrick, N.L. 1977. Alterations in Petroleum Resulting from Physico-Chemical and Microbiological Factors In: Effect of Petroleum on Arctic and Subarctic Marine Environments and Organisms. Volume 1: Nature and Fate of Petroleum. D.C. Malins (Ed) Academic Press, Inc. New York.

Kovats, E. 1958. Hev. Cheimica Acta, Vol. 41, p1, 915.

Lawson, Andrew C. 1914. Geologic atlas of the United States, San Francisco Folio (Tamalpais, San Francisco, Concord, San Mateo, and Haywards Quadrangles) California. U.S. Geological Survey.

Livingstone, D.R. 1991. Organic xenobiotic metabolism in marine invertevrates. In: Advances in Comparative and Environmental Physiology 7, Springer-Verlag, Berlin: 46-186.

LSA Associates, Inc. (LSA). 1987. Natural Resources Management Plan, Point Molate Fuel Supply Depot. Department of the Navy, Western Division, Natural Resources Management Branch, Naval Facilities Engineering Command. October.

Mackay, D. and P.J. Leinonen. 1975. Rate of Evaporation of Low-solubility Contaminants from Water Bodies to Atmosphere. Environmental Science Technology. 9(13):1178-1180.

McLaughlin, R.J., S.A. Kling, R.Z. Boore, K.A. McDougal, and E.C. Beutner. 1982. Post-Middle Miocene Accretion of Franciscan Rocks, Northwestern California. GSA Bull. v. 93, no. 7, p. 595-605.

Miles, A.K. and N. Roster. Undated. Polycyclic Aromatic Hydrocarbons in Estuarine Mussels and Shore Crabs at a Closed Military Fuel Depot, San Francisco Bay, California. Source: Environmental Management, Inc.

National Academy of Sciences. 1975. Petroleum in the Marine Environment. Washington, DC. 107 pages.
Naval Energy and Environmental Support Activity (NEESA). 1988. Preliminary Assessment Report, Point Molate Fuel Depot, Western Drive, Richmond, California. April. NEESA 13-159PA.

Naval Facilities Engineering Command. Procedural Guidance for Statistically Analyzing Environmental Background Data. (In preparation). Prepared by Southwest Division and Engineering Field Activity West.

Nelson, N.C. 1909. Shellmounds of the San Francisco Bay Region.

Nilsen, Tor H. 1973. Preliminary Photointerpretation Map of Landslide and other Surficial Deposits of the Concord 15-minute Quadrangle and the Oakland West, Richmond, and Part of the San Quentin 7-1/2-minute Quandrangles, Contra Costa and Alameda Counties, California. U.S. Geological Survey Miscellaneous Field Studies Map, MF-493.

PRC and Morrison Knudsen Corporation. 1996. Basewide Environmental Baseline Survey, Final Report, Naval Fuel Depot Point Molate. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. November 21.

PRC Environmental Management, Inc. (PRC). 1990. Revised Site Inspection Field Work Plan, Point Molate Naval Supply Center Fuel Depot, Richmond, California. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. July 18.

PRC. 1991a. Point Molate Naval Fuel Depot, Site Inspection, Draft Summary Report. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. April 5.

PRC. 1991b. Point Molate Naval Fuel Depot, Final Ground Water Monitoring Plan/Site Characterization Study. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. July 10.

PRC. 1991c. Naval Fuel Depot Point Molate, Treatment Ponds Area Characterization and Interim Corrective Actions Field Work Plan. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. October 22.

PRC. 1992a. Point Molate Naval Fuel Depot, Site Inspection, Final Summary Report. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. August 26.

PRC. 1992b. Point Molate Naval Fuel Depot, Treatment Ponds Area, Draft Site Characterization Report. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. October 19.

PRC. 1993a. Navy CLEAN Quality Assurance Project Plan.

PRC. 1993b. Draft Navy Clean Basic Order Agreement (BOA) Laboratory Statement of Work. October.

PRC. 1994a. NFD Point Molate, Shoreline/Landfill Investigations and Quarterly Groundwater Sampling, Final Field Work Plan/Sampling Analysis Plan. January 27.

PRC. 1994b. Naval Fuel Depot Point Molate Treatment Ponds Area. Source Control Final Geotechnical Report. May 3.

PRC. 1994c. Naval Fuel Depot Point Molate, California. March 1994 Quarterly Report. June 24.

PRC. 1994d. Naval Fuel Depot Point Molate, Richmond, California. Treatment Ponds Area Final Site Characterization Report. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. July 29.

PRC. 1994e. Naval Fuel Depot Point Molate, Richmond, California. Shoreline Investigation Soil and Sediment Data Summary. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. August 15.

PRC. 1994f. Naval Fuel Depot Point Molate, Richmond, California. June 1994 Quarterly Report. September 27.

PRC. 1994g. Naval Fuel Depot Point Molate, Richmond, California. Waste Disposal Area Draft Phase I RI Report. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. October 7.

PRC. 1994h. Naval Fuel Depot Point Molate, Richmond, California. September 1994 Quarterly Report. December 19.

PRC. 1995a. Naval Fuel Depot Point Molate, Richmond, California. December 1994 Quarterly Report. March 14.

PRC. 1995b. January 1995 Fuel Seepage Response and Assessment. Naval Fuel Depot Point Molate. April 21.

PRC. 1996a. Treatment Ponds Area (Site 3) Removal Action, Action Memorandum. Naval Fuel Depot Point Molate, Richmond, California. January 24.

PRC. 1996b. Treatment Ponds Area Extraction Trench Performance Evaluation Report. Naval Fuel Depot Point Molate. May 3.

PRC. 1997a. Draft Time-Critical Removal Action Memorandum, Sandblast Grit Areas (IR02). Naval Fuel Depot Point Molate, Richmond, California." May 7.

PRC. 1997b. Naval Fuel Depot Point Molate, Richmond, California. Final Time-Critical Removal Action Memorandum. Prepared for Naval Facilities Engineering Command, Western Division, San Bruno, California. April 14.

PRC and Morrison Knudsen Corporation (MK). 1996c. Basewide Environmental Baseline Survey, Final Report, Naval Fuel Depot Point Molate. November.

Radian International LLC. 1997. Rational National Standards Initiative for Naval Fuel Depot Pt. Molate, Draft Final. January 1997.

Rashid, M.A. 1974. Degradation of Bunker C Oil Under Different Coastal Environments in Chedabucto Bay. Nova Scotia. Estuarine Coastal Marine Science. 2:137-44.

Regional Water Quality Control Board (RWQCB). 1994. San Francisco Estuary Pilot Regional Monitoring Program: Sediment Studies. July.

Rippley, Deborah A. and Adrian Praetzellis. 1980. An Archaeological Survey of an Approximately 10 Acre Parcel Located at the Naval Fuel Supply Depot, Point Molate, Contra Costa County, California. Prepared for the Western Division, Naval Facilities, Engineering Command, San Bruno, California.

Robertson, T. 1999. Personal communication via telephone call with Gary Miller, TtEMI. March 30.

San Francisco Estuary Plan (SFEP). 1992.

Southern California Coastal Water Research Project and MBC Applied Environmental Sciences (SCCWRP and MBC). 1994. Santa Monica Bay Seafood Consumption Study: Final Report. Southern California Coastal Water Research Project and MBC Applied Environmental Sciences. Westminster and Costa Mesa, California. June.

Smith, J.H., J.C. Harper, and H. Jaber. 1981. Analysis and Environmental Fate of Air Force Distillate and High Density Fuels. Report No. ESL-TR-81-54. Air Force Engineering and Services Center. Tyndall Air Force Base, Florida.

State Water Resource Control Board. 1989. Leaking Underground Fuel Tank Manual.

Tetra Tech EM, Inc. (TtEMI) 1997. Naval Fuel Depot Point Molate, Richmond, California. Phase I Environmental Baseline Survey Field Work Plan, Preliminary Draft for Navy Internal Review. December 18.

TtEMI. 1998a. Naval Fuel Depot Point Molate, Richmond, California. Semiannual Groundwater Sampling Event Number 1 Data Summary. March 2.

TtEMI. 1998b. Quality Assurance Project Plan. Naval Fuel Depot Point Molate. April 10.

TtEMI. 1998c. Draft Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan, Naval Fuel Depot Point Molate, February 17.

TtEMI. 1998d. Draft Removal Action Project Completion Report, Sandblast Grit Areas (IR02). Naval Fuel Depot Point Molate, Richmond, California. May 7.

TtEMI. 1998e. Draft Evaluation of Beneficial Uses for Groundwater. Naval Fuel Depot Point Molate. June 26.

TtEMI. 1998f. Record of Telephone Conversation Between Becky Ota, California Department of Fish and Game, and James H. Baker, TtEMI Concerning Harvesting of Mussels and Clams in San Francisco Bay. June 8.

TtEMI. 1998g. Record of Telephone Conversation Between Greg Langlois, California Department of Health Services, and James H. Baker, TtEMI Concerning Harvesting of Mussels and Clams in San Francisco Bay. June 10.

TtEMI. 1998h. Naval Fuel Depot Point Molate, Richmond, California. Semiannual Groundwater Sampling Event Number 2 Data Summary. July 31.

TtEMI. 1998i. Draft Final Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan, Naval Fuel Depot Point Molate. September 12.

TtEMI. 1998j. Phase I Site 3 Product Recovery Pilot Test Technical Memorandum. Naval Field Depot Point Molate, Richmond, California. September 25.

TtEMI. 1998k. Phase II Remedial Investigation Final Field Work Plan, Naval Fuel Depot Point Molate, Richmond, California. November 5.

TtEMI. 1998l. Naval Fuel Depot Point Molate, Richmond, California. Sandblast Grit Areas (Site 2) Removal Action Final Completion Report. November.

TtEMI. 1998m. Draft Quality Assurance Project Plan. Naval Fuel Depot Point Molate. July 17.

TtEMI. 1998n. Draft Final Quality Assurance Project Plan. Naval Fuel Depot Point Molate. October 29.

TtEMI. 1999a. Final Phase I Environmental Baseline Survey Field Sampling Summary Report. Naval Fuel Depot Point Molate. June 10.

TtEMI. 1999b. Naval Fuel Depot Point Molate, Richmond, California. Semiannual Groundwater Sampling Event Number 3 Data Summary. June 15.

TtEMI. 1999c. Phase I Characterization of USTs and Fuel Pipelines. Interim Summary Memorandum. Naval Fuel Depot Point Molate. Richmond, California. September 15.

TtEMI. 1999d. Interim Product Removal Field Work Plan. Naval Fuel Depot Point Molate. Richmond, California. September 17.

TtEMI. 1999e. Draft Site 1 Engineering Evaluation/Cost Analysis. Naval Fuel Depot Point Molate. October 29.

TtEMI. 1999f. Final Record of Decision for IR Site 2, Sandblast Grit Disposal Area. Naval Fuel Depot Point Molate, Richmond, California. December 30.

TtEMI. 2000a. ORS Closure Interim Summary Naval Fuel Depot Point Molate. Richmond California. March 17.

TtEMI 2000b. Characterization of USTs and Fuel Pipelines. Draft Report. Naval Fuel Depot Point Molate. Richmond, California. May 1.

TtEMI. 2000c. Draft Phase II Environmental Baseline Survey Field Summary Report. Naval Fuel Depot Point Molate. In progress.

Tetra Tech, Inc. 1996. Final Jurisdictional Wetland Delineation of Fleet Industrial Supply Center, Naval Fuel Depot Point Molate. Richmond, California. October.

Trask, P.D., and Rolston, J.W. 1951. Engineering Geology of San Francisco Bay, California: Geol. Soc. Amer. Bull. v. 62, pp. 1079-1110.

Treasher, R.C. 1963. Geology of the Sedimentary Deposits in San Francisco Bay, California. California Division of Mines and Geology Spec. Report 82. pp. 11-24.

United States Department of Agriculture (USDA). 1977. Soil Survey of Contra Costa County, California. Natural Resource Conservation Service. September.

USDA. 1983. Food Consumption: Households in the United States, Seasons and Year 1977-1978. Government Printing Office. Washington, D.C.

U.S. Department of the Navy (DON). 1986. Natural Resources Management Plan, Treasure Island Naval Station. Natural Resources Management Staff, Western Division Naval Facilities Engineering Command. May.

United States Department of the Interior, Bureau of Reclamation (USBR). 1989. Procedure for Constant Head Hydraulic Conductivity Tests in Single Drill Holes. USBR 7310-89.

USBR. 1981. Ground Water Manual, A Water Resources Technical Publication. U.S. Department of the Interior Water and Power Resources Service.

U.S. Environmental Protection Agency (EPA). 1983. Methods for Chemical Analysis of Water and Waste, Environmental Monitoring and Support Laboratory, Office of Research Development, Cincinnati, Ohio.

EPA. 1986. Test Method for Evaluating Solid Waste – SW 846, 3rd Ed. Office of Solid Waste and Emergency Response. November.

EPA. 1989a. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A). EPA Office of Emergency and Remedial Response. Interim Final. EPA/540/1-89/002. December.

EPA. 1989b. Soil Sampling Quality Assurance User's Guide. Second Edition. EPA/600/8-89/046. Office of Research and Development. March.

EPA. 1990a. Exposure Factors Handbook. EPA/600/8-89/043.

EPA. 1990b. Guidance for Data Useability in Risk Assessment. Office of Emergency and Remedial Response. Interim Final. EPA/540/G-90/008. OSWER Directive 9285.7-05. October.

EPA. 1990c. National Functional Guidelines for Organic Data Review. Contract Laboratory Program (CLP). December (Draft). Revision June 1991.

EPA. 1990d. National Oil and Hazardous Substances Pollution Contingency Plan; Final Rule. 40 CFR Part 300. March.

EPA. 1991a. Statement of Work for Organic Analysis, Multi-Media, Multi-Concentration. EPA Contract Laboratory Program. August.

EPA. 1991b. National Functional Guidelines for Organic Data Review. Contract Laboratory Program. December (Draft). Revision June 1991.

EPA. 1991c. Memorandum Regarding the Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions. From Ron R. Clay, Assistant Administrator, to Directives, Various Divisions. April 22.

EPA. 1991d. Memorandum Regarding the Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. From Timothy Fields Jr. OSWER Acting Director. To Distribution. March 25.

EPA. 1992a. Dermal Exposure Assessment: Principles and Applications. Interim Report. EPA/600/8-91/011B. January.

EPA. 1992b. Memorandum regarding Risk Characterization for Risk Managers and Risk Assessors. From F. Habicht II, Deputy Administrator, USEPA. Washington. D.C.

EPA. 1993a. Data Quality Objectives Process for Superfund. Interim Final Guidance. EPA/540/G-93/071. September.

EPA. 1993b. Presumptive Remedy for CERCLA Municipal Landfill Sites. OSWER Directive 9355.0-49FS. EPA 540-F-93-035. October.

EPA. 1993c. Presumptive Remedies: Policy and Procedure. OSWER Directive 9355.0-47FS. EPA 540-F-93-047. September.

EPA. 1994a. Guidance for the Data Quality Objectives Process. EPA QA/G-4. Office of Research and Development. EPA/600/R-96/055. September 1994.

EPA. 1994b. Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children. EPA540/R-93/081. February.

EPA. 1994c. Statistical Methods for Evaluating the Attainment of Cleanup Standards, Volume 3: Reference-Based Standards for Soils and Solid Media. Office of Policy, Planning, and Evaluation. EPA 230-R-94-004. June 1994.

EPA. 1994d. National Functional Guidelines for Inorganic Data Review. EPA540/R-94-013. February.

EPA. 1994e. Guidance for Analyzing Chemical Contamination Data for Use in Fish Advisories. Volume 2. Risk Assessment and Fish Consumption. EPA/823-B-94-004. June.

EPA. 1996a. Memorandum Regarding Region 9 Preliminary Remediation Goals (PRGs), 1996. From Stanford J. Smucker, Regional Toxicologist, to PRG Table Mailing List. August 1.

EPA 1996b. Guidance for Data Quality Assessment. EPA QA/G-9. Office of Research and Development. EPA/600/R-96/084. July 1996.

EPA. 1996c. Risk Assessment Issue Papers. Superfund Technical Support Center, National Center for Environmental Assessment.

EPA. 1996d. DataQUEST (Data Quality Evaluation Statistical Tools, EPA QA/G-9D). Office of Research and Development.

EPA. 1996e. Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills (Interim Guidance). OSWER Directive 9355.0-62FS. EPA 540-F-96-007. April.

EPA. 1997a. Health Effects Assessment Summary Tables. FY 1997 Update. Office of Research and Development, Office of Emergency and Remedial Response. EPA/R-97-036. July.

EPA. 1997b. Landfill Presumptive Remedy Saves Time and Cost. OSWER Directive 9355.0-661. EPA 540/F-96/017. January.

EPA. 1997c. Exposure Factors Handbook, Volume I, General Factors. EPA/600/P-95/002Fa. August.

EPA. 1997d. Exposure Factors Handbook, Volume II, Food Ingestion Factors. EPA/600/P-95/002Fb. August.

EPA. 1998a. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). EPA Office of Emergency and Remedial Response. Interim. EPA/540/1-89/002. January.

EPA. 1998b. Memorandum Regarding Region 9 Preliminary Remediation Goals (PRG) 1998. From Stanford J. Smucker, Regional Toxicologist, to PRG Table Mailing List.

EPA. 1998c. Integrated Risk Information System Online Database. Office of Health and Environmental Assessment, National Center for Environmental Assessment.

EPA. 1998d. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual Supplemental Guidance Dermal Risk Assessment, Interim Guidance. NCEA-W-0364. Office of Emergency and Remedial Response, Washington, D.C.

EPA. 1998e. Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part D, Standardized Planning, Reporting, and Review of Superfund Risk Assessments). EPA Office of Emergency and Remedial Response. Interim. EPA/540/1-89/002. January.

EPA. 1998f. EPA Memorandum from Phillip Ramsey to Jeffrey M. Paull, on the review of "Naval Fuel Depot (NFD) Point Molate Phase II Remedial Investigation Draft Final Field Work Plan." August.

EPA. 1999. Integrated Risk Information System Online Database. Office of Health and Environmental Assessment, National Center for Environmental Assessment.

U.S. Navy. 1997. U.S. Navy Policy for Statistically Analyzing Background Data Supporting Environmental Risk Assessment in the State of California. Southwest Division Policy 4444.4. October 15.

Western Division (WESTDIV). 1988. Master Plan for Naval Supply Center Oakland, California. Western Division Naval Facilities Engineering Command, San Bruno, California. January.

FINAL PHASE II REMEDIAL INVESTIGATION REPORT

NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

VOLUME II

June 2, 2000

Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract Number N62474-94-D-7609
Contract Task Order 112

Prepared for

Department of the Navy
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Southwest Division
Naval Facilities Engineering Command
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FINAL PHASE II REMEDIAL INVESTIGATION REPORT
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

June 2, 2000

Prepared by

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ANALYTICAL DATA

NFD POINT MOLATE
DRAFT PHASE II RI REPORT
DATA QUALIFIERS

NOTES

NA NOT ANALYZED

ND NOT DETECTED

NR NOT REPORTED

ORGANIC DATA QUALIFIERS

B COMPOUND DETECTED IN AN ASSOCIATED BLANK AS WELL AS THE SAMPLE

D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-A VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE

J-E VALUE WAS ESTIMATED DUE TO BEING OUT OF CALIBRATION RANGE

J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

J-L VALUE WAS ESTIMATED DUE TO INTERNAL STANDARD RECOVERIES BEING OUT OF QC LIMITS

J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS

R VALUE IS NOT USABLE

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

B	VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
E	VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
J-B	VALUE WAS ESTIMATED SINCE IT WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
J-D	VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED
J-E	VALUE WAS ESTIMATED DUE TO MATRIX SPIKE OR LABORATORY CONTROL SAMPLE (LCS) RECOVERY EXCEEDANCE
J-G	VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
J-H	VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE
J-M	VALUE WAS ESTIMATED DUE TO DUPLICATE INJECTION PRECISION CRITERIA NOT BEING MET
J-N	VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
J-W	VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
J-Z	ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS
J-*	VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
N	SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
R	VALUE IS NOT USABLE
S	REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
U	THE ANALYTE WAS NOT DETECTED AT THE REPORTED QUANTITY

INORGANIC DATA QUALIFIERS (CONTINUED)

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

* DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

+ CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

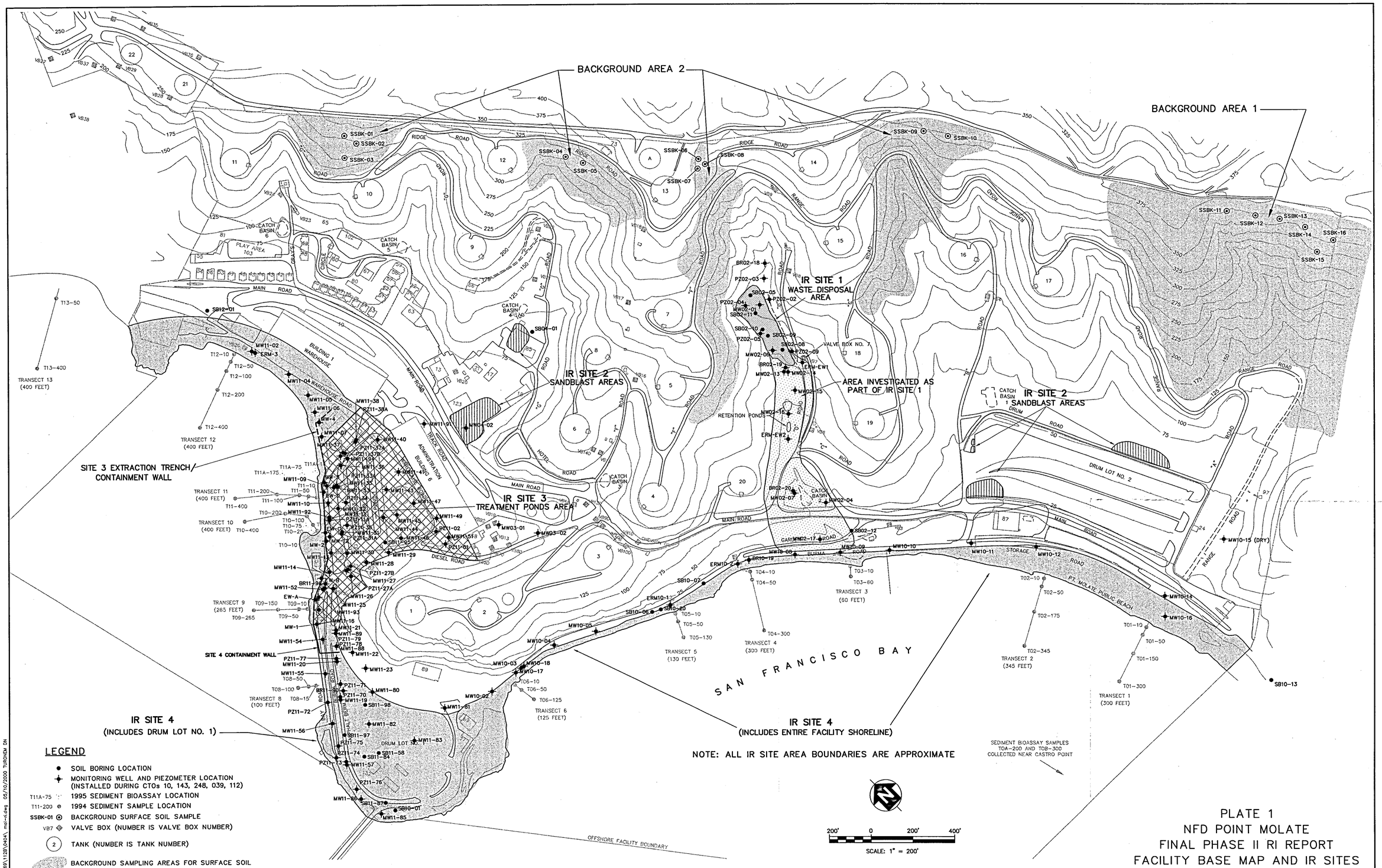


PLATE 1
NFD POINT MOLATE
FINAL PHASE II RI REPORT
FACILITY BASE MAP AND IR SITES

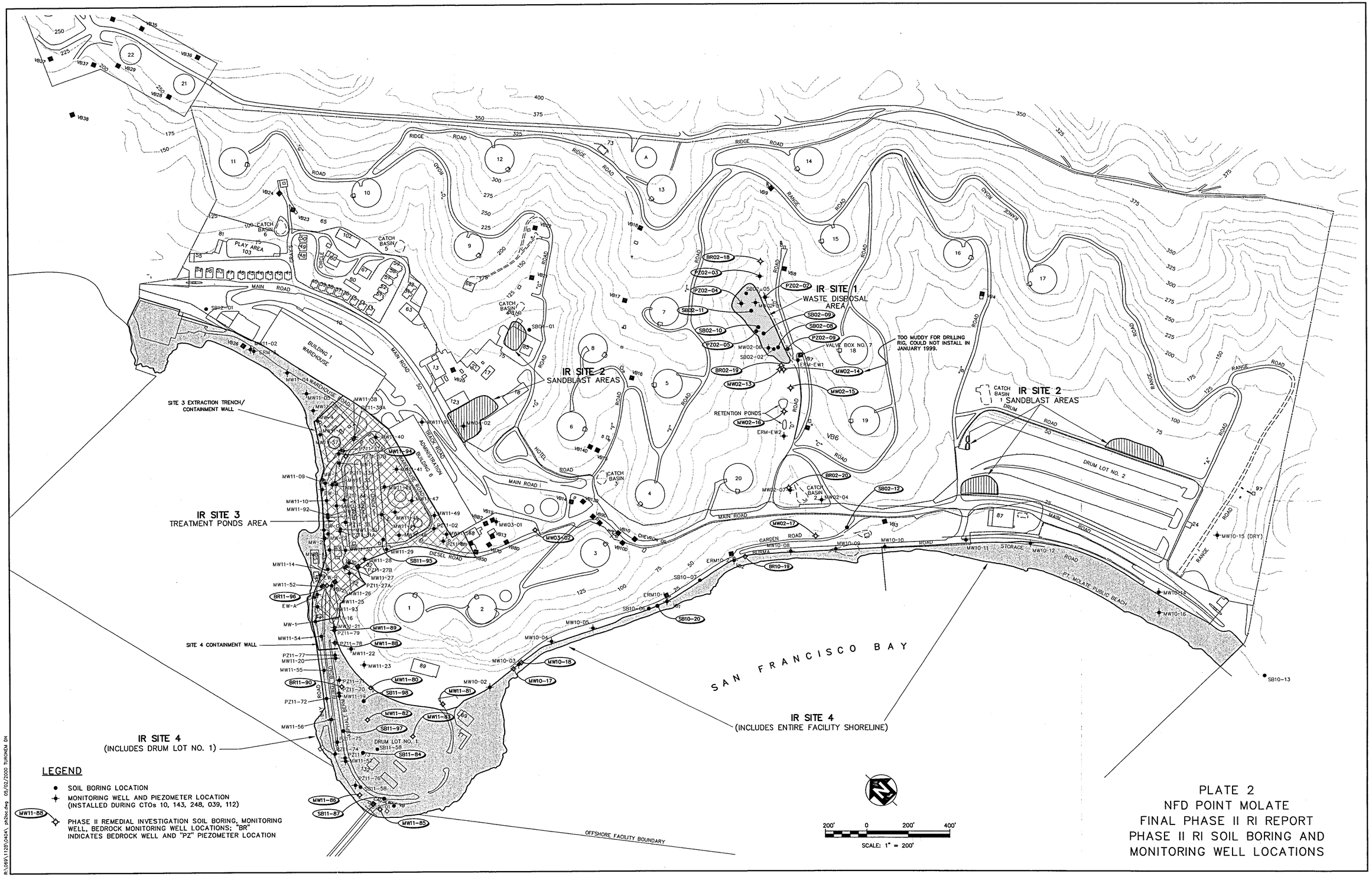


PLATE 2
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PHASE II RI SOIL BORING AND MONITORING WELL LOCATIONS

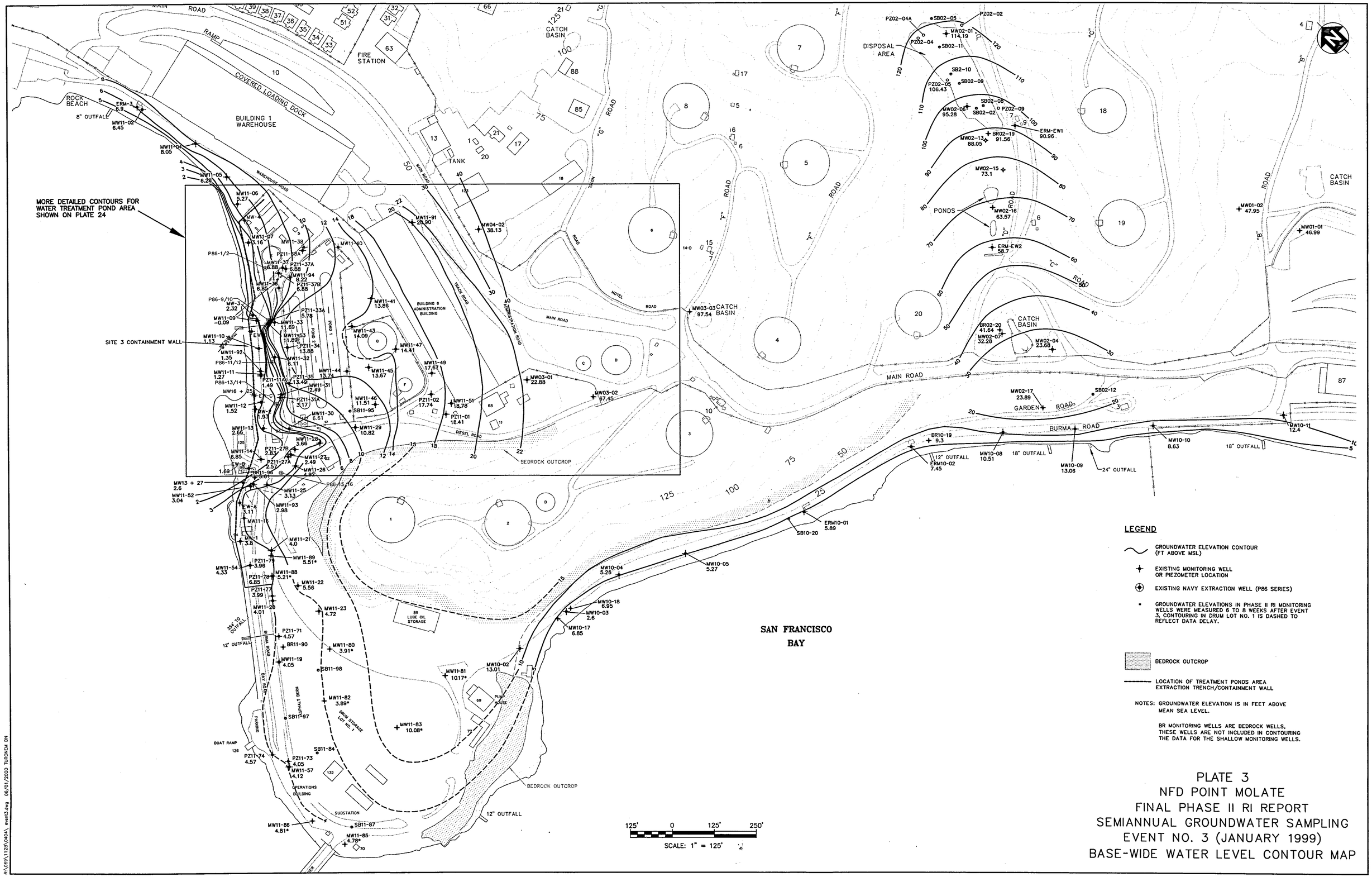
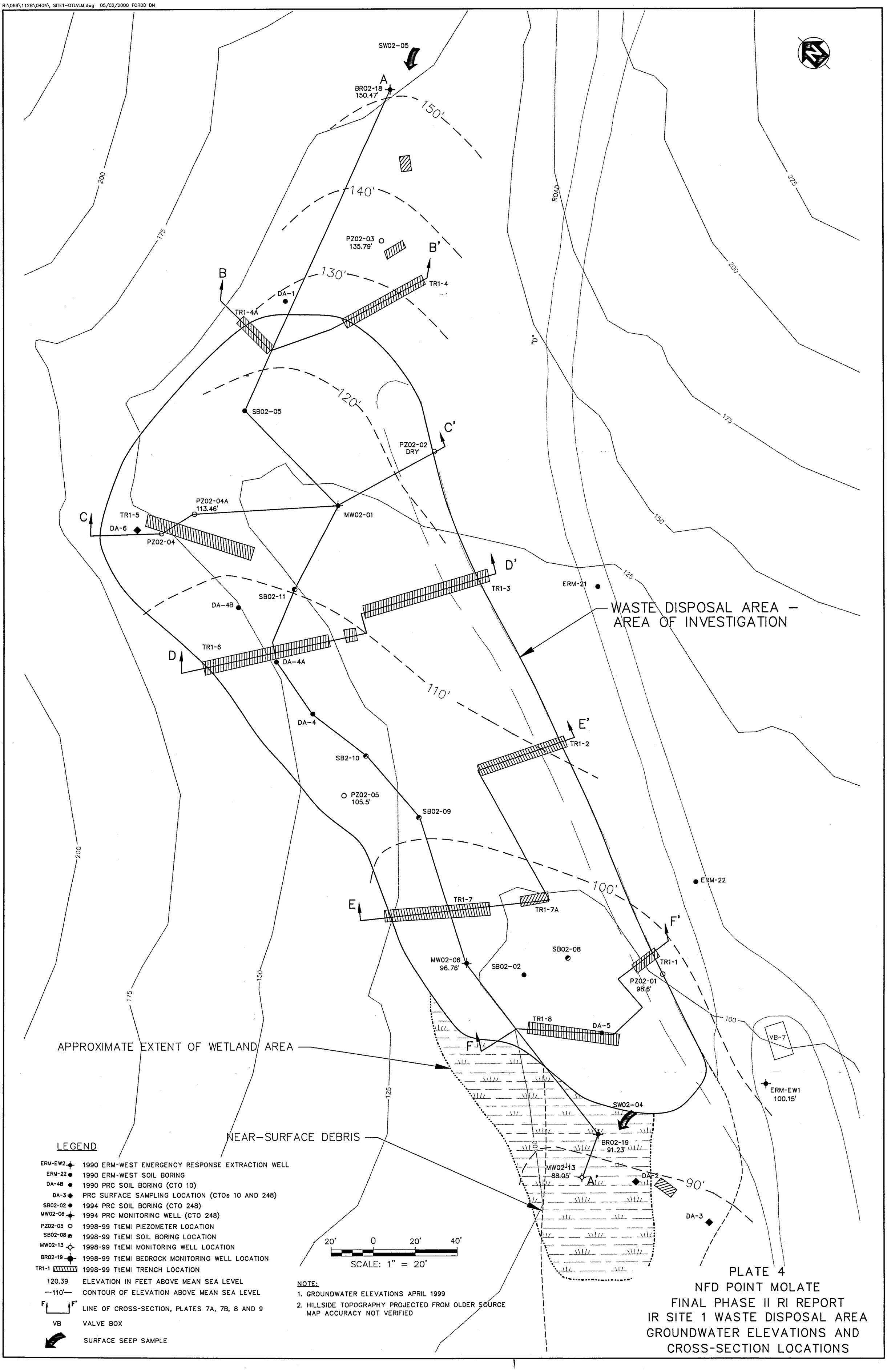


PLATE 3
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SEMIANNUAL GROUNDWATER SAMPLING
EVENT NO. 3 (JANUARY 1999)
BASE-WIDE WATER LEVEL CONTOUR MAP

R:\069\1128\0404\ event3.dwg 06/01/2000 TURONEM DN

R:\069\112B\0404\ SITE1-DTLVLM.dwg 05/02/2000 FORDD DN

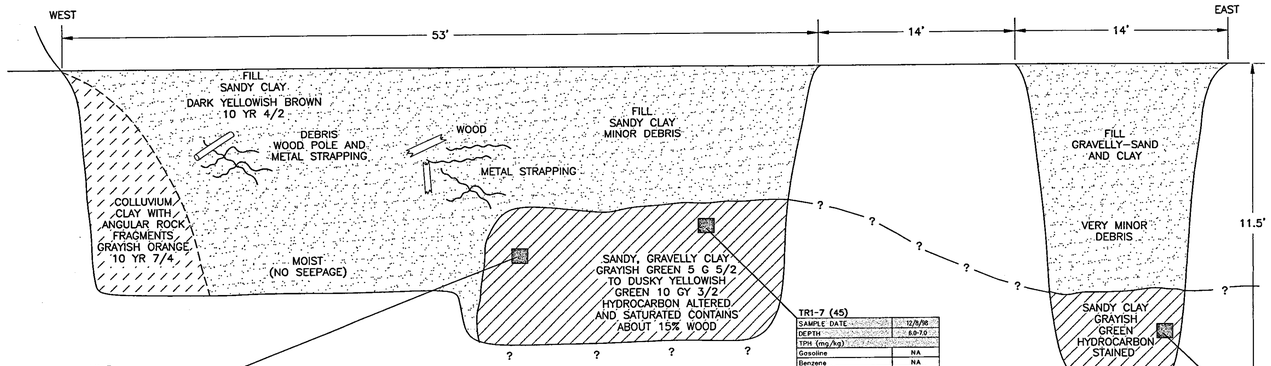


LEGEND

ERM-EW2	1990 ERM-WEST EMERGENCY RESPONSE EXTRACTION WELL
ERM-22	1990 ERM-WEST SOIL BORING
DA-4B	1990 PRC SOIL BORING (CTO 10)
DA-3	PRC SURFACE SAMPLING LOCATION (CTOs 10 AND 248)
SB02-02	1994 PRC SOIL BORING (CTO 248)
MW02-06	1994 PRC MONITORING WELL (CTO 248)
PZ02-05	1998-99 TtEMI PIEZOMETER LOCATION
SB02-08	1998-99 TtEMI SOIL BORING LOCATION
MW02-13	1998-99 TtEMI MONITORING WELL LOCATION
BR02-19	1998-99 TtEMI BEDROCK MONITORING WELL LOCATION
TR1-1	1998-99 TtEMI TRENCH LOCATION
120.39	ELEVATION IN FEET ABOVE MEAN SEA LEVEL
—110'—	CONTOUR OF ELEVATION ABOVE MEAN SEA LEVEL
F F'	LINE OF CROSS-SECTION, PLATES 7A, 7B, 8 AND 9
VB	VALVE BOX
	SURFACE SEEP SAMPLE

NOTE:
1. GROUNDWATER ELEVATIONS APRIL 1999
2. HILLSIDE TOPOGRAPHY PROJECTED FROM OLDER SOURCE MAP ACCURACY NOT VERIFIED

PLATE 4
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
GROUNDWATER ELEVATIONS AND
CROSS-SECTION LOCATIONS



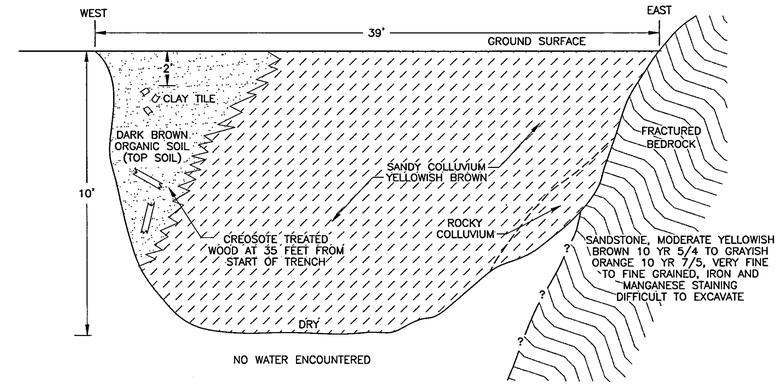
TRENCH TR1–7

TRENCH TR1–7A

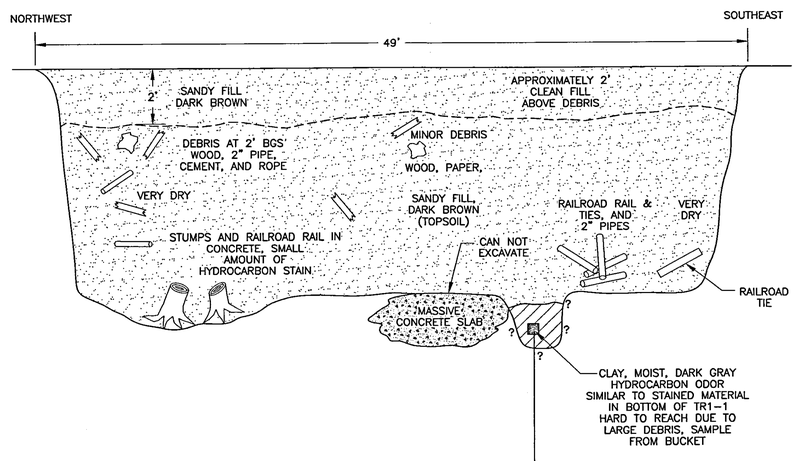
TR1-7	
SAMPLE DATE	12/8/98
DEPTH	7.0-9.0
TPH (mg/kg)	
Gasoline	50
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	550 J
Diesel	ND
Bunker	NA
Motor Oil	54 J
Other (Extractable)	NA
SVOCs (ug/kg)	
Acenophthene	320 J
Dibenzofuran	410 J
2-Methylnaphthalene	780 J
Phenanthrene	560 J
PCTMST (SMST)	
Percent Moisture	14.4
PH	
PH	7.28
TCLP	
VOCs (ug/kg)	
Chloroform	0.8 J
Total Metals (ug/L)	
Barium	953
Cadmium	8.4
Lead	35.5

TR1-7 (45)	
SAMPLE DATE	12/8/98
DEPTH	8.0-7.0
TPH (mg/kg)	
Gasoline	NA
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	ND
Diesel	ND
Bunker	NA
Motor Oil	130 J
Other (Extractable)	NA
SVOCs (ug/kg)	
Acenophthene	410 J
Benzo(B)Fluoranthene	390 J
Fluoranthene	920 J
Phenanthrene	1,400 J
Pyrene	690 J
PCTMST (SMST)	
Percent Moisture	17
PH	
PH	7.23

TR1-7A	
SAMPLE DATE	12/8/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	ND
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	NA
Diesel	ND
Bunker	NA
Motor Oil	37 J
Other (Extractable)	NA
PCTMST (SMST)	
Percent Moisture	17.7
PH	
PH	6.43

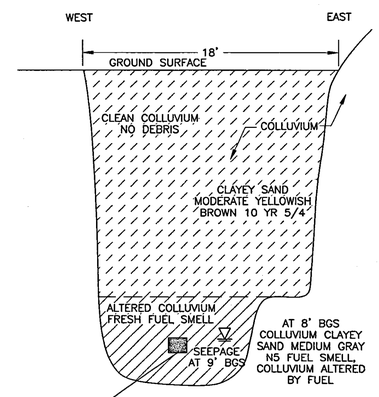


TRENCH TR1–2



TRENCH TR1–8

TR1-8	
SAMPLE DATE	12/9/98
DEPTH	9.0-10.0
TPH (mg/kg)	
Gasoline	2 Z
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	850
Diesel	ND
Bunker	NA
Motor Oil	55 J
Other (Extractable)	NA
PCTMST (SMST)	
Percent Moisture	14.7
PH	
PH	6.52



TRENCH TR1–1

TR1-1	
SAMPLE DATE	12/7/98
DEPTH	9.0-9.5
TPH (mg/kg)	
Gasoline	3,600 J
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	6,900
Diesel	ND
Bunker	NA
Motor Oil	1,400 J
Other (Extractable)	NA
PCTMST (SMST)	
Percent Moisture	15.4
PH	
PH	7.18

LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- HYDROCARBON WASTES

NA	NOT ANALYZED
ND	NOT DETECTED
BGS	BELOW GROUND SURFACE
▽	GROUNDWATER LEVEL
▩	SAMPLE LOCATION

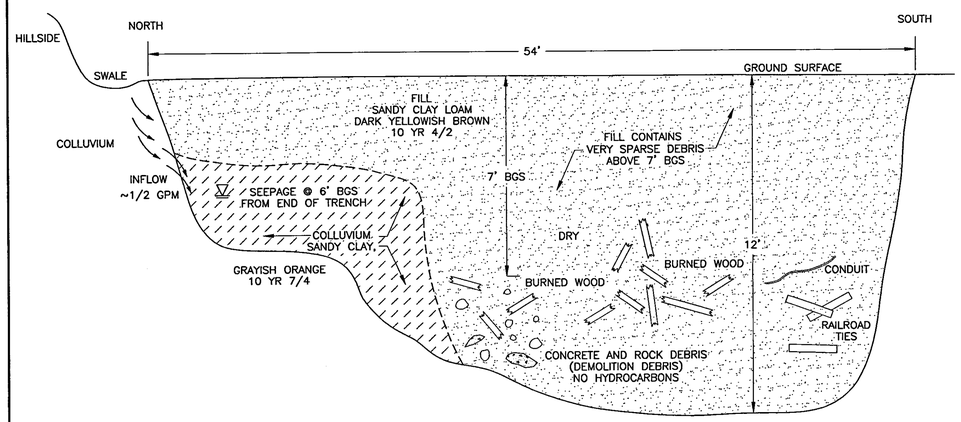
NOTES:
1. TRENCHES WERE 36 INCHES WIDE, LOGGING INCLUDED ALL MATERIALS OBSERVED ON BOTH SIDES OF EACH TRENCH.
2. METALS RESULTS ARE FROM TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYSIS

5' 0 5' 10'
HORIZONTAL SCALE: 1" = 5'

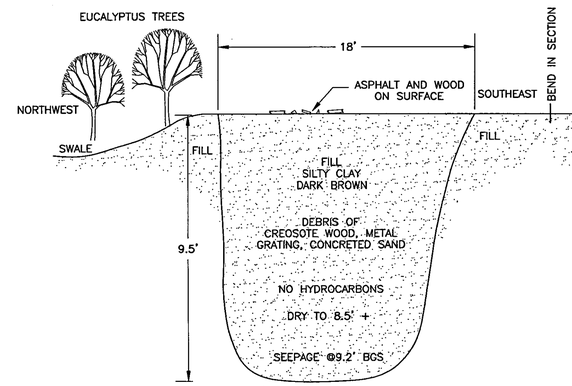
2.5' 0 2.5' 5'
VERTICAL SCALE: 1" = 2.5'
VERTICAL SCALE EXAGGERATION 2X

PLATE 5
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
TRENCH CROSS-SECTIONS: TR1-8, TR1-1, TR1-7, TR1-7A AND TR1-2

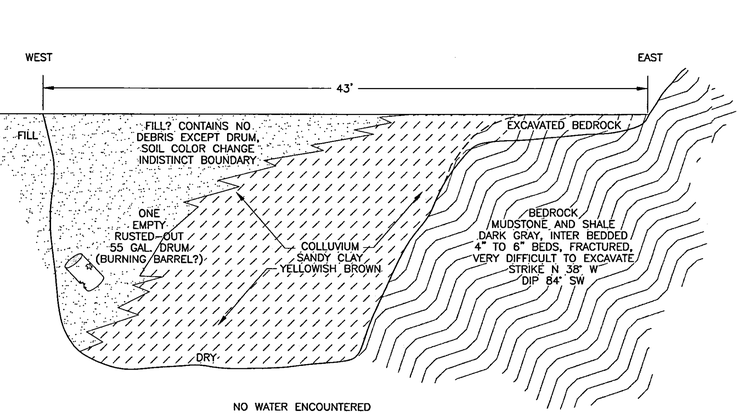
R:\069\112B\040A\ TRENCH1.dwg 05/10/2000 FORED DN



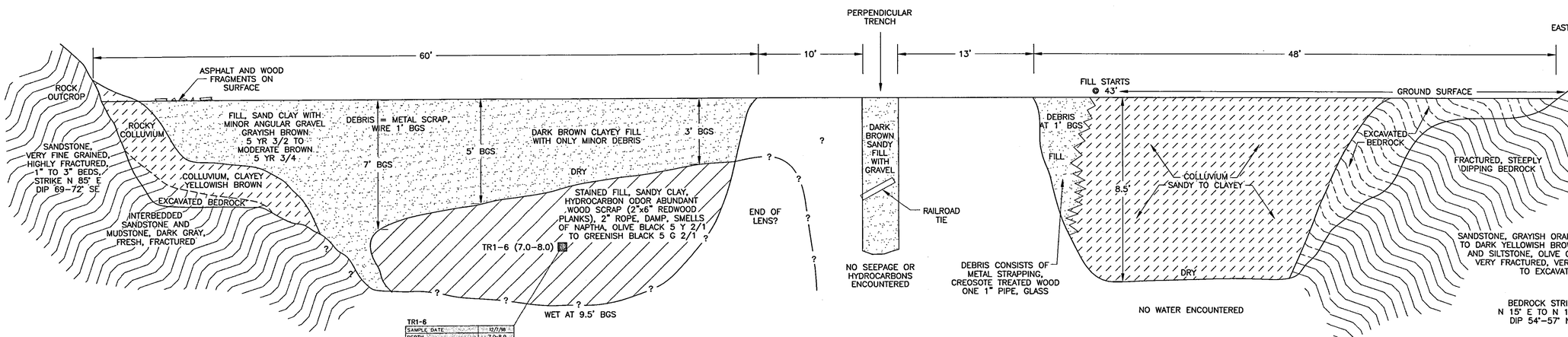
TRENCH TR1–5



TRENCH TR1–4A



TRENCH TR1–4



TRENCH TR1–6

TRENCH TR1–3

TR1-6	
SAMPLE DATE	12/7/99
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	NA
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	ND
Diesel	ND
Bunker	NA
Motor Oil	280 J
Other (Extractable)	NA
TCLP	
VOCs (ug/L)	
Chloroform	0.5 J
PCTMST (%MST)	
Percent Moisture	26.3
PH	
PH	6.62
Total Metals (ug/L)	
Arsenic	18.5
Barium	1,280
Lead	234

LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- HYDROCARBON WASTES

NA NOT ANALYZED
ND NOT DETECTED
BGS BELOW GROUND SURFACE
GROUNDWATER LEVEL
SAMPLE LOCATION

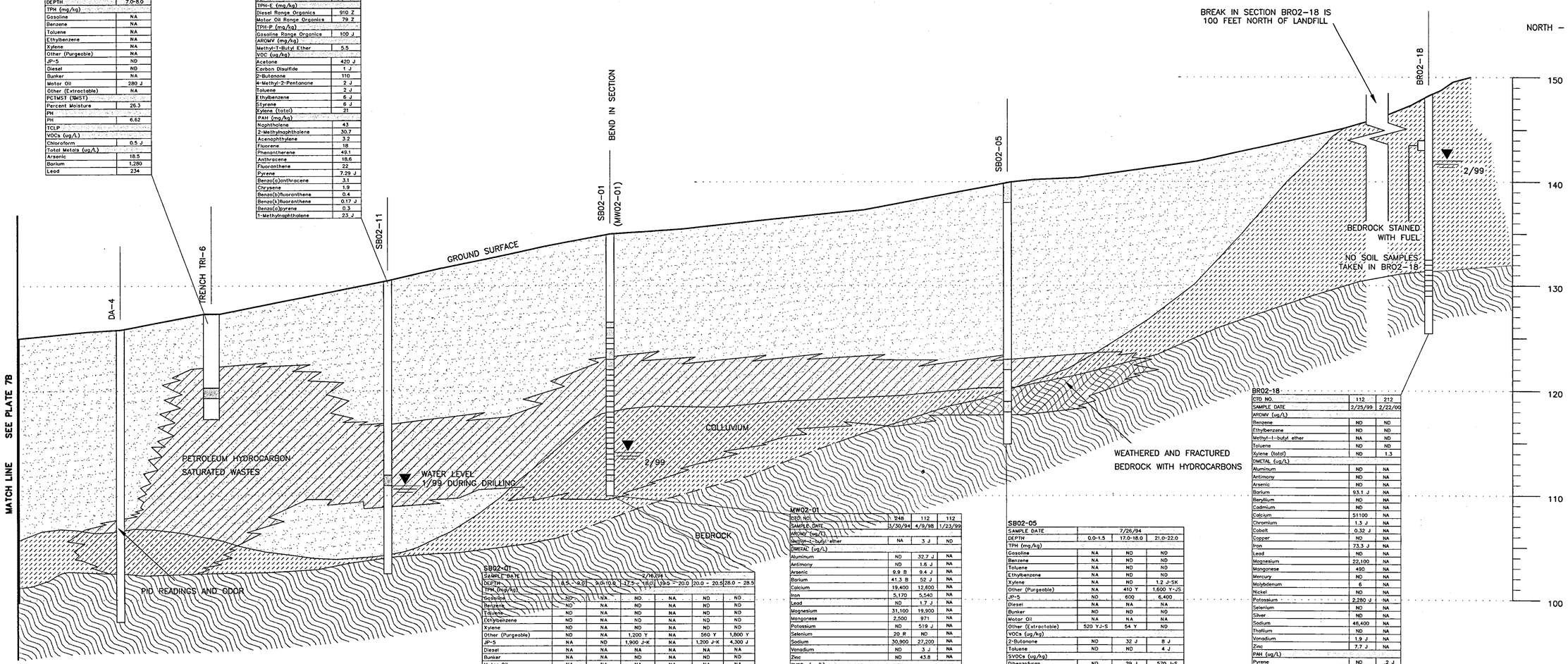
NOTES: 1. TRENCHES WERE 36 INCHES WIDE, LOGGING INCLUDED ALL MATERIALS OBSERVED ON BOTH SIDES OF EACH TRENCH.
2. METALS RESULTS ARE FROM TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYSIS

5' 0 5' 10'
HORIZONTAL SCALE: 1" = 5'

2.5' 0 2.5' 5'
VERTICAL SCALE: 1" = 2.5'
VERTICAL SCALE EXAGGERATION 2X

PLATE 6
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
TRENCH CROSS-SECTIONS: TR1-6, TR1-3, TR1-5, TR1-4 AND TR1-4A

R:\069\1128\040A\ TRENCH2.dwg 05/10/2000 FORD DN



TR1-6

SAMPLE DATE	12/7/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	NA
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	ND
Diesel	ND
Bunker	NA
Motor Oil	280 J
Other (Extractable)	NA
PCTMST (%MST)	
Percent Moisture	26.3
PH	
PH	6.62
TCLP	
VOCs (ug/L)	
Chloroform	0.5 J
Total Metals (ug/L)	
Arsenic	18.5
Barium	1,280
Lead	234

SB02-11

SAMPLE DATE	1/21/99
DEPTH	18.8-19.1
TPH-E (mg/kg)	
Diesel Range Organics	910 Z
Motor Oil Range Organics	79 Z
TPH-P (mg/kg)	
Gasoline Range Organics	100 J
AROMV (mg/kg)	
Methyl-T-Butyl Ether	5.5
VOC (ug/kg)	
Acetone	420 J
Carbon Disulfide	1 J
2-Butanone	110
4-Methyl-2-Pentanone	2 J
Toluene	2 J
Ethylbenzene	6 J
Styrene	8 J
Xylene (total)	21
PAH (mg/kg)	
Naphthalene	43
2-Methylnaphthalene	30.7
Acenaphthylene	3.2
Fluorene	18
Phenanthrene	49.1
Anthracene	18.6
Fluoranthene	22
Pyrene	7.29 J
Benzo(a)anthracene	3.1
Chrysene	1.9
Benzo(b)fluoranthene	0.4
Benzo(k)fluoranthene	0.17 J
Benzo(a)pyrene	0.3
1-Methylnaphthalene	23 J

SB02-01

SAMPLE DATE	2/16/94					
DEPTH	8.5 - 9.0	9.0-10.0	17.5 - 18.0	19.5 - 20.0	20.0 - 20.5	28.0 - 28.5
TPH (mg/kg)						
Gasoline	ND	NA	ND	NA	ND	ND
Benzene	ND	NA	ND	NA	ND	ND
Toluene	ND	NA	ND	NA	ND	ND
Ethylbenzene	ND	NA	ND	NA	ND	ND
Xylene	ND	NA	ND	NA	ND	ND
Other (Purgeable)	ND	NA	1,200 Y	NA	560 Y	1,800 Y
JP-5	NA	ND	1,900 J-K	NA	1,200 J-K	4,300 J
Diesel	NA	NA	NA	NA	NA	NA
Bunker	NA	NA	ND	NA	ND	ND
Motor Oil	NA	NA	NA	NA	NA	NA
Other (Extractable)	NA	ND	1602	NA	ND	ND
VOCs (ug/kg)						
Toluene	0.001 J	NA	NA	NA	ND	
SVOCs (ug/kg)						
4-Chloroaniline	NA	ND	NA	NA	ND	
3-Nitroaniline	NA	ND	NA	NA	ND	
Acenaphthylene	NA	100 J	NA	NA	ND	
2-Methylnaphthalene	NA	27 J	NA	NA	ND	
Acenaphthene	NA	23 J	NA	NA	ND	
Dibenzofuran	NA	ND	NA	NA	150 J	
Fluorene	NA	ND	NA	NA	55 J	
Phenanthrene	NA	80 J	NA	NA	130 J	
Anthracene	NA	200 J	NA	NA	ND	
Fluoranthene	NA	82 J	NA	NA	51 J	
Pyrene	NA	130 J	NA	NA	54 J	
Benzo(a)anthracene	NA	140 J	NA	NA	ND	
Chrysene	NA	650	NA	NA	ND	
Benzo(b)fluoranthene	NA	1,000	NA	NA	ND	
Benzo(k)fluoranthene	NA	450	NA	NA	ND	
Benzo(a)pyrene	NA	620	NA	NA	ND	
Indeno(1,2,3-cd)pyrene	NA	1,800	NA	NA	ND	
Dibenzo (a,h)anthracene	NA	500	NA	NA	ND	
Benzo(g,h,i)perylene	NA	2,100	NA	NA	ND	
Pesticides (ug/kg)						
4,4-DDE	NA	5.9 J-S	NA	ND	NA	
4,4-DDD	NA	4.1 J-S	NA	ND	NA	
Total Metals (mg/kg)						
Aluminum	NA	12,300	NA	16,100		
Antimony	NA	ND	NA	ND		
Arsenic	NA	5.1	NA	7.0		
Barium	NA	155	NA	154		
Beryllium	NA	0.92 B	NA	0.88 B		
Cadmium	NA	1.0 B	NA	ND		
Chromium	NA	20.5	NA	28.4		
Cobalt	NA	ND	NA	6.5 B		
Copper	NA	15.2	NA	229		
Iron	NA	16,100	NA	27,200		
Lead	NA	53.0 J-*	NA	23.7 J-N		
Magnesium	NA	3,590	NA	6,190		
Manganese	NA	247	NA	293		
Mercury	NA	ND	NA	ND		
Nickel	NA	24.5	NA	32.3		
Potassium	NA	3,330	NA	2,320		
Selenium	NA	ND	NA	ND		
Silver	NA	ND	NA	ND		
Sodium	NA	177 B	NA	212 B		
Thallium	NA	ND	NA	ND		
Vanadium	NA	29.5	NA	41.5		
Zinc	NA	86.9 J-ND	NA	324 J-ND		

MW02-01

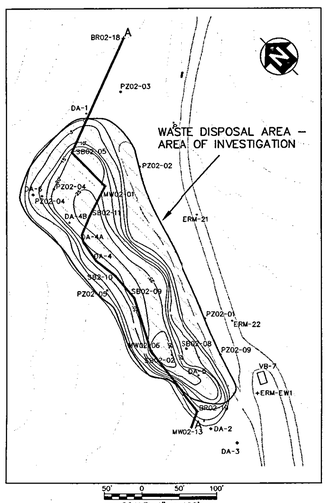
CTO NO.	248	112	112
SAMPLE DATE	3/30/94	4/9/98	1/23/99
AROMV (ug/L)			
Methyl-t-butyl ether	NA	3 J	ND
DMETAL (ug/L)			
Aluminum	ND	32.7 J	NA
Antimony	ND	1.6 J	NA
Arsenic	9.9 B	9.4 J	NA
Barium	41.3 B	52 J	NA
Calcium	19,400	12,600	NA
Iron	5,170	5,540	NA
Lead	ND	1.7 J	NA
Magnesium	31,100	19,900	NA
Manganese	2,500	971	NA
Potassium	ND	519 J	NA
Selenium	20 R	ND	NA
Sodium	30,900	27,200	NA
Vanadium	ND	3 J	NA
Zinc	ND	43.8	NA
SVOCs (ug/L)			
2,4-dinitrophenol	ND	3 R	ND
2-methylnaphtalene	9 J	2	ND
Butylbenzylphthalate	0.9 J	ND	ND
Dibenzofuran	1 J	0.6 J	ND
Naphthalene	ND	ND	1 J
TMETAL (ug/L)			
Aluminum	12,700	2,260	NA
Antimony	ND	2.7 J	NA
Arsenic	3.5 B	11.2 J	NA
Barium	134 B	91.8 J	NA
Calcium	20,900	13,200	NA
Chromium	20.2	4 J	NA
Cobalt	3.8 B	ND	NA
Iron	34,300	10,300	NA
Lead	10.2 S	40.2	NA
Magnesium	35,500	21,200	NA
Manganese	2,800	1,030	NA
Mercury	0.52 J	ND	NA
Nickel	16.7 B	ND	NA
Potassium	ND	1,090 J	NA
Selenium	20 R	ND	NA
Sodium	32,500	28,000	NA
Vanadium	27.4 J	8.8 J	NA
Zinc	45	83	NA
TPH-E (mg/L)			
Diesel range organics	NA	ND	1.5 Y
JP4 range organics	ND	NA	NA
JP-5 range organics	3.4	2 Z	ND
Motor oil range organics	NA	ND	ND
Other heavy TPH components	0.81 Y	NA	NA
TPH – bunker fuel (C10–C28)	ND	ND	NA
TPH – diesel F-76 (C8–C28)	ND	ND	NA
TPH – weathered diesel(C8–C26)	ND	NA	NA
Benzene	ND	NA	NA
Ethylbenzene	ND	NA	NA
Gasoline range organics	ND	0.2 Z	0.56 Z
Other light TPH components	6.8 Y	NA	NA
Toluene	ND	NA	NA
Xylene (total)	ND	NA	NA
VOCs (ug/L)			
Benzene	0.09 J	ND	NA
TMETAL (ug/L)			
Iron	NA	NA	17,200
Manganese	NA	NA	305 J
TPH-P (ug/L)			
Gasoline range organics	NA	NA	0.29 Z

SB02-05

SAMPLE DATE	7/26/94		
DEPTH	0.0-1.5	17.0-18.0	21.0-22.0
TPH (mg/kg)			
Gasoline	NA	ND	ND
Benzene	NA	ND	ND
Toluene	NA	ND	ND
Ethylbenzene	NA	ND	ND
Xylene	NA	ND	1.2 J-SK
Other (Purgeable)	NA	410 Y	1,600 Y-JS
JP-5	ND	600	6,400
Diesel	NA	NA	NA
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	520 YJ-S	54 Y	ND
VOCs (ug/kg)			
2-Butanone	ND	32 J	8 J
Toluene	ND	ND	4 J
SVOCs (ug/kg)			
Dibenzofuran	ND	29 J	570 J-S
Phenanthrene	ND	32 J	130 J-S
Fluoranthene	130 J	29 J	18 J-S
Pyrene	160 J	48 J	34 J-S
Chrysene	ND	ND	42 J-S
Total Metals (mg/kg)			
Aluminum	11,800	14,500	12,000
Antimony	7.2 J-ZN	16.5 J-ZN	ND
Arsenic	5.1	8.1	ND
Barium	202	164	125
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Chromium	22.2	24.5	21.7
Cobalt	11.1	10.88	9.48
Copper	21.0 J-D	22.6 J-D	13.3 J-D
Iron	15,200	17,300	12,500
Lead	23.5	24	11.4
Magnesium	4210	4860	4290
Manganese	335	234	254
Mercury	0.07B	0.08B	0.19
Nickel	26.6	28.1	18.4
Potassium	2,330 J-D	3,090 J-D	1,210 J-D
Selenium	ND	ND	ND
Silver	ND	ND	ND
Sodium	340 B	361 B	288 B
Thallium	ND	ND	ND
Vanadium	33.1	39.4	30.1
Zinc	66.4	72	43.3

BR02-18

CTO NO.	112	212
SAMPLE DATE	2/25/99	2/22/00
AROMV (ug/L)		
Benzene	ND	ND
Ethylbenzene	ND	ND
Methyl-t-butyl ether	NA	ND
Toluene	ND	ND
Xylene (total)	ND	1.3
DMETAL (ug/L)		
Aluminum	ND	NA
Antimony	ND	NA
Arsenic	ND	NA
Barium	93.1 J	NA
Beryllium	ND	NA
Cadmium	ND	NA
Calcium	51100	NA
Chromium	1.3 J	NA
Cobalt	0.32 J	NA
Copper	ND	NA
Iron	73.3 J	NA
Lead	ND	NA
Magnesium	22,100	NA
Manganese	490	NA
Mercury	ND	NA
Molybdenum	6	NA
Nickel	ND	NA
Potassium	2,280 J	NA
Selenium	ND	NA
Silver	ND	NA
Sodium	46,400	NA
Thallium	ND	NA
Vanadium	1.9 J	NA
Zinc	7.7 J	NA
PAH (ug/L)		
Pyrene	ND	2 J
SVOCs (ug/L)		
2,4-dinitrophenol	20 R	NA
TMETAL (ug/L)		
Aluminum	2,750	NA
Barium	117 J	NA
Calcium	50,700	NA
Chromium	11.8	NA
Cobalt	1.3 J	NA
Iron	1,720	14,700
Magnesium	23,000	NA
Manganese	528	891
Molybdenum	5.8	NA
Nickel	6.4 J	NA
Potassium	2,890 J	NA
Sodium	41,000	NA
Vanadium	6 J	NA
Zinc	12.2 J	NA
TPH-E (mg/L)		
Diesel range organics	ND	0.23
JP-5 range organics	ND	ND
Motor oil range organics	ND	0.4 J
TPH – bunker fuel (C10–C28)	ND	ND
TPH – diesel F-76 (C8–C28)	ND	ND
Gasoline range organics	ND	ND
VOCs (ug/L)		
Vinyl chloride	0.7	NA



LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- PETROLEUM HYDROCARBON SATURATED WASTES
- BGS — BELOW GROUND SURFACE
- GROUNDWATER LEVEL
- SAMPLE LOCATION
- NA — NOT ANALYZED
- ND — NOT DETECTED

NOTES:
EXPLANATION OF DATA QUALIFIERS IN FRONT OF PLATES

FEBRUARY 2000 DATA NOT VALIDATED

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'

10' 0 10' 20'
HORIZONTAL SCALE: 1" = 10'

PLATE 7A
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
LANDFILL CROSS-SECTION A-A'
SOIL SAMPLING RESULTS

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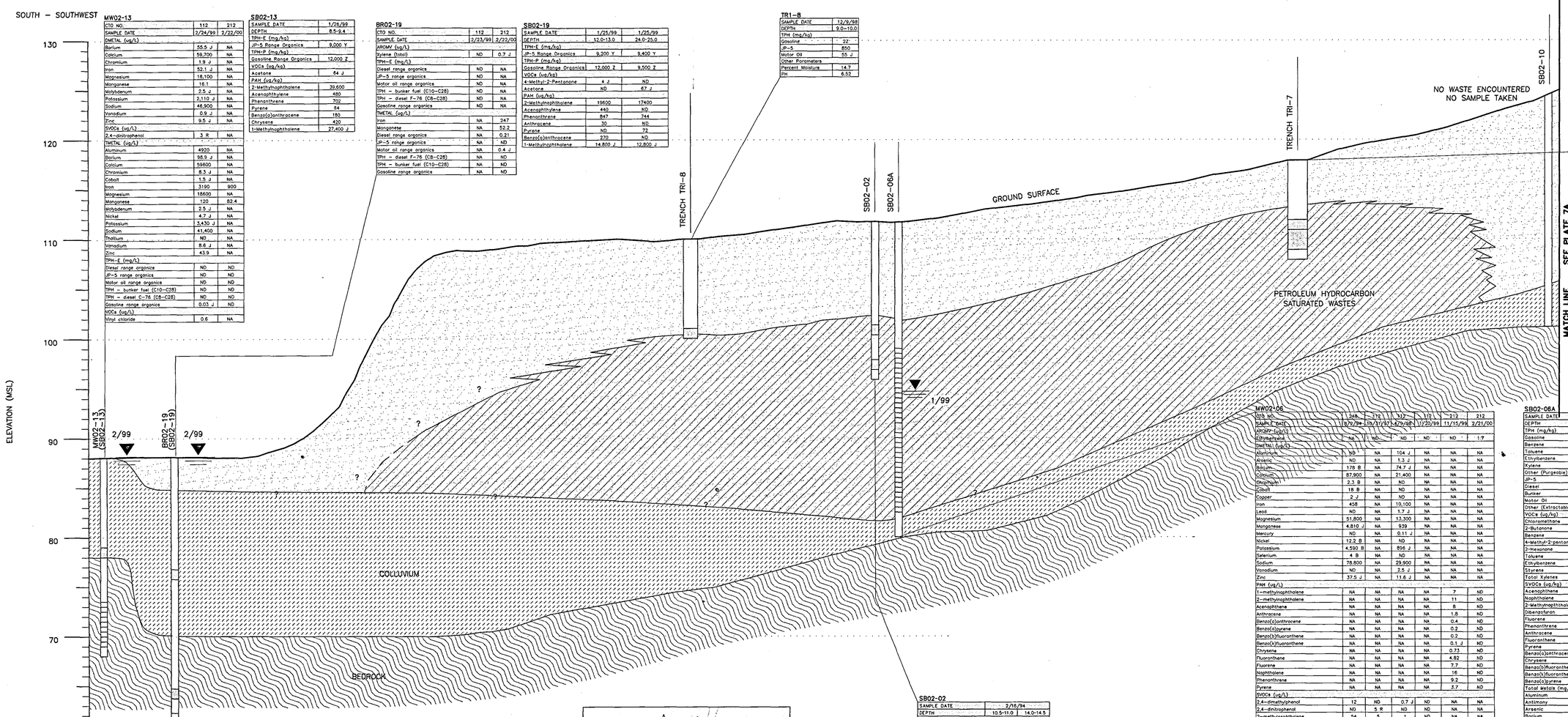


MW02-13

CTO NO.	112	212
SAMPLE DATE	2/24/99	2/22/00
DMETAL (ug/L)		
Barium	55.5 J	NA
Calcium	59,700	NA
Chromium	1.9 J	NA
Iron	52.1 J	NA
Magnesium	18,100	NA
Manganese	16.1	NA
Molybdenum	2.5 J	NA
Potassium	2,110 J	NA
Sodium	46,900	NA
Vanadium	0.9 J	NA
Zinc	9.5 J	NA
SVOCs (ug/L)		
2,4-dichlorophenol	3 R	NA
TMETAL (ug/L)		
Aluminum	4920	NA
Barium	98.9 J	NA
Calcium	59800	NA
Chromium	8.3 J	NA
Cobalt	1.5 J	NA
Iron	3190	900
Magnesium	18600	NA
Manganese	120	82.4
Molybdenum	2.5 J	NA
Nickel	4.7 J	NA
Potassium	3,430 J	NA
Sodium	41,400	NA
Thallium	ND	NA
Vanadium	8.6 J	NA
Zinc	43.9	NA
TPH-E (mg/L)		
Diesel range organics	ND	ND
JP-5 range organics	ND	ND
Motor oil range organics	ND	ND
TPH – bunker fuel (C10–C28)	ND	ND
TPH – diesel C-76 (C8–C28)	ND	ND
Gasoline range organics	0.03 J	ND
VOCs (ug/L)		
Vinyl chloride	0.6	NA

SB02-13

SAMPLE DATE	1/26/99
DEPTH	8.5-9.4
TPH-E (mg/kg)	
JP-5 Range Organics	9,000 Y
TPH-P (mg/kg)	
Gasoline Range Organics	12,000 Z
VOCs (ug/kg)	
Acetone	64 J
PAH (ug/kg)	
2-Methylnaphthalene	39,600
Acenaphthylene	480
Phenanthrene	702
Pyrene	84
Benzo(a)anthracene	180
Chrysene	420
1-Methylnaphthalene	27,400 J

BR02-19

CTO NO.	112	212
SAMPLE DATE	2/23/99	2/22/00
AROMV (ug/L)		
Xylene (total)	ND	0.7 J
TPH-E (mg/L)		
Diesel range organics	ND	NA
JP-5 range organics	ND	NA
Motor oil range organics	ND	NA
TPH – bunker fuel (C10–C28)	ND	NA
TPH – diesel F-76 (C8–C28)	ND	NA
Gasoline range organics	ND	NA
TMETAL (ug/L)		
Iron	NA	247
Manganese	NA	52.2
Diesel range organics	NA	0.21
JP-5 range organics	NA	ND
Motor oil range organics	NA	0.4 J
TPH – diesel F-76 (C8–C28)	NA	ND
TPH – bunker fuel (C10–C28)	NA	ND
Gasoline range organics	NA	ND

SB02-19

SAMPLE DATE	1/25/99	1/25/99
DEPTH	12.0-13.0	24.0-25.0
TPH-E (mg/kg)		
JP-5 Range Organics	9,200 Y	9,400 Y
TPH-P (mg/kg)		
Gasoline Range Organics	12,000 Z	9,500 Z
VOCs (ug/kg)		
4-Methyl-2-Pentanone	4 J	ND
Acetone	ND	67 J
PAH (ug/kg)		
2-Methylnaphthalene	19600	17400
Acenaphthylene	440	ND
Phenanthrene	847	744
Anthracene	30	ND
Pyrene	ND	72
Benzo(a)anthracene	270	ND
1-Methylnaphthalene	14,800 J	12,800 J

TRI-8

SAMPLE DATE	12/9/98
DEPTH	9.0-10.0
TPH (mg/kg)	
Gasoline	22
JP-5	850
Motor Oil	55 J
Other Parameters	
Percent Moisture	14.7
PH	6.52

TRI-7

SAMPLE DATE	12/8/98	12/8/98
DEPTH	6.0-7.0	7.0-9.0
TPH (mg/kg)		
Gasoline	NA	50
JP-5	NA	550 J
Motor Oil	130 J	54 J
Other (Extractable)	NA	NA
VOCs (ug/kg)		
Chloroform	NA	0.8 J
SVOCs (ug/kg)		
Acenaphthene	410 J	320 J
Benzo(B)Fluoranthene	390 J	NA
Dibenzofuran	NA	410 J
Fluoranthene	920 J	NA
2-Methylnaphthalene	NA	780 J
Phenanthrene	1,400J	560 J
Pyrene	690 J	NA
Total Metals (ug/L) TCLP		
Barium	NA	953
Cadmium	NA	8.4
Lead	NA	35.5
Physical Parameters		
Percent Moisture	17	14.4
PH	7.23	7.28

MW02-06

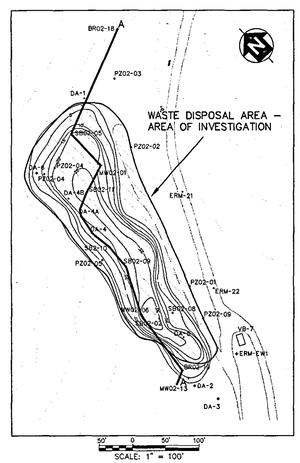
CTO NO.	248	212	112	112	212	212
SAMPLE DATE	10/9/94	10/31/97	12/9/98	11/20/99	11/15/99	2/21/00
AROMV (ug/L)						
Ethylbenzene	NA	ND	ND	ND	ND	1.7
DMETAL (ug/L)						
Aluminum	ND	NA	104 J	NA	NA	NA
Arsenic	ND	NA	1.3 J	NA	NA	NA
Barium	178 B	NA	74.7 J	NA	NA	NA
Calcium	87,900	NA	21,400	NA	NA	NA
Chromium	2.3 B	NA	ND	NA	NA	NA
Cobalt	18 B	NA	ND	NA	NA	NA
Copper	2 J	NA	ND	NA	NA	NA
Iron	458	NA	10,100	NA	NA	NA
Lead	ND	NA	1.7 J	NA	NA	NA
Magnesium	51,800	NA	13,300	NA	NA	NA
Manganese	4,810 J	NA	939	NA	NA	NA
Mercury	ND	NA	0.11 J	NA	NA	NA
Nickel	12.2 B	NA	ND	NA	NA	NA
Potassium	4,590 B	NA	896 J	NA	NA	NA
Selenium	4 B	NA	ND	NA	NA	NA
Sodium	78,800	NA	29,900	NA	NA	NA
Vanadium	ND	NA	2.5 J	NA	NA	NA
Zinc	37.5 J	NA	11.6 J	NA	NA	NA
PAH (ug/L)						
1-methylnaphthalene	NA	NA	NA	NA	7	ND
2-methylnaphthalene	NA	NA	NA	NA	11	ND
Acenaphthene	NA	NA	NA	NA	8	ND
Anthracene	NA	NA	NA	NA	1.8	ND
Benzo(a)anthracene	NA	NA	NA	NA	0.4	ND
Benzo(a)pyrene	NA	NA	NA	NA	0.2	ND
Benzo(b)fluoranthene	NA	NA	NA	NA	0.2	ND
Benzo(k)fluoranthene	NA	NA	NA	NA	0.1 J	ND
Chrysene	NA	NA	NA	NA	0.73	ND
Fluoranthene	NA	NA	NA	NA	4.82	ND
Fluorene	NA	NA	NA	NA	7.7	ND
Naphthalene	NA	NA	NA	NA	16	ND
Phenanthrene	NA	NA	NA	NA	9.2	ND
Pyrene	NA	NA	NA	NA	3.7	ND
SVOCs (ug/L)						
2,4-dimethylphenol	12	ND	0.7 J	ND	NA	NA
2,4-dinitrophenol	ND	5 R	ND	ND	NA	NA
2-methylnaphthalene	54	5	1	ND	NA	NA
4,6-dinitro-2-methylphenol	ND	5 J	ND	ND	NA	NA
4-methylphenol	4 J	ND	ND	ND	NA	NA
4-nitrophenol	ND	5 J	ND	ND	NA	NA
Acenaphthene	66	11	13	6 J	NA	NA
Anthracene	ND	1 J	1	ND	NA	NA
Benzo(a)anthracene	ND	ND	0.7 J	ND	NA	NA
Carbazole	6 J	2	2	ND	NA	NA
Dibenzofuran	37	6	7	ND	NA	NA
Diethylphthalate	ND	0.9 J	ND	ND	NA	NA
Fluoranthene	6 J	1 J	4	ND	NA	NA
Fluorene	44	7	9	ND	NA	NA
Hexachlorocyclopentadiene	ND	2 J	ND	ND	NA	NA
Naphthalene	220 D	24	11	ND	NA	NA
Phenanthrene	36	8	6	ND	NA	NA
Phenol	0.7 J	ND	ND	ND	NA	NA
Pyrene	ND	0.8 J	3	ND	NA	NA
TMETAL (ug/L)						
Aluminum	22,100	NA	1,800	NA	NA	NA
Antimony	ND	NA	2.9 J	NA	NA	NA
Arsenic	18.3	NA	2.4 J	NA	NA	NA
Barium	567	NA	109 J	NA	NA	NA
Calcium	96,300	NA	22,400	NA	NA	NA
Chromium	56.2	NA	4 J	NA	NA	NA
Cobalt	39.6 B	NA	ND	NA	NA	NA
Copper	53 J	NA	ND	NA	NA	NA
Iron	39,300		12,900	NA	NA	90,200
Lead	85.7 J	NA	9.1	NA	NA	NA
Magnesium	59,200	NA	13,800	NA	NA	NA
Manganese	5,350		967	NA	NA	1,400 J
Mercury	ND	NA	0.098 B	NA	NA	NA
Nickel	76.7	NA	ND	NA	NA	NA
Potassium	9,170 J	NA	1,470 J	NA	NA	NA
Selenium	7.3	NA	ND	NA	NA	NA
Sodium	81,500 J	NA	29,700	NA	NA	NA
Vanadium	56.2	NA	6.2 J	NA	NA	NA
Zinc	295 J	NA	61.3	NA	NA	NA
TPH-E (mg/L)						
Diesel range organics	NA	ND	2.77 Z	2.05 Y	2.35 Y	ND
JP-4 range organics	ND	NA	NA	NA	NA	NA
JP-5 range organics	ND	ND	ND	NA	ND	ND
Motor oil range organics	NA	ND	0.41 Z	0.66 Z	ND	1
Other heavy TPH components	7.1 Y	NA	NA	NA	NA	NA
TPH – bunker fuel (C10–C28)	ND	4.46 Z	ND	NA	ND	ND
TPH – diesel F-76 (C8–C28)	ND	ND	ND	NA	ND	ND
TPH – weathered diesel(C8–C26)	ND	NA	NA	NA	NA	NA

SB02-06A

SAMPLE DATE	7/28/94
DEPTH	20.5-21.0
TPH (mg/kg)	
Gasoline	ND
Benzene	0.01
Toluene	0.01
Ethylbenzene	ND
Xylene	0.013
Other (Purgeable)	15 Y
JP-5	ND
Diesel	NA
Bunker	ND
Motor Oil	NA
Other (Extractable)	360
VOCs (ug/kg)	
Chloromethane	5 J
2-Butanone	190 J-K
Benzene	12 J
4-Methyl-2-pentanone	6 J
2-Hexanone	4 J
Toluene	13 J
Ethylbenzene	4 J
Styrene	4 J
Total Xylenes	30 J-D
SVOCs (ug/kg)	
Acenaphthene	1,200
Naphthalene	78 J
2-Methylnaphthalene	570
Dibenzofuran	650
Fluorene	870
Phenanthrene	1,300
Anthracene	150 J
Fluoranthene	480 J
Pyrene	410 J
Benzo(a)anthracene	140 J
Chrysene	220 J
Benzo(b)fluoranthene	270 J
Benzo(k)fluoranthene	200 J
Benzo(a)pyrene	160 J
Total Metals (mg/kg)	
Aluminum	16,000
Antimony	ND
Arsenic	ND
Barium	325
Beryllium	ND
Cadmium	ND
Chromium	35.8
Cobalt	11.38
Copper	29.8 J-D
Iron	16,100
Lead	240
Magnesium	4,770
Manganese	268
Mercury	ND
Nickel	34.8
Potassium	3,040 J-D
Selenium	ND
Silver	ND
Sodium	4018
Thallium	ND
Vanadium	41.4
Zinc	448

SB02-02

SAMPLE DATE	2/16/94	
DEPTH	10.5-11.0	14.0-14.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	490 Y	39 Y
JP-5	1,200 J-K	ND
Diesel	NA	NA
Bunker	ND	ND
Motor Oil	NA	NA
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	ND
SVOCs (ug/kg)		
All Compounds	NA	ND
Pesticides (ug/kg)		
All Compounds	NA	ND
Total Metals (mg/kg)		
Aluminum	NA	14,400
Antimony	NA	ND
Arsenic	NA	5.9 S
Barium	NA	177
Beryllium	NA	0.74 B
Cadmium	NA	ND
Chromium	NA	24.9
Cobalt	NA	ND
Copper	NA	25.5
Iron	NA	18,800
Lead	NA	40.5
Magnesium	NA	4,600
Manganese	NA	283
Mercury	NA	ND
Nickel	NA	27.9
Potassium	NA	ND
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	ND
Thallium	NA	NA
Vanadium	NA	32.8
Zinc	NA	92.7 J-D



5' 0 5' 10'
VERTICAL SCALE: 1" = 5'

10' 0 10' 20'
HORIZONTAL SCALE: 1" = 10'

LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- HYDROCARBON WASTES
- BGS BELOW GROUND SURFACE
- GROUNDWATER LEVEL
- SAMPLE LOCATION

NA NOT ANALYZED

ND NOT DETECTED

NOTES:
EXPLANATION OF DATA QUALIFIERS IN FRONT OF PLATES.

FEBRUARY 2000 DATA NOT VALIDATED.

PLATE 7B
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
LANDFILL CROSS-SECTION A-A'
SOIL SAMPLING RESULTS

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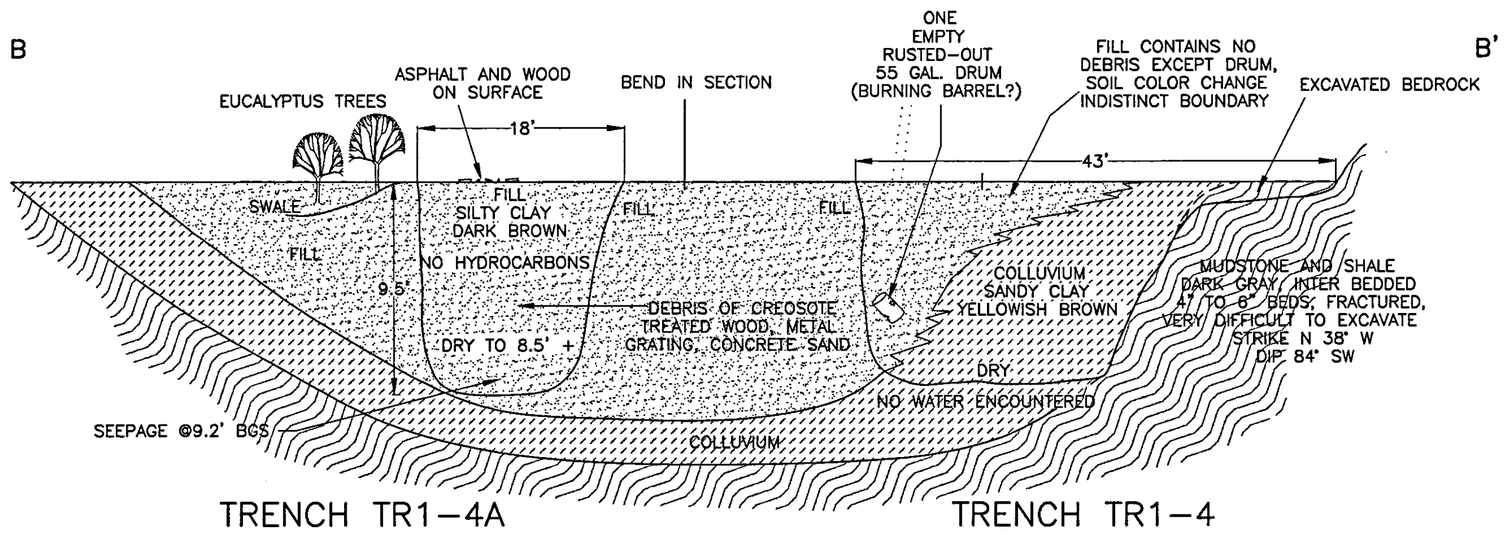
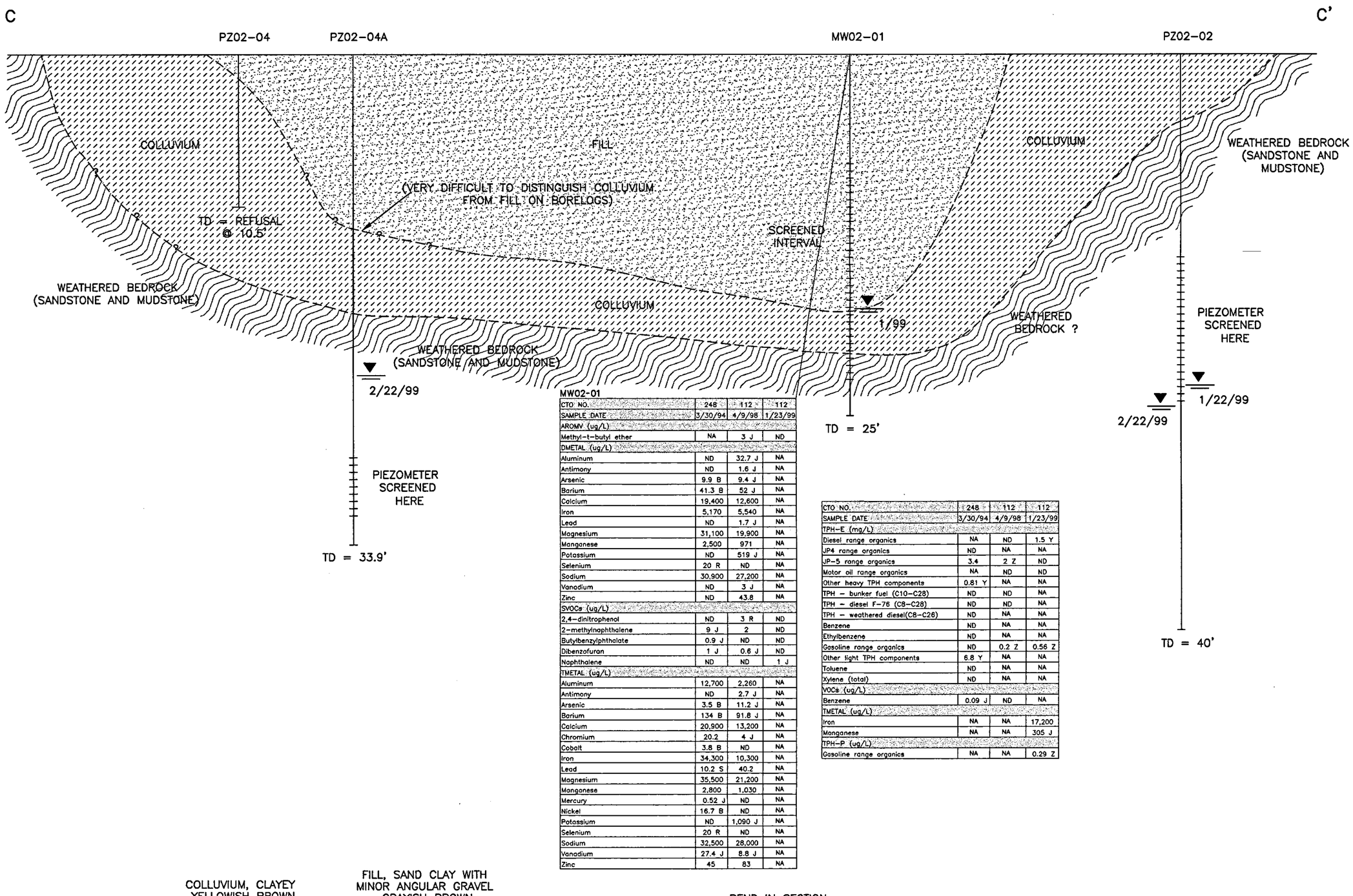


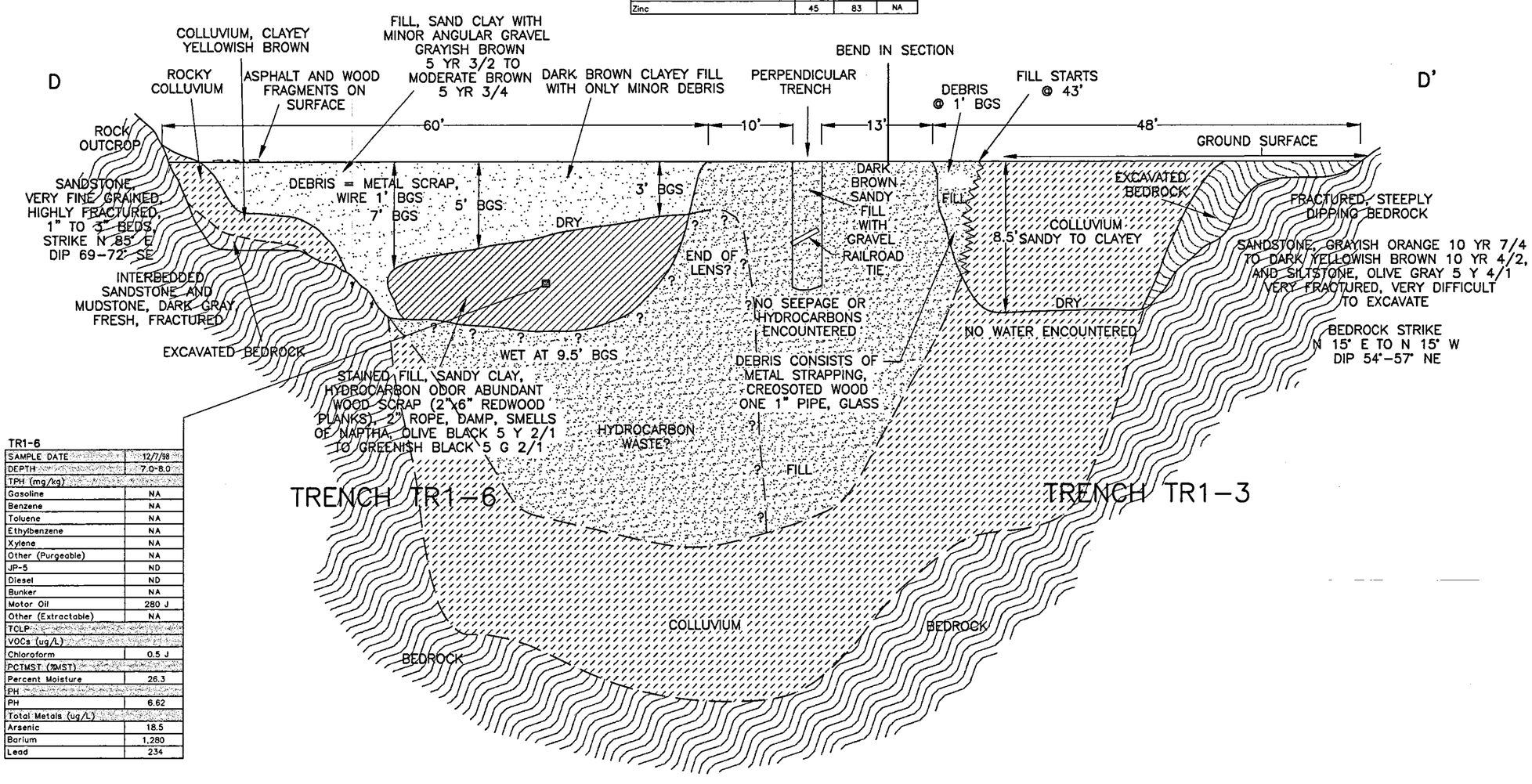
TRENCH TR1-4A TRENCH TR1-4



MW02-01

CTO NO.	248	112	112
SAMPLE DATE	3/30/94	4/9/98	1/23/99
AROMV (ug/L)			
Methyl-t-butyl ether	NA	3 J	ND
DMETAL (ug/L)			
Aluminum	ND	32.7 J	NA
Antimony	ND	1.6 J	NA
Arsenic	9.9 B	9.4 J	NA
Barium	41.3 B	52 J	NA
Calcium	19,400	12,600	NA
Iron	5,170	5,540	NA
Lead	ND	1.7 J	NA
Magnesium	31,100	19,900	NA
Manganese	2,500	971	NA
Potassium	ND	519 J	NA
Selenium	20 R	ND	NA
Sodium	30,900	27,200	NA
Vanadium	ND	3 J	NA
Zinc	ND	43.8	NA
SVOCs (ug/L)			
2,4-dinitrophenol	ND	3 R	ND
2-methylnaphthalene	9 J	2	ND
Butylbenzylphthalate	0.9 J	ND	ND
Dibenzofuran	1 J	0.6 J	ND
Naphthalene	ND	ND	1 J
TMETAL (ug/L)			
Aluminum	12,700	2,260	NA
Antimony	ND	2.7 J	NA
Arsenic	3.5 B	11.2 J	NA
Barium	134 B	91.8 J	NA
Calcium	20,900	13,200	NA
Chromium	20.2	4 J	NA
Cobalt	3.8 B	ND	NA
Iron	34,300	10,300	NA
Lead	10.2 S	40.2	NA
Magnesium	35,500	21,200	NA
Manganese	2,800	1,030	NA
Mercury	0.52 J	ND	NA
Nickel	16.7 B	ND	NA
Potassium	ND	1,090 J	NA
Selenium	20 R	ND	NA
Sodium	32,500	28,000	NA
Vanadium	27.4 J	8.8 J	NA
Zinc	45	83	NA

CTO NO.	248	112	112
SAMPLE DATE	3/30/94	4/9/98	1/23/99
TPH-E (mg/L)			
Diesel range organics	NA	ND	1.5 Y
JP4 range organics	ND	NA	NA
JP-5 range organics	3.4	2 Z	ND
Motor oil range organics	NA	ND	ND
Other heavy TPH components	0.81 Y	NA	NA
TPH - bunker fuel (C10-C28)	ND	ND	NA
TPH - diesel F-76 (C8-C28)	ND	ND	NA
TPH - weathered diesel(C8-C26)	ND	NA	NA
Benzene	ND	NA	NA
Ethylbenzene	ND	NA	NA
Gasoline range organics	ND	0.2 Z	0.56 Z
Other light TPH components	6.8 Y	NA	NA
Toluene	ND	NA	NA
Xylene (total)	ND	NA	NA
VOCs (ug/L)			
Benzene	0.09 J	ND	NA
TMETAL (ug/L)			
Iron	NA	NA	17,200
Manganese	NA	NA	305 J
TPH-P (ug/L)			
Gasoline range organics	NA	NA	0.29 Z



TR1-6	
SAMPLE DATE	12/7/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	NA
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	ND
Diesel	ND
Bunker	NA
Motor Oil	280 J
Other (Extractable)	NA
TCLP	
VOCs (ug/L)	
Chloroform	0.5 J
PCTMST (%MST)	
Percent Moisture	26.3
PH	
PH	6.62
Total Metals (ug/L)	
Arsenic	18.5
Barium	1,280
Lead	234

LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- HYDROCARBON WASTES

BGS BELOW GROUND SURFACE
GROUNDWATER LEVEL
SAMPLE LOCATION

10' 0 10' 20'
HORIZONTAL SCALE: 1" = 10'

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'
VERTICAL SCALE EXAGGERATION 2X

NOTES:
1. DATUM GROUND SURFACE NOT CORRECTED FOR SURFACE TOPOGRAPHIC ELEVATION
2. METALS RESULTS ARE FROM TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYSIS

PLATE 8
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
CROSS-SECTIONS: B-B', C-C', AND D-D'

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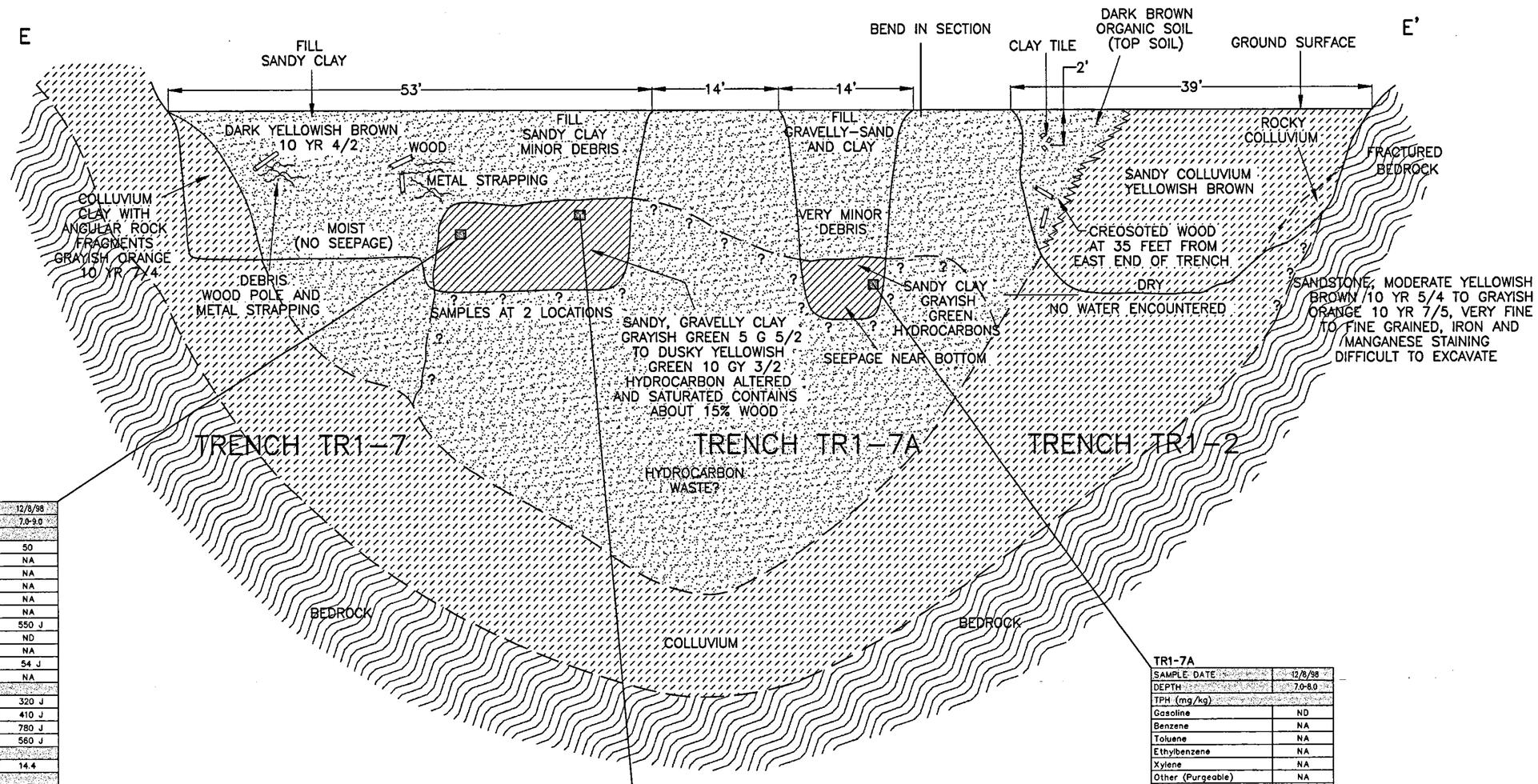


TR1-7

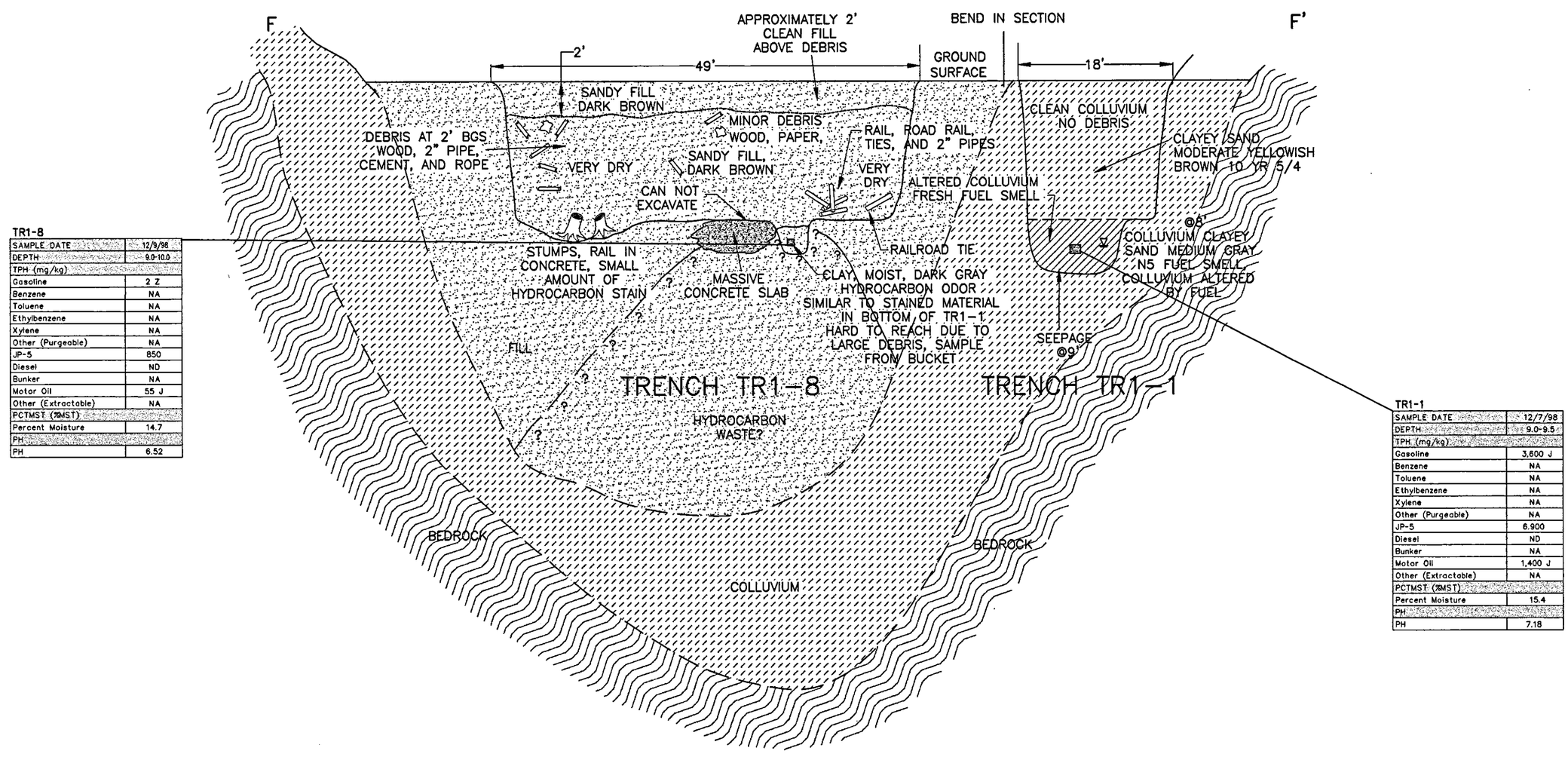
SAMPLE DATE	12/8/98
DEPTH	7.0-9.0
TPH (mg/kg)	
Gasoline	50
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	550 J
Diesel	ND
Bunker	NA
Motor Oil	54 J
Other (Extractable)	NA
SVOCs (ug/kg)	
Acenaphthene	320 J
Dibenzofuran	410 J
2-Methylnaphthalene	780 J
Phenanthrene	560 J
PCTMST (%MST)	
Percent Moisture	14.4
PH	
PH	7.28
TCLP	
VOCs (ug/kg)	
Chloroform	0.8 J
Total Metals (ug/L)	
Barium	953
Cadmium	8.4
Lead	35.5

TR1-7 (45)

SAMPLE DATE	12/8/98
DEPTH	6.0-7.0
TPH (mg/kg)	
Gasoline	NA
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	ND
Diesel	ND
Bunker	NA
Motor Oil	130 J
Other (Extractable)	NA
SVOCs (ug/kg)	
Acenaphthene	410 J
Benzo(B)Fluoranthene	390 J
Fluoranthene	920 J
Phenanthrene	1,400 J
Pyrene	690 J
PCTMST (%MST)	
Percent Moisture	17
PH	
PH	7.23

TR1-7A

SAMPLE DATE	12/8/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	ND
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	NA
Diesel	ND
Bunker	NA
Motor Oil	37 J
Other (Extractable)	NA
PCTMST (%MST)	
Percent Moisture	17.7
PH	
PH	6.43



TR1-8

SAMPLE DATE	12/9/98
DEPTH	9.0-10.0
TPH (mg/kg)	
Gasoline	2 Z
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	850
Diesel	ND
Bunker	NA
Motor Oil	55 J
Other (Extractable)	NA
PCTMST (%MST)	
Percent Moisture	14.7
PH	
PH	6.52

TR1-1

SAMPLE DATE	12/7/98
DEPTH	9.0-9.5
TPH (mg/kg)	
Gasoline	3,600 J
Benzene	NA
Toluene	NA
Ethylbenzene	NA
Xylene	NA
Other (Purgeable)	NA
JP-5	6.900
Diesel	ND
Bunker	NA
Motor Oil	1,400 J
Other (Extractable)	NA
PCTMST (%MST)	
Percent Moisture	15.4
PH	
PH	7.18

10' 0 10' 20'
HORIZONTAL SCALE: 1" = 10'

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'
VERTICAL SCALE EXAGGERATION 2X

LEGEND

- FILL
- COLLUVIUM
- BEDROCK
- HYDROCARBON WASTES

BGS BELOW GROUND SURFACE
GROUNDWATER LEVEL
SAMPLE LOCATION

NOTES:
1. DATUM GROUND SURFACE NOT CORRECTED FOR SURFACE TOPOGRAPHIC ELEVATION
2. METALS RESULTS ARE FROM TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) ANALYSIS

PLATE 9
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
CROSS-SECTIONS: E-E' AND F-F'

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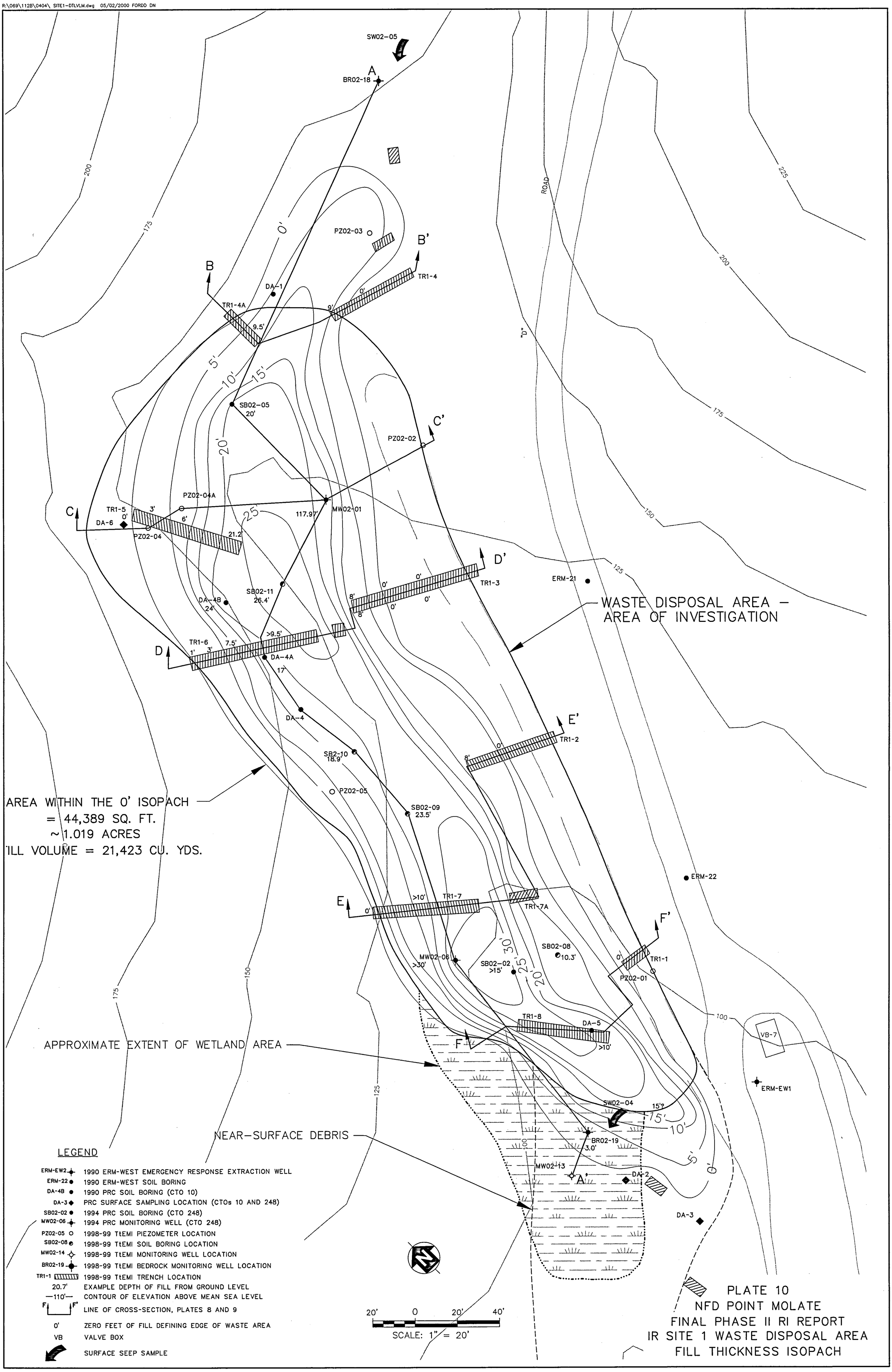
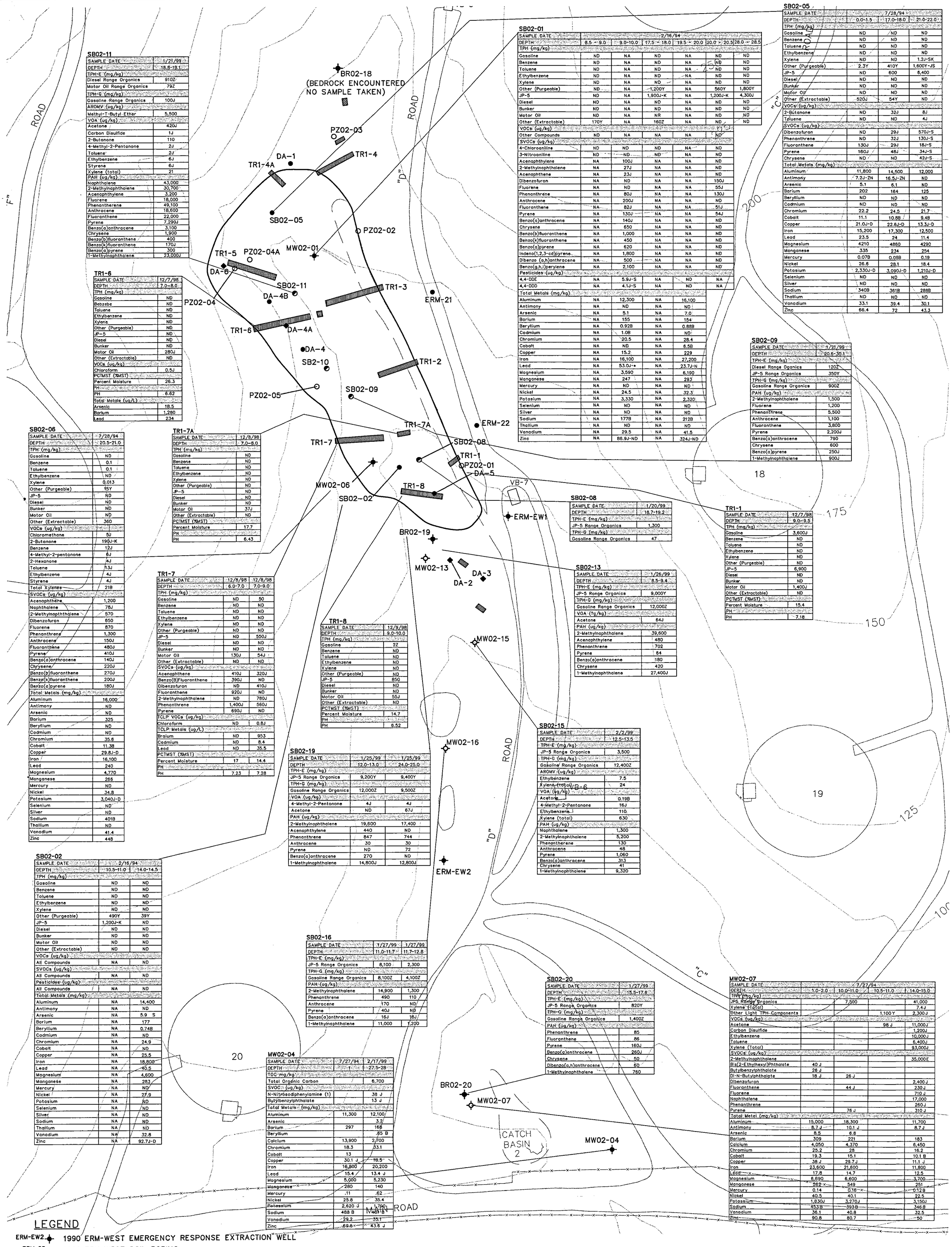


R:\069\112B\0404\ IRSITE1-SSR.dwg 04/19/2000 FORDD DN



SB02-11

SAMPLE DATE	1/21/99
DEPTH	18.8-19.1
TPH-E (mg/kg)	
Diesel Range Organics	910Z
Motor Oil Range Organics	79Z
TPH-G (mg/kg)	
Gasoline Range Organics	100J
AROMV (ug/kg)	
Methyl-T-Butyl Ether	5,500
VOA (ug/kg)	
Acetone	420J
Carbon Disulfide	1J
2-Butanone	110
4-Methyl-2-Pentanone	2J
Toluene	2J
Ethylbenzene	6J
Styrene	6J
Xylene (total)	21
PAH (ug/kg)	
Naphthalene	43,000
2-Methylnaphthalene	30,700
Acenaphthylene	3,200
Fluorene	18,000
Phenantherene	49,100
Anthracene	18,600
Fluoranthene	22,000
Pyrene	7,290J
Benzo(a)anthracene	3,100
Chrysene	1,900
Benzo(b)fluoranthene	400
Benzo(k)fluoranthene	170J
Benzo(a)pyrene	300
1-Methylnaphthalene	23,000J

TR1-6

SAMPLE DATE	12/7/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	ND
Bebzebe	ND
Toluene	ND
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	ND
JP-5	ND
Diesel	ND
Bunker	ND
Motor Oil	280J
Other (Extractable)	ND
VOCs (ug/kg)	
Chloroform	0.5J
PCTMST (%MST)	
Percent Moisture	26.3
PH	
PH	6.62
Total Metals (ug/L)	
Arsenic	18.5
Barium	1,280
Lead	234

SB02-06

SAMPLE DATE	7/28/94
DEPTH	20.5-21.0
TPH (mg/kg)	
Gasoline	ND
Benzene	0.1
Toluene	0.1
Ethylbenzene	ND
Xylene	0.013
Other (Purgeable)	15Y
JP-5	ND
Diesel	ND
Bunker	ND
Motor Oil	ND
Other (Extractable)	360
VOCs (ug/kg)	
Chloromethane	5U
2-Butanone	190J-K
Benzene	12J
4-Methyl-2-pentanone	6J
2-Hexanone	4J
Toluene	13J
Ethylbenzene	4J
Styrene	4J
Total Xylenes	21B
SVOCs (ug/kg)	
Acenaphthene	1,200
Naphthalene	78J
2-Methylnapththalene	570
Dibenzofuran	650
Fluorene	870
Phenanthrene	1,300
Anthracene	150J
Fluoranthene	480J
Pyrene	410J
Benzo(a)anthracene	140J
Chrysene	220J
Benzo(b)fluoranthene	270J
Benzo(k)fluoranthene	200J
Benzo(a)pyrene	180J
Total Metals (mg/kg)	
Aluminum	16,000
Antimony	ND
Arsenic	ND
Barium	325
Beryllium	ND
Cadmium	ND
Chromium	35.6
Cobalt	11.3B
Copper	29.8J-D
Iron	16,100
Lead	240
Magnesium	4,770
Manganese	265
Mercury	ND
Nickel	34.8
Potasium	3,040J-D
Selenium	ND
Silver	ND
Sodium	401B
Thallium	ND
Vanadium	41.4
Zinc	448

TR1-7A

SAMPLE DATE	12/8/98
DEPTH	7.0-8.0
TPH (mg/kg)	
Gasoline	ND
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	ND
JP-5	ND
Diesel	ND
Bunker	ND
Motor Oil	37J
Other (Extractable)	ND
PCTMST (%MST)	
Percent Moisture	17.7
PH	
PH	6.43

TR1-7

SAMPLE DATE	12/8/98	12/8/98
DEPTH	6.0-7.0	7.0-9.0
TPH (mg/kg)		
Gasoline	ND	50
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	ND	ND
JP-5	ND	550J
Diesel	ND	ND
Bunker	ND	ND
Motor Oil	130J	54J
Other (Extractable)	ND	ND
SVOCs (ug/kg)		
Acenaphthene	410J	320J
Benzo(B)Fluoranthene	390J	ND
Dibenzofuran	ND	410J
Fluoranthene	920J	ND
2-Methylnaphthalene	ND	780J
Phenanthrene	1,400J	560J
Pyrene	690J	ND
TCLP VOCs (ug/kg)		
Chloroform	ND	0.8J
TCLP Metals (ug/L)		
Braium	ND	953
Cadmium	ND	8.4
Lead	ND	35.5
PCTMST (%MST)		
Percent Moisture	17	14.4
PH		
PH	7.23	7.28

SB02-19

SAMPLE DATE	1/25/99	1/25/99
DEPTH	12.0-13.0	24.0-25.0
TPH-E (mg/kg)		
JP-5 Range Organics	9,200Y	9,400Y
TPH-G (mg/kg)		
Gasoline Range Organics	12,000Z	9,500Z
VOA (ug/kg)		
4-Methyl-2-Pentanone	4J	4J
Acetone	ND	67J
PAH (ug/kg)		
2-Methylnaphthalene	19,600	17,400
Acenaphthylene	440	ND
Phenanthrene	847	744
Anthracene	30	30
Pyrene	ND	72
Benzo(a)anthracene	270	ND
1-Methylnaphthalene	14,800J	12,800J

SB02-02

SAMPLE DATE	2/16/94	
DEPTH	10.5-11.0	14.0-14.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	490Y	39Y
JP-5	1,200J-K	ND
Diesel	ND	ND
Bunker	ND	ND
Motor Oil	ND	ND
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	ND
SVOCs (ug/kg)		
All Compounds	NA	ND
Pesticides (ug/kg)		
All Compounds	NA	ND
Total Metals (mg/kg)		
Aluminum	NA	14,400
Antimony	NA	ND
Arsenic	NA	5.9 S
Barium	NA	177
Beryllium	NA	0.74B
Cadmium	NA	ND
Chromium	NA	24.9
Cobalt	NA	ND
Copper	NA	25.5
Iron	NA	18,800
Lead	NA	40.5
Magnesium	NA	4,600
Manganese	NA	283
Mercury	NA	ND
Nickel	NA	27.9
Potasium	NA	ND
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	ND
Thallium	NA	ND
Vanadium	NA	32.8
Zinc	NA	92.7J-D

SB02-01

SAMPLE DATE	2/16/94					
DEPTH	8.5 - 9.0	9.0-10.0	17.5 - 18.0	19.5 - 20.0	20.0 - 20.5	28.0 - 28.5
TPH (mg/kg)						
Gasoline	ND	NA	ND	NA	ND	ND
Benzene	ND	NA	ND	NA	ND	ND
Toluene	ND	NA	ND	NA	ND	ND
Ethylbenzene	ND	NA	ND	NA	ND	ND
Xylene	ND	NA	ND	NA	ND	ND
Other (Purgeable)	ND	NA	1,200Y	NA	560Y	1,800Y
JP-5	ND	NA	1,900J-K	NA	1,200J-K	4,300J
Diesel	ND	NA	ND	NA	ND	ND
Bunker	ND	NA	ND	NA	ND	ND
Motor Oil	ND	NA	NR	NA	ND	ND
Other (Extractable)	170Y	NA	160Z	NA	ND	ND
VOCs (ug/kg)						
Other Compounds	ND	NA	NA	NA	ND	
SVOCs (ug/kg)						
4-Chloroaniline	ND	ND	ND	NA	ND	
3-Nitroaniline	ND	ND	ND	NA	ND	
Acenaphthylene	NA	100J	NA	NA	ND	
2-Methylnaphthalene	NA	27J	NA	NA	ND	
Acenaphthene	NA	23J	NA	NA	ND	
Dibenzofuran	NA	ND	NA	NA	150J	
Fluorene	NA	ND	NA	NA	55J	
Phenanthrene	NA	80J	NA	NA	130J	
Anthracene	NA	200J	NA	NA	ND	
Fluoranthene	NA	82J	NA	NA	51J	
Pyrene	NA	130J	NA	NA	54J	
Benzo(a)anthracene	NA	140J	NA	NA	ND	
Chrysene	NA	650	NA	NA	ND	
Benzo(b)fluoranthene	NA	1,000	NA	NA	ND	
Benzo(k)fluoranthene	NA	450	NA	NA	ND	
Benzo(a)pyrene	NA	620	NA	NA	ND	
Indeno(1,2,3-cd)pyrene	NA	1,800	NA	NA	ND	
Dibenzo (a,h)anthracene	NA	500	NA	NA	ND	
Benzo(g,h,i)perylene	NA	2,100	NA	NA	ND	
Pesticides (ug/kg)						
4,4-DDE	NA	5.9J-S	NA	ND	NA	
4,4-DDD	NA	4.1J-S	NA	ND	NA	
Total Metals (mg/kg)						
Aluminum	NA	12,300	NA	16,100		
Antimony	NA	ND	NA	ND		
Arsenic	NA	5.1	NA	7.0		
Barium	NA	155	NA	154		
Beryllium	NA	0.92B	NA	0.88B		
Cadmium	NA	1.0B	NA	ND		
Chromium	NA	20.5	NA	28.4		
Cobalt	NA	ND	NA	6.5B		
Copper	NA	15.2	NA	229		
Iron	NA	16,100	NA	27,200		
Lead	NA	53.0J-*	NA	23.7J-N		
Magnesium	NA	3,590	NA	6,190		
Manganese	NA	247	NA	293		
Mercury	NA	ND	NA	ND		
Nickel	NA	24.5	NA	32.3		
Potasium	NA	3,330	NA	2,320		
Selenium	NA	ND	NA	ND		
Silver	NA	ND	NA	ND		
Sodium	NA	177B	NA	212B		
Thallium	NA	ND	NA	ND		
Vanadium	NA	29.5	NA	41.5		
Zinc	NA	86.9J-ND	NA	324J-ND		

SB02-05

SAMPLE DATE	7/28/94		
DEPTH	0.0-1.5	17.0-18.0	21.0-22.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	1.2J-SK
Other (Purgeable)	2.3Y	410Y	1,600Y-JS
JP-5	ND	600	6,400
Diesel	ND	ND	ND
Bunker	ND	ND	ND
Motor Oil	ND	ND	ND
Other (Extractable)	520J	54Y	ND
VOCs (ug/kg)			
2-Butanone	ND	32J	8J
Toluene	ND	ND	4J
SVOCs (ug/kg)			
Dibenzofuran	ND	29J	570J-S
Phenanthrene	ND	32J	130J-S
Fluoranthene	130J	29J	18J-S
Pyrene	160J	48J	34J-S
Chrysene	ND	ND	42J-S
Total Metals (mg/kg)			
Aluminum	11,800	14,500	12,000
Antimony	7.2J-ZN	16.5J-ZN	ND
Arsenic	5.1	6.1	ND
Barium	202	164	125
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Chromium	22.2	24.5	21.7
Cobalt	11.1	10.8B	9.4B
Copper	21.0J-D	22.6J-D	13.3J-D
Iron	15,200	17,300	12,500
Lead	23.5	24	11.4
Magnesium	4210	4860	4290
Manganese	335	234	254
Mercury	0.07B	0.08B	0.19
Nickel	26.6	28.1	18.4
Potasium	2,330J-D	3,090J-D	1,210J-D
Selenium	ND	ND	ND
Silver	ND	ND	ND
Sodium	340B	361B	288B
Thallium	ND	ND	ND
Vanadium	33.1	39.4	30.1
Zinc	66.4	72	43.3

SB02-09

SAMPLE DATE	1/21/99
DEPTH	20.6-30.1
TPH-E (mg/kg)	
Diesel Range Organics	120Z
JP-5 Range Organics	350Y
TPH-G (mg/kg)	
Gasoline Range Organics	900Z
PAH (ug/kg)	
2-Methylnaphthalene	1,500
Fluorene	1,200
Phenanthrene	5,500
Anthracene	1,100
Fluoranthene	3,800
Pyrene	2,200J
Benzo(a)anthracene	790
Chrysene	600
Benzo(a)pyrene	250J
1-Methylnaphthalene	900J

SB02-08

SAMPLE DATE	1/20/99
DEPTH	18.7-19.2
TPH-E (mg/kg)	
JP-5 Range Organics	1,300
TPH-G (mg/kg)	
Gasoline Range Organics	47

TR1-1

SAMPLE DATE	12/7/98
DEPTH	9.0-9.5
TPH (mg/kg)	
Gasoline	3,600J
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	ND
JP-5	6,900
Diesel	ND
Bunker	ND
Motor Oil	1,400J
Other (Extractable)	ND
PCTMST (%MST)	
Percent Moisture	15.4
PH	
PH	7.18

SB02-13

SAMPLE DATE	1/26/99
DEPTH	8.5-9.4
TPH-E (mg/kg)	
JP-5 Range Organics	9,000Y
TPH-G (mg/kg)	
Gasoline Range Organics	12,000Z
VOA (?g/kg)	
Acetone	64J
PAH (ug/kg)	
2-Methylnaphthalene	39,600
Acenaphthylene	480
Phenanthrene	702
Pyrene	64
Benzo(a)anthracene	180
Chrysene	420
1-Methylnaphthalene	27,400J

TR1-8

SAMPLE DATE	12/9/98
DEPTH	9.0-10.0
TPH (mg/kg)	
Gasoline	2Z
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	ND
JP-5	850
Diesel	ND
Bunker	ND
Motor Oil	55J
Other (Extractable)	ND
PCTMST (%MST)	
Percent Moisture	14.7
PH	
PH	6.52

SB02-15

SAMPLE DATE	2/2/99
DEPTH	12.5-13.5
TPH-E (mg/kg)	
JP-5 Range Organics	3,500
TPH-G (mg/kg)	
Gasoline Range Organics	12,400Z
AROMV (ug/kg)	
Ethylbenzene	7.5
Xylene (total)	24
VOA (ug/kg)	
Acetone	0.19B
4-Methyl-2-Pentanone	16J
Ethylbenzene	110
Xylene (total)	630
PAH (ug/kg)	
Naphthalene	1,300
2-Methylnaphthalene	5,200
Phenantherene	130
Anthracene	48
Pyrene	1,060
Benzo(a)anthracene	313
Chrysene	41
1-Methylnaphthalene	9,320

SB02-16

SAMPLE DATE	1/27/99	1/27/99
DEPTH	11.0-11.7	11.7-12.8
TPH-E (mg/kg)		
JP-5 Range Organics	8,100	2,300
TPH-G (mg/kg)		
Gasoline Range Organics	8,100Z	4,100Z
PAH (ug/kg)		
2-Methylnaphthalene	14,900	1,300
Phenanthrene	490	110
Anthracene	170	ND
Pyrene	40J	ND
Benzo(a)anthracene	16J	16J
1-Methylnaphthalene	11,000	1,200

SB02-20

SAMPLE DATE	1/27/99
DEPTH	15.5-17.6
TPH-E (mg/kg)	
JP-5 Range Organics	820Y
TPH-G (mg/kg)	
Gasoline Range Organics	1,400Z
PAH (ug/kg)	
Phenanthrene	85
Fluoranthene	86
Pyrene	160J
Benzo(a)anthracene	260J
Chrysene	50
Dibenzo(a,h)anthracene	60
1-Methylnaphthalene	760

MW02-07

SAMPLE DATE	7/27/94			
DEPTH	1.0-2.0	10.0-11.0	10.5-11.0	14.0-15.0
TPH (mg/kg)				
JP5 Range Organics		7,500		41,000
Xylene (total)				7.4 J
Other Light TPH Components			1,100 Y	2,300 J
VOCs (ug/kg)				
Acetone			98 J	11,000 J
Carbon Disulfide				1,200 J
Ethylbenzene				10,000 J
Toluene				6,400 J
Xylene (Total)				93,000 J
SVOCs (ug/kg)				
2-Methylnaphthalene				35,000 E
Bis(2-Ethylhexyl)Phthalate	40 J			
Butylbenzylphthalate	26 J			
Di-N-Butylphthalate	18 J	26 J		
Dibenzofuran				2,400 J
Fluoranthene		44 J		230 J
Fluorene				710 J
Naphthalene				17,000
Phenanthrene				260 J
Pyrene		76 J		310 J
Total Metal (mg/kg)				
Aluminum	15,000	18,300		11,700
Antimony	8.7 J	10.1 J		8.7 J
Arsenic	8.5	6.8		
Barium	309	221		183
Calcium	4,050	4,370		6,450
Chromium	25.2	28		16.2
Cobalt	19.3	15.1		10.1 B
Copper	38 J	29.7 J		11.1 J
Iron	23,600	21,600		11,800
Lead	17.8	14.7		12.5
Magnesium	6,690	6,600		3,700
Manganese	362	549		251
Mercury	0.14	0.16		0.12 B
Nickel	40.5	40.1		22.5
Potassium	1,830J	3,270J		3,150J
Sodium	453 B	393 B		346 B
Vanadium	36.1	40.8		32.5
Zinc	90.8	80.7		50

MW02-04

SAMPLE DATE	7/27/94	2/17/99
DEPTH	1	27.5-28
TOC mg/kg		
Total Organic Carbon		6,700
SVOC (ug/kg)		
N-Nitrosodiphenylamine (1)		38 J
Butylbenzylphthalate		13 J
Total Metals (mg/kg)		
Aluminum	11,300	12,100
Arsenic		3.2
Barium	297	168
Beryllium		.85 B
Calcium	13,900	2,700
Chromium	18.3	33.1
Cobalt	13	
Copper	30.1 J	18.5
Iron	16,800	20,200
Lead	15.4	13.4 J
Magnesium	5,000	5,230
Manganese	280	140
Mercury	.11	.62
Nickel	25.8	35.4
Potassium	2,620 J	1,790
Sodium	488 B	461 B
Vanadium	29.2	35.1
Zinc	69.6	43.6 J

LEGEND

- ERM-EW2 — 1990 ERM-WEST EMERGENCY RESPONSE EXTRACTION WELL
- ERM-22 — 1990 ERM-WEST SOIL BORING
- DA-4B — 1990 PRC SOIL BORING (CTO 10)
- DA-3 — PRC SURFACE SAMPLING LOCATION (CTOs 10 AND 248)
- SB02-02 — 1994 PRC SOIL BORING (CTO 248)
- MW02-06 — 1994 PRC MONITORING WELL (CTO 248)
- PZ02-05 — 1998-99 TtEMI PIEZOMETER LOCATION
- SB02-08 — 1998-99 TtEMI SOIL BORING LOCATION
- MW02-14 — 1998-99 TtEMI MONITORING WELL LOCATION
- BR02-19 — 1998-99 TtEMI BEDROCK MONITORING WELL LOCATION
- TR1-1 — 1998-99 TtEMI TRENCH LOCATION

DATA QUALIFIERS

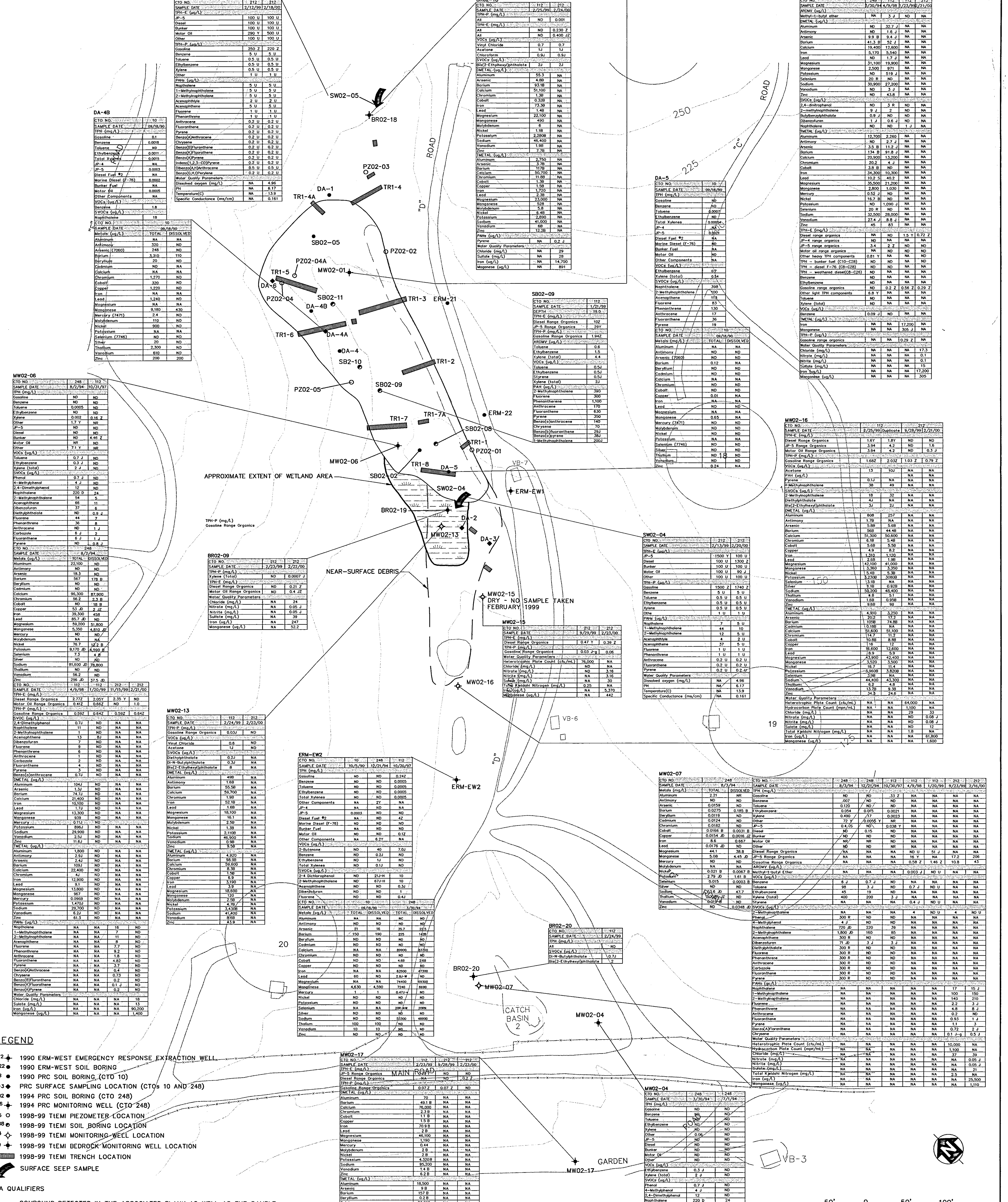
- B - COMPOUND DETECTED IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
- D - COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR
- J - THE VALUE WAS QUANTITATIVELY IDENTIFIED, BUT REPORTED AS AN ESTIMATED QUANTITY
- ND - NOT DETECTED
- NA - NOT ANALYZED
- R - QUALITY CONTROLS INDICATE THE DATA ARE NOT USEABLE
- U - THE ANALYTE WAS ANALYZED FOR, BUT NOT DETECTED
- Y - THE HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
- Z - THE CHROMATOGRAPH RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

NOTE: 1. SEE PLATE 7A AND 7B (SITE 1 CROSS-SECTION) FOR SOIL DATA IN CROSS-SECTION

50' 0 50' 100'

SCALE: 1" = 50'

PLATE 11
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
SOIL SAMPLING RESULTS



SW02-05

CTO NO.	212	212
SAMPLE DATE	2/12/99	2/18/00
TPH-E (μg/L)		
JP-5	100 U	100 U
Diesel	100 U	100 U
Bunker	100 U	100 U
Motor Oil	290 Y	500 U
Other	100 U	100 U
TPH-P (μg/L)		
Gasoline	250 Z	220 Z
Benzene	5 U	5 U
Toluene	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U
Xylene	0.5 U	0.5 U
Other	1 U	1 U
PAHs (ug/L)		
Napthalene	5 U	5 U
1-Methylnaphthalene	5 U	5 U
2-Methylnaphthalene	5 U	5 U
Acenaphthlyle	2 U	2 U
Acenaphthene	5 U	5 U
Fluorene	1 U	1 U
Phenanthrene	1 U	1 U
Anthracene	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U
Benzo(A)Anthracene	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U
Benzo(B)Fluranthene	0.2 U	0.2 U
Benzo(K)Fluorathene	0.2 U	0.2 U
Benzo(A)Pyrene	0.2 U	0.2 U
Indeno(1,2,3-CD)Pyrene	0.2 U	0.2 U
Dibenzo(A,H)Anthracene	0.5 U	0.5 U
Benzo(G,H,I)Perylene	0.2 U	0.2 U
Water Qualify Parameters		
Dissolved oxygen (mg/L)	NA	4.96
PH	NA	6.17
Temperature(C)	NA	13.9
Specific Conductance (ms/cm)	NA	0.161

BR02-18

CTO NO.	112	212
SAMPLE DATE	2/25/99	2/24/00
TPH-P (mg/L)		
All	ND	0.001
TPH-E (mg/L)		
All	ND	0.230 Z
All	ND	0.400 JZ
VOCs (ug/L)		
Vinyl Chloride	0.7	0.7
Acetone	1J	1J
Chloroform	0.9J	0.9J
SVOCs (ug/L)		
Bis(2-Ethylhexyl)phthalate	2J	2J
DMETAL (ug/L)		
Aluminum	55.3	NA
Arsenic	4.8B	NA
Barium	93.1B	NA
Calcium	51,100	NA
Chromium	1.3B	NA
Cobalt	0.32B	NA
Iron	73.3B	NA
Lead	1.4B	NA
Magnesium	22,100	NA
Manganese	490	NA
Molybdenum	6	NA
Nickel	1.1B	NA
Potassium	2,280B	NA
Sodium	46,400	NA
Vanadium	1.9B	NA
Zinc	7.7B	NA
TMETAL (ug/L)		
Aluminum	2,750	NA
Arsenic	3.7B	NA
Barium	117B	NA
Calcium	50,700	NA
Chromium	11.8B	NA
Cobalt	1.3B	NA
Copper	1.5B	NA
Iron	1,720	NA
Lead	2.3B	NA
Magnesium	23,000	NA
Manganese	528	NA
Molybdenum	5.8	NA
Nickel	6.4B	NA
Potassium	2,890	NA
Sodium	41,000	NA
Vanadium	6B	NA
Zinc	12.2B	NA
PAHs (ug/L)		
Pyrene	NA	0.2 J
Water Qualify Parameters		
Chloride (mg/L)	NA	29
Sulfate (mg/L)	NA	28
Iron (ug/L)	NA	14,700
Maganese (ug/L)	NA	891

MW02-01

CTO NO.	248	112	112	212
SAMPLE DATE	3/30/94	4/9/98	1/23/99	2/21/00
AROMV (ug/L)				
Methyl-t-butyl ether	NA	3 J	ND	NA
DMETAL (ug/L)				
Aluminum	ND	32.7 J	NA	NA
Antimony	ND	1.6 J	NA	NA
Arsenic	9.9 B	9.4 J	NA	NA
Barium	41.3 B	52 J	NA	NA
Calcium	19,400	12,600	NA	NA
Iron	5,170	5,540	NA	NA
Lead	ND	1.7 J	NA	NA
Magnesium	31,100	19,900	NA	NA
Manganese	2,500	971	NA	NA
Potassium	ND	519 J	NA	NA
Selenium	20 R	ND	NA	NA
Sodium	30,900	27,200	NA	NA
Vanadium	ND	3 J	NA	NA
Zinc	ND	43.8	NA	NA
SVOCs (ug/L)				
2,4-dinitrophenol	ND	3 R	ND	NA
2-methylnaphthalene	9 J	2	ND	NA
Butylbenzylphthalate	0.9 J	ND	ND	NA
Dibenzofuran	1 J	0.6 J	ND	NA
Naphthalene	ND	ND	1 J	NA
TMETAL (ug/L)				
Aluminum	12,700	2,260	NA	NA
Antimony	ND	2.7 J	NA	NA
Arsenic	3.5 B	11.2 J	NA	NA
Barium	134 B	91.8 J	NA	NA
Calcium	20,900	13,200	NA	NA
Chromium	20.2	4 J	NA	NA
Cobalt	3.8 B	ND	NA	NA
Iron	34,300	10,300	NA	NA
Lead	10.2 S	40.2	NA	NA
Magnesium	35,500	21,200	NA	NA
Manganese	2,800	1,030	NA	NA
Mercury	0.52 J	ND	NA	NA
Nickel	16.7 B	ND	NA	NA
Potassium	ND	1,090 J	NA	NA
Selenium	20 R	ND	NA	NA
Sodium	32,500	28,000	NA	NA
Vanadium	27.4 J	8.8 J	NA	NA
Zinc	45	83	NA	NA
TPH-E (mg/L)				
Diesel range organics	NA	ND	1.5 Y	0.72 Z
JP-4 range organics	ND	NA	NA	NA
JP-5 range organics	3.4	2 Z	ND	ND
Motor oil range organics	NA	ND	ND	ND
Other heavy TPH components	0.81 Y	NA	NA	ND
TPH - bunker fuel (C10-C28)	ND	ND	NA	ND
TPH - diesel F-76 (C8-C28)	ND	ND	NA	NA
TPH - weathered diesel(C8-C26)	ND	NA	NA	NA
Benzene	ND	NA	NA	NA
Ethylbenzene	ND	NA	NA	NA
Gasoline range organics	ND	0.2 Z	0.56 Z	0.29 Z
Other light TPH components	6.8 Y	NA	NA	NA
Toluene	ND	NA	NA	NA
Xylene (total)	ND	NA	NA	NA
VOCs (ug/L)				
Benzene	0.09 J	ND	NA	NA
TMETAL (ug/L)				
Iron	NA	NA	17,200	NA
Manganese	NA	NA	305 J	NA
TPH-P (mg/L)				
Gasoline range organics	NA	NA	0.29 Z	NA
Water Quality Parameters				
Chloride (mg/L)	NA	NA	NA	17.3
Nitrate (mg/L)	NA	NA	NA	0.1
Nitrite (mg/L)	NA	NA	NA	0.1
Sulfate (mg/L)	NA	NA	NA	15
Iron (ug/L)	NA	NA	NA	17,200
Manganese (ug/L)	NA	NA	NA	305

DA-4B

CTO NO.	10
SAMPLE DATE	09/18/90
TPH (mg/L)	
Gasoline	0.1
Benzene	0.0018
Toluene	ND
Ethylbenzene	0.0011
Total Xylenes	0.0015
JP-4	NA
JP-5	0.0003
Diesel Fuel #2	NA
Marine Diesel (F-76)	0.0002
Bunker Fuel	NA
Motor Oil	0.0005
Other Components	NA
VOCs (ug/L)	
Benzene	1.8
SVOCs (ug/L)	
Naphthalene	18

CTO NO.	10	
SAMPLE DATE	09/18/90	
Metals (ug/L)	TOTAL	DISSOLVED
Aluminum	NA	NA
Antimony	320	ND
Arsenic (7060)	248	ND
Barium	3,310	110
Beryllium	20	ND
Cadmium	ND	NA
Calcium	NA	NA
Chromium	1,270	ND
Cobalt	320	ND
Copper	1,220	ND
Iron	NA	NA
Lead	1,240	ND
Magnesium	NA	NA
Manganese	9,180	430
Mercury (7471)	2.4	ND
Molybdenum	110	ND
Nickel	900	ND
Potassium	NA	NA
Selenium (7746)	ND	ND
Silver	20	ND
Thallium	2,300	ND
Vanadium	610	ND
Zinc	200	200

DA-5

CTO NO.	10
SAMPLE DATE	09/18/90
TPH (mg/L)	
Gasoline	ND
Benzene	ND
Toluene	0.0007
Ethylbenzene	ND
Total Xylenes	0.00054
JP-4	NA
JP-5	0.0021
Diesel Fuel #2	NA
Marine Diesel (F-76)	ND
Bunker Fuel	NA
Motor Oil	ND
Other Components	NA
VOCs (ug/L)	
Ethylbenzene	0.7
Xylene (total)	0.54
SVOCs (ug/L)	
Naphthalene	398
2-Methylnaphthalene	100
Acenapthene	113
Fluorene	83
Phenanthrene	130
Anthracene	17
Fluoranthene	36
Pyrene	19

CTO NO.	10	
SAMPLE DATE	09/18/90	
Metals (mg/L)	TOTAL	DISSOLVED
Aluminum	NA	NA
Antimony	ND	ND
Arsenic (7060)	ND	ND
Barium	0.12	NA
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	NA	NA
Chromium	ND	ND
Cobalt	ND	ND
Copper	0.01	NA
Iron	NA	NA
Lead	ND	ND
Magnesium	NA	NA
Manganese	0.65	NA
Mercury (7471)	ND	ND
Molybdenum	ND	ND
Nickel	ND	ND
Potassium	NA	NA
Selenium (7746)	ND	ND
Silver	ND	ND
Thallium	ND	ND
Vanadium	ND	ND
Zinc	0.24	NA

SB02-09

CTO NO.	112
SAMPLE DATE	1/21/99
DEPTH	19.0
TPH-E (mg/L)	
Diesel Range Organics	10Z
JP-5 Range Organics	29Y
TPH-P (mg/L)	
Gasoline Range Organics	1.94Z
AROMV (ug/L)	
Toluene	0.6
Ethylbenzene	1.5
Xylene (total)	4.4
VOCs (ug/L)	
Toluene	0.5J
Ethylbenzene	0.5J
Styrene	0.5J
Xylene (total)	2J
PAH (ug/L)	
2-Methylnaphthalene	390
Fluorene	300
Phenantherene	1,100
Anthracene	170
Fluoranthene	630
Pyrene	350
Benzo(a)anthracene	140
Chrysene	70
Benzo(b)fluoranthene	29J
Benzo(a)pyrene	38J
1-Methylnaphthalene	200J

MW02-16

CTO NO.	112		212	
SAMPLE DATE	2/25/99	Duplicate	9/28/99	2/21/00
TPH-E (mg/L)				
Diesel Range Organics	1.6Y	1.8Y	ND	ND
JP-5 Range Organics	3.94	4.2	ND	1.6
Motor Oil Range Organics	3.94	4.2	ND	0.3 J
TPH-P (mg/L)				
Gasoline Range Organics	1.68Z	2.03Z	1.03 Z	0.79 Z
VOCs (ug/L)				
Acetone	13	10J	NA	NA
PAH (ug/L)			NA	NA
Pyrene	0.1J	NA	NA	NA
1-Methylnaphthalene	38	49	NA	NA
SVOCs (ug/L)				
2-Methylnaphthalene	18	32	NA	NA
Diethylphthalate	4J	NA	NA	NA
Bis(2-Ethylhexyl)phthalate	3J	2J	NA	NA
DMETAL (ug/L)				
Aluminum	608	257	NA	NA
Antimony	1.7B	NA	NA	NA
Arsenic	5.8B	5.6B	NA	NA
Barium	56B	44.4B	NA	NA
Calcium	51,300	50,600	NA	NA
Chromium	6.1B	5.4B	NA	NA
Cobalt	5.6B	5.5B	NA	NA
Copper	4.9	8.2	NA	NA
Iron	1,310	1,120	NA	NA
Lead	2.6B	1.9B	NA	NA
Magnesium	42,100	41,000	NA	NA
Manganese	3,360	3,350	NA	NA
Nickel	5.4B	5.3B	NA	NA
Potassium	3,230B	3080B	NA	NA
Selenium	3.1B	NA	NA	NA
Silver	1.1B	0.92B	NA	NA
Sodium	50,200	48,400	NA	NA
Thallium	4.8	5.1	NA	NA
Vanadium	1.6B	0.95B	NA	NA
Zinc	9.6B	9B	NA	NA
TMETAL (ug/L)				
Aluminum	4,910	3,250	NA	NA
Arsenic	20.2	17.2	NA	NA
Barium	105B	74.8B	NA	NA
Cadmium	0.18B	NA	NA	NA
Calcium	51,600	51,100	NA	NA
Chromium	14.7	11.2	NA	NA
Cobalt	10.8B	8.8B	NA	NA
Copper	16	12	NA	NA
Iron	16,600	12,600	NA	NA
Lead	8.9	5.9	NA	NA
Magnesium	43,900	42,400	NA	NA
Manganese	3,520	3,500	NA	NA
Nickel	16.7	11.4	NA	NA
Potassium	3,960B	3,820B	NA	NA
Selenium	3.9B	NA	NA	NA
Sodium	44,400	43,300	NA	NA
Thallium	6.2	4.8	NA	NA
Vanadium	13.7B	9.3B	NA	NA
Zinc	34.5	24.6	NA	NA
Water Quality Parameters				
Heterotrophic Plate Count (cfu/mL)	NA	NA	64,000	NA
Hydrocarbon Plate Count (mpn/mL)	NA	NA	1,100	NA
Chloride (mg/L)	NA	NA	29	33
Nitrate (mg/L)	NA	NA	ND	0.08 J
Nitrite (mg/L)	NA	NA	ND	0.08 J
Sulate (mg/L)	NA	NA	ND	12
Total Kjeldahl Nitrogen (mg/L)	NA	NA	1.8	NA
Iron (ug/L)	NA	NA	NA	61,800
Manganese (ug/L)	NA	NA	NA	1,600

MW02-06

CTO NO.	248	112
SAMPLE DATE	8/2/94	10/31/97
TPH (mg/L)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	0.0005	ND
Ethylbenzene	ND	ND
Xylene	0.002	0.16 Z
Other	1.7 Y	NR
JP-5	ND	ND
Diesel	ND	ND
Bunker	ND	4.46 Z
Motor Oil	NR	ND
Other	7.1 Y	NR
VOCs (ug/L)		
Toluene	0.7 J	ND
Ethylbenzene	0.3 J	ND
Xylene (total)	2 J	ND
SVOCs (ug/L)		
Phenol	0.7 J	ND
4-Methylphenol	4 J	ND
2,4-Dimethylphenol	12	ND
Naphthalene	220 D	24
2-Methylnaphthalene	54	5
Acenaphthene	66	11
Dibenzofuran	37	6
Diethylphthalate	ND	0.9 J
Fluorene	44	7
Phenanthrene	36	8
Anthracene	ND	1 J
Carbazole	6 J	2
Fluoranthene	6 J	1 J
Pyrene	ND	0.8 J

CTO NO.	248	
SAMPLE DATE	8/2/94	
Metals (ug/L)	TOTAL	DISSOLVED
Aluminum	22,100	ND
Antimony	ND	ND
Arsenic	18.3	ND
Barium	567	178 B
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	96,300	87,900
Chromium	56.2	2.3 B
Cobalt	ND	18 B
Copper	53 JD	2 JZ
Iron	39,300	458
Lead	85.7 JD	ND
Magnesium	59,200	51,800
Manganese	5,350	4,810 JD
Mercury	ND	ND
Molybdenum	NA	NA
Nickel	76.7	12.2 B
Potasium	9,170 JD	4,590 B
Selenium	7.3	4 B
Silver	ND	ND
Sodium	81,600 JD	78,800
Thallium	ND	ND
Vanadium	56.2	ND
Zinc	296 JD	37.5 JD

CTO NO.	112	112	212	212
SAMPLE DATE	4/9/98	1/20/99	11/15/99	2/21/00
TPH-E (mg/L)				
Diesel Range Organics	2.77Z	2.05Y	2.35 Y	ND
Motor Oil Range Organics	0.41Z	0.66Z	ND	1.0
TPH-P (mg/L)				
Gasoline Range Organics	0.59Z	0.64Z	0.59Z	0.64Z
SVOC (ug/L)				
2,4-Dimethylphenol	0.7J	ND	NA	NA
Naphthalene	11	ND	NA	NA
2-Methylnaphthalene	1	ND	NA	NA
Acenaphthene	13	8J	NA	NA
Dibenzofuran	7	ND	NA	NA
Fluorene	9	ND	NA	NA
Phenanthrene	6	ND	NA	NA
Anthracene	1	ND	NA	NA
Carbazole	2	ND	NA	NA
Fluoranthene	4	ND	NA	NA
Pyrene	3	ND	NA	NA
Benzo(a)anthracene	0.7J	ND	NA	NA
DMETAL (ug/L)				
Aluminum	104J	ND	NA	NA
Arsenic	1.3J	ND	NA	NA
Barium	74.7J	ND	NA	NA
Calcium	21,400	ND	NA	NA
Iron	10,100	ND	NA	NA
Lead	1.7J	ND	NA	NA
Magnesium	13,300	ND	NA	NA
Manganese	939	ND	NA	NA
Mercury	0.11J	ND		
Potassium	896J	ND	NA	NA
Sodium	29,900	ND	NA	NA
Vanadium	2.5J	ND	NA	NA
Zinc	11.6J	ND	NA	NA
TMETAL (ug/L)				
Aluminum	1,800	ND	NA	NA
Antimony	2.9J	ND	NA	NA
Arsenic	2.4J	ND	NA	NA
Barium	109J	ND	NA	NA
Calcium	22,400	ND	NA	NA
Chromium	4J	ND	NA	NA
Iron	12,900	ND	NA	NA
Lead	9.1	ND	NA	NA
Magnesium	13,800	ND	NA	NA
Manganese	967	ND	NA	NA
Mercury	0.096B	ND	NA	NA
Potassium	1,470J	ND	NA	NA
Sodium	29,700	ND	NA	NA
Vanadium	6.2J	ND	NA	NA
Zinc	61.3	ND	NA	NA
PAHs (ug/L)				
Napthalene	NA	NA	16	ND
1-Methylnaphthalene	NA	NA	7	ND
2-Methylnaphthalene	NA	NA	11	ND
Acenaphthene	NA	NA	8	ND
Fluorene	NA	NA	7.7	ND
Phenanthrene	NA	NA	9.2	ND
Anthracene	NA	NA	1.8	ND
Fluoranthene	NA	NA	4.82	ND
Pyrene	NA	NA	3.7	ND
Benzo(A)Anthracene	NA	NA	0.4	ND
Chrysene	NA	NA	0.73	ND
Benzo(B)Fluranthene	NA	NA	0.2	ND
Benzo(K)Fluorathene	NA	NA	0.1 J	ND
Benzo(A)Pyrene	NA	NA	0.2	ND
Water Quality Parameters				
Chloride (mg/L)	NA	NA	NA	18
Sulate (mg/L)	NA	NA	NA	13
Iron (ug/L)	NA	NA	NA	90,200
Manganese (ug/L)	NA	NA	NA	1,400

BR02-09

CTO NO.	212	212
SAMPLE DATE	2/23/99	2/22/00
TPH-P (mg/L)		
Xylene (Total)	ND	0.0007 J
TPH-E (mg/L)		
Diesel Range Organics	ND	0.21 Z
Motor Oil Range Organics	ND	0.4 JZ
Water Quality Parameters		
Chloride (mg/L)	NA	24
Nitrate (mg/L)	NA	0.05 J
Nitrite (mg/L)	NA	0.05 J
Sulfate (mg/L)	NA	39
Iron (ug/L)	NA	247
Manganese (ug/L)	NA	52.2

MW02-13

CTO NO.	112	212
SAMPLE DATE	2/24/99	2/23/00
TPH-P (mg/L)		
Gasoline Range Organics	0.03J	ND
VOCs (ug/L)		
Vinyl Chlocide	0.6	ND
Acetone	1J	ND
SVOCs (ug/L)		
Diethylphthalate	0.2J	NA
Di-N-Butylphthalate	0.3J	NA
Bis(2-Ethylhexyl)phthalate	8	NA
DMETAL (ug/L)		
Aluminum	49B	NA
Antimony	1.6B	NA
Barium	55.5B	NA
Calcium	59,700	NA
Chromium	1.9B	NA
Iron	52.1B	NA
Lead	1.6B	NA
Magnesium	18,100	NA
Manganese	16.1	NA
Molybdenum	2.5B	NA
Nickel	1.3B	NA
Potassium	2,110B	NA
Sodium	46,900	NA
Vanadium	0.9B	NA
Zinc	9.5B	NA
TMETAL (ug/L)		
Aluminum	4,920	NA
Barium	98.9B	NA
Calcium	59,600	NA
Chromium	8.3B	NA
Cobalt	1.5B	NA
Copper	6.9	NA
Iron	3,190	NA
Lead	3.9	NA
Magnesium	18,600	NA
Manganese	120	NA
Molybdenum	2.5B	NA
Nickel	4.7B	NA
Potassium	3,430B	NA
Sodium	41,400	NA
Vanadium	8.6B	NA
Zinc	43.9	NA

ERM-EW2

CTO NO.	10	248	112
SAMPLE DATE	10/5/90	12/21/94	10/30/97
TPH (mg/L)			
Gasoline	ND	ND	0.24Z
Benzene	ND	ND	0.0005
Toluene	ND	ND	0.0005
Ethylbenzene	ND	ND	0.0005
Total Xylenes	ND	ND	0.0005
Other Components	NA	2Y	NA
JP-4	NA	ND	NA
JP-5	0.0003	ND	ND
Diesel Fuel #2	NA	ND	4Z
Marine Diesel (F-76)	ND	ND	ND
Bunker Fuel	NA	ND	ND
Motor Oil	ND	ND	0.1Z
Other Components	NA	6.2Y	NA
VOCs (ug/L)			
2-Butanone	ND	40	7.0J
Benzene	ND	0.2J	ND
Ethylbenzene	ND	1J	ND
Total Xylenes	ND	0.1J	ND
SVOCs (ug/L)			
2-4 Dichlorophenol	ND	21J-H	10
2-Methylnaphthalene	ND	67J-H	10
Acenaphthene	ND	ND	0.3J
Dibenzofuran	ND	ND	1
Fluorene	ND	ND	0.4J

CTO NO.	10		248	
SAMPLE DATE	09/18/90		3/30/94	
Metals (ug/L)	TOTAL	DISSOLVED	TOTAL	DISSOLVED
Aluminum	NA	NA	NC	ND
Antimony	ND	ND	ND	ND
Arsenic	21	16	35.7	22.5
Barium	150	190	225	142B
Berylium	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND
Calcium	NA	NA	89900	83700
Chromium	ND	ND	ND	ND
Cobalt	ND	ND	4.6B	2.6B
Copper	ND	ND	ND	ND
Iron	NA	NA	62600	47300
Lead	60	ND	2.8J-W	ND
Magnesium	NA	NA	74400	69300
Manganese	4,630	4,590	7240	6690
Mercury	1	1	0.47J-W	ND
Nickel	ND	ND	ND	ND
Potassium	ND	ND	ND	ND
Selenium	NA	NA	20R-NW	20RN
Silver	ND	ND	ND	ND
Sodium	ND	ND	53300	48800
Thalium	100	100	ND	ND
Vanadium	10	10	ND	ND
Zinc	ND	ND	ND	ND

MW02-15

CTO NO.	212	212
SAMPLE DATE	9/29/99	2/23/00
TPH-E (mg/L)		
Diesel Range Organics	0.47 Y	0.39 Z
TPH-P (mg/L)		
Gasoline Range Organics	0.03 J-g	0.06
Water Quality Parameters		
Heterotrophic Plate Count (cfu/mL)	76,000	NA
Chloride (mg/L)	ND	NA
Nitrate (mg/L)	ND	3.16
Nitrite (mg/L)	NA	3.16
Sulate (mg/L)	NA	30
Total Kjeldahl Nitrogen (mg/L)	0.25	NA
Iron (ug/L)	NA	5,370
Manganese (ug/L)	NA	442

SW02-04

CTO NO.	212	212
SAMPLE DATE	2/13/99	2/20/00
TPH-E (μg/L)		
JP-5	1500 Y	100 U
Diesel	100 U	1300 Z
Bunker	100 U	100 U
Motor Oil	100 U	90 J
Other	100 U	100 U
TPH-P (μg/L)		
Gasoline	1500 Z	1740 Z
Benzene	5 U	5 U
Toluene	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U
Xylene	0.5 U	0.5 U
Othe	1 U	1 U
PAHs (ug/L)		
Napthalene	7	5 U
1-Methylnaphthalene	44	10
2-Methylnaphthalene	12	5 U
Acenaphthlyle	4	2 U
Acenaphthene	37	5 U
Fluorene	1 U	1 U
Phenanthrene	1 U	1 U
Anthracene	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U
Water Qualify Parameters		
Dissolved oxygen (mg/L)	NA	4.96
PH	NA	6.17
Temperature(C)	NA	13.9
Specific Conductance (ms/cm)	NA	0.161

MW02-07

CTO NO.	248	
SAMPLE DATE	8/3/94	
Metals (mg/L)	TOTAL	DISSOLVED
Aluminum	2.21	NR
Antimony	ND	ND
Arsenic	0.0159	ND
Barium	0.0275	0.185 B
Beryllium	0.0119	ND
Cadmium	0.0124	ND
Chromium	0.0182	ND
Cobalt	0.0166 B	0.0031 B
Copper	0.0154 JD	0.0016 JZ
Iron	8.6	0.667
Lead	0.0176 JD	ND
Magnesium	44.1	38.8
Manganese	5.08	4.45 JD
Mercury	ND	ND
Molybdenum	NA	NA
Nickel	0.021 B	0.0067 B
Potasium	2.79 JD	1.61 B
Selenium	0.015	0.0003 B
Silver	ND	ND
Sodium	53.6 JD	47.7
Thallium	0.0028 JZ	ND
Vanadium	0.019 B	ND
Zinc	ND	0.0348 JD

CTO NO.	248	248	112	112	112	212	212
SAMPLE DATE	8/3/94	12/21/94	10/30/97	4/9/98	1/20/99	9/23/99	2/16/00
TPH (mg/L)							
Gasoline	ND	ND	.33 Z	NA	NA	NA	NA
Benzene	.007	ND	ND	NA	NA	NA	NA
Toluene	0.120	ND	ND	NA	NA	NA	NA
Ethylbenzene	0.054	0.015	0.0021	NA	NA	NA	NA
Xylene	0.490	.17	0.0023	NA	NA	NA	NA
Other	72 Y	0.0055 Y	NR	NA	NA	NA	NA
JP-5	0.4 JS	ND	0.038 Y	NA	NA	NA	NA
Diesel	ND	0.15	ND	NA	NA	NA	NA
Bunker	ND	ND	ND	NA	NA	NA	NA
Motor Oil	NR	NR	ND	NA	NA	NA	NA
Other	ND	ND	NR	NA	NA	NA	NA
Diesel Range Organics	NA	NA	NA	ND U	51 J	NA	NA
JP-5 Range Organics	NA	NA	NA	16 Y	NA	17.2	206
Gasoline Range Organics	NA	NA	NA	0.58 Z	1.46 Z	10.8	43
AROMV (ug/L)							
Methyl-t-butyl Ether	NA	NA	NA	0.003 J	ND U	NA	NA
VOCs (ug/L)							
Benzene	6 J	0.7 J	ND	NA	NA	NA	NA
Toluene	98	3 J	ND	0.7 J	ND U	NA	NA
Ethylbenzene	45	19	ND	NA	NA	NA	NA
Xylene (total)	400	200	3 J	NA	NA	NA	NA
Styrene	NA	NA	NA	0.4 J	ND U	NA	NA
SVOCs (ug/L)							
2-Methylnapthalene	NA	NA	NA	4	ND U	4	ND U
Phenol	300 R	ND	ND	NA	NA	NA	NA
4-Methylphenol	4 J	ND	ND	NA	NA	NA	NA
Naphthalene	720 JD	220	39	NA	NA	NA	NA
2-Methylnaphthalene	1,800 JD	160	85	NA	NA	NA	NA
Acenaphthene	300 R	ND	ND	NA	NA	NA	NA
Dibenzofuran	71 JD	3 J	3 J	NA	NA	NA	NA
Diethylphthalate	300 R	ND	ND	NA	NA	NA	NA
Fluorene	300 R	ND	ND	NA	NA	NA	NA
Phenanthrene	300 R	ND	ND	NA	NA	NA	NA
Anthracene	300 R	ND	ND	NA	NA	NA	NA
Carbazole	300 R	ND	ND	NA	NA	NA	NA
Fluoranthene	300 R	ND	ND	NA	NA	NA	NA
Pyrene	300 R	ND	ND	NA	NA	NA	NA
PAHs (gu/L)							
Naphthalene	NA	NA	NA	NA	NA	17	15 J
1-Methylnapthalene	NA	NA	NA	NA	NA	100	150
2-Methylnapthalene	NA	NA	NA	NA	NA	140	210
Fluorene	NA	NA	NA	NA	NA	2.2	3 J
Phenanthrene	NA	NA	NA	NA	NA	4.8	8 J
Anthracene	NA	NA	NA	NA	NA	0.2	ND
Fluoranthene	NA	NA	NA	NA	NA	0.93	1 J
Pyrene	NA	NA	NA	NA	NA	1.1	3
Benzo(A)Floranthene	NA	NA	NA	NA	NA	0.72	2 J
Chrysene	NA	NA	NA	NA	NA	0.1 J-g	0.5 J
Water Quality Parameters							
Heterotrophic Plate Count (cfu/mL)	NA	NA	NA	NA	NA	10,000	NA
Hydrocarbon Plate Count (mpn/mL)	NA	NA	NA	NA	NA	1,100	NA
Chloride (mg/L)	NA	NA	NA	NA	NA	37	39
Nitrate (mg/L)	NA	NA	NA	NA	NA	NA	0.05 J
Nitrite (mg/L)	NA	NA	NA	NA	NA	NA	0.05 J
Sulate (mg/L)	NA	NA	NA	NA	NA	NA	21
Total Kjeldahl Nitrogen (mg/L)	NA	NA	NA	NA	NA	2.5	NA
Iron (ug/L)	NA	NA	NA	NA	NA	NA	25,500
Manganese (ug/L)	NA	NA	NA	NA	NA	NA	1,110

BR02-20

CTO NO.	112
SAMPLE DATE	2/24/99
TPH (mg/L)	
All	ND
SVOCs (ug/L)	
Di-N-Butylphthalate	0.7J
Bis(2-Ethylhexyl)phthalate	2

MW02-17

CTO NO.	112	212	212
SAMPLE DATE	2/23/99	9/28/99	2/23/00
TPH-E (mg/L)			
JP-5 Range Organics	0.29 Y	ND	ND
Diesel Range Organics	NA	ND	0.2 Z
TPH-P (mg/L)			
Gasoline Range Organics	0.07 Z	0.07 Z	ND
DMETAL (ug/L)			
Aluminum	70	NA	NA
Barium	49.1 B	NA	NA
Calcium	76,000	NA	NA
Chromium	2.3 B	NA	NA
Cobalt	1.1 B	NA	NA
Copper	1.5 B	NA	NA
Iron	70.9 B	NA	NA
Lead	2 B	NA	NA
Magnesium	46,100	NA	NA
Manganese	1,190	NA	NA
Mercury	0.44	NA	NA
Molybdenum	2 B	NA	NA
Nickel	2 B	NA	NA
Potassium	4,320B	NA	NA
Sodium	95,200	NA	NA
Vanadium	1.4 B	NA	NA
Zinc	6.2 B	NA	NA
TMETAL (ug/L)			
Aluminum	18,500	NA	NA
Arsenic	9 B	NA	NA
Barium	157 B	NA	NA
Beryllium	0.2 B	NA	NA
Calcium	83,200	NA	NA
Chromium	38.8	NA	NA
Cobalt	9.9 B	NA	NA
Copper	25.3	NA	NA
Iron	27,700	NA	NA
Lead	14.2	NA	NA
Magnesium	53,700	NA	NA
Manganese	1840	NA	NA
Mercury	0.62	NA	NA
Molybdenum	1.1 B	NA	NA
Nickel	30.2	NA	NA
Potassium	6,660	NA	NA
Sodium	90,700	NA	NA
Vanadium	41.4 B	NA	NA
Zinc	62.5	NA	NA
Water Quality Parameters			
Heterotrophic Plate Count (cfu/mL)	NA	49,000	NA
Hydrocarbon Plate Count (mpn/mL)	NA	1,100	NA
Chloride (mg/L)	NA	64	70
Nitrate (mg/L)	NA	NA	0.1
Nitrite (mg/L)	NA	NA	0.1
Sulfate (mg/L)	NA	36	39
Total Kjeldahl Nitrogen (mg/L)	NA	0.3	NA
Iron (ug/L)	NA	NA	96,800
Manganese (ug/L)	NA	NA	1,820

MW02-04

CTO NO.	248	248
SAMPLE DATE	3/30/94	7/1/94
TPH (mg/L)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other	0.06	ND
JP-5	ND	ND
Diesel	ND	ND
Bunker	ND	ND
Motor Oil	ND	ND
Other	ND	ND
VOCs (ug/L)		
Ethylbenzene	0.3 J	ND
Xylene (total)	2 J	ND
SVOCs (ug/L)		
Phenol	0.7 J	ND
4-Methylphenol	4 J	ND
2,4-Dimethylphenol	12	ND
Naphthalene	220 D	24
2-Methylnaphthalene	54	5
Acenaphthene	66	11
Dibenzofuran	37	6
Diethylphthalate	ND	0.9 J
Fluorene	44	7
Phenanthrene	36	8
Anthracene	ND	1 J
Carbazole	6 J	2
Fluoranthene	6 J	1 J
Pyrene	ND	0.8 J

LEGEND

- ERM-EW2 — 1990 ERM-WEST EMERGENCY RESPONSE EXTRACTION WELL
- ERM-22 — 1990 ERM-WEST SOIL BORING
- DA-4B — 1990 PRC SOIL BORING (CTO 10)
- DA-3 — PRC SURFACE SAMPLING LOCATION (CTOs 10 AND 248)
- SB02-02 — 1994 PRC SOIL BORING (CTO 248)
- MW02-06 — 1994 PRC MONITORING WELL (CTO 248)
- PZ02-05 — 1998-99 TtEMI PIEZOMETER LOCATION
- SB02-08 — 1998-99 TtEMI SOIL BORING LOCATION
- MW02-14 — 1998-99 TtEMI MONITORING WELL LOCATION
- BR02-19 — 1998-99 TtEMI BEDROCK MONITORING WELL LOCATION
- TR1-1 — 1998-99 TtEMI TRENCH LOCATION
- SURFACE SEEP SAMPLE

DATA QUALIFIERS

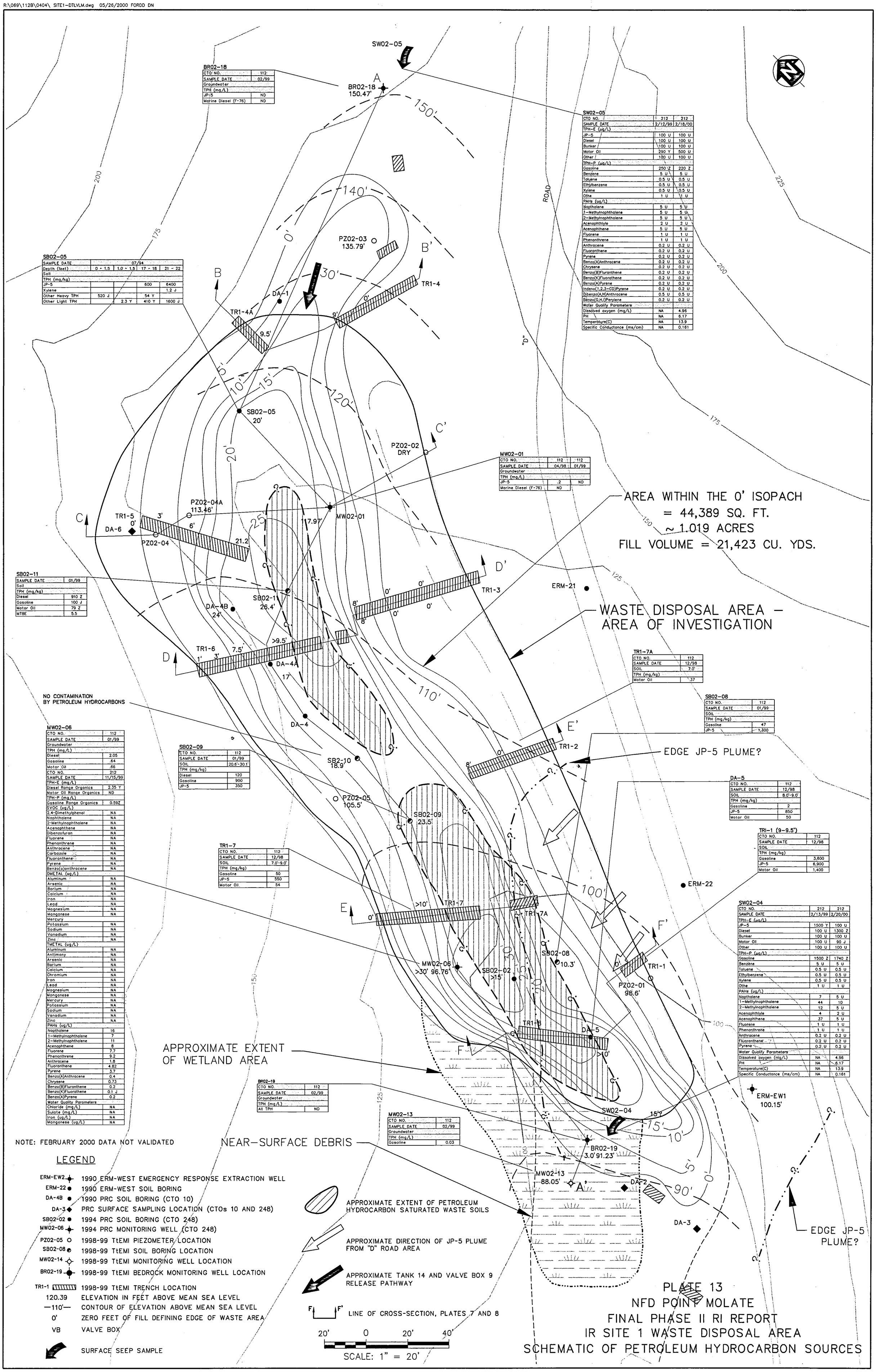
- B - COMPOUND DETECTED IN THE ASSOCIATED BLANK AS WELL AS THE SAMPLE
- D - COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR
- J - THE VALUE WAS QUANTITATIVELY IDENTIFIED, BUT REPORTED AS AN ESTIMATED QUANTITY
- ND - NOT DETECTED
- NA - NOT ANALYZED
- R - QUALITY CONTROLS INDICATE THE DATA ARE NOT USEABLE
- U - THE ANALYTE WAS ANALYZED FOR, BUT NOT DETECTED
- Y - THE HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
- Z - THE CHROMATOGRAPH RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

NOTE: 1. SEE PLATE 11 FOR SOIL DATA

50' 0 50' 100'
SCALE: 1" = 50'

PLATE 12
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 1 WASTE DISPOSAL AREA
GROUNDWATER SAMPLING RESULTS

R:\069\112B\0404\ SITE1-DTLVLM.dwg 05/26/2000 FORDD DN



BR02-18

CTO NO.	112
SAMPLE DATE	02/99
Groundwater	
TPH (mg/L)	
JP-5	ND
Marine Diesel (F-76)	ND

SW02-05

CTO NO.	212	212
SAMPLE DATE	2/12/99	2/18/00
TPH-E (µg/L)		
JP-5	100 U	100 U
Diesel	100 U	100 U
Bunker	100 U	100 U
Motor Oil	290 Y	500 U
Other	100 U	100 U
TPH-P (µg/L)		
Gasoline	250 Z	220 Z
Benzene	5 U	5 U
Toluene	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U
Xylene	0.5 U	0.5 U
Othe	1 U	1 U
PAHs (ug/L)		
Napthalene	5 U	5 U
1-Methylnaphthalene	5 U	5 U
2-Methylnaphthalene	5 U	5 U
Acenaphthlyle	2 U	2 U
Acenaphthene	5 U	5 U
Fluorene	1 U	1 U
Phenanthrene	1 U	1 U
Anthracene	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U
Benzo(A)Anthracene	0.2 U	0.2 U
Chrysene	0.2 U	0.2 U
Benzo(B)Fluranthene	0.2 U	0.2 U
Benzo(K)Fluoranthene	0.2 U	0.2 U
Benzo(A)Pyrene	0.2 U	0.2 U
Indeno(1,2,3-CD)Pyrene	0.2 U	0.2 U
Dibenzo(A,H)Anthracene	0.5 U	0.5 U
Benzo(G,H,I)Perylene	0.2 U	0.2 U
Water Quality Parameters		
Dissolved oxygen (mg/L)	NA	4.96
PH	NA	6.17
Temperature(C)	NA	13.9
Specific Conductance (ms/cm)	NA	0.161

SB02-05

SAMPLE DATE	07/94			
Depth (feet)	0 - 1.5	1.0 - 1.5	17 - 18	21 - 22
Soil				
TPH (mg/kg)				
JP-5			600	6400
Xylene				1.2 J
Other Heavy TPH	520 J		54 Y	
Other Light TPH		2.3 Y	410 Y	1600 J

MW02-01

CTO NO.	112	112
SAMPLE DATE	04/98	01/99
Groundwater		
TPH (mg/L)		
JP-5	.2	ND
Marine Diesel (F-76)	ND	

SB02-11

SAMPLE DATE	01/99
Soil	
TPH (mg/kg)	
Diesel	910 Z
Gasoline	100 J
Motor Oil	79 Z
MTBE	5.5

TR1-7A

CTO NO.	112
SAMPLE DATE	12/98
SOIL	7.0'
TPH (mg/kg)	
Motor Oil	37

SB02-08

CTO NO.	112
SAMPLE DATE	01/99
SOIL	
TPH (mg/kg)	
Gasoline	47
JP-5	1,300

MW02-06

CTO NO.	112
SAMPLE DATE	01/99
Groundwater	
TPH (mg/L)	
Diesel	2.05
Gasoline	.64
Motor Oil	.66
CTO NO.	212
SAMPLE DATE	11/15/99
TPH-E (mg/L)	
Diesel Range Organics	2.35 Y
Motor Oil Range Organics	ND
TPH-P (mg/L)	
Gasoline Range Organics	0.59Z
SVOC (ug/L)	
2,4-Dimethylphenol	NA
Naphthalene	NA
2-Methylnaphthalene	NA
Acenaphthene	NA
Dibenzofuran	NA
Fluorene	NA
Phenanthrene	NA
Anthracene	NA
Carbazole	NA
Fluoranthene	NA
Pyrene	NA
Benzo(a)anthracene	NA
DMETAL (ug/L)	
Aluminum	NA
Arsenic	NA
Barium	NA
Calcium	NA
Iron	NA
Lead	NA
Magnesium	NA
Manganese	NA
Mercury	
Potassium	NA
Sodium	NA
Vanadium	NA
Zinc	NA
TMETAL (ug/L)	
Aluminum	NA
Antimony	NA
Arsenic	NA
Barium	NA
Calcium	NA
Chromium	NA
Iron	NA
Lead	NA
Magnesium	NA
Manganese	NA
Mercury	NA
Potassium	NA
Sodium	NA
Vanadium	NA
Zinc	NA
PAHs (ug/L)	
Napthalene	16
1-Methylnaphthalene	7
2-Methylnaphthalene	11
Acenaphthene	8
Fluorene	7.7
Phenanthrene	9.2
Anthracene	1.8
Fluoranthene	4.82
Pyrene	3.7
Benzo(A)Anthracene	0.4
Chrysene	0.73
Benzo(B)Fluranthene	0.2
Benzo(K)Fluoranthene	0.1 J
Benzo(A)Pyrene	0.2
Water Quality Parameters	
Chloride (mg/L)	NA
Sulate (mg/L)	NA
Iron (ug/L)	NA
Manganese (ug/L)	NA

SB02-09

CTO NO.	112
SAMPLE DATE	01/99
SOIL	20.6'-30.1'
TPH (mg/kg)	
Diesel	120
Gasoline	900
JP-5	350

DA-5

CTO NO.	112
SAMPLE DATE	12/98
SOIL	8.0'-9.0'
TPH (mg/kg)	
Gasoline	2
JP-5	850
Motor Oil	50

TR1-7

CTO NO.	112
SAMPLE DATE	12/98
SOIL	7.0'-9.0'
TPH (mg/kg)	
Gasoline	50
JP-5	550
Motor Oil	54

TRI-1 (9-9.5')

CTO NO.	112
SAMPLE DATE	12/98
SOIL	
TPH (mg/kg)	
Gasoline	3,600
JP-5	6,900
Motor Oil	1,400

SW02-04

CTO NO.	212	212
SAMPLE DATE	2/13/99	2/20/00
TPH-E (µg/L)		
JP-5	1500 Y	100 U
Diesel	100 U	1300 Z
Bunker	100 U	100 U
Motor Oil	100 U	90 J
Other	100 U	100 U
TPH-P (µg/L)		
Gasoline	1500 Z	1740 Z
Benzene	5 U	5 U
Toluene	0.5 U	0.5 U
Ethylbenzene	0.5 U	0.5 U
Xylene	0.5 U	0.5 U
Othe	1 U	1 U
PAHs (ug/L)		
Napthalene	7	5 U
1-Methylnaphthalene	44	10
2-Methylnaphthalene	12	5 U
Acenaphthlyle	4	2 U
Acenaphthene	37	5 U
Fluorene	1 U	1 U
Phenanthrene	1 U	1 U
Anthracene	0.2 U	0.2 U
Fluoranthene	0.2 U	0.2 U
Pyrene	0.2 U	0.2 U
Water Quality Parameters		
Dissolved oxygen (mg/L)	NA	4.96
PH	NA	6.17
Temperature(C)	NA	13.9
Specific Conductance (ms/cm)	NA	0.161

BR02-19

CTO NO.	112
SAMPLE DATE	02/99
Groundwater	
TPH (mg/L)	
All TPH	ND

MW02-13

CTO NO.	112
SAMPLE DATE	02/99
Groundwater	
TPH (mg/L)	
Gasoline	0.03

NOTE: FEBRUARY 2000 DATA NOT VALIDATED

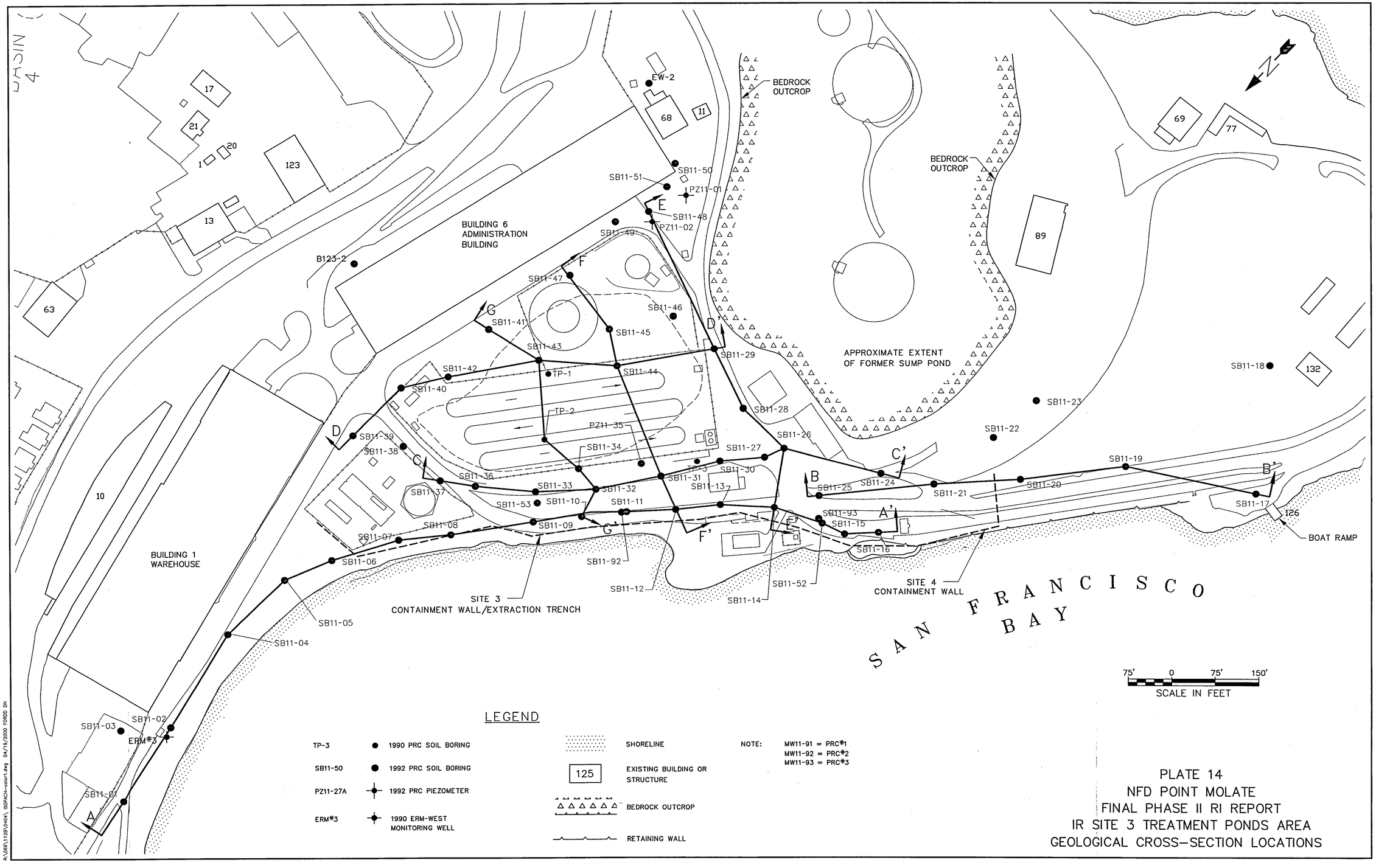


PLATE 14
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
GEOLOGICAL CROSS-SECTION LOCATIONS

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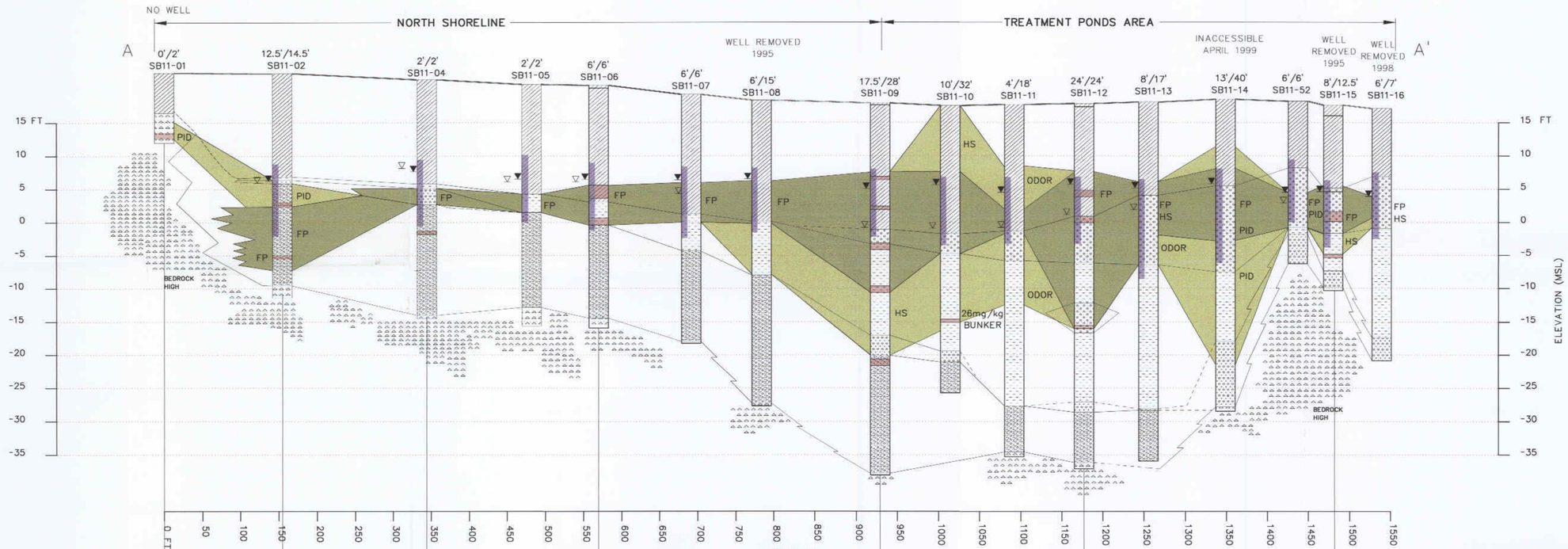

SB11-01

SAMPLE DATE	1/21/92
DEPTH	9.0-10.0
TPH (mg/kg)	
Gasoline	1.1 U
Benzene	0.006 U
Toluene	0.006 U
Ethylbenzene	1.1 U
Xylene	0.006 U
Other (Purgeable)	25 X
JP-5	2.2 U
Diesel	2.2 U
Bunker	22 U
Other (Extractable)	2.2 U

SB11-02

SAMPLE DATE	1/21/92	1/22/92
DEPTH	19.5-20	28.5
TPH (mg/kg)		
Gasoline	2.4 U	1.2 U
Benzene	0.012 U	0.006 U
Toluene	2.4 U	1.2 U
Ethylbenzene	0.012 U	0.006 U
Xylene	0.012 U	0.006 U
Other (Purgeable)	0.012 U	0.006 U
JP-5	1.2 U	60 U
Diesel	1.2 U	60 U
Bunker	140 X	9000 X
Other (Extractable)	47	2100 X

SB11-04

SAMPLE DATE	1/22/92
DEPTH	23.5
TPH (mg/kg)	
Gasoline	1.2 U
Benzene	0.006 U
Toluene	0.006 U
Ethylbenzene	0.006 U
Xylene	0.006 U
Other (Purgeable)	72
JP-5	12 U
Diesel	12 U
Bunker	2300 X
Other (Extractable)	480

SB11-06

SAMPLE DATE	1/23/92	
DEPTH	15.0-17.0	20.0-21.0
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	92	23
JP-5	ND	ND
Diesel	ND	ND
Bunker	5,600	690
Motor Oil	ND	NA
Other (Extractable)	1,300	170
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-09

SAMPLE DATE	1/23/92				
DEPTH	11.0-11.5	15.5-16.0	21.0-22.0	27.5-28.0	37.0-38.0
TPH (mg/kg)					
Gasoline	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Ethylbenzene	ND	0.019	ND	ND	ND
Xylene	ND	0.21	0.063	ND	ND
Other (Purgeable)	ND	110	46	ND	ND
JP-5	ND	ND	ND	ND	ND
Diesel	ND	ND	ND	ND	ND
Bunker	170	5,400	2,400	ND	ND
Motor Oil	ND	NA	NA	NA	NA
Other (Extractable)	120	1,000	470	130	35
VOCs (ug/kg)					
All Compounds	NA	ND	ND	NA	NA
SVOCs (ug/kg)					
Acenaphthene	NA	290J	ND	NA	NA
Pyrene	NA	650J	320J	NA	NA
Chrysene	NA	ND	990J	NA	NA
Total Metals (mg/kg)					
Alluminum	14,800	NA	NA	NA	NA
Antimony	ND	NA	NA	NA	NA
Arsenic	1.9	NA	NA	NA	NA
Barium	87.5	NA	NA	NA	NA
Beryllium	0.98*	NA	NA	NA	NA
Cadmium	ND	NA	NA	NA	NA
Chromium	13	NA	NA	NA	NA
Cobalt	8.8	NA	NA	NA	NA
Copper	15.2	NA	NA	NA	NA
Iron	15,000	NA	NA	NA	NA
Lead	10.9*	NA	NA	NA	NA
Magnesium	4,000	NA	NA	NA	NA
Manganese	351N	NA	NA	NA	NA
Mercury	NA	NA	NA	NA	NA
Nickel	17.2	NA	NA	NA	NA
Potassium	3180J	NA	NA	NA	NA
Selenium	ND	NA	NA	NA	NA
Silver	ND	NA	NA	NA	NA
Sodium	ND	NA	NA	NA	NA
Thallium	ND	NA	NA	NA	NA
Vanadium	28.1	NA	NA	NA	NA
Zinc	39.7	NA	NA	NA	NA

SB11-12

SAMPLE DATE	1/28/92		
DEPTH	13.0-14.0	17.0-18.0	33.5-34.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	0.72	0.35	ND
Other (Purgeable)	140	180	530
JP-5	ND	ND	ND
Diesel	2,700	12,000	740
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	1,300	4,500	370
VOCs (ug/kg)			
All Compounds	NA	NA	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
All Elements	NA	NA	NA

SB11-15

SAMPLE DATE	2/3/92		
DEPTH	13	16.0-17.5	22.5-23.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	4.6	ND
Other (Purgeable)	430J	880	ND
JP-5	1,200	1,500	ND
Diesel	8,800	6,400	ND
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	5,100	2,400	96
VOCs (ug/kg)			
All Compounds	NA	ND	NA
SVOCs (ug/kg)			
2-Methylnapthalene	ND	45,000	ND
Fluorene	ND	4,500J	ND
Phenanthrene	ND	8,200J	ND
Fluoranthene	ND	ND	ND
Benzo(a)anthracene	ND	ND	ND
Total Metals (mg/kg)			
All Elements	NA	NA	NA

LEGEND

- SAMPLE INTERVAL
- FILL
- FILL-SILTY; ORGANIC-RICH
- ALLUVIUM
- PEAT
- BAY MUD
- REWORKED INTERTIDAL SEDIMENTS
- COLLUVIUM
- BEDROCK
- WATER LEVEL MEASURED JUNE 17, 1993
- WATER LEVEL MEASURED APRIL, 1999
- SCREEN INTERVAL OF WELL
- APPROXIMATE MAXIMUM EXTENT OF PETROLEUM CONTAMINATION BASED ON BOREHOLE LOGGING OBSERVATIONS
- APPROXIMATE EXTENT OF TPH CONTAMINATION EXCEEDING 100 mg/kg BASED ON LABORATORY ANALYTICAL RESULTS AND OBSERVED FREE PRODUCT DURING LOGGING
- HS — HEADSPACE READING
- FP — FREE PRODUCT
- 4'/18' — APPROXIMATE PRIMARY HYDROCARBON THICKNESS / APPROXIMATE TOTAL MAXIMUM HYDROCARBON THICKNESS

NOTES

1. SVOC PHTHALATES, SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.
2. LINE OF SECTION SHOWN ON PLATE 14.
3. DATA QUALIFIERS

   NA NOT ANALYZED
   ND NOT DETECTED

   ORGANIC DATA QUALIFIERS

   J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   INORGANIC DATA QUALIFIERS

   J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
   N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
   U THE ANALYTE WAS ANALYZED FOR, BUT NOT DETECTED
   X THE CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN
   * DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

PLATE 15
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
SHORELINE CROSS SECTION A-A'
PREVIOUS SOIL SAMPLING RESULTS

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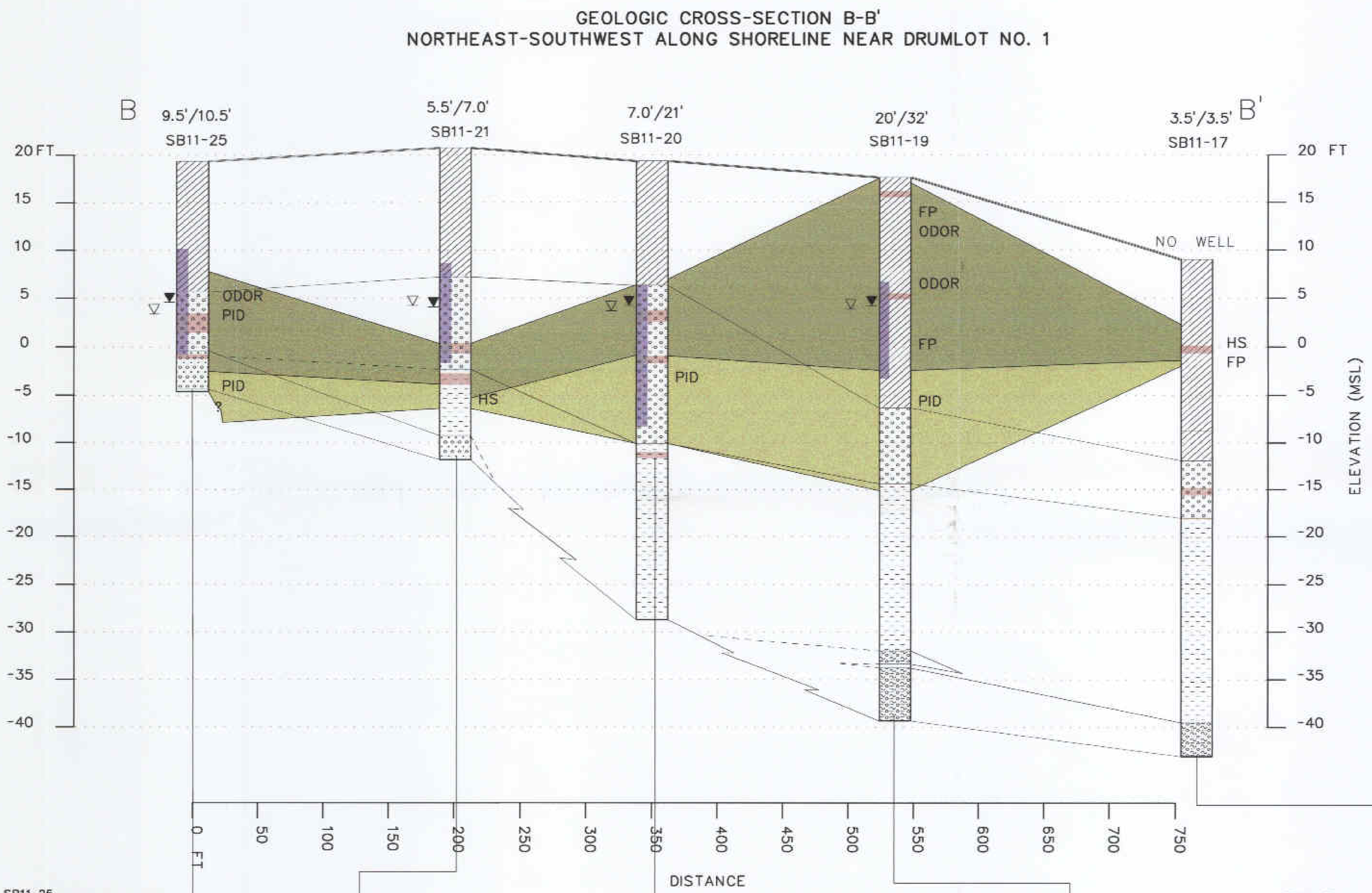

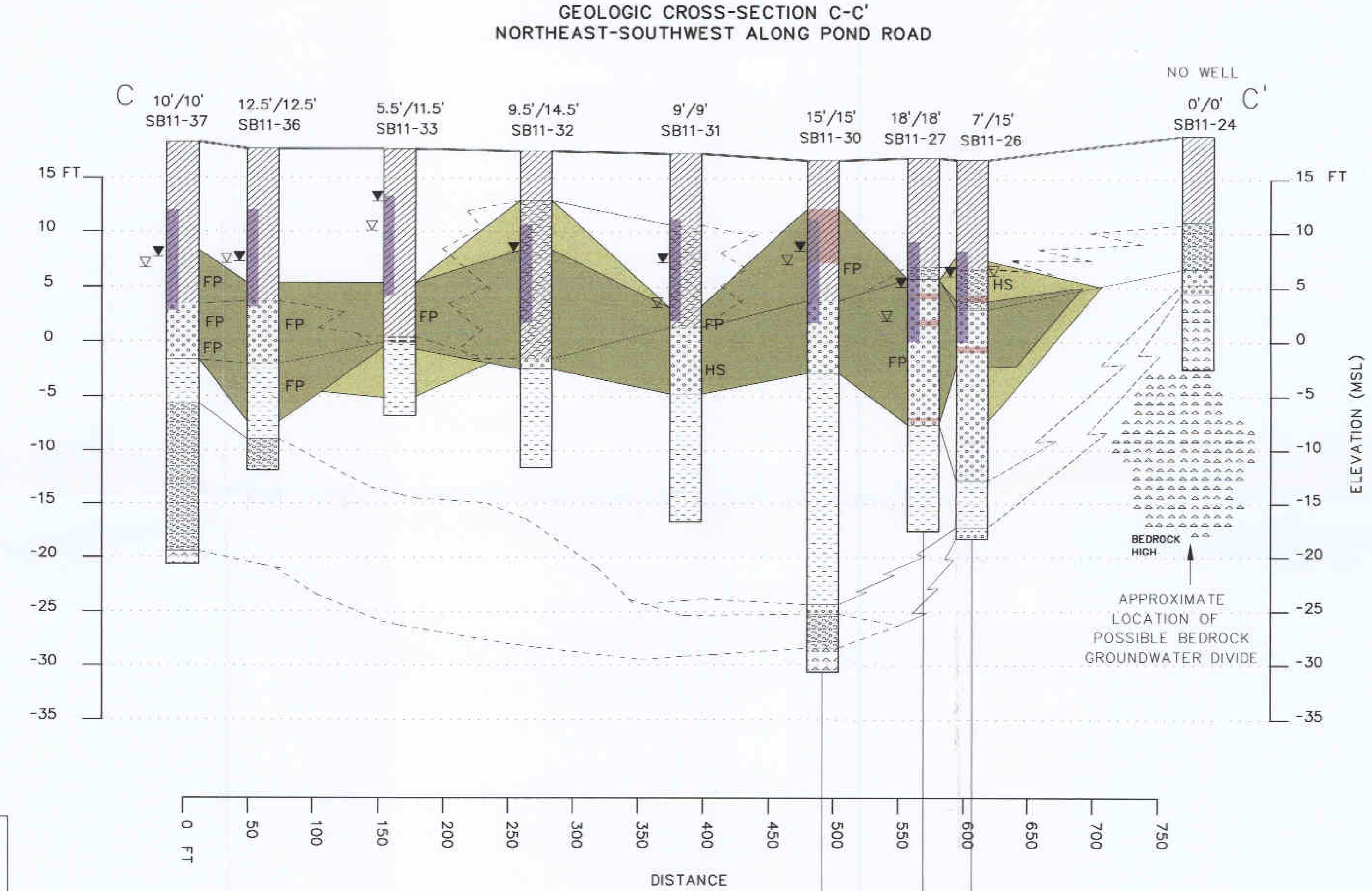

SB11-25

SAMPLE DATE	2/7/92	
DEPTH	16.0-16.5	18.8-19.2
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	29	5.8
Other (Purgeable)	3,300	1,700
JP-5	ND	ND
Diesel	7,700	7,600
Bunker	ND	ND
Motor Oil	NA	NA
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	ND	NA
SVOCs (ug/kg)		
2-Methylnapthalene	52000J	NA
Fluorene	6800J	NA
Phenanthrene	11000J	NA
Total Metals (mg/kg)		
Aluminum	14,100	NA
Antimony	ND	NA
Arsenic	0.76	NA
Barium	73.1J	NA
Beryllium	ND	NA
Cadmium	0.76	NA
Chromium	18.1	NA
Cobalt	9.6	NA
Copper	28.1	NA
Iron	20,600	NA
Lead	11.8J-NW	NA
Magnesium	4,520	NA
Manganese	272	NA
Mercury	NA	NA
Nickel	28.2	NA
Potasium	3440J	NA
Selenium	0.47J-BN	NA
Silver	ND	NA
Sodium	ND	NA
Thallium	ND	NA
Vanadium	27.6	NA
Zinc	62.1E	NA

SB11-20

SAMPLE DATE	2/5/92			
DEPTH	13.5	15.0-16.0	19.6-20.3	29.5-30.0
TPH (mg/kg)				
Gasoline	ND	ND	11	ND
Benzene	ND	ND	ND	ND
Toluene	0.05	ND	0.037	0.12
Ethylbenzene	ND	ND	ND	ND
Xylene	0.69	15	110	ND
Other (Purgeable)	87	1,000	ND	ND
JP-5	ND	30	ND	ND
Diesel	ND	ND	ND	ND
Bunker	45	2,700	17	ND
Motor Oil	NA	NA	NA	NA
Other (Extractable)	ND	ND	ND	ND
VOCs (ug/kg)				
All Compounds	NA	NA	NA	NA
SVOCs (ug/kg)				
All Compounds	NA	NA	NA	NA
Total Metals (mg/kg)				
Aluminum	NA	11,800	NA	NA
Antimony	NA	ND	NA	NA
Arsenic	NA	1.4	NA	NA
Barium	NA	76.9J	NA	NA
Beryllium	NA	ND	NA	NA
Cadmium	NA	ND	NA	NA
Chromium	NA	13.3	NA	NA
Cobalt	NA	9.6	NA	NA
Copper	NA	ND	NA	NA
Iron	NA	13,900	NA	NA
Lead	NA	12.7J-NW	NA	NA
Magnesium	NA	3,190	NA	NA
Manganese	NA	236	NA	NA
Mercury	NA	0.15J	NA	NA
Nickel	NA	20.1	NA	NA
Potasium	NA	3010J	NA	NA
Selenium	NA	0.66J	NA	NA
Silver	NA	0.71J	NA	NA
Sodium	NA	ND	NA	NA
Thallium	NA	ND	NA	NA
Vanadium	NA	23.1	NA	NA
Zinc	NA	45.6J	NA	NA

SB11-19

SAMPLE DATE	2/4/92	2/5/92
DEPTH	1.5-2.0	12.0-12.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	0.013	ND
Ethylbenzene	ND	ND
Xylene	0.015	19
Other (Purgeable)	ND	2,300
JP-5	ND	610
Diesel	ND	1,900
Bunker	ND	ND
Motor Oil	NA	NA
Other (Extractable)	340	760
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-17

SAMPLE DATE	2/4/92		
DEPTH	9.0-9.5	17.5	23.5-24.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	410	ND	ND
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	ND	ND	ND
VOCs (ug/kg)			
All Compounds	NA	NA	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
Aluminum	13,700	NA	NA
Antimony	9.2NJ	NA	NA
Arsenic	5.5	NA	NA
Barium	96.2	NA	NA
Beryllium	0.72*	NA	NA
Cadmium	ND	NA	NA
Chromium	21.4	NA	NA
Cobalt	8.5	NA	NA
Copper	34.9	NA	NA
Iron	22,600	NA	NA
Lead	59.7++	NA	NA
Magnesium	6,060	NA	NA
Manganese	303N	NA	NA
Mercury	NA	NA	NA
Nickel	28.6	NA	NA
Potasium	3510J	NA	NA
Selenium	ND	NA	NA
Silver	ND	NA	NA
Sodium	2520J	NA	NA
Thallium	ND	NA	NA
Vanadium	31	NA	NA
Zinc	122	NA	NA

SB11-30

SAMPLE DATE	2/10/92	
DEPTH	13.0-13.5	18.0-18.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	0.24	ND
Ethylbenzene	ND	ND
Xylene	0.72	0.17
Other (Purgeable)	410	68
JP-5	ND	ND
Diesel	3,700	370
Bunker	ND	ND
Motor Oil	NA	NA
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-26

SAMPLE DATE	2/12/92
DEPTH	13.0-13.5'
TPH (mg/kg)	
Gasoline	240
Benzene	ND
Toluene	3.2
Ethylbenzene	1.5
Xylene	2.5
Other (Purgeable)	ND
JP-5	ND
Diesel	140
Bunker	ND
Motor Oil	NA
Other (Extractable)	32
VOCs (ug/kg)	
All Compounds	NA
SVOCs (ug/kg)	
All Compounds	NA
Total Metals (mg/kg)	
All Elements	NA

SB11-27

SAMPLE DATE	2/10/92		
DEPTH	12.5-13.0	15.0-15.5	25.0-25.2
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	0.46	0.7	ND
Ethylbenzene	ND	ND	ND
Xylene	5.5	4.1	ND
Other (Purgeable)	1,700	1,000	ND
JP-5	ND	ND	100
Diesel	22,000	18,000	ND
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	3,500	ND	100
VOCs (ug/kg)			
Xylenes (total)	NA	70	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
Aluminum	NA	9,820	NA
Antimony	NA	ND	NA
Arsenic	NA	1.9B	NA
Barium	NA	69.4J	NA
Beryllium	NA	ND	NA
Cadmium	NA	ND	NA
Chromium	NA	15.1	NA
Cobalt	NA	4.8	NA
Copper	NA	ND	NA
Iron	NA	15,500	NA
Lead	NA	6.4J-NW	NA
Magnesium	NA	3,720	NA
Manganese	NA	236	NA
Mercury	NA	NA	NA
Nickel	NA	19.5	NA
Potasium	NA	2850J	NA
Selenium	NA	ND	NA
Silver	NA	ND	NA
Sodium	NA	ND	NA
Thallium	NA	ND	NA
Vanadium	NA	21.9	NA
Zinc	NA	106E	NA

SB11-21

SAMPLE DATE	2/6/92		
DEPTH	20.5-21.0	21.0-21.5	23.5-24.5
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	10	10
Ethylbenzene	ND	ND	ND
Xylene	9.8	0.051	10
Other (Purgeable)	450	ND	ND
JP-5	37	ND	ND
Diesel	230	ND	ND
Bunker	310	10J	23
Motor Oil	NA	NA	NA
Other (Extractable)	ND	ND	ND
VOCs (ug/kg)			
Tetrachloroethene	NA	6J	NA
Toluene	NA	2J	NA
Ethylbenzene	NA	3J	NA
Xylenes (total)	NA	7J	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
All Elements	NA	NA	NA

LEGEND

- SAMPLE INTERVAL
- FILL
- FILL-SILTY; ORGANIC-RICH
- ALLUVIUM
- PEAT
- BAY MUD
- REWORKED INTERTIDAL SEDIMENTS
- COLLUVIUM
- BEDROCK
- APPROXIMATE MAXIMUM EXTENT OF PETROLEUM CONTAMINATION BASED ON BOREHOLE LOGGING OBSERVATIONS
- APPROXIMATE EXTENT OF TPH CONTAMINATION EXCEEDING 100 mg/kg BASED ON LABORATORY ANALYTICAL RESULTS AND OBSERVED FREE PRODUCT DURING LOGGING
- HS HEADSPACE READING
- FP FREE PRODUCT
- 4'/18' APPROXIMATE PRIMARY HYDROCARBON THICKNESS / APPROXIMATE TOTAL MAXIMUM HYDROCARBON THICKNESS
- ▼ WATER LEVEL MEASURED JUNE 17, 1993
- ▽ WATER LEVEL MEASURED APRIL, 1999
- SCREEN INTERVAL OF WELL

NOTES

1. SVOC PHTHALATES, SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.
2. LINE OF SECTION SHOWN ON PLATE 14.
3. DATA QUALIFIERS
   - NA NOT ANALYZED
   - ND NOT DETECTED

   ORGANIC DATA QUALIFIERS
   - J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   INORGANIC DATA QUALIFIERS
   - B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
   - E VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
   - J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
   - J-B VALUE WAS ESTIMATED SINCE IT WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
   - J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

   INORGANIC DATA QUALIFIERS (CONTINUED)
   - J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
   - J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
   - N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
   - * DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS
   - + CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

PLATE 16
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA AND IR SITE 4 DRUM LOT NO. 1 CROSS SECTIONS PREVIOUS SOIL SAMPLING RESULTS

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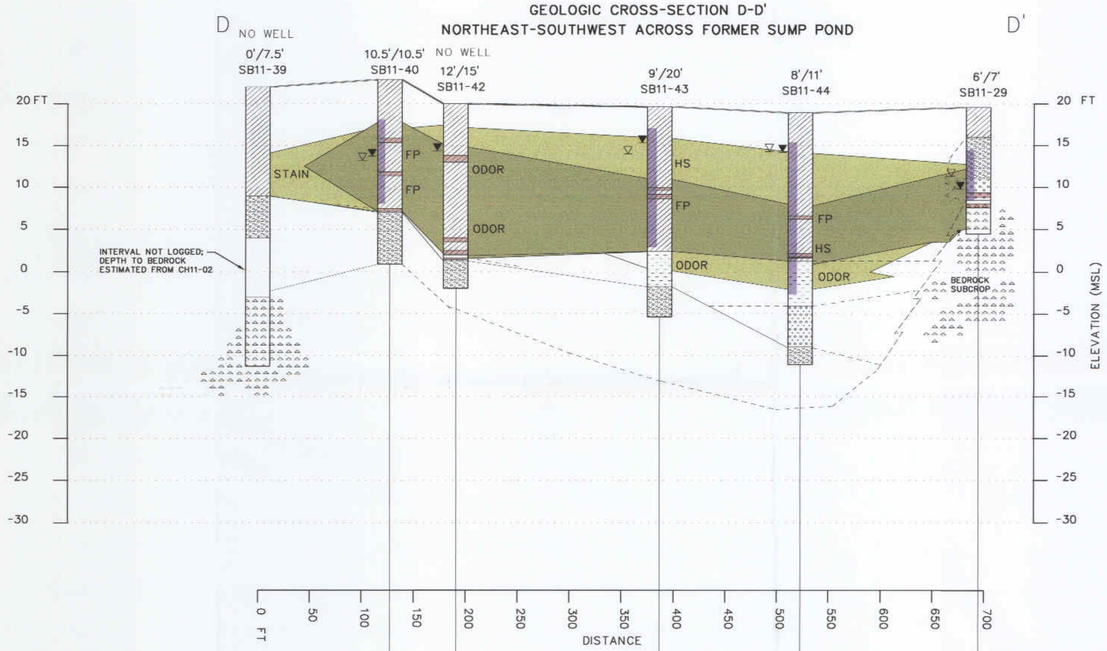
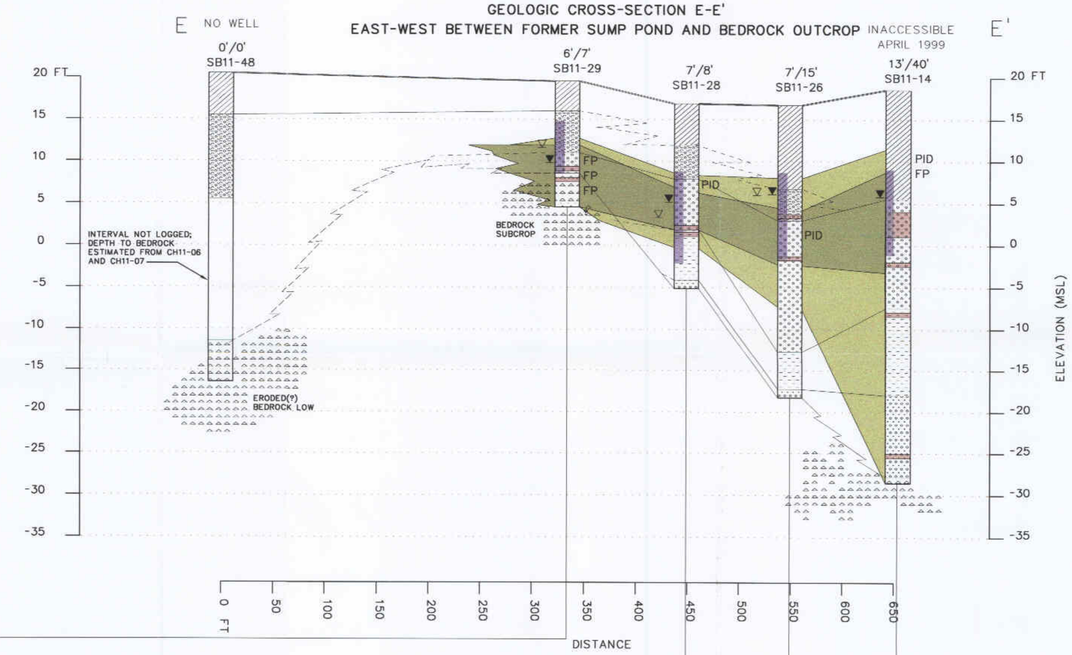
GEOLOGIC CROSS-SECTION D-D'
NORTHEAST-SOUTHWEST ACROSS FORMER SUMP POND



GEOLOGIC CROSS-SECTION E-E'
EAST-WEST BETWEEN FORMER SUMP POND AND BEDROCK OUTCROP

INACCESSIBLE APRIL 1999



SB11-40

SAMPLE DATE	2/21/92		
DEPTH	7.0-7.5	11.0-11.5	15.4-15.7
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	300	ND	150
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	13,000	72	8,500
Motor Oil	NA	NA	NA
Other (Extractable)	ND	ND	ND
VOCs (ug/kg)			
All Compounds	NA	NA	ND
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
Aluminum	NA	NA	NA
Antimony	NA	NA	NA
Arsenic	NA	NA	NA
Barium	NA	NA	NA
Beryllium	NA	NA	NA
Cadmium	NA	NA	NA
Chromium	NA	NA	NA
Cobalt	NA	NA	NA
Copper	NA	NA	NA
Iron	NA	NA	NA
Lead	11.8a+	NA	NA
Magnesium	NA	NA	NA
Manganese	NA	NA	NA
Mercury	NA	NA	NA
Molybdenum	NA	NA	NA
Nickel	NA	NA	NA
Potassium	NA	NA	NA
Selenium	NA	NA	NA
Silver	NA	NA	NA
Sodium	NA	NA	NA
Thallium	NA	NA	NA
Vanadium	NA	NA	NA
Zinc	NA	NA	NA

SB11-43

SAMPLE DATE	3/11/92	
DEPTH	9.7-10.0	10.5-11.0
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	0.180
Toluene	0.043	0.044
Ethylbenzene	ND	0.031
Xylene	0.098	0.13
Other (Purgeable)	60	50
JP-5	ND	ND
Diesel	ND	ND
Bunker	9,500	15,000
Motor Oil	2,400	17,000
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
Aluminum	NA	20,800
Antimony	NA	ND
Arsenic	NA	15.25
Barium	NA	70.9
Beryllium	NA	0.64+
Cadmium	NA	ND
Chromium	NA	70.6
Cobalt	NA	17.2
Copper	NA	155
Iron	NA	31,000
Lead	NA	37.95+
Magnesium	NA	10,700
Manganese	NA	510N
Mercury	NA	NA
Molybdenum	NA	NA
Nickel	NA	81.3
Potassium	NA	2540J
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	2590J
Thallium	NA	ND
Vanadium	NA	69.3
Zinc	NA	191

SB11-29

SAMPLE DATE	3/12/92	
DEPTH	10.2-10.7	11.5-12.0
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	0.023
Ethylbenzene	ND	0.250
Xylene	4.1	1.2
Other (Purgeable)	1,500	360
JP-5	15,000	5,800
Diesel	ND	ND
Bunker	ND	16,000
Motor Oil	NA	NA
Other (Extractable)	25,000	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-28

SAMPLE DATE	2/11/92	
DEPTH	14.5-15.0	15.3-15.8
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	0.049	ND
Ethylbenzene	ND	ND
Xylene	0.38	ND
Other (Purgeable)	160	ND
JP-5	ND	ND
Diesel	5,400	ND
Bunker	ND	ND
Motor Oil	ND	NA
Other (Extractable)	ND	25
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-14

SAMPLE DATE	1/29/92			
DEPTH	14.5-17.5	20.5-21.0	26.5-27.0	43.5-44.0
TPH (mg/kg)				
Gasoline	430	37	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	0.3	0.075	ND	ND
Other (Purgeable)	ND	ND	ND	15
JP-5	ND	ND	ND	ND
Diesel	9,200	590	7.6	40
Bunker	ND	ND	ND	ND
Motor Oil	NA	NA	NA	NA
Other (Extractable)	1,900	200	76	29
VOCs (ug/kg)				
All Compounds	ND	NA	NA	NA
SVOCs (ug/kg)				
2-Methylnaphthalene	12000J	NA	NA	NA
Fluorene	4300J	NA	NA	NA
Phenanthrene	6400J	NA	NA	NA
Fluoranthene	1,700	NA	NA	NA
Benzo(a)anthracene	1,500	NA	NA	NA
Total Metals (mg/kg)				
All Elements	NA	NA	NA	NA

SB11-44

SAMPLE DATE	3/12/92		
DEPTH	12.3-12.7	16.8-17.2	17.1-17.3
TPH (mg/kg)			
Gasoline	ND	ND	NA
Benzene	ND	ND	NA
Toluene	0.22	ND	NA
Ethylbenzene	0.051	0.31	NA
Xylene	0.44	1.9	NA
Other (Purgeable)	120	380	NA
JP-5	ND	ND	NA
Diesel	ND	ND	NA
Bunker	2,900	15,000	NA
Motor Oil	2,200	5,700	NA
Other (Extractable)	ND	ND	NA
VOCs (ug/kg)			
1,2-Dichloroethene (total)	NA	NA	29,000
Tetrachloroethene	NA	NA	200,000
SVOCs (ug/kg)			
2-Methylnaphthalene	NA	NA	5200J
Phenanthrene	NA	NA	6900J
Pyrene	NA	NA	1900J
Total Metals (mg/kg)			
Aluminum	NA	NA	17,300
Antimony	NA	NA	ND
Arsenic	NA	NA	2.4
Barium	NA	NA	207J
Beryllium	NA	NA	ND
Cadmium	NA	NA	ND
Chromium	NA	NA	26.8
Cobalt	NA	NA	7.7
Copper	NA	NA	26
Iron	NA	NA	22,700
Lead	NA	NA	19.8J-NW
Magnesium	NA	NA	4,720
Manganese	NA	NA	256
Mercury	NA	NA	0.13J
Molybdenum	NA	NA	NA
Nickel	NA	NA	25.8
Potassium	NA	NA	2560J
Selenium	NA	NA	ND
Silver	NA	NA	ND
Sodium	NA	NA	1400J
Thallium	NA	NA	ND
Vanadium	NA	NA	40.1
Zinc	NA	NA	60.7E

SB11-42

SAMPLE DATE	3/11/92			
DEPTH	6.2-7.0	16.0-16.5	17.5-18.0	18.4-18.6
TPH (mg/kg)				
Gasoline	ND	ND	ND	ND
Benzene	0.015	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	0.18	ND	ND	ND
Xylene	0.72	0.047	ND	ND
Other (Purgeable)	160	9.3	14	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	11,000	54,000	330	64
Motor Oil	2,900	ND	300	ND
Other (Extractable)	ND	ND	ND	ND
VOCs (ug/kg)				
All Compounds	NA	ND	NA	NA
SVOCs (ug/kg)				
All Compounds	NA	NA	NA	NA
Total Metals (mg/kg)				
All Elements	NA	NA	NA	NA

SB11-26

SAMPLE DATE	2/10/92	
DEPTH	13.0-13.5	18.0-18.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	0.24	ND
Ethylbenzene	ND	ND
Xylene	0.72	0.17
Other (Purgeable)	410	68
JP-5	ND	ND
Diesel	3,700	370
Bunker	ND	ND
Motor Oil	NA	NA
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

LEGEND

- SAMPLE INTERVAL
- FILL
- FILL-SILTY; ORGANIC-RICH
- ALLUVIUM
- PEAT
- BAY MUD
- REWORKED INTERTIDAL SEDIMENTS
- COLLUVIUM
- BEDROCK
- ▼ WATER LEVEL MEASURED JUNE 17, 1993
- ▽ WATER LEVEL MEASURED APRIL, 1999
- SCREEN INTERVAL OF WELL
- APPROXIMATE MAXIMUM EXTENT OF PETROLEUM CONTAMINATION BASED ON BOREHOLE LOGGING OBSERVATIONS
- APPROXIMATE EXTENT OF TPH CONTAMINATION EXCEEDING 100 mg/kg BASED ON LABORATORY ANALYTICAL RESULTS AND OBSERVED FREE PRODUCT DURING LOGGING
- HS HEADSPACE READING
- FP FREE PRODUCT
- 4'/18' APPROXIMATE PRIMARY HYDROCARBON THICKNESS / APPROXIMATE TOTAL MAXIMUM HYDROCARBON THICKNESS

NOTES

1. SVOC PHTHALATES, SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.
2. LINE OF SECTIONS SHOWN ON PLATE 14.
3. DATA QUALIFIERS
   - NA NOT ANALYZED
   - ND NOT DETECTED

   ORGANIC DATA QUALIFIERS
   - J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   INORGANIC DATA QUALIFIERS
   - E VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
   - J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
   - J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
   - J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
   - J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
   - N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
   - S REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
   - W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE
   - * DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

PLATE 17
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
CROSS SECTIONS
PREVIOUS SOIL SAMPLING RESULTS

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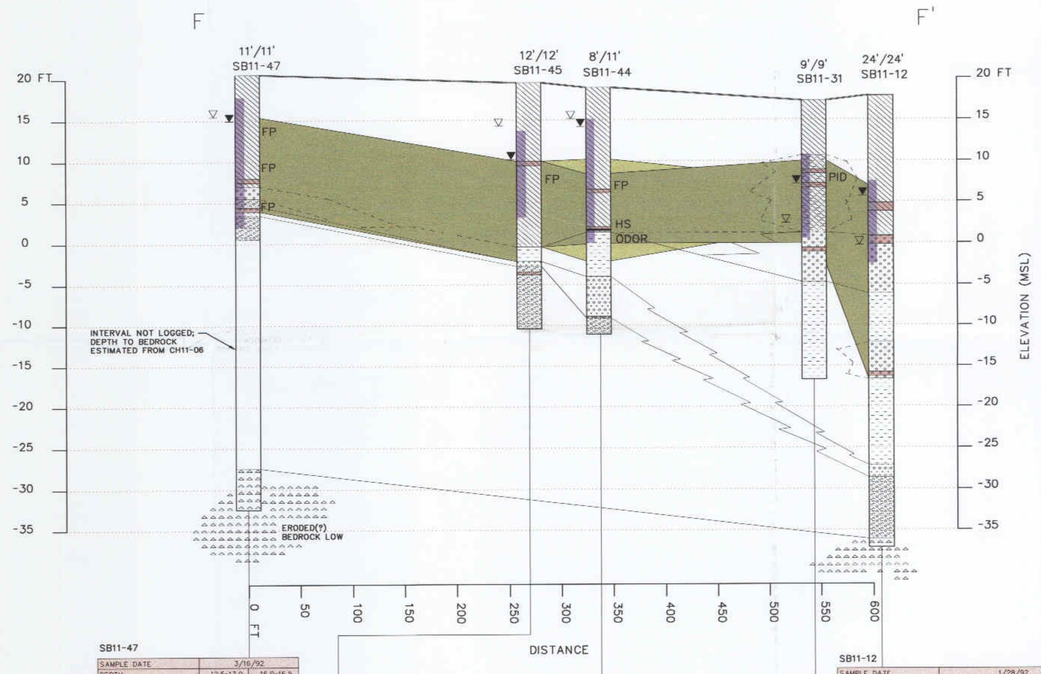
GEOLOGIC CROSS-SECTION F-F'
EAST-WEST ACROSS FORMER SUMP POND



SB11-47

SAMPLE DATE	3/16/92	
DEPTH	12.5-13.0	16.0-16.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	0.084	ND
Xylene	0.47	ND
Other (Purgeable)	200	33
JP-5	ND	ND
Diesel	ND	ND
Bunker	83,000	ND
Motor Oil	19,000	ND
Other (Extractable)	ND	590
VOCs (ug/kg)		
All Compounds	ND	ND
SVOCs (ug/kg)		
2-Methylnaphthalene	36,000	NA
Phenanthrene	25,000	NA
Pyrene	9200J	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-45

SAMPLE DATE	3/13/92		
DEPTH	9.5-10.0	18.5-19.5	22.9-23.2
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	0.110J	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	1.4J	.023	ND
Other (Purgeable)	400	570	ND
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	74,000	66,000	ND
Motor Oil	9,200	7,800	ND
Other (Extractable)	ND	ND	23
VOCs (ug/kg)			
All Compounds	ND	NA	NA
SVOCs (ug/kg)			
2-Methylnaphthalene	45,000	NA	NA
Phenanthrene	18,000	NA	NA
Fluoranthene	1900J	NA	NA
Benzo(a)anthracene	2600J	NA	NA
Pyrene	5200J	NA	NA
Total Metals (mg/kg)			
Aluminum	13,400	NA	NA
Antimony	ND	NA	NA
Arsenic	0.88	NA	NA
Barium	132J	NA	NA
Beryllium	ND	NA	NA
Cadmium	ND	NA	NA
Chromium	14.8	NA	NA
Cobalt	6.8B	NA	NA
Copper	ND	NA	NA
Iron	14,700	NA	NA
Lead	10.7J-NW	NA	NA
Magnesium	3,140	NA	NA
Manganese	225	NA	NA
Mercury	ND	NA	NA
Nickel	20.9	NA	NA
Potassium	3520J	NA	NA
Selenium	ND	NA	NA
Silver	1.19N	NA	NA
Sodium	ND	NA	NA
Thallium	ND	NA	NA
Vanadium	27.8	NA	NA
Zinc	45.7E	NA	NA

SB11-44

SAMPLE DATE	3/12/92		
DEPTH	12.3-12.7	16.8-17.2	17.1-17.3
TPH (mg/kg)			
Gasoline	ND	ND	NA
Benzene	ND	ND	NA
Toluene	0.22	ND	NA
Ethylbenzene	0.051	0.31	NA
Xylene	0.44	1.9	NA
Other (Purgeable)	120	380	NA
JP-5	ND	ND	NA
Diesel	ND	ND	NA
Bunker	2,900	15,000	NA
Motor Oil	2,200	5,700	NA
Other (Extractable)	ND	ND	NA
VOCs (ug/kg)			
1,2-Dichloroethene (total)	NA	NA	29,000
Tetrachloroethene	NA	NA	200,000
SVOCs (ug/kg)			
2-Methylnaphthalene	NA	NA	5200J
Phenanthrene	NA	NA	6900J
Pyrene	NA	NA	1900J
Total Metals (mg/kg)			
Aluminum	NA	NA	17,300
Antimony	NA	NA	ND
Arsenic	NA	NA	2.4
Barium	NA	NA	207J
Beryllium	NA	NA	ND
Cadmium	NA	NA	ND
Chromium	NA	NA	26.8
Cobalt	NA	NA	7.7
Copper	NA	NA	26
Iron	NA	NA	22,700
Lead	NA	NA	19.8J-NW
Magnesium	NA	NA	4,720
Manganese	NA	NA	256
Mercury	NA	NA	0.13J
Molybdenum	NA	NA	NA
Nickel	NA	NA	25.8
Potassium	NA	NA	2560J
Selenium	NA	NA	ND
Silver	NA	NA	ND
Sodium	NA	NA	1400J
Thallium	NA	NA	ND
Vanadium	NA	NA	40.1
Zinc	NA	NA	60.7E

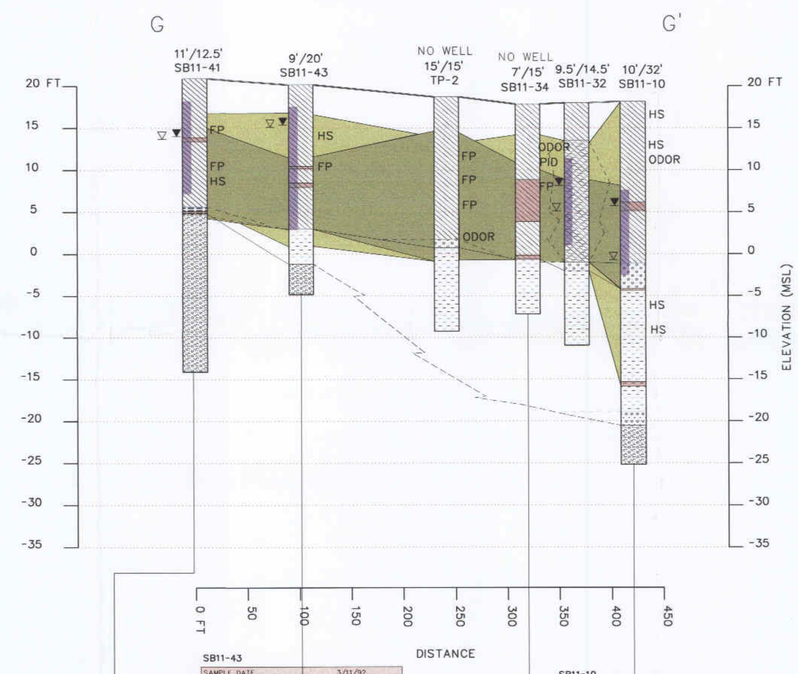
SB11-12

SAMPLE DATE	1/28/92		
DEPTH	13.0-14.0	17.0-18.0	33.5-34.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	.72	.35	ND
Other (Purgeable)	140	180	530
JP-5	ND	ND	ND
Diesel	2,700	12,000	740
Bunker	ND	ND	ND
Motor Oil	NA	NA	NA
Other (Extractable)	1,300	4,500	370
VOCs (ug/kg)			
All Compounds	NA	NA	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
All Elements	NA	NA	NA

SB11-31

SAMPLE DATE	2/12/92	
DEPTH	8.4-8.8	17.8-18.3
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	1.1	ND
Ethylbenzene	0.35	ND
Xylene	0.81	0.23
Other (Purgeable)	73	240
JP-5	ND	ND
Diesel	ND	ND
Bunker	ND	39,000
Motor Oil	NA	NA
Other (Extractable)	1,800	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
Aluminum	NA	12,700
Antimony	NA	ND
Arsenic	NA	5.2
Barium	NA	68.9J
Beryllium	NA	ND
Cadmium	NA	1.4
Chromium	NA	14.5
Cobalt	NA	8.3
Copper	NA	ND
Iron	NA	16,500
Lead	NA	7.3J-N
Magnesium	NA	4,020
Manganese	NA	277
Mercury	NA	0.13J
Nickel	NA	22.6
Potassium	NA	3260J
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	ND
Thallium	NA	ND
Vanadium	NA	24.9
Zinc	NA	41.1E

GEOLOGIC CROSS-SECTION G-G'
EAST-WEST ACROSS FORMER SUMP POND



SB11-41

SAMPLE DATE	2/21/92	
DEPTH	7.0-7.5	15.8-16.1
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	61	87
JP-5	ND	ND
Diesel	ND	ND
Bunker	9,000	21,000
Motor Oil	NA	NA
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	ND
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
All Elements	NA	NA

SB11-43

SAMPLE DATE	3/11/92	
DEPTH	9.7-10.0	10.5-11.0
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	0.18
Toluene	0.043	0.044
Ethylbenzene	ND	0.031
Xylene	0.098	0.13
Other (Purgeable)	60	50
JP-5	ND	ND
Diesel	ND	ND
Bunker	9,500	15,000
Motor Oil	2,400	17,000
Other (Extractable)	ND	ND
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
Aluminum	NA	20,800
Antimony	NA	ND
Arsenic	NA	15.2S
Barium	NA	70.9
Beryllium	NA	0.64+
Cadmium	NA	ND
Chromium	NA	20.6
Cobalt	NA	17.2
Copper	NA	155
Iron	NA	31,000
Lead	NA	37.9S+
Magnesium	NA	10,700
Manganese	NA	510N
Mercury	NA	NA
Nickel	NA	81.3
Potassium	NA	2540J
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	2590J
Thallium	NA	ND
Vanadium	NA	69.3
Zinc	NA	191

SB11-10

SAMPLE DATE	1/27/92		
DEPTH	12.0-13.0	22.5-22.5	33.5-34.0
TPH (mg/kg)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	.008	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	.68	ND	ND
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	9,200	ND	26
Motor Oil	NA	NA	NA
Other (Extractable)	1,700	170	53
VOCs (ug/kg)			
All Compounds	NA	NA	NA
SVOCs (ug/kg)			
All Compounds	NA	NA	NA
Total Metals (mg/kg)			
All Elements	NA	NA	NA

SB11-34

SAMPLE DATE	2/17/92	
DEPTH	9.0-14.0	18.0-18.5
TPH (mg/kg)		
Gasoline	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	0.10	ND
Other (Purgeable)	110	ND
JP-5	ND	ND
Diesel	ND	ND
Bunker	5,800	310
Motor Oil	NA	NA
Other (Extractable)	ND	120
VOCs (ug/kg)		
All Compounds	NA	NA
SVOCs (ug/kg)		
All Compounds	NA	NA
Total Metals (mg/kg)		
Lead	ND	NA

NOTES:

1. SVOC PHTHALATES, SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.
2. LINE OF SECTIONS SHOWN ON PLATE 14.
3. DATA QUALIFIERS

   NA NOT ANALYZED
   ND NOT DETECTED

   ORGANIC DATA QUALIFIERS

   J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   INORGANIC DATA QUALIFIERS

   B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

   E VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE

   J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

   J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED

   J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

   N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS

   S REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)

   X THE CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

   * DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

   + CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

LEGEND

- SAMPLE INTERVAL
- FILL
- FILL-SILTY; ORGANIC-RICH
- ALLUVIUM
- PEAT
- BAY MUD
- REWORKED INTERTIDAL SEDIMENTS
- COLLUVIUM
- BEDROCK
- ▼ WATER LEVEL MEASURED JUNE 17, 1993
- ▽ WATER LEVEL MEASURED APRIL, 1999
- SCREEN INTERVAL OF WELL
- APPROXIMATE MAXIMUM EXTENT OF PETROLEUM CONTAMINATION BASED ON BOREHOLE LOGGING OBSERVATIONS
- APPROXIMATE EXTENT OF TPH CONTAMINATION EXCEEDING 100 mg/kg BASED ON LABORATORY ANALYTICAL RESULTS AND OBSERVED FREE PRODUCT DURING LOGGING
- HS HEADSPACE READING
- FP FREE PRODUCT
- 4'/18' — APPROXIMATE PRIMARY HYDROCARBON THICKNESS; APPROXIMATE TOTAL MAXIMUM HYDROCARBON THICKNESS

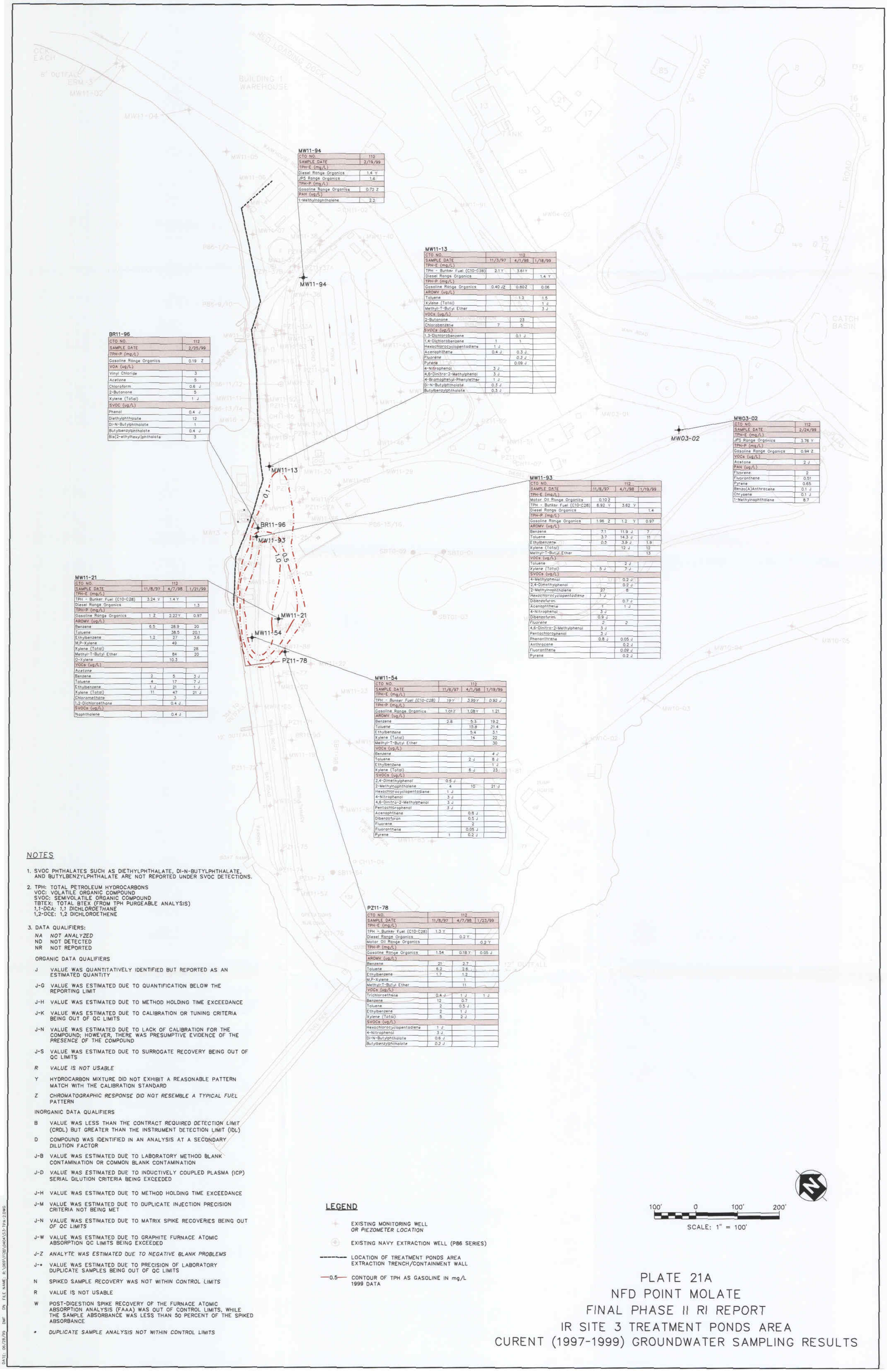
PLATE 18
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
CROSS SECTIONS
PREVIOUS SOIL SAMPLING RESULTS

R:\069\112B\0404\ TPA-FSP.dwg 05/25/2000 FORD DN

PLATE 19
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
PRIMARY HYDROCARBON ISOPACH IN SOIL

PLATE 20
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
TOTAL MAXIMUM HYDROCARBON ISOPACH IN SOIL

R:\069\112B\0404\ TOTAL_ISOPACH.dwg 05/25/2000 FORDD DN



MW11-94

CTO NO.	112
SAMPLE DATE	2/19/99
TPH-E (mg/L)	
Diesel Range Organics	1.4 Y
JP5 Range Organics	1.6
TPH-P (mg/L)	
Gasoline Range Organics	0.72 Z
PAH (ug/L)	
1-Methylnaphthalene	2.2

MW11-13

CTO NO.	112		
SAMPLE DATE	11/3/97	4/1/98	1/18/99
TPH-E (mg/L)			
TPH - Bunker Fuel (C10-C28)	2.1 Y	3.61Y	
Diesel Range Organics			1.4 Y
TPH-P (mg/L)			
Gasoline Range Organics	0.40 JZ	0.80Z	0.06
AROMV (ug/L)			
Toluene		1.2	1.5
Xylene (Total)			1 J
Methyl-T-Butyl Ether			3 J
VOCs (ug/L)			
2-Butanone		23	
Chlorobenzene	7	5	
SVOCs (ug/L)			
1,3-Dichlorobenzene		0.1 J	
1,4-Dichlorobenzene	1	1	
Hexachlorocyclopentadiene	1 J		
Acenaphthene	0.4 J	0.3 J	
Fluorene		0.3 J	
Pyrene		0.09 J	
4-Nitrophenol	3 J		
4,6-Dinitro-2-Methylphenol	3 J		
4-Bromophenyl-Phenylether	1 J		
Di-N-Butylphthalate	0.3 J		
Butylbenzylphthalate	0.3 J		

BR11-96

CTO NO.	112
SAMPLE DATE	2/25/99
TPH-P (mg/L)	
Gasoline Range Organics	0.19 Z
VOA (ug/L)	
Vinyl Chloride	3
Acetone	5
Chloroform	0.6 J
2-Butanone	5
Xylene (Total)	1 J
SVOC (ug/L)	
Phenol	0.4 J
Diethylphthalate	12
Di-N-Butylphthalate	1
Butylbenzylphthalate	0.4 J
Bis(2-ethylhexyl)phthalate	3

MW03-02

CTO NO.	112
SAMPLE DATE	2/24/99
TPH-E (mg/L)	
JP5 Range Organics	3.76 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.94 Z
VOCs (ug/L)	
Acetone	2 J
PAH (ug/L)	
Fluorene	2
Fluoranthene	0.51
Pyrene	0.65
Benzo(A)Anthracene	0.1 J
Chrysene	0.1 J
1-Methylnaphthalene	8.7

MW11-93

CTO NO.	112		
SAMPLE DATE	11/6/97	4/1/98	1/19/99
TPH-E (mg/L)			
Motor Oil Range Organics	0.10 Z		
TPH - Bunker Fuel (C10-C28)	6.92 Y	3.62 Y	
Diesel Range Organics			1.4
TPH-P (mg/L)			
Gasoline Range Organics	1.96 Z	1.2 Y	0.97
AROMV (ug/L)			
Benzene	7.1	11.9 J	7
Toluene	3.7	14.3 J	11
Ethylbenzene	0.5	3.9 J	1.9
Xylene (Total)		12 J	12
Methyl-T-Butyl Ether			13
VOCs (ug/L)			
Toluene		2 J	
Xylene (Total)	5 J	7 J	
SVOCs (ug/L)			
4-Methylphenol		0.2 J	
2,4-Dimethylphenol		0.2 J	
2-Methylnaphthalene	27	8	
Hexachlorocyclopentadiene	1 J		
Dibenzofuran		0.7 J	
Acenaphthene	1	1 J	
4-Nitrophenol	3 J		
Dibenzofuran	0.9 J		
Fluorene	2	2	
4,6-Dinitro-2-Methylphenol	3 J		
Pentachlorophenol	3 J		
Phenanthrene	0.8 J	0.05 J	
Anthracene		0.2 J	
Fluoranthene		0.09 J	
Pyrene		0.2 J	

MW11-21

CTO NO.	112		
SAMPLE DATE	11/8/97	4/7/98	1/21/99
TPH-E (mg/L)			
TPH - Bunker Fuel (C10-C28)	3.24 Y	1.4 Y	
Diesel Range Organics			1.3
TPH-P (mg/L)			
Gasoline Range Organics	1 Z	2.22Y	0.97
AROMV (ug/L)			
Benzene	6.5	28.9	20
Toluene		38.5	20.1
Ethylbenzene	1.2	27	3.6
M,P-Xylene		49	
Xylene (Total)			28
Methyl-T-Butyl Ether		84	20
O-Xylene		10.3	
VOCs (ug/L)			
Acetone			
Benzene	2	5	3 J
Toluene	4	17	7 J
Ethylbenzene	1 J	21	1 J
Xylene (Total)	11	47	21 J
Chloromethane		3	
1,2-Dichloroethane		0.4 J	
SVOCs (ug/L)			
Naphthalene		0.4 J	

MW11-54

CTO NO.	112		
SAMPLE DATE	11/6/97	4/1/98	1/19/99
TPH-E (mg/L)			
TPH - Bunker Fuel (C10-C28)	19 Y	3.99 Y	0.92 J
TPH-P (mg/L)			
Gasoline Range Organics	1.01 Z	1.08 Y	1.21
AROMV (ug/L)			
Benzene	2.8	5.3	19.2
Toluene		15.8	21.4
Ethylbenzene		5.4	3.1
Xylene (Total)		14	22
Methyl-T-Butyl Ether			30
VOCs (ug/L)			
Benzene			4 J
Toluene		2 J	8 J
Ethylbenzene			1 J
Xylene (Total)		6 J	23
SVOCs (ug/L)			
2,4-Dimethylphenol	0.5 J		
2-Methylnaphthalene	4	10	21 J
Hexachlorocyclopentadiene	1 J		
4-Nitrophenol	3 J		
4,6-Dinitro-2-Methylphenol	3 J		
Pentachlorophenol	3 J		
Acenaphthene		0.8 J	
Dibenzofuran		0.5 J	
Fluorene		2	
Fluoranthene		0.05 J	
Pyrene	1	0.2 J	

PZ11-78

CTO NO.	112		
SAMPLE DATE	11/8/97	4/7/98	1/23/99
TPH-E (mg/L)			
TPH - Bunker Fuel (C10-C28)	1.3 Y		
Diesel Range Organics		0.2 Y	
Motor Oil Range Organics			0.2 Y
TPH-P (mg/L)			
Gasoline Range Organics	1.54	0.18 Y	0.05 J
AROMV (ug/L)			
Benzene	21	2.7	
Toluene	6.2	2.6	
Ethylbenzene	1.7	1.2	
M,P-Xylene		1	
Methyl-T-Butyl Ether		11	
VOCs (ug/L)			
Trichloroethene	0.4 J	1 J	1 J
Benzene	12	0.7	
Toluene	2	0.5 J	
Ethylbenzene	2	1 J	
Xylene (Total)	5	2 J	
SVOCs (ug/L)			
Hexachlorocyclopentadiene	1 J		
4-Nitrophenol	3 J		
Di-N-Butylphthalate	0.6 J		
Butylbenzylphthalate	0.2 J		

NOTES

1. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.
2. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   TBTEX: TOTAL BTEX (FROM TPH PURGEABLE ANALYSIS)
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
3. DATA QUALIFIERS:

NA NOT ANALYZED
ND NOT DETECTED
NR NOT REPORTED

ORGANIC DATA QUALIFIERS

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS

R VALUE IS NOT USABLE

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR

J-B VALUE WAS ESTIMATED DUE TO LABORATORY METHOD BLANK CONTAMINATION OR COMMON BLANK CONTAMINATION

J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-M VALUE WAS ESTIMATED DUE TO DUPLICATE INJECTION PRECISION CRITERIA NOT BEING MET

J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED

J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS

J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS

R VALUE IS NOT USABLE

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

* DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

LEGEND

EXISTING MONITORING WELL OR PIEZOMETER LOCATION

EXISTING NAVY EXTRACTION WELL (P86 SERIES)

LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL

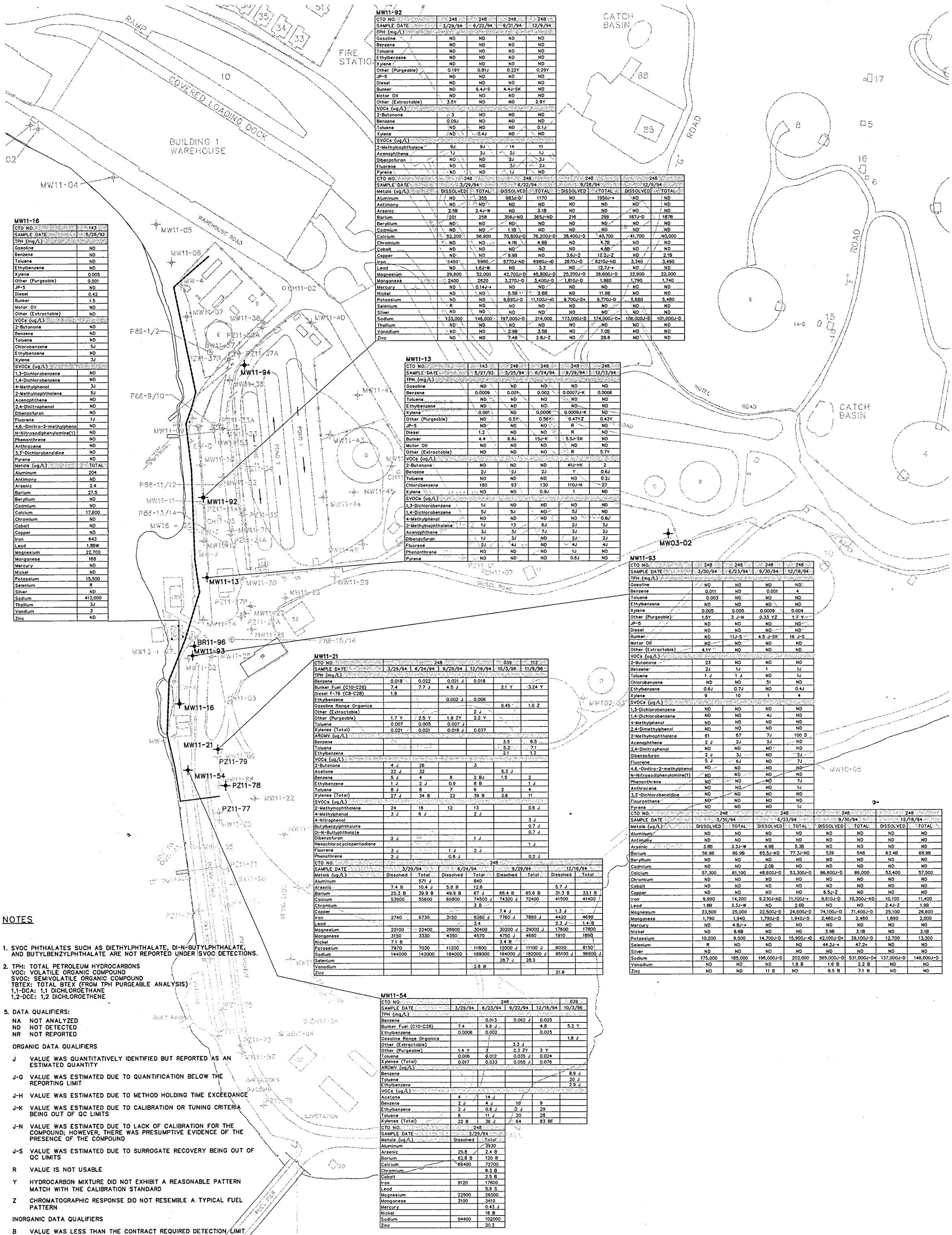
0.5 CONTOUR OF TPH AS GASOLINE IN mg/L 1999 DATA

100' 0 100' 200'

SCALE: 1" = 100'

PLATE 21A
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
CURENT (1997-1999) GROUNDWATER SAMPLING RESULTS

DATE: 06/28/99 DWF DN FILE NAME: R:\069\1728\0404\S3-TPA-2.DWG



MW11-92

CTO NO.	248	248	248	248
SAMPLE DATE	3/29/94	6/22/94	9/21/94	12/9/94
TPH (mg/L)				
Gasoline	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	0.19Y	0.81J	0.22Y	0.29Y
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	9.4J-S	4.4J-SK	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	3.5Y	ND	ND	2.9Y
VOCs (ug/L)				
2-Butanone	3	ND	ND	ND
Benzene	0.09J	ND	ND	ND
Toluene	ND	ND	ND	0.1J
Xylene	ND	0.4J	ND	ND
SVOCs (ug/L)				
2-Methylnaphthalene	9J	9J	14	11
Acenaphthene	1J	2J	2J	1J
Dibenzofuran	ND	ND	2J	2J
Fluorene	ND	ND	3J	2J
Pyrene	ND	ND	1J	ND

CTO NO.	248		248		248		248	
SAMPLE DATE	3/29/94		6/22/94		9/28/94		12/9/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	355	983J-D	1170	ND	1950J-*	ND	ND
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	2.5B	2.4J-W	ND	3.1B	ND	ND	ND	ND
Barium	201	258	356J-ND	365J-ND	216	299	187J-D	187B
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	1.1B	ND	ND	ND	ND	ND
Calcium	52,200	56,900	70,800J-D	76,200J-D	38,400J-D	40,700	41,700	40,000
Chromium	ND	ND	4.1B	4.9B	ND	4.7B	ND	ND
Cobalt	ND	ND	ND	ND	ND	4.8B	ND	ND
Copper	ND	ND	9.9B	ND	3.6J-Z	12.2J-Z	ND	2.1B
Iron	1450	5980	5770J-ND	6980J-*D	2670J-D	6210J-ND	3,340	3,490
Lead	ND	1.6J-W	ND	3.3	ND	12.7J-*	ND	ND
Magnesium	29,600	32,000	42,700J-D	45,800J-D	25,200J-D	26,600J-D	22,900	22,000
Manganese	2400	2620	3,270J-D	3,400J-D	1,810J-D	1,980	1,790	1,740
Mercury	ND	0.14J-*	ND	ND	ND	ND	ND	ND
Nickel	ND	ND	5.5B	3.6B	ND	11.9B	ND	ND
Potassium	ND	ND	9,890J-D	11,100J-*D	9,700J-D*	9,770J-D	5,680	5,480
Selenium	R	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	133,000	146,000	197,000J-D	214,000	173,000J-D	174,000J-D*	106,000J-D	101,000J-D
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	2.9B	3.5B	ND	7.0B	ND	ND
Zinc	ND	ND	7.4B	2.8J-Z	ND	28.8	ND	ND

MW11-16

CTO NO.	143
SAMPLE DATE	5/28/92
TPH (mg/L)	
Gasoline	ND
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene	0.005
Other (Purgeable)	0.001
JP-5	ND
Diesel	0.42
Bunker	1.5
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
2-Butanone	ND
Benzene	ND
Toluene	ND
Chlorobenzene	5J
Ethylbenzene	ND
Xylene	3J
SVOCs (ug/L)	
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
4-Methylphenol	3J
2-Methylnaphthalene	5J
Acenaphthene	ND
2,4-Dinitrophenol	ND
Dibenzofuran	ND
Fluorene	1J
4,6,-Dinitro-2-methylpheno	ND
N-Nitrosodiphenylamine(1)	ND
Phenanthrene	ND
Anthracene	ND
3,3'-Dichlorobenzidine	ND
Pyrene	ND
Metals (ug/L)	TOTAL
Aluminum	204
Antimony	ND
Arsenic	2.4
Barium	27.5
Beryllium	ND
Cadmium	ND
Calcium	17,600
Chromium	ND
Cobalt	ND
Copper	ND
Iron	643
Lead	1.8BW
Magnesium	22,700
Manganese	168
Mercury	ND
Nickel	ND
Potassium	15,500
Selenium	R
Silver	ND
Sodium	413,000
Thallium	3J
Vanadium	3
Zinc	ND

MW11-13

CTO NO.	143	248	248	248	248
SAMPLE DATE	5/27/92	3/25/94	6/24/94	9/29/94	12/12/94
TPH (mg/L)					
Gasoline	ND	ND	ND	ND	ND
Benzene	0.0009	0.001	0.002	0.0007J-K	0.0006
Toluene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Xylene	0.001	ND	0.0006	0.0009J-K	ND
Other (Purgeable)	ND	0.5Y	0.56Y	0.47YZ	0.43Y
JP-5	ND	ND	ND	R	ND
Diesel	1.2	ND	ND	R	ND
Bunker	4.4	6.8J	15J-K	5.5J-SK	ND
Motor Oil	ND	ND	ND	ND	ND
Other (Extractable)	ND	ND	ND	R	5.7Y
VOCs (ug/L)					
2-Butanone	ND	ND	ND	41J-HK	2
Benzene	2J	2J	2J	1	0.6J
Toluene	ND	ND	ND	ND	0.2J
Chlorobenzene	180	93	130	110J-H	27
Xylene	ND	ND	0.9J	1	ND
SVOCs (ug/L)					
1,3-Dichlorobenzene	1J	ND	ND	ND	ND
1,4-Dichlorobenzene	5J	5J	ND	5J	ND
4-Methylphenol	ND	ND	ND	ND	0.8J
2-Methylnaphthalene	1J	13	6J	2J	2J
Acenaphthene	3J	3J	7J	3J	2J
Dibenzofuran	1J	3J	ND	2J	2J
Fluorene	2J	4J	ND	4J	4J
Phenanthrene	ND	ND	ND	1J	ND
Pyrene	ND	ND	ND	0.6J	ND

MW11-93

CTO NO.	248	248	248	248
SAMPLE DATE	3/30/94	6/23/94	9/30/94	12/18/94
TPH (mg/L)				
Gasoline	ND	ND	ND	ND
Benzene	0.011	ND	0.001	4
Toluene	0.003	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	0.005	0.005	0.0009	0.004
Other (Purgeable)	1.5Y	3 J-N	0.33 YZ	1.7 Y
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	11J-S	4.5 J-SK	16 J-S
Motor Oil	ND	ND	ND	ND
Other (Extractable)	4.1Y	ND	ND	ND
VOCs (ug/L)				
2-Butanone	23	ND	ND	ND
Benzene	2J	1J	1	1J
Toluene	1 J	1 J	ND	1J
Chlorobenzene	ND	ND	51	ND
Ethylbenzene	0.6J	0.7J	ND	0.4J
Xylene	9	10	1	4
SVOCs (ug/L)				
1,3-Dichlorobenzene	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	4J	ND
4-Methylphenol	ND	ND	ND	ND
2,4-Dimethylphenol	ND	ND	ND	ND
2-Methylnaphthalene	61	67	7J	100 D
Acenaphthene	2 J	2J	2J	ND
2,4-Dinitrophenol	ND	ND	ND	ND
Dibenzofuran	2 J	3J	ND	2J
Fluorene	5 J	6J	ND	7J
4,6,-Dinitro-2-methylpheno	ND	ND	ND	ND
N-Nitrosodiphenylamine(1)	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	7J
Anthracene	ND	ND	ND	1J
3,3'-Dichlorobenzidine	ND	ND	ND	ND
Flouranthene	ND	ND	ND	ND
Pyrene	ND	ND	ND	1J

CTO NO.	248		248		248		248	
SAMPLE DATE	3/30/94		6/23/94		9/30/94		12/18/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	ND	ND	ND	ND	ND	ND	ND
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	3.8B	3.3J-W	4.9B	5.3B	ND	ND	ND	ND
Barium	56.9B	86.9B	65.5J-ND	77.3J-ND	539	548	63.4B	68.9B
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	2.0B	ND	ND	ND	ND	ND
Calcium	57,300	61,100	48,600J-D	53,300J-D	86,600J-D	86,000	53,400	57,500
Chromium	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND
Copper	ND	ND	ND	ND	6.5J-Z	ND	ND	ND
Iron	9,990	14,200	9,230J-ND	11,100J-*	9,610J-D	10,300J-ND	10,100	11,400
Lead	1.8B	3.3J-W	ND	2.6B	ND	ND	2.4J-Z	1.9B
Magnesium	23,500	25,000	22,500J-D	24,600J-D	74,100J-D	71,400J-D	25,100	26,600
Manganese	1,790	1,940	1,790J-D	1,940J-D	2,460J-D	2,460	1,890	2,000
Mercury	ND	4.8J-*	ND	ND	ND	ND	ND	ND
Nickel	ND	8.6B	ND	ND	3.9B	3.1B	ND	3.1B
Potassium	10,200	9,500	14,700J-D	15,900J-*D	42,100J-D*	39,100J-D	12,700	13,300
Selenium	R	ND	ND	ND	44.2J-*	47.2*	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	175,000	185,000	196,000J-D	202,000	565,000J-D	531,000J-D*	137,000J-D	146,000J-D
Vanadium	ND	ND	ND	1.8 B	1.6 B	2.2 B	ND	ND
Zinc	ND	ND	11 B	ND	8.5 B	7.1 B	ND	ND

MW11-21

CTO NO.	248				039	112
SAMPLE DATE	3/29/94	6/24/94	9/29/94	12/16/94	10/3/96	11/8/96
TPH (mg/L)						
Benzene	0.018	0.022	0.021 J	0.018		
Bunker Fuel (C10-C28)	7.4	7.7 J	4.5 J		2.1 Y	3.24 Y
Diesel F-76 (C8-C28)	1.9					
Ethylbenzene			0.002 J	0.006		
Gasoline Range Organics					0.45	1.0 Z
Other (Extractable)				2 J		
Other (Purgeable)	1.7 Y	2.5 Y	1.9 ZY	2.2 Y		
Toluene	0.007	0.005	0.007 J			
Xylenes (Total)	0.021	0.021	0.018 J	0.037		
AROMV (ug/L)						
Benzene					3.5	6.5
Toluene					5.2	7.1
Ethylbenzene					2.1	1.2
VOCs (ug/L)						
2-Butanone	4 J	26		3		
Acetone	22 J	32			5.3 J	
Benzene	5 J	4	6	2 BJ	1.5	2
Ethylbenzene	1 J	2 J	0.9	8 B		1 J
Toluene	8 J	8	7	6	2	4
Xylenes (Total)	27 J	34 B	22	39 B	3.6	11
SVOCs (ug/L)						
2-Methylnaphthalene	24	16	12	13		0.6 J
4-Methylphenol	3 J	6 J		2 J		
4-Nitrophenol						3 J
Butylbenzylphthalate						0.7 J
Di-N-Butlyphthalate						0.7 J
Dibenzofuran	2 J			1 J		
Hexachlorocyclopentadiene						1 J
Fluorene	3 J		1 J	2 J		
Phenathrene	2 J		0.8 J			0.2 J

CTO NO.	248							
SAMPLE DATE	3/29/94		6/24/94		9/29/94		12/16/94	
Metals (ug/L)	Dissolved	Total	Dissolved	Total	Dissolved	Total	Dissolved	Total
Aluminum		571 J		840				
Arsenic	7.4 B	10.4 J	5.8 B	12.6			5.7 J	
Barium	25.3 B	39.9 B	49.9 B	67 J	66.4 B	65.6 B	31.3 B	33.1 B
Calcium	53900	55600	69800	74500 J	74300 J	72400	41500	41400
Chromium				3 B				
Copper					7.4 J		1.3 J	
Iron	2740	6730	3150	8380 J	7760 J	7880 J	4420	4690
Lead				3.4			2.3 J-	1.4 B
Magnesium	22100	22400	28900	30400	30200 J	29000 J	17600	17800
Manganese	3150	3330	4350	4570	4750 J	4680	1910	1890
Nickel	7.1 B				3.4 B			
Potassium	7970	7030	11200	11800	12000 J	11100 J	6020	6150
Sodium	144000	142000	184000	189000	194000 J	182000 J	95100 J	96600 J
Selenium					28.7 J	28.3		
Vanadium				2.6 B				
Zinc							21.8	

MW11-54

CTO NO.	248				039
SAMPLE DATE	3/29/94	6/23/94	9/22/94	12/16/94	10/3/96
TPH (mg/L)					
Benzene		0.013	0.062 J	0.025	
Bunker Fuel (C10-C28)	7.4	9.6 J		4.8	5.2 Y
Ethylbenzene	0.0006	0.002		0.025	
Gasoline Range Organics					1.8 J
Other (Extractable)			3.3 J		
Other (Purgeable)	1.4 Y	3	2.3 ZY	3 Y	
Toluene	0.006	0.012	0.035 J	0.024	
Xylenes (Total)	0.017	0.033	0.055 J	0.076	
AROMV (ug/L)					
Benzene					8.9 J
Toluene					20 J
Ethylbenzene					2.9 J
VOCs (ug/L)					
Acetone	4	14 J			
Benzene	2 J	4 J	10	9	
Ethylbenzene	2 J	0.8 J	2 J	29	
Toluene	6	11 J	20	28	
Xylenes (Total)	22 B	36 J	64	83 BE	

CTO NO.	248	
SAMPLE DATE	3/29/94	
Metals (ug/L)	Dissolved	Total
Aluminum		3930
Arsenic	25.8	2.4 B
Barium	62.8 B	120 B
Calcium	66400	72700
Chromium		6.3 B
Cobalt		2.5 B
Iron	9120	17800
Lead		5.9 S
Magnesium	22900	26000
Manganese	3100	3410
Mercury		0.43 J
Nickel		16 B
Sodium	94400	102000
Zinc		20.3

NOTES

1. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.

2. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   TBTEX: TOTAL BTEX (FROM TPH PURGEABLE ANALYSIS)
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE

5. DATA QUALIFIERS:

NA NOT ANALYZED
ND NOT DETECTED
NR NOT REPORTED

ORGANIC DATA QUALIFIERS

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS

R VALUE IS NOT USABLE

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR

J-B VALUE WAS ESTIMATED DUE TO LABORATORY METHOD BLANK CONTAMINATION OR COMMON BLANK CONTAMINATION

J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-M VALUE WAS ESTIMATED DUE TO DUPLICATE INJECTION PRECISION CRITERIA NOT BEING MET

J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED

J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS

J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS

R VALUE IS NOT USABLE

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

* DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

LEGEND

EXISTING MONITORING WELL OR PIEZOMETER LOCATION

EXISTING NAVY EXTRACTION WELL (P86 SERIES)

LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL

100' 0 100' 200'

SCALE: 1" = 100'

PLATE 21B
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 3 TREATMENT PONDS AREA
PREVIOUS (1992-1996) GROUNDWATER SAMPLING RESULTS

DATE: 05/20/99 KEN DN FILE NAME: R:\069\1128\040A\S3-TPA-1.DWG

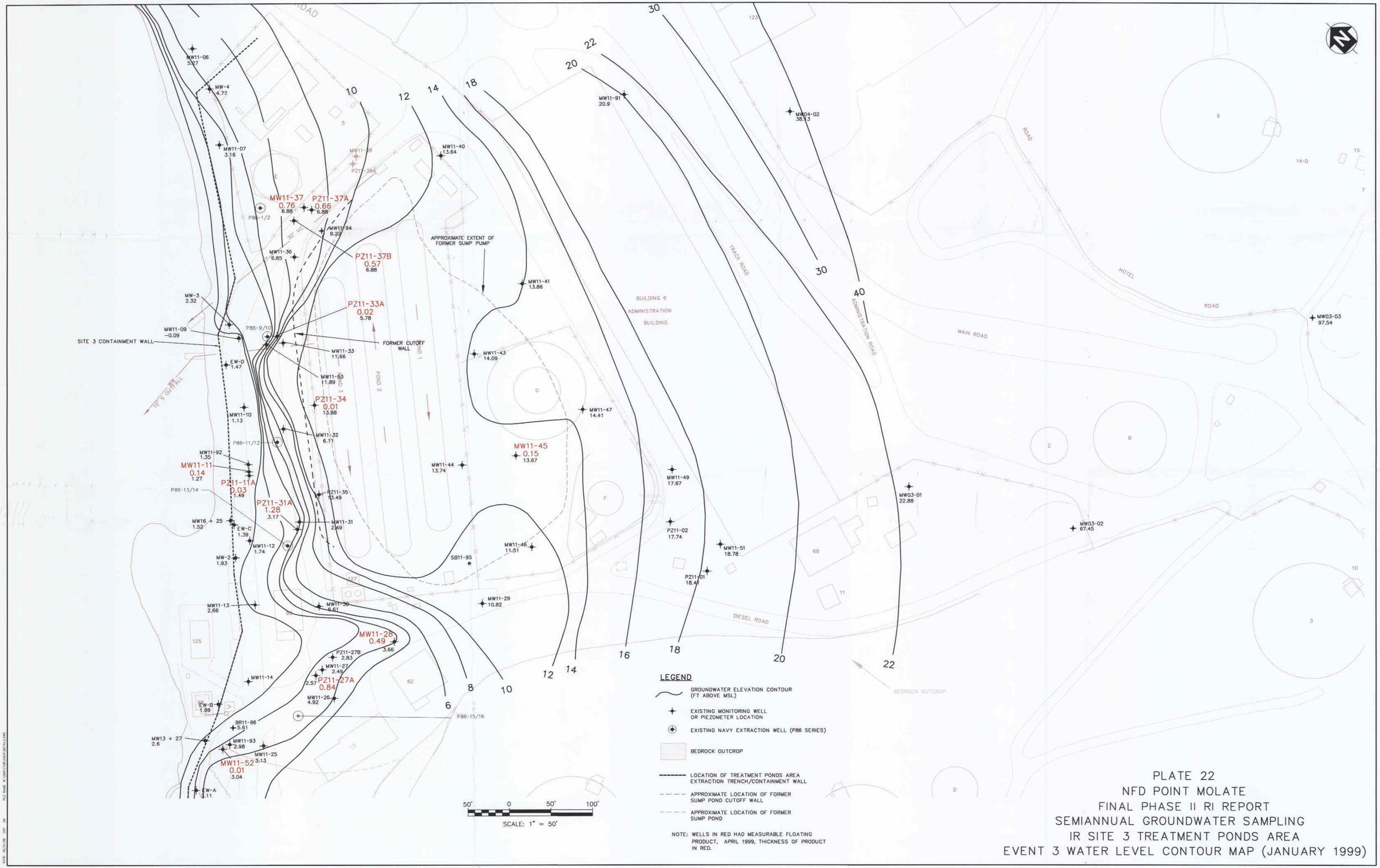
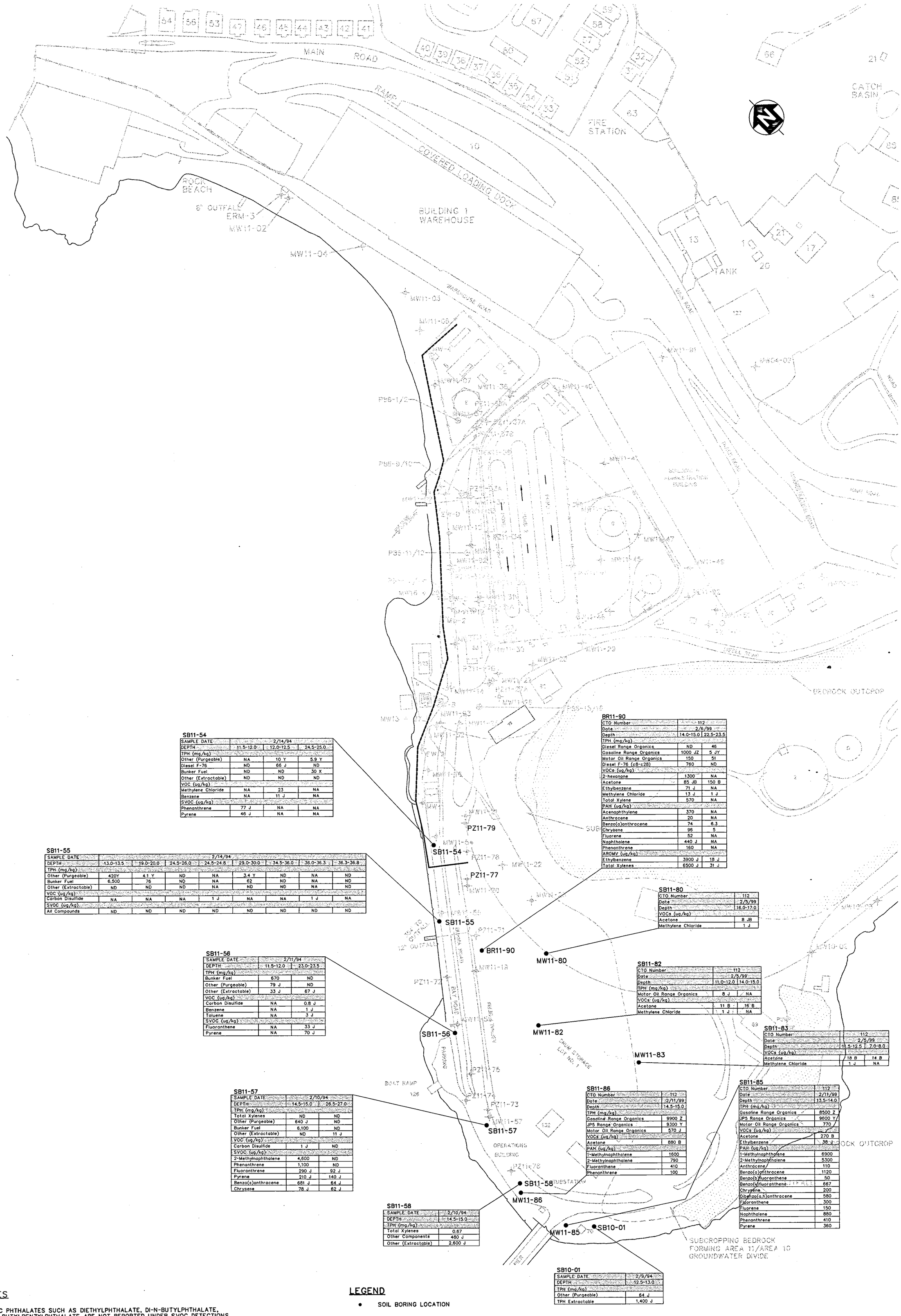


PLATE 22
NFD POINT MOLATE
FINAL PHASE II RI REPORT
SEMIANNUAL GROUNDWATER SAMPLING
IR SITE 3 TREATMENT PONDS AREA
EVENT 3 WATER LEVEL CONTOUR MAP (JANUARY 1999)



SB11-54

SAMPLE DATE	2/14/94		
DEPTH	11.5-12.0	12.0-12.5	24.5-25.0
TPH (mg/kg)			
Other (Purgeable)	NA	10 Y	5.9 Y
Diesel F-76	ND	66 J	ND
Bunker Fuel	ND	ND	30 X
Other (Extractable)	ND	ND	ND
VOC (ug/kg)			
Methylene Chloride	NA	23	NA
Benzene	NA	11 J	NA
SVOC (ug/kg)			
Phenanthrene	77 J	NA	NA
Pyrene	46 J	NA	NA

SB11-55

SAMPLE DATE	2/14/94							
DEPTH	13.0-13.5	19.0-20.0	24.5-26.0	24.5-24.8	29.0-30.0	34.5-36.0	36.0-36.3	36.3-36.8
TPH (mg/kg)								
Other (Purgeable)	420Y	4.1 Y	ND	NA	3.4 Y	ND	NA	ND
Bunker Fuel	6,500	76	ND	NA	62	ND	NA	ND
Other (Extractable)	ND	ND	ND	NA	ND	ND	NA	ND
VOC (ug/kg)								
Carbon Disulfide	NA	NA	NA	1 J	NA	NA	1 J	NA
SVOC (ug/kg)								
All Compounds	ND	ND	ND	ND	ND	ND	ND	ND

SB11-56

SAMPLE DATE	2/11/94	
DEPTH	11.5-12.0	23.0-23.5
TPH (mg/kg)		
Bunker Fuel	670	ND
Other (Purgeable)	79 J	ND
Other (Extractable)	33 J	67 J
VOC (ug/kg)		
Carbon Disulfide	NA	0.8 J
Benzene	NA	1 J
Toluene	NA	3 J
SVOC (ug/kg)		
Fluoranthene	NA	33 J
Pyrene	NA	70 J

SB11-57

SAMPLE DATE	2/10/94	
DEPTH	14.5-15.0	26.5-27.0
TPH (mg/kg)		
Total Xylenes	ND	ND
Other (Purgeable)	640 J	ND
Bunker Fuel	6,100	ND
Other (Extractable)	ND	11 J
VOC (ug/kg)		
Carbon Disulfide	1 J	ND
SVOC (ug/kg)		
2-Methylnaphthalene	4,600	ND
Phenanthrene	1,100	ND
Fluoranthrene	290 J	92 J
Pyrene	210 J	140 J
Benzo(a)anthracene	681 J	64 J
Chrysene	78 J	62 J

SB11-58

SAMPLE DATE	2/10/94
DEPTH	14.5-15.0
TPH (mg/kg)	
Total Xylenes	0.67
Other Components	480 J
Other (Extractable)	2,600 J

BR11-90

CTO Number	112	
Date	2/6/99	
Depth	14.0-15.0	22.5-23.5
TPH (mg/kg)		
Diesel Range Organics	ND	46
Gasoline Range Organics	1000 JZ	5 JY
Motor Oil Range Organics	150	51
Diesel F-76 (c8-c28)	760	ND
VOCs (ug/kg)		
2-hexanone	1300	NA
Acetone	85 JB	150 B
Ethylbenzene	71 J	NA
Methylene Chloride	13 J	1 J
Total Xylene	570	NA
PAH (ug/kg)		
Acenaphthylene	370	NA
Anthracene	20	NA
Benzo(a)anthracene	74	6.3
Chrysene	96	5
Fluorene	52	NA
Naphthalene	440 J	NA
Phenanthrene	160	NA
AROMV (ug/kg)		
Ethylbenzene	3900 J	18 J
Total Xylenes	6500 J	31 J

SB11-80

CTO Number	112
Date	2/5/99
Depth	16.0-17.0
VOCs (ug/kg)	
Acetone	8 JB
Methylene Chloride	1 J

SB11-82

CTO Number	112	
Date	2/5/99	
Depth	11.0-12.0	14.0-15.0
TPH (mg/kg)		
Motor Oil Range Organics	8 J	NA
VOCs (ug/kg)		
Acetone	11 B	16 B
Methylene Chloride	1 J	NA

SB11-83

CTO Number	112	
Date	2/5/99	
Depth	11.5-12.5	7.0-8.0
VOCs (ug/kg)		
Acetone	18 B	14 B
Methylene Chloride	1 J	NA

SB11-86

CTO Number	112
Date	2/11/99
Depth	14.5-15.0
TPH (mg/kg)	
Gasoline Range Organics	9900 Z
JP5 Range Organics	9300 Y
Motor Oil Range Organics	570 J
VOCs (ug/kg)	
Acetone	880 B
PAH (ug/kg)	
1-Methylnaphthalene	1600
2-Methylnaphthalene	790
Fluoranthene	410
Phenanthrene	100

SB11-85

CTO Number	112
Date	2/11/99
Depth	13.5-14.0
TPH (mg/kg)	
Gasoline Range Organics	8500 Z
JP5 Range Organics	9600 Y
Motor Oil Range Organics	770
VOCs (ug/kg)	
Acetone	270 B
Ethylbenzene	38 J
PAH (ug/kg)	
1-Methylnaphthalene	6900
2-Methylnaphthalene	5300
Anthracene	110
Benzo(a)anthracene	1120
Benzo(b)fluoranthene	50
Benzo(k)fluoranthene	667
Chrysene	200
Dibenzo(a,h)anthracene	580
Fluoranthene	300
Fluorene	150
Naphthalene	880
Phenanthrene	410
Pyrene	360

SB10-01

SAMPLE DATE	2/9/94
DEPTH	12.5-13.0
TPH (mg/kg)	
Other (Purgeable)	64 J
TPH Extractable	1,400 J

NOTES

1. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.
2. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
   ND: NOT DETECTED
   NA: NOT ANALYZED
3. DATA QUALIFIERS:
   ORGANIC DATA QUALIFIERS
   - J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
   - Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
   - Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

LEGEND

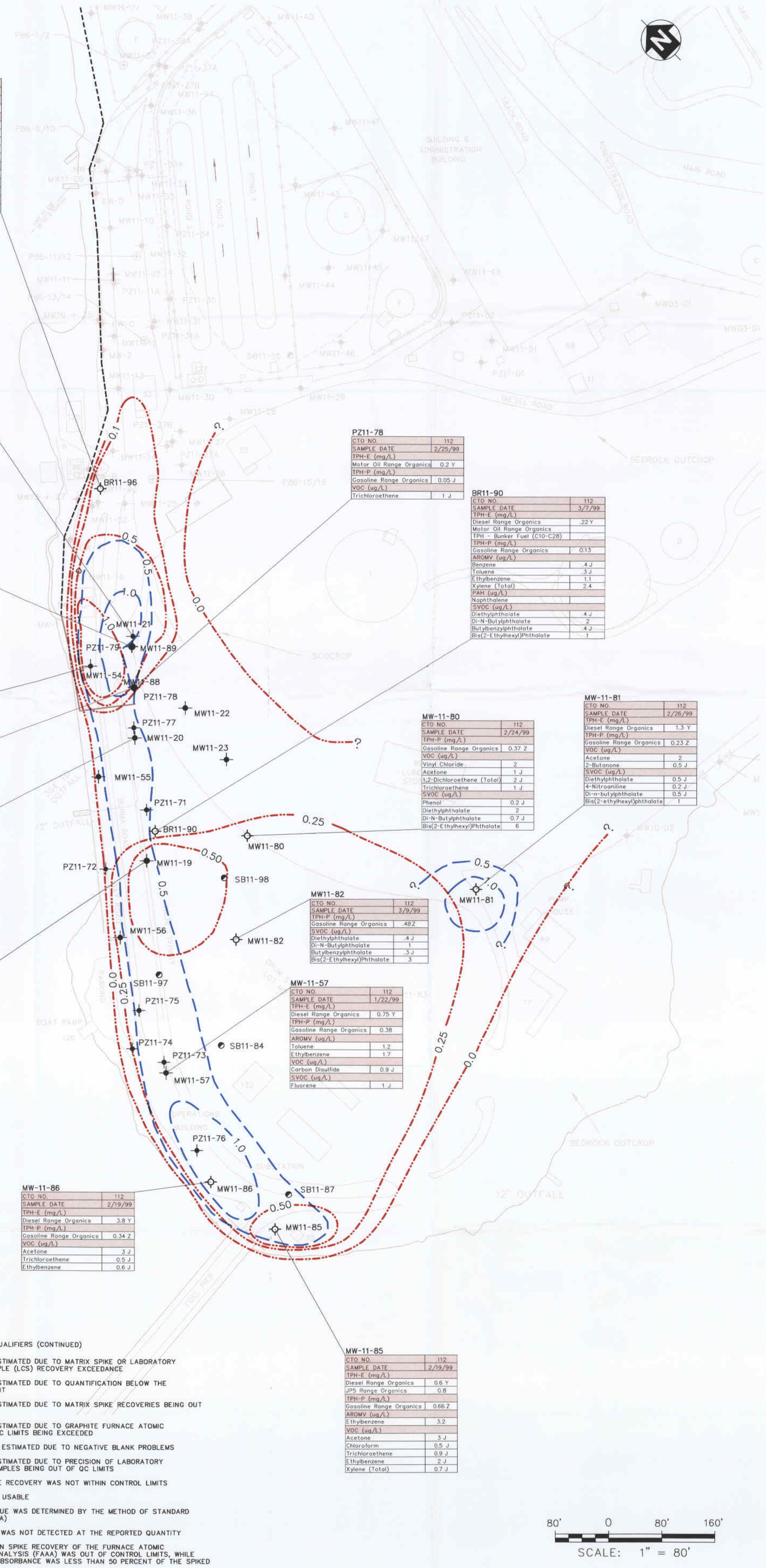
- SOIL BORING LOCATION
- EXISTING MONITORING WELL OR PIEZOMETER LOCATION
- EXISTING NAVY EXTRACTION WELL (P86 SERIES)
- BEDROCK OUTCROP
- LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL

100' 0 100' 200'

SCALE: 1" = 100'

PLATE 23
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 DRUM LOT NO. 1
SOIL SAMPLING RESULTS

DATE: 06/29/99 DMF DN FILE NAME: R:\069\1128\0404\S4-HSSB.DWG



BR11-96

CTO NO.	112
SAMPLE DATE	2/25/99
TPH-P (mg/L)	
Gasoline Range Organics	0.19 Z
VOA (ug/L)	
Vinyl Chloride	3
Acetone	5
Chloroform	0.6 J
2-Butanone	5
Xylene (Total)	1 J
SVOC (ug/L)	
Phenol	0.4 J
Diethylphthalate	12
Di-N-Butylphthalate	1
Butylbenzylphthalate	0.4 J
Bis(2-ethylhexyl)phthalate	3

MW-11-21

CTO NO.	112
SAMPLE DATE	1/21/99
TPH-E (mg/L)	
Diesel Range Organics	1.3
TPH-P (mg/L)	
Gasoline Range Organics	0.97
AROMV (ug/L)	
Benzene	20
Toluene	20.1
Ethylbenzene	3.6
Xylene (Total)	28
Methyl-t-butyl Ether	20
VOC (ug/L)	
Benzene	3 J
Toluene	7 J
Ethylbenzene	1 J
Xylene (Total)	21 J

MW-11-89

CTO NO.	112
SAMPLE DATE	2/25/99
TPH-E (mg/L)	
Diesel Range Organics	0.54 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.06 Z
VOC (ug/L)	
Acetone	3
Trichloroethene	0.5 J
2-Hexanone	3
SVOC (ug/L)	
Diethylphthalate	0.5 J
Di-n-butylphthalate	1
Butylbenzylphthalate	0.2 J
3,3'-Dichlorobenzidine	ND U
Bis(2-ethylhexyl)phthalate	0.7 J

PZ11-78

CTO NO.	112
SAMPLE DATE	2/25/99
TPH-E (mg/L)	
Motor Oil Range Organics	0.2 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.05 J
VOC (ug/L)	
Trichloroethene	1 J

BR11-90

CTO NO.	112
SAMPLE DATE	3/7/99
TPH-E (mg/L)	
Diesel Range Organics	.22 Y
Motor Oil Range Organics	
TPH - Bunker Fuel (C10-C28)	
TPH-P (mg/L)	
Gasoline Range Organics	0.13
AROMV (ug/L)	
Benzene	.4 J
Toluene	.3 J
Ethylbenzene	1.1
Xylene (Total)	2.4
PAH (ug/L)	
Naphthalene	
SVOC (ug/L)	
Diethylphthalate	.4 J
Di-N-Butylphthalate	2
Butylbenzylphthalate	.4 J
Bis(2-Ethylhexyl)Phthalate	1

MW-11-54

CTO NO.	112
SAMPLE DATE	1/19/99
TPH-E (mg/L)	
Diesel Range Organics	0.92 J
TPH-P (mg/L)	
Gasoline Range Organics	1.21
AROMV (ug/L)	
Benzene	19.2
Toluene	21.4
Ethylbenzene	3.1
Xylene (Total)	22
Methyl-T-Butyl Ether	30
VOC (ug/L)	
Benzene	4 J
Toluene	8 J
Ethylbenzene	1 J
Xylene (Total)	23
SVOC (ug/L)	
2-Methylnaphthalene	21 J

MW-11-88

CTO NO.	112
SAMPLE DATE	2/25/99
TPH-E (mg/L)	
Diesel Range Organics	2.52 Y
TPH-P (mg/L)	
Gasoline Range Organics	2.8 Y
AROMV (ug/L)	
Ethylbenzene	65
Xylene (Total)	84
PAH (ug/L)	
Naphthalene	4 J
2-Methylnaphthalene	13
Fluorene	3
Phenanthrene	2
Fluoranthene	2.4
Pyrene	3.7
Chrysene	0.3
Benzo(k)fluoranthene	0.1 J
Benzo(a)pyrene	0.1 J
Dibenzo(a,h)anthracene	0.5
1-Methylnaphthalene	17
VOC (ug/L)	
Chloromethane	4 J
Toluene	4 J
Ethylbenzene	56
Xylene (Total)	73
SVOC (ug/L)	
2-Methylnaphthalene	7 J
Bis(2-ethylhexyl)phthalate	6 J

MW-11-80

CTO NO.	112
SAMPLE DATE	2/24/99
TPH-P (mg/L)	
Gasoline Range Organics	0.37 Z
VOC (ug/L)	
Vinyl Chloride	2
Acetone	1 J
1,2-Dichloroethene (Total)	2 J
Trichloroethene	1 J
SVOC (ug/L)	
Phenol	0.2 J
Diethylphthalate	2
Di-N-Butylphthalate	0.7 J
Bis(2-Ethylhexyl)Phthalate	6

MW-11-81

CTO NO.	112
SAMPLE DATE	2/26/99
TPH-E (mg/L)	
Diesel Range Organics	1.3 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.23 Z
VOC (ug/L)	
Acetone	2
2-Butanone	0.5 J
SVOC (ug/L)	
Diethylphthalate	0.5 J
4-Nitroaniline	0.2 J
Di-n-butylphthalate	0.5 J
Bis(2-ethylhexyl)phthalate	1

MW-11-20

CTO NO.	112
SAMPLE DATE	1/22/99
TPH-E (mg/L)	
Diesel Range Organics	0.67
TPH-P (mg/L)	
Gasoline Range Organics	0.22
AROMV (ug/L)	
Toluene	1.4
Methyl-t-butyl Ether	8

MW-11-82

CTO NO.	112
SAMPLE DATE	3/9/99
TPH-P (mg/L)	
Gasoline Range Organics	.48 Z
SVOC (ug/L)	
Diethylphthalate	.4 J
Di-N-Butylphthalate	1
Butylbenzylphthalate	.3 J
Bis(2-Ethylhexyl)Phthalate	3

MW-11-19

CTO NO.	112
SAMPLE DATE	1/22/99
TPH-E (mg/L)	
Diesel Range Organics	0.96 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.67
AROMV (ug/L)	
Benzene	14
Toluene	10.4
Ethylbenzene	3
Xylene (Total)	11
Methyl-t-butyl Ether	4 J
VOC (ug/L)	
Benzene	6 J
Toluene	1 J
Ethylbenzene	0.3 J
Xylene (Total)	3 J

MW-11-57

CTO NO.	112
SAMPLE DATE	1/22/99
TPH-E (mg/L)	
Diesel Range Organics	0.75 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.38
AROMV (ug/L)	
Toluene	1.2
Ethylbenzene	1.7
VOC (ug/L)	
Carbon Disulfide	0.9 J
SVOC (ug/L)	
Fluorene	1 J

MW-11-86

CTO NO.	112
SAMPLE DATE	2/19/99
TPH-E (mg/L)	
Diesel Range Organics	3.8 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.34 Z
VOC (ug/L)	
Acetone	3 J
Trichloroethene	0.5 J
Ethylbenzene	0.6 J

MW-11-85

CTO NO.	112
SAMPLE DATE	2/19/99
TPH-E (mg/L)	
Diesel Range Organics	0.6 Y
JP5 Range Organics	0.8
TPH-P (mg/L)	
Gasoline Range Organics	0.66 Z
AROMV (ug/L)	
Ethylbenzene	3.2
VOC (ug/L)	
Acetone	3 J
Chloroform	0.5 J
Trichloroethene	0.9 J
Ethylbenzene	2 J
Xylene (Total)	0.7 J

NOTES

1. TOTAL BTEX CONCENTRATIONS FROM TPH PURGEABLE ANALYSIS HAVE BEEN CONTOURED THROUGHOUT DRUM LOT NO. 1; CONTOURS ARE INFERRED (DASHED) WHERE DATA IS LACKING.

2. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.

3. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
   ND: NOT DETECTED
   NA: NOT ANALYZED
   NR: NOT REPORTED

4. DATA QUALIFIERS:

ORGANIC DATA QUALIFIERS

- B — COMPOUND DETECTED IN AN ASSOCIATED BLANK AS WELL AS THE SAMPLE
- D — COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR
- E — COMPOUND CONCENTRATION EXCEEDS THE GAS CHROMATOGRAPH/MASS SPECTROMETER (GC/MS) CALIBRATION RANGE
- J — VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
- J-A — VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE
- J-G — VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
- J-K — VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS
- J-N — VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND
- J-S — VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS
- R — VALUE IS NOT USABLE
- Y — HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
- Z — CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

- B — VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
- E — VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
- J-B — VALUE WAS ESTIMATED DUE TO LABORATORY METHOD BLANK CONTAMINATION OR COMMON BLANK CONTAMINATION
- J-D — VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

INORGANIC DATA QUALIFIERS (CONTINUED)

- J-E — VALUE WAS ESTIMATED DUE TO MATRIX SPIKE OR LABORATORY CONTROL SAMPLE (LCS) RECOVERY EXCEEDANCE
- J-G — VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
- J-N — VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
- J-W — VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
- J-Z — ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS
- J-* — VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
- N — SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
- R — VALUE IS NOT USABLE
- S — REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
- U — THE ANALYTE WAS NOT DETECTED AT THE REPORTED QUANTITY
- W — POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE
- + — CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

LEGEND

- EXISTING MONITORING WELL OR PIEZOMETER LOCATION
- EXISTING NAVY EXTRACTION WELL (P86 SERIES)
- LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL
- CONTOUR OF TPH AS GASOLINE IN mg/L, 1999 DATA
- CONTOUR OF TPH AS DIESEL IN mg/L, 1999 DATA

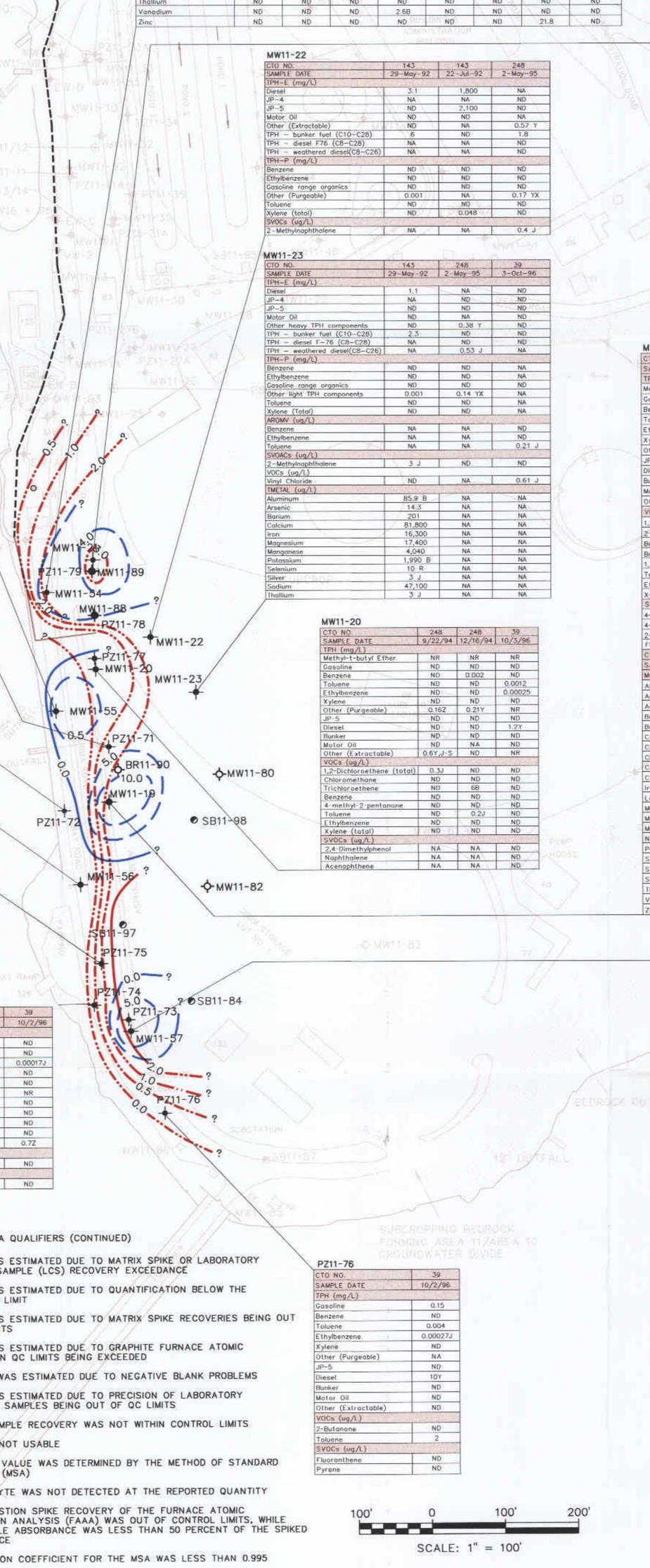
80' 0 80' 160'

SCALE: 1" = 80'

PLATE 24A
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 DRUM LOT NO. 1
GROUNDWATER SAMPLING RESULTS
JAN./FEB. 1999

R:\069\112B\0404\ DRUM99.dwg 05/25/2000 FORDD DN

R:\069\112B\0404\ S4-DRUM2.dwg 05/25/2000 FORDD DN



MW11-54

CTO NO.	248	248	248	248	39
SAMPLE DATE	3/29/94	6/24/94	9/29/94	12/16/94	10/3/96
TPH (mg/L)					
Gasoline	ND	ND	ND	ND	1.8J
Benzene	0.018	0.022	0.021J-K	0.018	0.0089J-S
Toluene	0.007	0.005	0.007J-K	ND	0.02J-S
Ethylbenzene	ND	ND	0.002J-K	0.006	0.0029J-S
Xylene	0.021	0.021	0.018J-K	0.037	0.0195J-S
Other (Purgeable)	1.7Y	2.5Y	1.9Y	2.2Y	NR
JP-5	ND	ND	ND	ND	ND
Diesel	1.9	ND	ND	ND	ND
Bunker	ND	7.7J	4.5J	ND	5.2Y
Motor Oil	ND	ND	ND	NA	ND
Other (Extractable)	ND	ND	ND	2.0Y	ND
VOCs (ug/L)					
2-Butanone	26	4J-K	ND	3	ND
Benzene	4	5J-S	6	2BJ	ND
Toluene	8	8J-S	7	6	ND
Ethylbenzene	2J	1J	0.9	8B	ND
Xylene (total	34B	27J-S	22	39B	ND
SVOCs (ug/L)					
4-Methylphenol	3J	6J	ND	2J	ND
2,4-Dimethylphenol	ND	ND	ND	ND	ND
1-Methylnaphthalene	ND	ND	ND	ND	14
2-Methylnaphthalene	24	16	12	13	ND
Acenaphthene	ND	ND	ND	ND	ND
Dibenzofuran	2J	ND	ND	1J	NA
Fluorene	3J	ND	1J	2J	ND
Phenanthrene	2J	ND	0.8J	ND	ND
Fluoranthene	ND	ND	ND	ND	ND
Pyrene	ND	ND	ND	ND	ND

CTO NO.	248		248		248		248	
SAMPLING DATE	3/30/94		6/24/94		9/29/94		12/16/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	571J-*	ND	840	ND	ND	ND	ND
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	7.4B	10.4J-W	5.8B	12.6	ND	ND	ND	ND
Barium	25.3B	39.9B	49.9B	67.0J-ND	66.4B	65.6B	31.3B	33.1B
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	53900	55600	69800	74500J-D	74300J-D	72400	41500	41400
Chromium	ND	ND	ND	3.0B	ND	ND	ND	ND
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND
Copper	ND	ND	ND	ND	7.4J-Z	ND	1.3J-Z	ND
Iron	2740	6730	3150	8380J-*D	7760J-D	7880J-ND	4420	4690
Lead	ND	ND	ND	3.4	2.7B	ND	2.3J-Z	1.4B
Magnesium	22100	22400	28900	30400J-D	30200J-D	29000J-D	17600	17800
Manganese	3150	3,330	4350	4570J-D	4750J-D	4,680	1910	1890
Mercury (7471)	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	7.1B	ND	ND	ND	3.4B	ND	ND	ND
Potassium	7970	7030	11200	11800J-*D	12000J-D*	11100J-D	6020	6150
Selenium (7746)	ND	ND	ND	ND	28.7J-*	28.3*	ND	ND
Silver	ND	ND	ND	ND	ND	ND	ND	ND
Sodium	144000	142000	184000J-D	18900	194000J-D	182000J-D*	95100J-D	96600J-D
Thallium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	ND	2.6B	ND	ND	ND	ND
Zinc	ND	ND	ND	ND	ND	ND	21.8	ND

MW11-21

CTO NO.	143	248	248	248	248	39
SAMPLE DATE	5/29/92	3/29/94	6/23/94	9/22/94	12/16/94	10/3/96
TPH (mg/L)						
Methyl-t-butyl Ether	NR	NR	NR	NR	NR	NR
Gasoline	0.800	ND	ND	ND	ND	0.450
Benzene	0.019	ND	0.013	62J-K	0.025	0.0035
Toluene	0.016	0.006	0.012	35J-K	0.024	0.0052
Ethylbenzene	0.006	0.0006	0.002	ND	0.025	0.0021
Xylene	0.038	0.017	0.033	55J-K	0.076	0.0063
Other (Purgeable)	ND	0.014Y	0.017Y	2300Y	3Y	NR
JP-5	ND	ND	ND	ND	ND	ND
Diesel	0.041	ND	ND	ND	ND	ND
Bunker	ND	7.4	0.096J-K	ND	4.8	2.1
Motor Oil	ND	ND	ND	ND	NA	NA
Other (Extractable)	ND	ND	ND	0.035Y,J-S	ND	ND
VOCs (ug/L)						
Chloromethane	ND	ND	ND	ND	ND	ND
Chloroform	1BJ	ND	ND	ND	ND	ND
1,2 Dichloroethane	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	ND	ND	ND	ND	ND
Benzene	7	2J	4J-S	10	9	1.5
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND
Toluene	13	6	11J-S	20	28	2
Chlorobenzene	2	ND	ND	2J	ND	ND
Ethylbenzene	6	2J	0.8J	2J	29	ND
Xylene (total)	35	22B	36J-S	64	83B	3.6
SVOCs (ug/L)						
2,4-Dimethylphenol	ND	ND	ND	ND	ND	ND
Naphthalene	ND	ND	ND	ND	ND	ND
2-Methylnaphalene	ND	ND	ND	ND	ND	ND
Acenaphthene	ND	ND	ND	ND	ND	ND
Phenanthrene	ND	ND	ND	ND	ND	ND

CTO NO.	143	248	
SAMPLING DATE	05/29/92	03/29/94	
Metals (ug/L)	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	ND	3930
Antimony	ND	ND	ND
Arsenic	23.6NJ	26	2.4B
Barium	86.2	62.8B	120B
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Calcium	65,800	66,400	72,700
Chromium	ND	ND	6.3B
Cobalt	ND	ND	2.5B
Copper	ND	ND	ND
Iron	15,400	9,120	17,800
Lead	2.6J	ND	5.9S
Magnesium	25,700	22,900	26,000
Manganese	4,550	3,100	3,410
Mercury	ND	ND	0.43J-*
Nickel	ND	ND	16.0B
Potassium	ND	ND	ND
Selenium	ND	20.0R-N	20R-NW
Silver	ND	ND	ND
Sodium	102,000	94,400	10200
Thallium	ND	ND	ND
Vanadium	ND	ND	ND
Zinc	ND	ND	20.3

MW11-22

CTO NO.	143	143	248
SAMPLE DATE	29-May-92	22-Jul-92	2-May-95
TPH-E (mg/L)			
Diesel	3.1	1,800	NA
JP-4	NA	NA	ND
JP-5	ND	2,100	ND
Motor Oil	ND	ND	NA
Other (Extractable)	ND	NA	0.57 Y
TPH - bunker fuel (C10-C28)	6	ND	1.8
TPH - diesel F76 (C8-C28)	NA	NA	ND
TPH - weathered diesel(C8-C26)	NA	NA	ND
TPH-P (mg/L)			
Benzene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Gasoline range organics	ND	ND	ND
Other (Purgeable)	0.001	NA	0.17 YX
Toluene	ND	ND	ND
Xylene (total)	ND	0.0148	ND
SVOCs (ug/L)			
2-Methylnaphthalene	NA	NA	0.4 J

MW11-23

CTO NO.	143	248	39
SAMPLE DATE	29-May-92	2-May-95	3-Oct-96
TPH-E (mg/L)			
Diesel	1.1	NA	ND
JP-4	NA	ND	ND
JP-5	ND	ND	ND
Motor Oil	ND	NA	ND
Other heavy TPH components	ND	0.38 Y	ND
TPH - bunker fuel (C10-C28)	2.3	ND	ND
TPH - diesel F-76 (C8-C28)	NA	ND	ND
TPH - weathered diesel(C8-C26)	NA	0.53 J	NA
TPH-P (mg/L)			
Benzene	ND	ND	NA
Ethylbenzene	ND	ND	ND
Gasoline range organics	ND	ND	ND
Other light TPH components	0.001	0.14 YX	NA
Toluene	ND	ND	NA
Xylene (Total)	ND	ND	NA
AROMV (ug/L)			
Benzene	NA	NA	ND
Ethylbenzene	NA	NA	ND
Toluene	NA	NA	0.21 J
SVOACs (ug/L)			
2-Methylnaphthalene	3 J	ND	ND
VOCs (ug/L)			
Vinyl Chloride	ND	NA	0.61 J
TMETAL (ug/L)			
Aluminum	85.9 B	NA	NA
Arsenic	14.3	NA	NA
Barium	201	NA	NA
Calcium	81,800	NA	NA
Iron	16,300	NA	NA
Magnesium	17,400	NA	NA
Manganese	4,040	NA	NA
Potassium	1,990 B	NA	NA
Selenium	10 R	NA	NA
Silver	3 J	NA	NA
Sodium	47,100	NA	NA
Thallium	3 J	NA	NA

MW11-20

CTO NO.	248	248	39
SAMPLE DATE	9/22/94	12/16/94	10/3/96
TPH (mg/L)			
Methyl-t-butyl Ether	NR	NR	NR
Gasoline	ND	ND	ND
Benzene	ND	0.002	ND
Toluene	ND	ND	0.0012
Ethylbenzene	ND	ND	0.00025
Xylene	ND	ND	ND
Other (Purgeable)	0.16Z	0.21Y	NR
JP-5	ND	ND	ND
Diesel	ND	ND	1.2Y
Bunker	ND	ND	ND
Motor Oil	ND	NA	ND
Other (Extractable)	0.6Y,J-S	ND	NR
VOCs (ug/L)			
1,2-Dichloroethene (total)	0.3J	ND	ND
Chloromethane	ND	ND	ND
Trichloroethene	ND	6B	ND
Benzene	ND	ND	ND
4-methyl-2-pentanone	ND	ND	ND
Toluene	ND	0.2J	ND
Ethylbenzene	ND	ND	ND
Xylene (total)	ND	ND	ND
SVOCs (ug/L)			
2,4-Dimethylphenol	NA	NA	ND
Naphthalene	NA	NA	ND
Acenaphthene	NA	NA	ND

MW11-19

CTO NO.	143	248	248	248	248	39
SAMPLE DATE	5/28/92	3/22/94	6/26/94	9/27/94	12/19/94	10/04/96
TPH (mg/L)						
Methyl-t-butyl Ether	NR	NR	NR	NR	NR	NR
Gasoline	ND	ND	ND	ND	ND	1.8J-S
Benzene	0.023	0.073	0.009	0.003J-K	0.01	0.018JS
Toluene	0.005	0.014	0.006	ND	ND	ND
Ethylbenzene	0.005	0.013	ND	0.001J-K	0.002	0.075J-S
Xylene	0.012	0.042	0.007	0.006J-K	0.004	0.0153J-S
Other (Purgeable)	NA	7.7	2.6Y	0.73Z	1.3Y	NR
JP-5 (JP-4)	ND	0.27(JP-4)	2.4(JP-4)	0.05R	ND	ND
Diesel	ND	ND	ND	0.05R	ND	3.7Y
Bunker	.6	2.4J-K	6.9J-S	0.5R	10J-S	ND
Motor Oil	ND	ND	ND	ND	NA	ND
Other (Extractable)	NA	ND	ND	2.5Y,J-S	3.9Y,J-S	ND
VOCs (ug/L)						
1,2-Dichloroethene (total)	ND	0.5J	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	3J-S	ND
Benzene	16	53	8J	11J-H	8J-S	13J
Bromoform	ND	3R	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	3R	ND	ND	ND	ND
Toluene	2J	8	ND	2J-H	1J-S	ND
Ethylbenzene	2J	10	2J	1J-H	2J-S	ND
Xylene (total)	6J	31	8J	7J-H	6J-S	ND
SVOCs (ug/L)						
4-Methylphenol	ND	ND	ND	ND	12	ND
4-Chloroaniline	ND	10K	ND	ND	ND	ND
2-Methylnaphthalene	ND	1J	ND	ND	ND	ND
Fluorene	ND	ND	ND	0.9J	ND	ND

CTO NO.	143	248		248		248	
SAMPLING DATE	05/28/92	03/22/94		06/28/94		09/27/94	
Metals (ug/L)	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	425	ND	1960J-N	1120J-D	23,900	ND	19,900
Antimony	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND	14.2	ND	ND
Barium	109	101B	112B	158B	365J-ND	204	375
Beryllium	ND	ND	ND	ND	0.86J-N	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND
Calcium	32,900	39,100	36,600	40,600	50,800J-D	61,600	68,200
Chromium	ND	ND	6.1B	2.6B	52.3	ND	40
Cobalt	ND	ND	ND	ND	21.6B	ND	16.5B
Copper	ND	ND	ND	ND	35.9	ND	26.4J-D
Iron	1,440	1,640	4,220	2140J-D	27500J-*D	1840J-D	21,700J-D
Lead	1.08WJ	1.9B	5.3	2.3J-Z	64.6	ND	48
Magnesium	25,600	30,100	28,600	31,600	42,100J-D	49,600J-D	55,500
Manganese	1,430	1,240	1,220	1,360	2010J-D	1,810	2,200
Mercury	ND	ND	ND	ND	ND	ND	0.36
Nickel	ND	ND	17.7B	3.9B	64.1	ND	48
Potassium	10,600	13,500	12,900	18,500J-D	28,200J-*D	29,400J-D	37,100J-D
Selenium	ND	2.7B+	ND	ND	ND	ND	ND
Silver	ND	ND	2.0R	ND	ND	ND	ND
Sodium	32,800	395,000	370,000	433,000J-D	466,000	650,000J-D	641,000J-D
Thallium	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	2.6J-Z	3.2B	64.9	ND	50
Zinc	ND	ND	ND	ND	87.9	ND	72.0J-D

MW11-57

CTO NO.	248	248	248	248	39
SAMPLE DATE	3/28/94	6/30/94	9/24/94	12/20/94	10/2/96
TPH (mg/L)					
Gasoline	ND	ND	ND	ND	0.17
Benzene	ND	ND	ND	0.005	0.0011
Toluene	ND	ND	ND	ND	0.0023
Ethylbenzene	ND	ND	ND	ND	0.0019
Xylene	ND	ND	ND	0.012	0.0018
Other (Purgeable)	0.91Y	0.64Y,J-N	2Y	2.4Y	NA
JP-5	ND	ND	ND	ND	ND
Diesel	ND	ND	ND	ND	ND
Bunker	5.5	28J	6.6J-SK	9	2.3Y
Motor Oil	ND	ND	NA	NA	ND
Other (Extractable)	ND	ND	NA	ND	ND
VOCs (ug/L)					
Vinyl Chloride	11	8	ND	19J-S	0.71J
Carbon Disulfine	ND	ND	ND	ND	0.51J
1,1 Dichloroethene	ND	ND	ND	0.1J-S	ND
1,2 Dichloroethene (total)	8	1J	0.6J	11J-S	1.1
Benzene	0.7J	0.5J	0.1J	1J-S	0.54J
Toluene	ND	ND	ND	ND	0.55J
Xylene	ND	ND	ND	0.4J-S	0.91J
1,3-Dichlorobenzene	ND	ND	ND	ND	0.52J
1,4-Dichlorobenzene	ND	ND	ND	ND	0.51J
1,2-Dichlorobenzene	ND	ND	ND	ND	0.55J
cis-1,2-Dichloroethene	ND	ND	ND	ND	1
SVOCs (ug/L)					
2-Methylnaphthalene	ND	ND	ND	0.8J	NA
Acenaphthene	ND	ND	ND	ND	ND
Fluorene	ND	2J	1J	2J	ND
Phenanthrene	ND	ND	ND	ND	ND
Fluoranthene	ND	1J	0.7J	ND	NA
Pyrene	ND	ND	0.6J	ND	NA

CTO NO.	248		248	
SAMPLING DATE	3/28/94		6/30/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	14,900	ND	50,500
Antimony	ND	ND	ND	ND
Arsenic	ND	ND	ND	19.60
Barium	207	326.0	212	684.0
Beryllium	ND	ND	ND	2.7J-Z
Cadmium	ND	ND	ND	10.70
Calcium	83800	82,600	59700	74,000
Chromium	ND	12.9	ND	77.9
Cobalt	ND	6.9B	ND	33.8B
Copper	ND	ND	ND	84.0
Iron	1550	16,000	1280	44,200
Lead	ND	23.5S	ND	148.0
Magnesium	79400	74,000	53700	64,500
Manganese	3800	3,780	2800	3,430
Mercury	ND	0.44J-*	ND	0.67J-Z
Nickel	7B	14.8B	ND	81.2
Potassium	15400	17,900	20400J-D	44500J-D
Selenium	20R-N	R	ND	ND
Silver	ND	ND	ND	ND
Sodium	725000	650,000	654000J-D	650000J-D
Thallium	ND	ND	ND	ND
Vanadium	ND	26.9J-Z	1.7B	116.0
Zinc	ND	42.9	ND	195J-D

PZ11-72

CTO NO.	39
SAMPLE DATE	10/4/96
TPH (mg/L)	
Gasoline	0.076
Benzene	ND
Toluene	0.004
Ethylbenzene	0.00019J
Xylene	ND
Other (Purgeable)	NR
JP-5	ND
Diesel	ND
Bunker	ND
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
Tetrachloroethene	ND
SVOCs (ug/L)	
All Compounds	ND

PZ11-71

CTO NO.	39
SAMPLE DATE	10/5/96
TPH (mg/L)	
Gasoline	0.52
Benzene	0.0012J-K
Toluene	ND
Ethylbenzene	0.0024
Xylene	ND
Other (Purgeable)	NR
JP-5	ND
Diesel	0.8Y
Bunker	ND
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
Xylenes	ND
SVOCs (ug/L)	
All Compounds	ND

MW11-56

CTO NO.	248	248	248	248	39
SAMPLE DATE	3/30/94	6/28/94	9/23/94	12/17/94	10/4/96
TPH (mg/L)					
Gasoline	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	0.00043J
Ethylbenzene	ND	ND	ND	ND	ND
Xylene	ND	ND	ND	ND	ND
Other (Purgeable)	0.16Y	ND	ND	ND	NR
JP-5	ND	ND	ND	ND	ND
Diesel	ND	ND	ND	ND	ND
Bunker	ND	ND	ND	ND	ND
Motor Oil	ND	ND	ND	NA	ND
Other (Extractable)	ND	0.36Y	ND	ND	NR
VOCs (ug/L)					
Trichloroethene	ND	ND	ND	0.6J	ND
Benzene	ND	ND	ND	0.08J	ND
Carbon Disulfide	ND	ND	ND	ND	1.1
Xylene (total)	ND	ND	ND	ND	ND
SVOCs (ug/L)					
All Compounds	ND	NA	NA	NA	ND

CTO NO.	248	
SAMPLING DATE	3/30/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	7900
Antimony	ND	ND
Arsenic	ND	ND
Barium	53.4B	146B
Beryllium	ND	ND
Cadmium	ND	ND
Calcium	113000	121000
Chromium	ND	5.1B
Cobalt	ND	8.8B
Copper	ND	ND
Iron	80.7B	10200
Lead	4.6J-W	11.3J-W
Magnesium	314000	334000
Manganese	515	992
Mercury	ND	3.0J-*
Nickel	ND	15.7B
Potassium	122000	131000
Selenium	20R-NW	ND
Silver	ND	28.8J-N
Sodium	3570000	ND
Thallium	2NW	364000
Vanadium	ND	17.1J-Z
Zinc	ND	32.4

PZ11-75

CTO NO.	39
SAMPLE DATE	10/2/96
TPH (mg/L)	
Methyl-t-butyl Ether	NR
Gasoline	3J-S
Benzene	0.0042J-S
Toluene	0.0095J-S
Ethylbenzene	0.0093J-S
Xylene	0.0128J-S
Other (Purgeable)	NR
JP-5	ND
Diesel	ND
Bunker	2BY
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
1,2-Dichloroethane	ND
2-Butanone	ND
Toluene	ND
Xylene	ND
SVOCs (ug/L)	
2,4-Dimethylphenol	ND
1-Methylnaphthalene	18
2-Methylnaphthalene	ND
Fluorene	7
Pyrene	ND

PZ11-74

CTO NO.	39
SAMPLE DATE	10/2/96
TPH (ug/L)	
Gasoline	ND
Benzene	ND
Toluene	0.00017J
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	NR
JP-5	ND
Diesel	ND
Bunker	ND
Motor Oil	ND
Other (Extractable)	0.7Z
VOCs (ug/L)	
All Compounds	ND
SVOCs (ug/L)	
All Compounds	ND

PZ11-76

CTO NO.	39
SAMPLE DATE	10/2/96
TPH (mg/L)	
Gasoline	0.15
Benzene	ND
Toluene	0.004
Ethylbenzene	0.00027J
Xylene	ND
Other (Purgeable)	NA
JP-5	ND
Diesel	10Y
Bunker	ND
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
2-Butanone	ND
Toluene	2
SVOCs (ug/L)	
Fluoranthene	ND
Pyrene	ND

NOTES

1. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.
2. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
   ND: NOT DETECTED
   NA: NOT ANALYZED
   NR: NOT REPORTED
3. DATA QUALIFIERS:

ORGANIC DATA QUALIFIERS

- B COMPOUND DETECTED IN AN ASSOCIATED BLANK AS WELL AS THE SAMPLE
- D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR
- E COMPOUND CONCENTRATION EXCEEDS THE GAS CHROMATOGRAPH/MASS SPECTROMETER (GC/MS) CALIBRATION RANGE
- J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
- J-A VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE
- J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
- J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS
- J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND
- J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS
- R VALUE IS NOT USABLE
- Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
- Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

- B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
- E VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
- J-B VALUE WAS ESTIMATED DUE TO LABORATORY METHOD BLANK CONTAMINATION OR COMMON BLANK CONTAMINATION
- J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

INORGANIC DATA QUALIFIERS (CONTINUED)

- J-E VALUE WAS ESTIMATED DUE TO MATRIX SPIKE OR LABORATORY CONTROL SAMPLE (LCS) RECOVERY EXCEEDANCE
- J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
- J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
- J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
- J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS
- J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
- N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
- R VALUE IS NOT USABLE
- S REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
- U THE ANALYTE WAS NOT DETECTED AT THE REPORTED QUANTITY
- W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE
- + CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

LEGEND

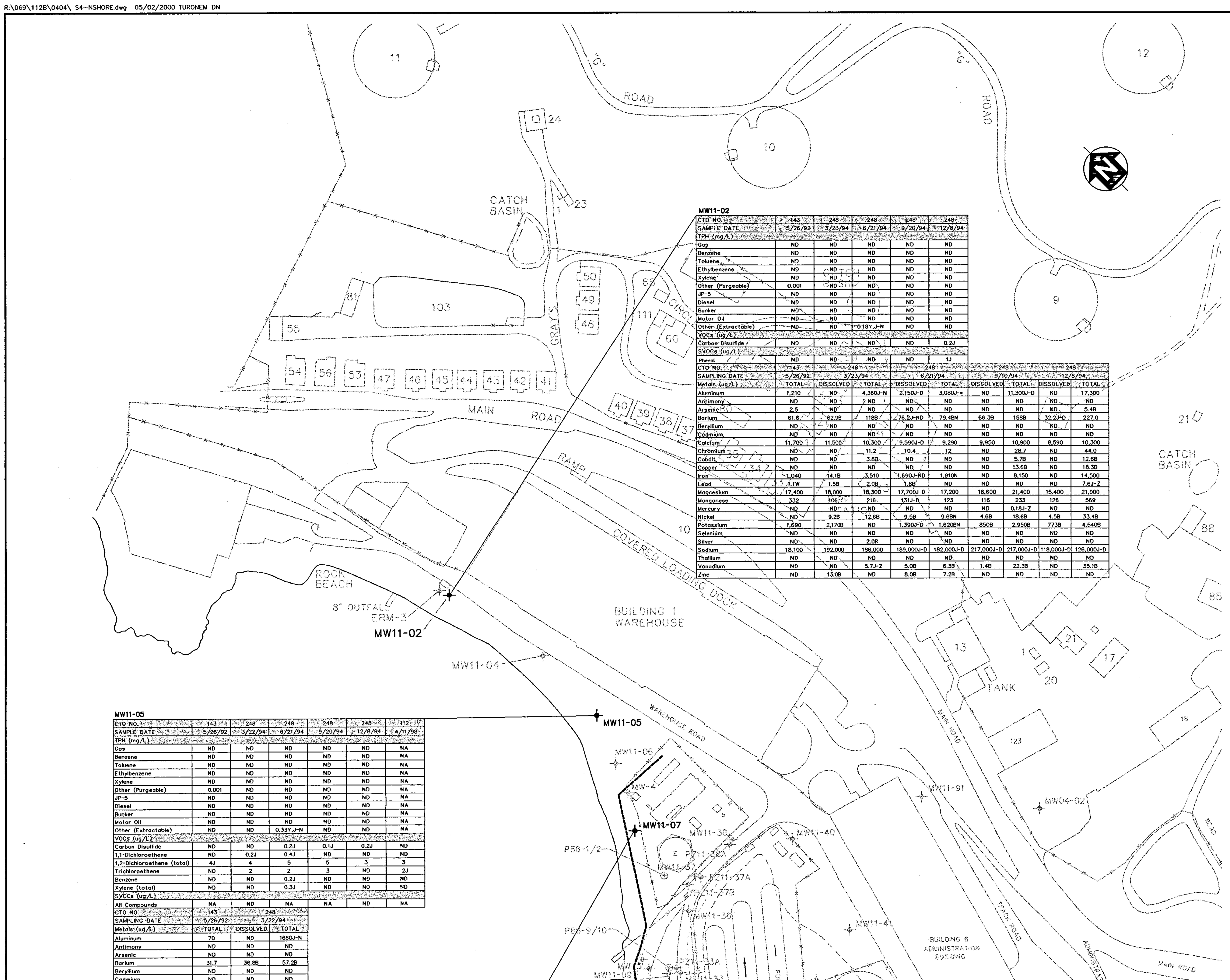
- EXISTING MONITORING WELL OR PIEZOMETER LOCATION
- EXISTING NAVY EXTRACTION WELL (P86 SERIES)
- BEDROCK OUTCROP
- LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL
- CONTOUR OF TPH PURGEABLE IN mg/L, DECEMBER, 1994 DATA
- CONTOUR OF TPH EXTRACTABLEL IN mg/L, DECEMBER, 1994 DATA

100' 0 100' 200'

SCALE: 1" = 100'

PLATE 24B
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 DRUM LOT NO. 1
PRE-1997 GROUNDWATER SAMPLING RESULTS

R:\069\112B\0404\ S4-NSHORE.dwg 05/02/2000 TURONEM DN



MW11-02

CTO NO.	143	248	248	248	248
SAMPLE DATE	5/26/92	3/23/94	6/21/94	9/20/94	12/8/94
TPH (mg/L)					
Gas	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Xylene	ND	ND	ND	ND	ND
Other (Purgeable)	0.001	ND	ND	ND	ND
JP-5	ND	ND	ND	ND	ND
Diesel	ND	ND	ND	ND	ND
Bunker	ND	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND	ND
Other (Extractable)	ND	ND	0.18Y,J-N	ND	ND
VOCs (ug/L)					
Carbon Disulfide	ND	ND	ND	ND	0.2J
SVOCs (ug/L)					
Phenol	ND	ND	ND	ND	1J

CTO NO.	143	248		248		248		248	
SAMPLING DATE	5/26/92	3/23/94		6/21/94		9/10/94		12/8/94	
Metals (ug/L)	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	1,210	ND	4,360J-N	2,150J-D	3,080J-*	ND	11,300J-D	ND	17,300
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	2.5	ND	ND	ND	ND	ND	ND	ND	5.4B
Barium	61.6	62.9B	118B	76.2J-ND	79.4BN	66.3B	158B	32.2J-D	227.0
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	11,700	11,500	10,300	9,590J-D	9,290	9,950	10,900	8,590	10,300
Chromium	ND	ND	11.2	10.4	12	ND	28.7	ND	44.0
Cobalt	ND	ND	3.8B	ND	ND	ND	5.7B	ND	12.6B
Copper	ND	ND	ND	ND	ND	ND	13.6B	ND	18.3B
Iron	1,040	14.1B	3,510	1,690J-ND	1,910N	ND	8,150	ND	14,500
Lead	1.1W	1.5B	2.0B	1.8B	ND	ND	ND	ND	7.6J-Z
Magnesium	17,400	18,000	18,300	17,700J-D	17,200	18,600	21,400	15,400	21,000
Manganese	332	106	216	131J-D	123	116	233	126	569
Mercury	ND	ND	ND	ND	ND	ND	0.18J-Z	ND	ND
Nickel	ND	9.2B	12.6B	9.5B	9.6BN	4.6B	18.6B	4.5B	33.4B
Potassium	1,690	2,170B	ND	1,390J-D	1,620BN	850B	2,950B	773B	4,540B
Selenium	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	ND	ND	2.0R	ND	ND	ND	ND	ND	ND
Sodium	18,100	192,000	186,000	189,000J-D	182,000J-D	217,000J-D	217,000J-D	118,000J-D	126,000J-D
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	5.7J-Z	5.0B	6.3B	1.4B	22.3B	ND	35.1B
Zinc	ND	13.0B	ND	8.0B	7.2B	ND	ND	ND	ND

MW11-05

CTO NO.	143	248	248	248	248	112
SAMPLE DATE	5/26/92	3/22/94	6/21/94	9/20/94	12/8/94	4/11/98
TPH (mg/L)						
Gas	ND	ND	ND	ND	ND	NA
Benzene	ND	ND	ND	ND	ND	NA
Toluene	ND	ND	ND	ND	ND	NA
Ethylbenzene	ND	ND	ND	ND	ND	NA
Xylene	ND	ND	ND	ND	ND	NA
Other (Purgeable)	0.001	ND	ND	ND	ND	NA
JP-5	ND	ND	ND	ND	ND	NA
Diesel	ND	ND	ND	ND	ND	NA
Bunker	ND	ND	ND	ND	ND	NA
Motor Oil	ND	ND	ND	ND	ND	NA
Other (Extractable)	ND	ND	0.33Y,J-N	ND	ND	NA
VOCs (ug/L)						
Carbon Disulfide	ND	ND	0.2J	0.1J	0.2J	ND
1,1-Dichloroethene	ND	0.2J	0.4J	ND	ND	ND
1,2-Dichloroethene (total)	4J	4	5	5	3	3
Trichloroethene	ND	2	2	3	ND	2J
Benzene	ND	ND	0.2J	ND	ND	ND
Xylene (total)	ND	ND	0.3J	ND	ND	ND
SVOCs (ug/L)						
All Compounds	NA	ND	NA	NA	ND	NA

CTO NO.	143	248	
SAMPLING DATE	5/26/92	3/22/94	
Metals (ug/L)	TOTAL	DISSOLVED	TOTAL
Aluminum	70	ND	1660J-N
Antimony	ND	ND	ND
Arsenic	ND	ND	ND
Barium	31.7	36.8B	57.2B
Beryllium	ND	ND	ND
Cadmium	ND	ND	ND
Calcium	5,170	6,520	6,610
Chromium	ND	ND	9.5B
Cobalt	ND	4.4B	3.9B
Copper	ND	ND	ND
Iron	496	386	4,320
Lead	ND	ND	1.2BW
Magnesium	8,240	12,200	13,000
Manganese	350	383	408
Mercury	ND	ND	ND
Nickel	ND	9.9B	19.8B
Potassium	2,010	ND	ND
Selenium	ND	ND	ND
Silver	ND	ND	2.0
Sodium	74,900	89,500	92,500
Thallium	ND	ND	ND
Vanadium	ND	ND	2.1J-Z
Zinc	ND	2.6B	ND

MW11-07

CTO NO.	143
SAMPLE DATE	5/26/92
TPH (mg/L)	
Gas	ND
Benzene	ND
Toluene	ND
Ethylbenzene	ND
Xylene	ND
Other (Purgeable)	0.001
JP-5	ND
Diesel	ND
Bunker	1.1
Motor Oil	ND
Other (Extractable)	ND
VOCs (ug/L)	
Carbon Disulfide	ND
1,1-Dichloroethene	ND
1,2-Dichloroethene (total)	ND
Trichloroethene	ND
Benzene	ND
Xylene (total)	ND
SVOCs (ug/L)	
All Compounds	NA
CTO NO.	143
SAMPLING DATE	5/26/92
Metals (ug/L)	TOTAL
Aluminum	94
Antimony	ND
Arsenic	ND
Barium	90.3
Beryllium	ND
Cadmium	ND
Calcium	117,000
Chromium	ND
Cobalt	ND
Copper	ND
Iron	1,030
Lead	ND
Magnesium	239,000
Manganese	1,350
Mercury	ND
Nickel	ND
Potassium	78,200
Selenium	ND
Silver	ND
Sodium	2,610,000
Thallium	ND
Vanadium	ND
Zinc	ND

NOTES

1. VOCs SUCH AS ACETONE AND METHYLENE CHLORIDE ARE NOT REPORTED.
2. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.
3. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
   ND: NOT DETECTED
   NA: NOT ANALYZED
4. DATA QUALIFIERS

   ORGANIC DATA QUALIFIERS

   J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

   J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

   Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

   INORGANIC DATA QUALIFIERS

   B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

   J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

   J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

   J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS

   J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

   N SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS

   R VALUE IS NOT USABLE

   W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

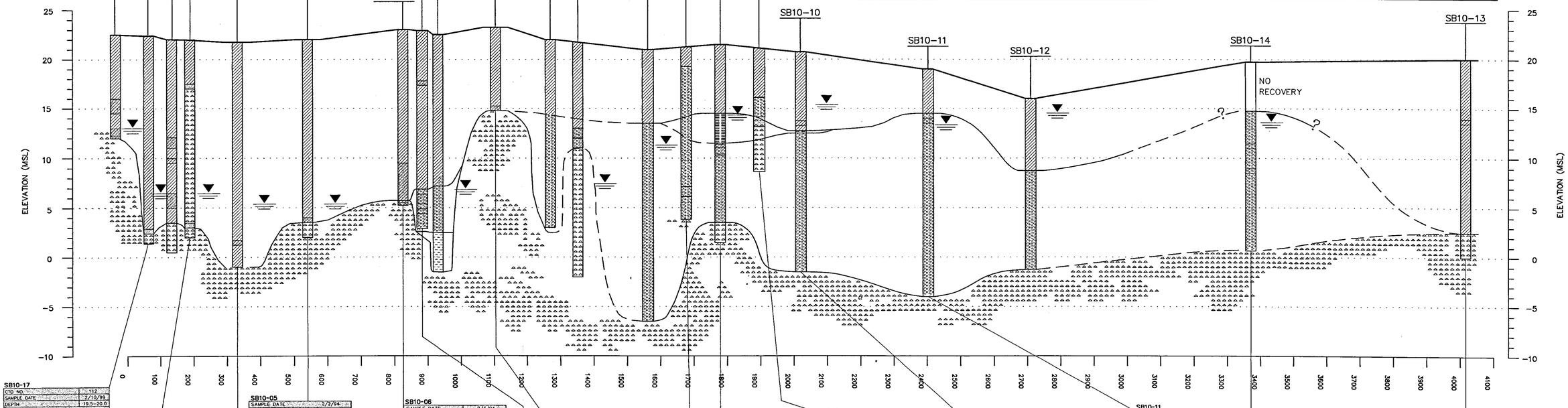
LEGEND

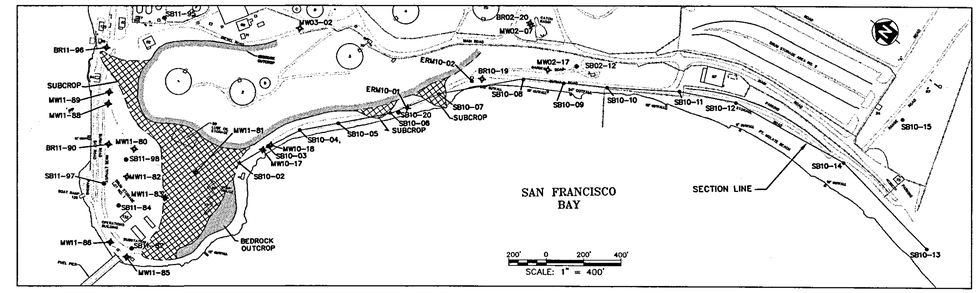
- EXISTING MONITORING WELL OR PIEZOMETER LOCATION
- EXISTING NAVY EXTRACTION WELL (P86 SERIES)
- BEDROCK OUTCROP
- SUBCROPPING BEDROCK GROUNDWATER DIVIDE
- LOCATION OF TREATMENT PONDS AREA EXTRACTION TRENCH/CONTAINMENT WALL

100' 0 100' 200'

SCALE: 1" = 100'

PLATE 25
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 NORTH SHORELINE
GROUNDWATER SAMPLING RESULTS





SB 10-02

SAMPLE DATE	2/1/94	
DEPTH	6.5-8.0	9.5-10.3
TPH (mg/kg)		
Other (Purgeable)	550 Y	830 Y
Weathered Diesel	2,900	4,700

SB10-03

SAMPLE DATE	2/1/94		
DEPTH	9.9-11.0	12.0-12.5	15.5-17.0
TPH (mg/kg)			
Total Xylenes	ND	1	ND
Ethylbenzene	ND	0.28	ND
Other (Purgeable)	680 Y	860 Y	190 Y
Weathered Diesel	ND	6,900	1,800
Other (Extractable)	2,700	ND	ND

BR 10-19

SAMPLE DATE	3/2/99
DEPTH	9.0-10.0
TPH (mg/kg)	
ALL CONSTITUENTS	ND

SB10-17

CTO NO.	112
SAMPLE DATE	2/10/99
DEPTH	19.5-20.0
AROMV (ug/kg)	
Benzene	ND
Ethylbenzene	ND
Methyl-t-butyl ether	ND
Toluene	ND
Xylene (total)	ND
THP-E (mg/kg)	
Diesel range organics	1300
JP-5 range organics	2600
Motor oil range organics	2100
TPH – bunker fuel (C10–C28)	ND
TPH – diesel F-76 (C8–C28)	ND
Gasoline range organics	4600
PAU (ug/kg)	
1-Methylnaphthalene	4700
Anthracene	250
Benzo(a)anthracene	1900
Chrysene	650
Phenanthrene	910

SB10-05

SAMPLE DATE	2/2/94
DEPTH	18.0-18.5
TPH (mg/kg)	
Other (Purgeable)	15 Y
Other (Extractable)	1,600 Y

SB10-06

SAMPLE DATE	2/3/94
DEPTH	13.5-17.5
TPH (mg/kg)	
Other (Purgeable)	5.9 Y

SB10-20

CTO NO.	112		
SAMPLE DATE	2/4/99		
DEPTH	10.0-11.0	16.5-17.5	18-18.5
TPH (mg/kg)			
Diesel Range Organics		ND	410
Motor Oil Range Organics	15 Y	14 Z	270
Gasoline Range Organics			91 JZ
AROMV (ug/kg)			
Methyl-T-Butyl Ether			3100
PAH (ug/kg)			
Phenanthrene	ND	ND	40
Anthracene	ND	ND	20 J
Pyrene	ND	ND	448
Benzo(A)Anthracene	ND	ND	140
VOC (ug/kg)			
Methylene Chloride	1 J	1 J	13 J
Acetone	10 JB	29 B	140 B

SB10-04

SAMPLE DATE	2/2/94
DEPTH	20.0-20.5
TPH (mg/kg)	
Other (Purgeable)	28 Y
Other (Extractable)	1,400

SB10-18

CTO NO.	112
SAMPLE DATE	2/10/99
DEPTH	18.5-19.0
AROMV (ug/kg)	
Benzene	ND
Ethylbenzene	ND
Methyl-t-butyl ether	ND
Toluene	ND
Xylene (total)	ND
TPH-E (mg/kg)	
Diesel range organics	1000
JP-5 range organics	1100
Motor oil range organics	2000
TPH – bunker fuel (C10–C28)	ND
TPH – diesel F-76 (C8–C28)	ND
Gasoline range organics	31

SB10-07

SAMPLE DATE	2/3/94
DEPTH	8.0-8.4
TPH (mg/kg)	
Other (Purgeable)	350 Y
Other (Extractable)	3,300 X
VOC (ug/kg)	
Toluene	0.17
All Other Compounds	ND
SVOC (ug/kg)	
2-Methylnaphthalene	5,500 D
Acenaphthene	960
Fluorene	1,000
Phenanthrene	3,500 D
Fluoranthene	140 J
Pyrene	680
Benzo(a)anthracene	270 J
Chrysene	370
Benzo(b)fluoranthene	51 J
Benzo(a)pyrene	86 J

MW02-17

CTO NO.	112
SAMPLE DATE	2/3/99
DEPTH	14.0-15.0
PAH (ug/kg)	
Phenanthrene	5.5
TPH-Ext. (mg/kg)	
Diesel Range Organics	20 Y
TPH-Pro. (mg/kg)	
Gasoline Range Organics	1300 Z
VOC (ug/kg)	
Acetone	31 B

SB02-12

CTO NO.	112
SAMPLE DATE	2/3/99
DEPTH	7.0-8.0
VOC (ug/kg)	
Acetone	20 B

SB10-09

SAMPLE DATE	2/4/98	
DEPTH	10.1-10.5	11.1-11.3
TPH (mg/kg)		
Other (Purgeable)	78 Y	90 Y
JP-5 Range Organics	110	210
Other (Extractable)	ND	ND
VOC (ug/kg)		
Xylene	NA	3 J
SVOC (ug/kg)		
2-Methylnaphthalene	NA	540
Total Metals (mg/kg)		
Aluminum	NA	22,600
Antimony	NA	ND
Arsenic	NA	ND
Barium	NA	250
Beryllium	NA	0.72 B
Cadmium	NA	ND
Calcium	NA	18,300
Chromium	NA	38
Cobalt	NA	ND
Copper	NA	27.6
Iron	NA	31,200
Lead	NA	10.2
Magnesium	NA	5,560
Manganese	NA	174 J-N
Mercury	NA	0.36 J-N+
Nickel	NA	31.1
Potassium	NA	4,070
Selenium	NA	ND
Silver	NA	ND
Sodium	NA	ND
Thallium	NA	ND
Vanadium	NA	45.7
Zinc	NA	56.1

SB10-10

SAMPLE DATE	2/4/94	
DEPTH	7.0-7.5	18.7-19.0
TPH (mg/kg)		
Toluene	0.014	NA
Other (Extractable)	240	NA
VOC (ug/kg)		
Toluene	7 J	NA
SVOC (ug/kg)		
Pyrene	16 J-K	NA
Chrysene	25 J	NA
Total Metals (mg/kg)		
Aluminum	16,600	16,600
Antimony	ND	ND
Arsenic	ND	ND
Barium	226	113
Beryllium	0.89 B	1.3
Cadmium	ND	ND
Calcium	9,180	3,360
Chromium	19.9	31.1
Cobalt	ND	ND
Copper	13.5	30.2
Iron	17,500	33,200
Lead	8.9 W	14.9
Magnesium	3,350	5,980
Manganese	223 J-N	175 J-N
Mercury	0.42 J-N+	0.4 J-N+
Nickel	21.6	33.8
Potassium	2,950	1,600
Selenium	ND	ND
Silver	ND	ND
Sodium	ND	ND
Thallium	ND	ND
Vanadium	34.6	52.1
Zinc	31.8	54.6

SB10-11

SAMPLE DATE	2/7/94
DEPTH	5.0-5.5
TPH (mg/kg)	
Other (Purgeable)	ND
Other (Extractable)	ND
VOC (ug/kg)	
All Compounds	ND
SVOC (ug/kg)	
Phenanthrene	760 J
Fluoranthene	990
Pyrene	940
Chrysene	430
Flourene	51 J
Anthracene	44 J
Benzo(b)flouranthene	270 J
Benzo(k)flouranthene	290 J
Benzo(a)pyrene	320 J
Indeno(1,2,3-CD)pyrene	200 J
Benzo(g,h,i)perylene	210 J
Total Metals (mg/kg)	
Aluminum	18,400
Antimony	9.1 J-N
Arsenic	ND
Barium	535
Beryllium	0.8 B
Cadmium	ND
Calcium	2690
Chromium	28.3
Cobalt	7.9 B
Copper	23.5
Iron	31,600
Lead	9.3 J-N
Magnesium	6,060
Manganese	312
Mercury	ND
Nickel	ND
Potassium	1,600
Selenium	ND
Silver	ND
Sodium	972 BE
Thallium	ND
Vanadium	43.7
Zinc	53.9 J

SB10-14

SAMPLE DATE	2/8/94	
DEPTH	8.6-9.0	11-11.5
TPH (mg/kg)		
Other (Purgeable)	ND	NA
Other (Extractable)	ND	NA
VOC (ug/kg)		
All Compounds	ND	NA
SVOC (ug/kg)		
All Compounds	ND	NA
Total Metals (mg/kg)		
Aluminum	13100	18400
Antimony	ND	ND
Arsenic	ND	ND
Barium	162	203
Beryllium	0.61B	0.75B
Cadmium	ND	ND
Calcium	1430	1640
Chromium	24.5	29.8
Cobalt	6.1	16.0
Copper	20.1	24.7
Iron	23700	24400
Lead	11.9J-N	9.8J-N
Magnesium	4700	4390
Manganese	301	1090
Mercury	ND	ND
Nickel	18.2	26.5
Potassium	1750	2060
Selenium	ND	ND
Silver	ND	ND
Sodium	2180E	2438E
Thallium	ND	ND
Vanadium	37.4	44.0
Zinc	47.1J-D	45.3J-D

SB10-13

SAMPLE DATE	2/8/94
DEPTH	6.0-6.5
TPH (mg/kg)	
Other (Purgeable)	ND
Other (Extractable)	ND
VOC (ug/kg)	
All Components	ND
SVOC (ug/kg)	
All Components	ND
Total Metals (mg/kg)	
Aluminum	12400
Antimony	ND
Arsenic	6.9J-N
Barium	119
Beryllium	0.64B
Cadmium	ND
Calcium	1320
Chromium	18.0
Cobalt	ND
Copper	15.5
Iron	18900
Lead	12J-N
Magnesium	4130
Manganese	134
Mercury	1.6
Nickel	15.8
Potassium	2830
Selenium	ND
Silver	ND
Sodium	3618E
Thallium	ND
Vanadium	27.2
Zinc	44.5J-D

NOTES:

1. SVOC PHTHALATES, SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED AS SVOC DETECTIONS.

2. DATA QUALIFIERS
   NA NOT ANALYZED
   ND NOT DETECTED

ORGANIC DATA QUALIFIERS

D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

INORGANIC DATA QUALIFIERS

B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

E VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE

J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

LEGEND

- INTERVAL FOOTAGE
- FILL
- PEAT
- COLLUVIUM
- BAY MUD
- BEDROCK
- WATER LEVEL (APRIL 1999)

75' 0 75' 150'
HORIZONTAL SCALE: 1" = 75'
5' 0 5' 10'
VERTICAL SCALE: 1" = 5'
VERTICAL EXAGGERATION = 15X

PLATE 26
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 SOUTH SHORELINE CROSS SECTION
SOIL SAMPLING RESULTS

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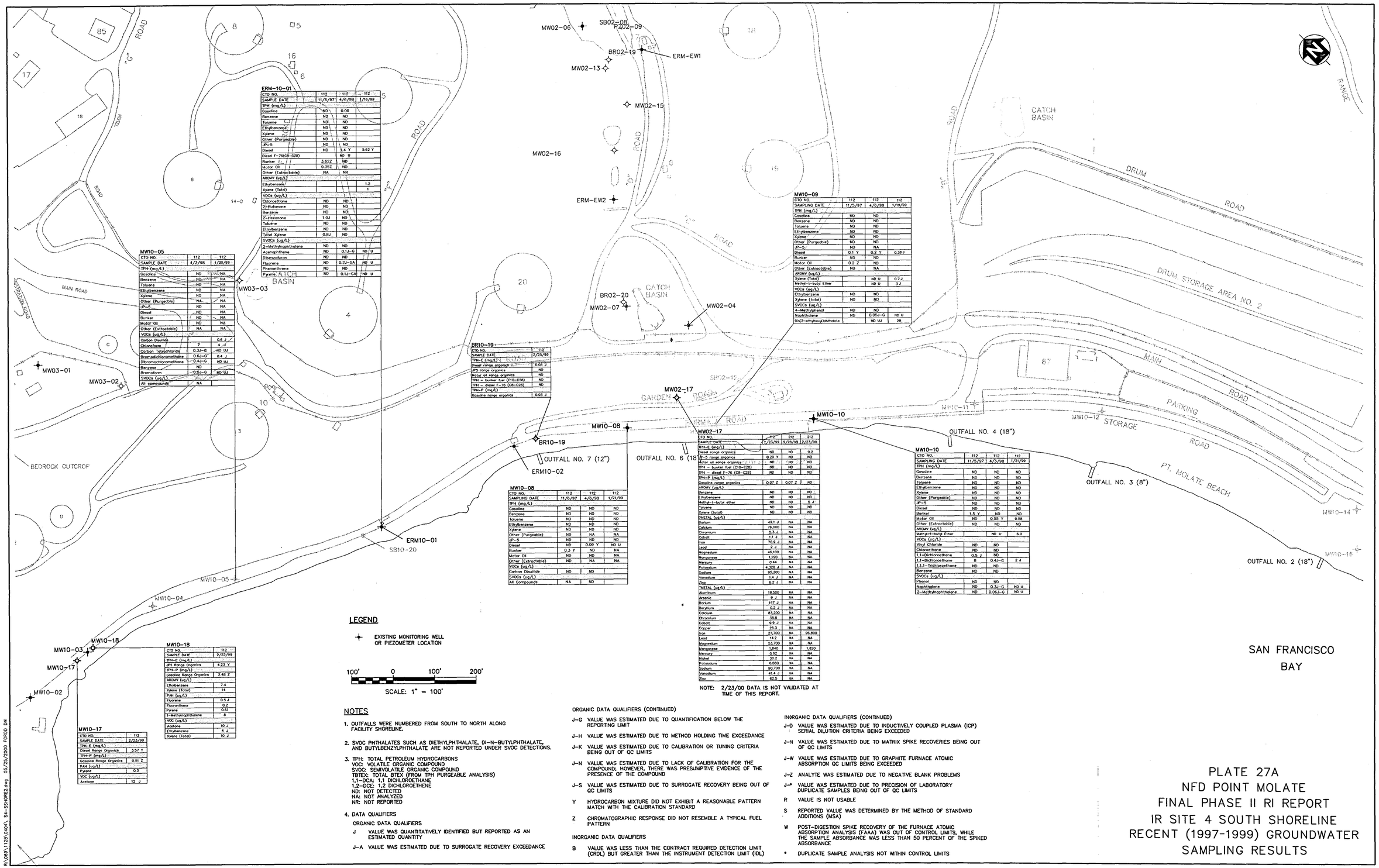


ERM-10-01

CTO NO.	112	112	112
SAMPLE DATE	11/6/97	4/6/98	1/16/99
TPH (mg/L)			
Gasoline	ND	0.06	
Benzene	ND	ND	
Toluene	ND	ND	
Ethylbenzene	ND	ND	
Xylene	ND	ND	
Other (Purgeable)	ND	ND	
JP-5	ND	ND	
Diesel	ND	1.4 Y	5.62 Y
Diesel F-76(C8-C28)		ND U	
Bunker	3.62Z	ND	
Motor Oil	0.35Z	ND	
Other (Extractable)	NA	NR	
AROMY (ug/L)			
Ethylbenzene/			1.2
Xylene (Total)			1
VOCs (ug/L)			
Chloroethane	ND	ND	
2-Butanone	ND	ND	
Benzene	ND	ND	
2-Hexanone	1.0J	ND	
Toluene	ND	ND	
Ethylbenzene	ND	ND	
Total Xylene	0.8J	ND	
SVOCs (ug/L)			
2-Methylnaphthalene	ND	ND	
Acenaphthene	ND	0.1J-G	ND U
Dibenzofuran	ND	ND	
Fluorene	ND	0.2J-GA	ND U
Phenanthrene	ND	ND	
Pyrene	ND	0.1J-GA	ND U

MW10-05

CTO NO.	112	112
SAMPLE DATE	4/3/98	1/20/99
TPH (mg/L)		
Gasoline	ND	NA
Benzene	ND	NA
Toluene	ND	NA
Ethylbenzene	ND	NA
Xylene	ND	NA
Other (Purgeable)	NA	NA
JP-5	ND	NA
Diesel	ND	NA
Bunker	ND	NA
Motor Oil	ND	NA
Other (Extractable)	NA	NA
VOCs (ug/L)		
Carbon Disulfide		0.6 J
Chloroform	7	4 J
Carbon Tetrachloride	0.3J-G	ND UJ
Bromodichloromethane	0.6J-G	0.4 J
Dibromochloromethane	0.4J-G	ND UJ
Benzene	ND	
Bromoform	0.6J-G	ND UJ
SVOCs (ug/L)		
All compounds	NA	

MW10-09

CTO NO.	112	112	112
SAMPLING DATE	11/5/97	4/8/98	1/19/99
TPH (mg/L)			
Gasoline	ND	ND	
Benzene	ND	ND	
Toluene	ND	ND	
Ethylbenzene	ND	ND	
Xylene	ND	ND	
Other (Purgeable)	ND	ND	
JP-5	ND	NA	
Diesel	0.1 Y	0.2 Y	0.38 J
Bunker	ND	ND	
Motor Oil	0.2 Z	ND	
Other (Extractable)	ND	NA	
AROMY (ug/L)			
Xylene (Total)		ND U	0.7 J
Methyl-t-butyl Ether		ND U	3 J
VOCs (ug/L)			
Ethylbenzene	ND	ND	
Xylene (total)	ND	ND	
SVOCs (ug/L)			
4-Methylphenol	ND	ND	
Naphthalene	ND	0.05J-G	ND U
Bis(2-ethylhexyl)phthalate		ND UJ	2B

BR10-19

CTO NO.	112
SAMPLE DATE	2/23/99
TPH-E (mg/L)	
Diesel range organics	0.08 J
JP5 range organics	ND
Motor oil range organics	ND
TPH - bunker fuel (C10-C28)	ND
TPH - diesel F-76 (C8-C28)	ND
TPH-P (mg/L)	
Gasoline range organics	0.03 J

MW02-17

CTO NO.	112	212	212
SAMPLE DATE	2/23/99	9/28/99	2/23/00
TPH-E (mg/L)			
Diesel range organics	ND	ND	0.2
JP-5 range organics	0.29 Y	ND	ND
Motor oil range organics	ND	ND	ND
TPH - bunker fuel (C10-C28)	ND	ND	ND
TPH - diesel F-76 (C8-C28)	ND	ND	ND
TPH-P (mg/L)			
Gasoline range organics	0.07 Z	0.07 Z	ND
AROMY (ug/L)			
Benzene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Methyl-t-butyl ether	ND	ND	5 J
Toluene	ND	ND	ND
Xylene (total)	ND	ND	ND
DMETAL (ug/L)			
Barium	49.1 J	NA	NA
Calcium	76,000	NA	NA
Chromium	2.3 J	NA	NA
Cobalt	1.1 J	NA	NA
Iron	70.9 J	NA	NA
Lead	2 J	NA	NA
Magnesium	46,100	NA	NA
Manganese	1,190	NA	NA
Mercury	0.44	NA	NA
Potassium	4,320 J	NA	NA
Sodium	95,200	NA	NA
Vanadium	1.4 J	NA	NA
Zinc	6.2 J	NA	NA
TMETAL (ug/L)			
Aluminum	18,500	NA	NA
Arsenic	9 J	NA	NA
Barium	157 J	NA	NA
Beryllium	0.2 J	NA	NA
Calcium	83,200	NA	NA
Chromium	38.8	NA	NA
Cobalt	9.9 J	NA	NA
Copper	25.3	NA	NA
Iron	27,700	NA	96,800
Lead	14.2	NA	NA
Magnesium	53,700	NA	NA
Manganese	1,840	NA	1,820
Mercury	0.62	NA	NA
Nickel	30.2	NA	NA
Potassium	6,860	NA	NA
Sodium	90,700	NA	NA
Vanadium	41.4 J	NA	NA
Zinc	62.5	NA	NA

NOTE: 2/23/00 DATA IS NOT VALIDATED AT TIME OF THIS REPORT.

MW10-10

CTO NO.	112	112	112
SAMPLING DATE	11/5/97	4/3/98	1/21/99
TPH (mg/L)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	ND	ND	ND
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	1.5 Y	ND	ND
Motor Oil	ND	0.55 Y	0.58
Other (Extractable)	ND	ND	ND
AROMY (ug/L)			
Methyl-t-butyl Ether		ND U	6.0
VOCs (ug/L)			
Vinyl Chloride	ND	ND	
Chloroethane	ND	ND	
1,1-Dichloroethene	0.5 J	ND	
1,1-Dichloroethane	8	0.4J-G	2 J
1,1,1-Trichloroethane	ND	ND	
Benzene	ND	ND	
SVOCs (ug/L)			
Phenol	ND	ND	
Naphthalene	ND	0.3J-G	ND U
2-Methylnaphthalene	ND	0.06J-G	ND U

MW10-08

CTO NO.	112	112	112
SAMPLING DATE	11/6/97	4/6/98	1/21/99
TPH (mg/L)			
Gasoline	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	ND	NA	NA
JP-5	ND	ND	ND
Diesel	ND	0.09 Y	ND U
Bunker	0.3 Y	ND	NA
Motor Oil	ND	ND	NA
Other (Extractable)	ND	NA	NA
VOCs (ug/L)			
Carbon Disulfide	ND	ND	
SVOCs (ug/L)			
All Compounds	NA	ND	

MW10-18

CTO NO.	112
SAMPLE DATE	2/23/99
TPH-E (mg/L)	
JP5 Range Organics	4.23 Y
TPH-P (mg/L)	
Gasoline Range Organics	2.48 Z
AROMY (ug/L)	
Ethylbenzene	7.4
Xylene (Total)	14
PAH (ug/L)	
Fluorene	0.5 J
Fluoranthene	0.2
Pyrene	0.61
1-Methylnaphthalene	8
VOC (ug/L)	
Acetone	10 J
Ethylbenzene	4 J
Xylene (Total)	10 J

MW10-17

CTO NO.	112
SAMPLE DATE	2/23/99
TPH-E (mg/L)	
Diesel Range Organics	3.57 Y
TPH-P (mg/L)	
Gasoline Range Organics	0.51 Z
PAH (ug/L)	
Pyrene	0.3
VOC (ug/L)	
Acetone	12 J

LEGEND

EXISTING MONITORING WELL OR PIEZOMETER LOCATION

100' 0 100' 200'

SCALE: 1" = 100'

NOTES

1. OUTFALLS WERE NUMBERED FROM SOUTH TO NORTH ALONG FACILITY SHORELINE.

2. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.

3. TPH: TOTAL PETROLEUM HYDROCARBONS
VOC: VOLATILE ORGANIC COMPOUND
SVOC: SEMIVOLATILE ORGANIC COMPOUND
TBTEX: TOTAL BTEX (FROM TPH PURGEABLE ANALYSIS)
1,1-DCA: 1,1 DICHLOROETHANE
1,2-DCE: 1,2 DICHLOROETHENE
ND: NOT DETECTED
NA: NOT ANALYZED
NR: NOT REPORTED

4. DATA QUALIFIERS

ORGANIC DATA QUALIFIERS

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-A VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE

ORGANIC DATA QUALIFIERS (CONTINUED)

J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

INORGANIC DATA QUALIFIERS (CONTINUED)

J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED

J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS

J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED

J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS

J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS

R VALUE IS NOT USABLE

S REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

* DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

PLATE 27A
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 SOUTH SHORELINE
RECENT (1997-1999) GROUNDWATER
SAMPLING RESULTS

R:\069\1128\0404\ S4-SSHORE2.dwg 05/25/2000 FORDD EM

ERM-10-01

CTO NO.	248	248	248	248
SAMPLE DATE	3/28/94	6/25/94	9/27/94	12/14/94
TPH (mg/L)				
Gas	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	0.0008
Other (Purgeable)	1Y	0.66Y,J-N	0.55Y	300Y
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	1.6
Bunker	ND	ND	ND	ND
Motor Oil	1.3	1.3	ND	ND
Other (Extractable)	ND	ND	1.9Y,J-S	ND
VOCs (ug/L)				
Chloroethane	ND	2	ND	ND
2-Butanone	39	ND	ND	ND
Benzene	ND	0.2J	ND	ND
2-Hexanone	ND	ND	ND	ND
Toluene	ND	0.2J	ND	ND
Ethylbenzene	ND	0.2J	ND	ND
Total Xylene	ND	0.7J	ND	ND
SVOCs (ug/L)				
2-Methylnaphthalene	0.9J	3J	5J	2J
Acenaphthene	ND	2J	3J	ND
Dibenzofuran	ND	0.7J	ND	ND
Fluorene	ND	2J	2J	ND
Phenanthrene	ND	2J	ND	ND
Pyrene	ND	ND	ND	ND

CTO NO.	248	
SAMPLING DATE	03/28/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	344
Antimony	ND	ND
Arsenic	3.3B	5.4B
Barium	39.8B	52.1B
Berylium	ND	ND
Cadmium	ND	ND
Calcium	8990	8970
Chromium	ND	ND
Cobalt	ND	ND
Copper	ND	ND
Iron	2270	3820
Lead	ND	2.3B
Magnesium	5330	5450
Manganese	518	522
Mercury	ND	0.10J-*
Nickel	ND	ND
Potassium	ND	ND
Selenium	2R-NW	2.0R-NW
Silver	ND	ND
Sodium	20400	20500
Thalium	ND	ND
Vanadium	ND	ND
Zinc	ND	ND

MW10-09

CTO NO.	248	248	248	248
SAMPLING DATE	3/25/94	6/29/94	9/22/94	12/14/94
TPH (mg/L)				
Gas	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	ND	ND	ND	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	ND	0.64 Z	ND	0.054 Z
VOCs (ug/L)				
Ethylbenzene	ND	ND	0.1 J	ND
Xylene (total)	ND	ND	0.3 J	ND
SVOCs (ug/L)				
4-Methylphenol	ND	5 J	ND	ND
Naphthalene	ND	ND	ND	0.8 J

CTO NO.	248		248		248		248	
SAMPLING DATE	03/25/94		6/29/94		9/22/94		12/14/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	1640J-N	ND	9610	ND	9520J-D	ND	4700J-*
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	6.3B	ND	ND	ND	ND
Barium	83B	117B	53.1B	135J-ND	84.3B	ND	113J-D	160J-D
Berylium	ND	ND	ND	0.52J-N	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	118000	120000	94600	107000J-D	122000	123000	129000	127000
Chromium	ND	ND	ND	23.1	ND	23.8	ND	ND
Cobalt	ND	2.7B	ND	8.3B	ND	7.3B	ND	ND
Copper	ND	3.0B	ND	15.3B	ND	16.3B	11.3B	ND
Iron	ND	2120	174	11900J-*D	240	9420	ND	4800
Lead	ND	ND	ND	8.8	ND	ND	ND	ND
Magnesium	30300	31800	33300	48500B	40300	42300	32800	33100
Manganese	421	636	225	453J-D	369	ND	499	579
Mercury	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	ND	10.6B	ND	23.5B	3.9B	21.9B	4.3B	11.7B
Potassium	ND	ND	3680B	10200J-*D	4540B	7050	5240	6230
Selenium	2BS	2.4J-N	ND	ND	ND	ND	ND	ND
Silver	ND	2.0R	ND	ND	ND	ND	ND	ND
Sodium	57000	60300	63500J-D	160000	65100J-D	64700J-D	58100J-D	55800J-D
Thalium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	ND	2.7B	ND	3.8B	22.7B	ND	ND
Zinc	ND	ND	ND	36.9	ND	ND	ND	ND

MW10-11

CTO NO.	248	248	248	248
SAMPLE DATE	3/29/94	6/29/94	9/26/94	12/19/94
TPH (mg/L)				
Gas	ND	NA	NA	NA
Benzene	ND	NA	NA	NA
Toluene	ND	NA	NA	NA
Ethylbenzene	ND	NA	NA	NA
Xylene	ND	NA	NA	NA
Other (Purgeable)	ND	NA	NA	NA
JP-5	ND	NA	NA	NA
Diesel	ND	NA	NA	NA
Bunker	ND	NA	NA	NA
Motor Oil	ND	NA	NA	NA
Other (Extractable)	ND	NA	NA	NA
VOCs (ug/L)				
Carbon Disulfide	0.05J	ND	0.1 J	ND
Trichlorethene	ND	4J	ND	3J
SVOCs (ug/L)				
All compounds	ND	NA	NA	NA

CTO NO.	248	
SAMPLING DATE	3/29/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	28800J-*
Antimony	ND	ND
Arsenic	ND	4.8
Barium	35B	195B
Berylium	ND	ND
Cadmium	ND	ND
Calcium	45300	49100
Chromium	ND	ND
Cobalt	ND	ND
Copper	ND	15.3B
Iron	ND	27600
Lead	ND	ND
Magnesium	32500	38900
Manganese	424	691
Mercury	ND	ND
Nickel	ND	28.5B
Potassium	ND	6650
Selenium	ND	ND
Silver	ND	ND
Sodium	70700	72200
Thalium	ND	ND
Vanadium	ND	54.7
Zinc	ND	68.4

MW10-12

CTO NO.	248	248	248
SAMPLE DATE	3/21/94	9/24/94	12/14/94
TPH (mg/L)			
Gas	ND	NA	NA
Benzene	ND	NA	NA
Toluene	ND	NA	NA
Ethylbenzene	ND	NA	NA
Xylene	ND	NA	NA
Other (Purgeable)	ND	NA	NA
JP-5	ND	NA	NA
Diesel	ND	NA	NA
Bunker	ND	NA	NA
Motor Oil	ND	NA	NA
Other (Extractable)	ND	NA	NA
VOCs (ug/L)			
1,1-Dichloroethene	ND	ND	0.5J
Trichlorethene	ND	ND	4J
Benzene	ND	ND	0.5J
SVOCs (ug/L)			
All Compounds	ND	NA	NA

CTO NO.	248	
SAMPLING DATE	03/21/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	15300J-W
Antimony	ND	ND
Arsenic	ND	ND
Barium	49.3B	158B
Berylium	ND	ND
Cadmium	ND	ND
Calcium	47000	48100
Chromium	ND	41.1
Cobalt	ND	4.2B
Copper	ND	7.7B
Iron	2100	20900
Lead	ND	7
Magnesium	30600	33800
Manganese	1400	1560
Mercury	ND	ND
Nickel	7.7B	42
Potassium	ND	ND
Selenium	2.9B	2.0J-N
Silver	ND	2.0R
Sodium	49600	48800
Thalium	ND	ND
Vanadium	ND	30.0B
Zinc	ND	38.4B

MW10-14

CTO NO.	248	248	248	248
SAMPLE DATE	3/21/94	6/30/94	9/30/94	12/15/94
TPH (mg/L)				
Gas	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	ND	ND	ND	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	ND	0.43Y,J-N	ND	ND
VOCs (ug/L)				
1,1-Dichloroethane	ND	0.3J	ND	ND
Chloroform	ND	ND	ND	0.3J
SVOCs (ug/L)				
4-Methylphenol	ND	190E	2J	ND
4-Nitroaniline	ND	ND	2J	ND

CTO NO.	248		248		248		248	
SAMPLING DATE	03/21/94		6/30/94		9/30/94		12/14/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	6450J-N	ND	68800	ND	14900J-*	861*	25500J-*
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	24.6	ND	ND	ND	ND
Barium	20.8B	66.1B	68.6B	761	56B	564	18.4J-D	301J-D
Berylium	ND	ND	ND	1.5J-Z	ND	0.72B	ND	ND
Cadmium	ND	ND	ND	18	ND	ND	ND	ND
Calcium	7840	8460	30700	40900	24100J-D	31500	4960B	8430
Chromium	ND	23.2	10.9	130	ND	29.1	ND	44.2
Cobalt	ND	ND	ND	38.1B	ND	23.9B	ND	ND
Copper	ND	ND	ND	106	15.7B	31.9	13.1B	33.7
Iron	37.3B	6650	162	80900	129J-ZD	18600J-ND	606	26300
Lead	ND	2.1BW	ND	48.2	ND	24.0J-*	2.3B	16.6
Magnesium	9080	10700	24200	46600	24500J-D	356000J-D	6310	14200
Manganese	8.8B	69.1	24.8	1260	200J-D	914	12.4B	363
Mercury	ND	ND	ND	0.11J-Z	ND	ND	ND	ND
Nickel	8.7B	31.5B	ND	117	4.6B	42.8	4.8B	44.2
Potassium	ND	ND	2550J-D	12600J-D	1670J-D*	2600J-D	ND	3960B
Selenium	2.2B	ND	ND	ND	ND	ND	ND	ND
Silver	ND	45.8J-N*	ND	ND	ND	ND	ND	2.3B
Sodium	24900	25300	53200J-D	62200J-D	59600J-D	56600J-D	19800J-D	22400J-D
Thalium	ND	ND	ND	ND	ND	ND	ND	ND
Vanadium	ND	11.3J-Z	ND	179	ND	513	ND	58.4
Zinc	3.4B	ND	ND	257J-D	5.3B	117	ND	132

MW10-05

CTO NO.	248	248	248	248
SAMPLE DATE	3/24/94	6/27/94	9/30/94	12/10/94
TPH (mg/L)				
Gasoline	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	0.00037 Z	ND	ND	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	ND	0.0005 YJN	ND	ND
VOCs (ug/L)				
Chloroform	ND	ND	ND	3
Carbon Tetrachloride	ND	ND	ND	0.8J
Bromodichloromethane	ND	ND	ND	0.9J
Dibromochloromethane	ND	ND	ND	ND
Benzene	0.1J	ND	ND	ND
Bromoform	ND	ND	ND	ND
SVOCs (ug/L)				
All compounds	ND	ND	NA	ND

CTO NO.	248		248		248		248	
SAMPLING DATE	03/24/94		6/27/94		9/30/94		12/10/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	4630J-N	ND	555	ND	ND	ND	3840
Antimony	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	3.2B	3.5B	ND	79.6B	3.7B	3.6J-Z
Barium	232	271	130J-ND	135J-ND	76.4B	8.57B	56.5J-D	83.9B
Berylium	ND	ND	ND	2.5J-N	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND
Calcium	149000	156000	250000J-D	250000J-D	140000J-D	142000	92200	90900
Chromium	ND	7.9B	ND	2.4B	ND	ND	ND	5.9B
Cobalt	3.5B	4.9B	ND	ND	ND	ND	ND	3.6B
Copper	4.5B	5.5B	104	ND	15.2B	ND	10.4J-Z	6.3B
Iron	ND	5960	653J-ND	4310J-*D	386J-D	500J-ND	468	4360
Lead	ND	5.5W	11.3	ND	ND	8J-*	ND	ND
Magnesium	383000	397000	963000J-D	987000J-D	393000J-D	393000J-D	274000	270000
Manganese	1280	1470	15.7J-D	61.6J-D	216J-D	262	6.8B	228
Mercury	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	ND	21.9B	ND	ND	2.7B	ND	3.1B	13.3B
Potassium	110000	118000	460000J-D	480000J-*D	281000J-D*	28100J-D*	214000	218000
Selenium	ND	25.7J-N	ND	ND	ND	ND	ND	ND
Silver	ND	2.0R	ND	ND	ND	ND	ND	ND
Sodium	3700000	3820000	9960000JD	8120000	5890000J-D	5920000J-D*	4460000J-D	4480000J-D
Thalium	ND	ND	ND	52.9B	ND	ND	ND	ND
Vanadium	ND	11.0J-Z	ND	1.7B	ND	ND	1.7B	8.0B
Zinc	ND	ND	18.1B	ND	ND	ND	ND	ND

MW10-08

CTO NO.	248	248	248
SAMPLING DATE	3/25/94	9/26/94	12/13/94
TPH (mg/L)			
Gas	ND	ND	ND
Benzene	ND	ND	ND
Toluene	ND	ND	ND
Ethylbenzene	ND	ND	ND
Xylene	ND	ND	ND
Other (Purgeable)	0.081 Y	ND	ND
JP-5	ND	ND	ND
Diesel	ND	ND	ND
Bunker	ND	ND	ND
Motor Oil	ND	ND	ND
Other (Extractable)	0.25Z	0.64Z,J-S	ND
VOCs (ug/L)			
Carbon Disulfide	ND	ND	0.2J
SVOCs (ug/L)			
All Compounds	NA	NA	NA

CTO NO.	248	
SAMPLING DATE	03/25/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	1340J-N
Antimony	ND	ND
Arsenic	ND	ND
Barium	91.7B	110B
Berylium	ND	ND
Cadmium	ND	ND
Calcium	83400	83000
Chromium	ND	ND
Cobalt	ND	2.0B
Copper	ND	ND
Iron	ND	1570
Lead	ND	ND
Magnesium	56800	58800
Manganese	632	666
Mercury	ND	ND
Nickel	7.4B	ND
Potassium	ND	ND
Selenium	ND	2.2J-N
Silver	ND	2.0R
Sodium	77600	82800
Thalium	ND	ND
Vanadium	ND	2.0J-Z
Zinc	8.2B	ND

MW10-10

CTO NO.	248	248	248	248
SAMPLING DATE	3/24/94	6/30/94	9/27/94	12/13/94
TPH (mg/L)				
Gas	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	ND	ND	ND	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	ND	0.5 Y	ND	0.84 Y
VOCs (ug/L)				
Vinyl Chloride	2	ND	ND	1 J
Chloroethane	7	ND	ND	3
1,1-Dichloroethene	3	3	2 J-H	ND
1,1-Dichloroethane	ND	39	28 J-H	12
1,1,1-Trichloroethane	ND	2 J	1 J-H	4
Benzene	ND	0.1 J	ND	ND
SVOCs (ug/L)				
Phenol	ND	ND	ND	2 J
Naphthalene	ND	ND	ND	ND
2-Methylnaphthalene	ND	ND	ND	ND

CTO NO.	248	
SAMPLING DATE	03/24/94	
Metals (u/L)	DISSOLVED	TOTAL
Aluminum	984	21200J-N
Antimony	ND	ND
Arsenic	ND	ND
Barium	113B	227
Berylium	ND	ND
Cadmium	ND	ND
Calcium	137000	139000
Chromium	ND	32.7
Cobalt	ND	3.0B
Copper	ND	5.3B
Iron	1340	23500
Lead	4.7W	10.1
Magnesium	21900	25900
Manganese	84.2	213
Mercury	ND	ND
Nickel	9.6B	26.6
Potassium	ND	ND
Selenium	ND	2.8J-N
Silver	ND	2.0R
Sodium	25500	23300
Thalium	ND	ND
Vanadium	2J-Z	39.8B
Zinc	15B	41.4

MW10-04

CTO NO.	248	248	248	248
SAMPLE DATE	3/24/94	6/24/94	9/28/94	12/9/94
TPH (mg/L)				
Gasoline	ND	ND	ND	ND
Benzene	ND	ND	ND	ND
Toluene	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND
Xylene	ND	ND	ND	ND
Other (Purgeable)	ND	0.36Y,J-N	ND	ND
JP-5	ND	ND	ND	ND
Diesel	ND	ND	ND	ND
Bunker	ND	ND	ND	ND
Motor Oil	ND	ND	ND	ND
Other (Extractable)	2.8Y	1.8Y,J-N	ND	ND
VOCs (ug/L)				
Carbon Disulfide	0.5J	NA	NA	0.2J
4-Methyl-2-Pentanone	2			
SVOCs (ug/L)				
4-Methylphenol	4J	NA	ND	ND
N-Nitrosodiphenylamine (1)	4J-K	NA	ND	ND

CTO NO.	248	
SAMPLING DATE	03/24/94	
Metals (ug/L)	DISSOLVED	TOTAL
Aluminum	ND	39100J-N
Antimony	ND	ND
Arsenic	4.5B	ND
Barium	90.9B	538
Berylium	ND	1.5B
Cadmium	ND	ND
Calcium	35000	44100
Chromium	ND	74.8
Cobalt	3.9B	35.4B
Copper	ND	47.5
Iron	25B	57200
Lead	2B	38.3S
Magnesium	69400	82200
Manganese	1430	2280
Mercury	ND	ND
Nickel	12B	88.7
Potassium	36600	43900
Selenium	ND	ND
Silver	ND	2.0R
Sodium	1200000	1240000
Thalium	ND	ND
Vanadium	ND	89.1
Zinc	ND	178

MW10-03

CTO NO.	248	248	248
SAMPLE DATE	6/27/94	9/28/94	12/21/94
TPH (mg/L)			
Gasoline	ND	ND	ND
Benzene	ND	0.004J-K	0.0007
Toluene	ND	0.0007J-K	ND
Ethylbenzene	ND	0.009J-K	0.001
Total Xylenes	0.023	0.028J-K	0.005
Other (Purgeable)	7.6Y	1.8Y	0.46Y
JP4 (C7 – C18)	ND	ND	ND
JP5 (C8–C16)	84J-SK	ND	ND
Diesel F76	ND	ND	6
Bunker Fuel	ND	ND	ND
Weathered Diesel	ND	0.05J-K	ND
Other (Extractable)	9.1Y,J-KN	4.9Y,J-S	ND

MW10-16

CTO NO.	248	248
SAMPLE DATE	9/30/94	12/15/94
TPH (mg/L)		
Gas	ND	ND
Benzene	ND	ND
Toluene	ND	ND
Ethylbenzene	ND	ND
Xylene	ND	ND
Other (Purgeable)	ND	ND
JP-5	ND	ND
Diesel	ND	ND
Bunker	ND	ND
Motor Oil	ND	ND
Other (Extractable)	ND	ND
VOCs (ug/L)		
All Compounds	ND	ND
SVOCs (ug/L)		
All Compounds	ND	ND

CTO NO.	248		248	
SAMPLING DATE	9/30/94		12/15/94	
Metals (ug/L)	DISSOLVED	TOTAL	DISSOLVED	TOTAL
Aluminum	ND	1590J-*	ND	1320J-*
Antimony	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND
Barium	10B	22.9B	16.7J-D	24.8J-D
Berylium	ND	ND	ND	ND
Cadmium	ND	ND	ND	ND
Calcium	19200J-D	19100	17400	17400
Chromium	ND	2.7B	ND	ND
Cobalt	ND	ND	ND	ND
Copper	ND	ND	ND	ND
Iron	91.7J-ZD	1470J-ND	ND	1530
Lead	ND	ND	ND	ND
Magnesium	19600J-D	19500J-D	19400	19300
Manganese	47.6J-D	102	68.3	84.7
Mercury	ND	0.66	ND	0.59
Nickel	ND	4.5B	ND	3.4B
Potassium	2230J-D*	2260J-D	1640B	2000B
Selenium	ND	ND	ND	ND
Silver	ND	ND	ND	ND
Sodium	76000J-D	70900J-D*	72300J-D	70500J-D
Thalium	ND	ND	ND	ND
Vanadium	ND	4.8B	ND	ND
Zinc	ND	11.5B	ND	ND

NOTES

1. OUTFALLS WERE NUMBERED FROM SOUTH TO NORTH ALONG FACILITY SHORELINE.
2. VOCs SUCH AS ACETONE AND METHYLENE CHLORIDE ARE NOT REPORTED.
3. SVOC PHTHALATES SUCH AS DIETHYLPHTHALATE, DI-N-BUTYLPHTHALATE, AND BUTYLBENZYLPHTHALATE ARE NOT REPORTED UNDER SVOC DETECTIONS.
4. TPH: TOTAL PETROLEUM HYDROCARBONS
   VOC: VOLATILE ORGANIC COMPOUND
   SVOC: SEMIVOLATILE ORGANIC COMPOUND
   TBTEX: TOTAL BTEX (FROM TPH PURGEABLE ANALYSIS)
   1,1-DCA: 1,1 DICHLOROETHANE
   1,2-DCE: 1,2 DICHLOROETHENE
   ND: NOT DETECTED
   NA: NOT ANALYZED
   NR: NOT REPORTED
5. DATA QUALIFIERS

ORGANIC DATA QUALIFIERS

- J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY
- J-A VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE

ORGANIC DATA QUALIFIERS (CONTINUED)

- J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
- J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE
- J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS
- J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND
- J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS
- Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD
- Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

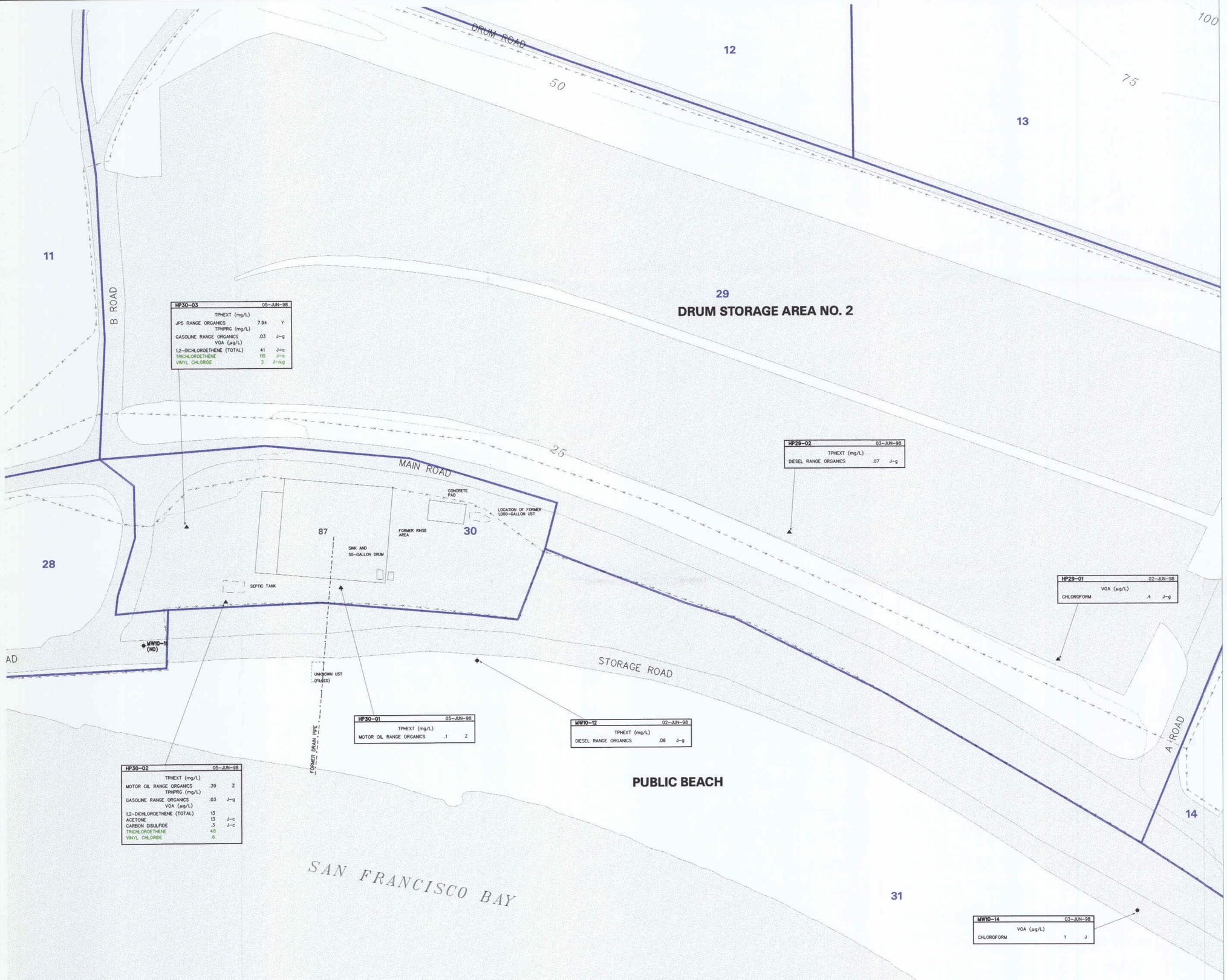
- B VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)

INORGANIC DATA QUALIFIERS (CONTINUED)

- J-D VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED
- J-N VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
- J-W VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
- J-Z ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS
- J-* VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
- R VALUE IS NOT USABLE
- S REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
- W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE
- * DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

PLATE 27B
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 SOUTH SHORELINE
PRE-1996 GROUNDWATER SAMPLING RESULTS

R:\069\112B\0404\ S4-SSHORE3.dwg 05/02/2000 TURONEM DN



LEGEND

- ▲ HYDROPUNCH WELL SAMPLE LOCATION
- ◆ MONITORING WELL SAMPLE LOCATION
- FENCE
- 13 EBS PARCEL

LOCATION ID → HP29-04 03-JUN-98 → SAMPLE DATE
COMPOUND CLASS → TMETAL (µg/L) → UNITS
ANALYTE → IRON 3.9 → CONCENTRATION
IRON(II) 28 J → QUALIFIER

VALUES EXCEEDING REGION 9 TAP WATER PRG PRESENTED IN GREEN.
TRICHLOROETHENE 1.6µg/L
VINYL CHLORID 0.02µg/L

QUALIFIERS:

J – ESTIMATED RESULT

Z – TYPICAL FUEL PATTERN NOT OBSERVED ON CHROMATOGRAPH; UNKNOWN PEAK OR PATTERN OBSERVED

Y – A TYPICAL FUEL PATTERN WAS OBSERVED ON CHROMATOGRAPH; RESULT INDICATES PRESENCE OF PETROLEUM HYDROCARBONS

a – SURROGATE RECOVERY EXCEEDED

c – CALIBRATION OUTSIDE QC LIMIT

g – QUANTIFICATION BELOW REPORTING LIMIT

NOTES:

1. THE ANALYTES DISPLAYED REPRESENT ONLY DETECTABLE CONCENTRATIONS. IN OTHER WORDS, IF AN ANALYTE CONCENTRATION IS NOT DETECTED, THE ANALYTE IS NOT LISTED.
2. MULTIPLE RESULTS FOR THE SAME ANALYTE AT A SAMPLE LOCATION INDICATE SAMPLING RESULTS FOR THE ORIGINAL SAMPLE AND ITS DUPLICATE.

ACRONYMS:

ALKALN – ALKALINITY

COD – CHEMICAL OXYGEN DEMAND

DGASES – DISSOLVED GASES (METHANE, ETHANE, ETHENE, PROPANE, PROPENE)

OXYD – OXYGEN DEMAND

TMETAL – CONTRACT LABORATORY PROGRAM TOTAL METALS

TPHEXT – TOTAL PETROLEUM HYDROCARBON EXTRACTABLE

TPHPRG – TOTAL PETROLEUM HYDROCARBON PURGEABLE

TOC – TOTAL ORGANIC CARBON

VOA – VOLATILE ORGANIC ANALYSIS

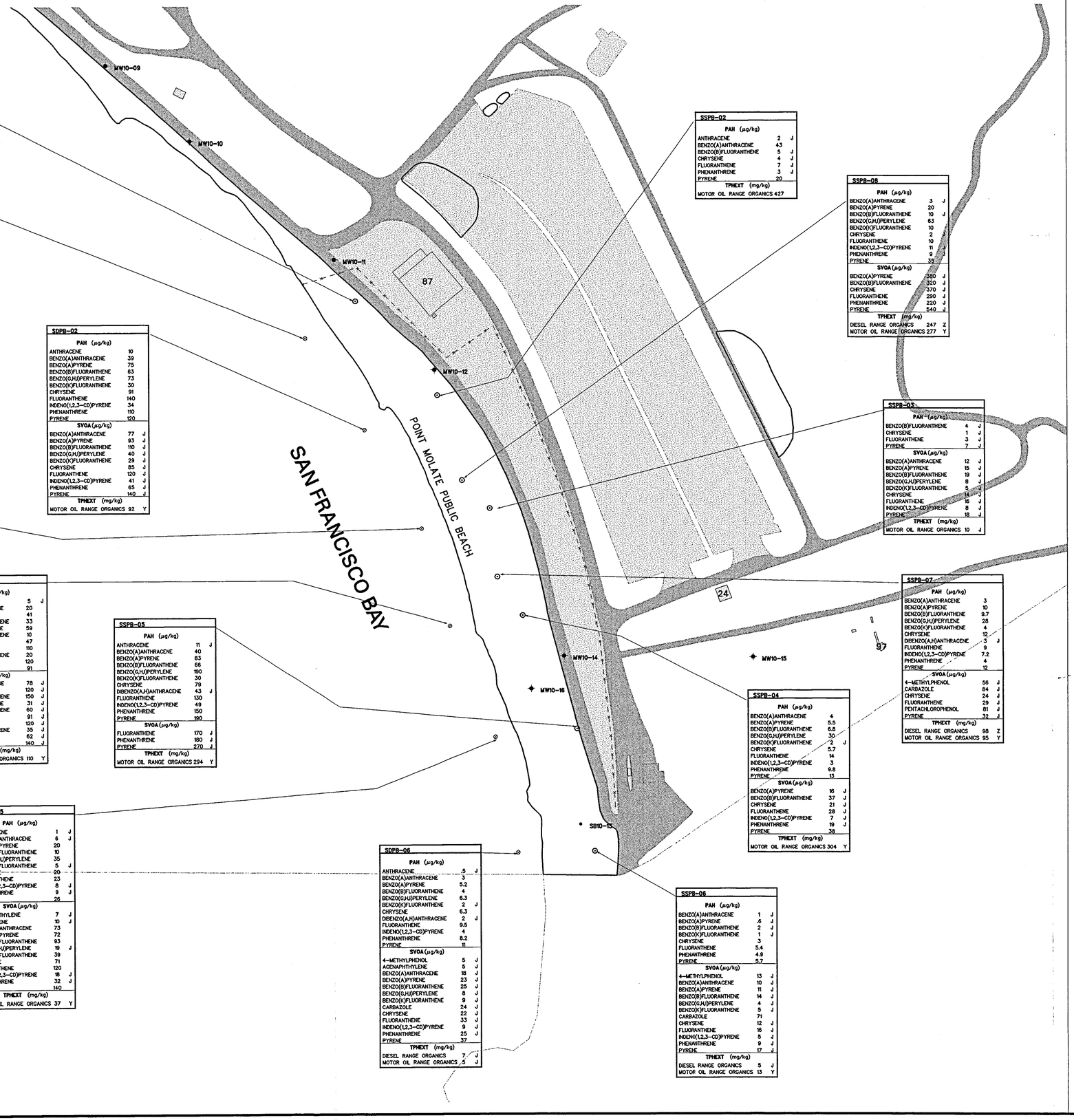
mg/L – MILLIGRAMS PER LITER

µg/L – MICROGRAMS PER LITER

20 0 20 40
SCALE: 1" = 40'

PLATE 27C
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 SOUTH SHORELINE
BUILDING 87 AND VICINITY
PHASE I EBS GROUNDWATER SAMPLING RESULTS

04/20/00 /data4/pinedale/cts82/area_3g.wnt /data4/pinedale/cts82/ra98.3/3379A_3g_82.map wsm



SSPB-01 AND SSPB-01D

PAH (µg/kg)		
ANTHRACENE	1	J
ANTHRACENE	20	
BENZO(A)ANTHRACENE	10	J
BENZO(A)ANTHRACENE	68	
BENZO(A)PYRENE	22	
BENZO(A)PYRENE	110	J
BENZO(B)FLUORANTHENE	35	
BENZO(B)FLUORANTHENE	88	J
BENZO(G,H,I)PERYLENE	72	
BENZO(G,H,I)PERYLENE	150	J
BENZO(K)FLUORANTHENE	11	J
BENZO(K)FLUORANTHENE	38	J
CHRYSENE	31	
CHRYSENE	140	J
DIBENZO(A,H)ANTHRACENE	7	J
DIBENZO(A,H)ANTHRACENE	16	J
FLUORANTHENE	42	
FLUORANTHENE	270	J
INDENO(1,2,3-CD)PYRENE	20	
INDENO(1,2,3-CD)PYRENE	62	
PHENANTHRENE	20	
PHENANTHRENE	150	J
PYRENE	48	
PYRENE	250	J
PEST (µg/kg)		
4,4-DDD	5.7	
4,4-DDD	12	
4,4-DDT	27	
4,4-DDT	51	
ALPHA-CHLORDANE	2.5	
ALPHA-CHLORDANE	4.9	
DIELDRIN	5.6	
DIELDRIN	6.2	
GAMMA-CHLORDANE	1	
GAMMA-CHLORDANE	2	
HEPTACHLOR	.9	J
HEPTACHLOR	.9	J
SVOA (µg/kg)		
BENZO(A)ANTHRACENE	78	J
BENZO(A)ANTHRACENE	170	J
BENZO(A)PYRENE	92	J
BENZO(A)PYRENE	210	J
BENZO(B)FLUORANTHENE	260	
BENZO(B)FLUORANTHENE	220	J
BENZO(G,H,I)PERYLENE	100	J
BENZO(K)FLUORANTHENE	72	J
BENZO(K)FLUORANTHENE	69	J
CHRYSENE	180	J
CHRYSENE	180	J
FLUORANTHENE	270	
FLUORANTHENE	230	J
INDENO(1,2,3-CD)PYRENE	110	J
PHENANTHRENE	70	J
PHENANTHRENE	82	J
PYRENE	240	
PYRENE	260	
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	355	Y
MOTOR OIL RANGE ORGANICS	220	Y

SDPB-01

PAH (µg/kg)		
ANTHRACENE	5	J
BENZO(A)ANTHRACENE	30	
BENZO(A)PYRENE	42	
BENZO(B)FLUORANTHENE	57	
BENZO(G,H,I)PERYLENE	70	
BENZO(K)FLUORANTHENE	20	
CHRYSENE	61	
DIBENZO(A,H)ANTHRACENE	27	J
FLUORANTHENE	91	
INDENO(1,2,3-CD)PYRENE	20	
PHENANTHRENE	29	
PYRENE	110	
PEST (µg/kg)		
4,4-DDD	9	
4,4-DDT	46	
BETA-BHC	4	
DIELDRIN	5	
ENDRIN	2	J
ENDRIN ALDEHYDE	4	J
HEPTACHLOR	.8	J
HEPTACHLOR EPOXIDE	2	J
METHOXYCHLOR	7	J
SVOA (µg/kg)		
BENZO(B)FLUORANTHENE	50	J
CHRYSENE	36	J
PYRENE	38	J
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	450	Y

SDPB-02

PAH (µg/kg)		
ANTHRACENE	10	
BENZO(A)ANTHRACENE	39	
BENZO(A)PYRENE	75	
BENZO(B)FLUORANTHENE	63	
BENZO(G,H,I)PERYLENE	73	
BENZO(K)FLUORANTHENE	30	
CHRYSENE	91	
FLUORANTHENE	140	
INDENO(1,2,3-CD)PYRENE	34	
PHENANTHRENE	110	
PYRENE	120	
SVOA (µg/kg)		
BENZO(A)ANTHRACENE	77	J
BENZO(A)PYRENE	93	J
BENZO(B)FLUORANTHENE	110	J
BENZO(G,H,I)PERYLENE	40	J
BENZO(K)FLUORANTHENE	29	J
CHRYSENE	85	J
FLUORANTHENE	120	J
INDENO(1,2,3-CD)PYRENE	41	J
PHENANTHRENE	65	J
PYRENE	140	J
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	92	Y

SDPB-03

PAH (µg/kg)		
ACENAPHTHENE	140	J
ANTHRACENE	40	J
BENZO(A)ANTHRACENE	88	J
BENZO(A)PYRENE	112	J
BENZO(B)FLUORANTHENE	98	J
BENZO(G,H,I)PERYLENE	35	J
BENZO(K)FLUORANTHENE	42	J
CHRYSENE	153	J
DIBENZO(A,H)ANTHRACENE	29	J
FLUORANTHENE	276	J
INDENO(1,2,3-CD)PYRENE	43	J
PHENANTHRENE	158	J
PYRENE	240	J
SVOA (µg/kg)		
2-METHYLNAPHTHALENE	5	J
ACENAPHTHENE	8	J
ACENAPHTHYLENE	12	J
ANTHRACENE	27	J
BENZO(A)ANTHRACENE	84	
BENZO(A)PYRENE	91	
BENZO(B)FLUORANTHENE	120	
BENZO(G,H,I)PERYLENE	23	J
BENZO(K)FLUORANTHENE	49	
CARBAZOLE	13	J
CHRYSENE	78	
DIBENZOFURAN	8	J
FLUORANTHENE	190	
FLUORENE	10	J
INDENO(1,2,3-CD)PYRENE	23	J
NAPHTHALENE	6	J
PHENANTHRENE	190	
PYRENE	190	

SDPB-04

PAH (µg/kg)		
ANTHRACENE	5	J
BENZO(A)ANTHRACENE	20	
BENZO(A)PYRENE	41	
BENZO(B)FLUORANTHENE	33	
BENZO(G,H,I)PERYLENE	59	
BENZO(K)FLUORANTHENE	10	
CHRYSENE	47	
FLUORANTHENE	110	
INDENO(1,2,3-CD)PYRENE	20	
PHENANTHRENE	120	
PYRENE	91	
SVOA (µg/kg)		
BENZO(A)ANTHRACENE	78	J
BENZO(A)PYRENE	120	J
BENZO(B)FLUORANTHENE	150	J
BENZO(G,H,I)PERYLENE	31	J
BENZO(K)FLUORANTHENE	60	J
CHRYSENE	91	J
FLUORANTHENE	120	J
INDENO(1,2,3-CD)PYRENE	35	J
PHENANTHRENE	62	J
PYRENE	140	J
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	110	Y

SSPB-05

PAH (µg/kg)		
ANTHRACENE	11	J
BENZO(A)ANTHRACENE	40	
BENZO(A)PYRENE	83	
BENZO(B)FLUORANTHENE	66	
BENZO(G,H,I)PERYLENE	190	
BENZO(K)FLUORANTHENE	30	
CHRYSENE	79	
DIBENZO(A,H)ANTHRACENE	43	J
FLUORANTHENE	130	
INDENO(1,2,3-CD)PYRENE	49	
PHENANTHRENE	150	
PYRENE	190	
SVOA (µg/kg)		
FLUORANTHENE	170	J
PHENANTHRENE	180	J
PYRENE	270	J
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	294	Y

SDPB-05

PAH (µg/kg)		
ANTHRACENE	1	J
BENZO(A)ANTHRACENE	6	J
BENZO(A)PYRENE	20	
BENZO(B)FLUORANTHENE	10	
BENZO(G,H,I)PERYLENE	35	
BENZO(K)FLUORANTHENE	5	J
CHRYSENE	20	
FLUORANTHENE	23	
INDENO(1,2,3-CD)PYRENE	8	J
PHENANTHRENE	9	J
PYRENE	26	
SVOA (µg/kg)		
ACENAPHTHYLENE	7	J
ANTHRACENE	10	J
BENZO(A)ANTHRACENE	73	
BENZO(A)PYRENE	72	
BENZO(B)FLUORANTHENE	93	
BENZO(G,H,I)PERYLENE	19	J
BENZO(K)FLUORANTHENE	39	
CHRYSENE	71	
FLUORANTHENE	120	
INDENO(1,2,3-CD)PYRENE	18	J
PHENANTHRENE	32	J
PYRENE	140	
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	37	Y

SDPB-06

PAH (µg/kg)		
ANTHRACENE	.5	J
BENZO(A)ANTHRACENE	3	
BENZO(A)PYRENE	5.2	
BENZO(B)FLUORANTHENE	4	
BENZO(G,H,I)PERYLENE	6.3	
BENZO(K)FLUORANTHENE	2	J
CHRYSENE	6.3	
DIBENZO(A,H)ANTHRACENE	2	J
FLUORANTHENE	9.5	
INDENO(1,2,3-CD)PYRENE	4	
PHENANTHRENE	8.2	
PYRENE	11	
SVOA (µg/kg)		
4-METHYLPHENOL	5	J
ACENAPHTHYLENE	5	J
BENZO(A)ANTHRACENE	19	J
BENZO(A)PYRENE	23	J
BENZO(B)FLUORANTHENE	25	J
BENZO(G,H,I)PERYLENE	8	J
BENZO(K)FLUORANTHENE	9	J
CARBAZOLE	24	J
CHRYSENE	22	J
FLUORANTHENE	33	J
INDENO(1,2,3-CD)PYRENE	9	J
PHENANTHRENE	25	J
PYRENE	37	
TPHEXT (mg/kg)		
DIESEL RANGE ORGANICS	7	J
MOTOR OIL RANGE ORGANICS	.5	J

SSPB-02

PAH (µg/kg)		
ANTHRACENE	2	J
BENZO(A)ANTHRACENE	43	
BENZO(B)FLUORANTHENE	5	J
CHRYSENE	4	J
FLUORANTHENE	7	J
PHENANTHRENE	3	J
PYRENE	20	
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	427	

SSPB-03

PAH (µg/kg)		
BENZO(B)FLUORANTHENE	4	J
CHRYSENE	1	J
FLUORANTHENE	3	J
PYRENE	7	J
SVOA (µg/kg)		
BENZO(A)ANTHRACENE	12	J
BENZO(A)PYRENE	15	J
BENZO(B)FLUORANTHENE	19	J
BENZO(G,H,I)PERYLENE	8	J
BENZO(K)FLUORANTHENE	5	J
CHRYSENE	14	J
FLUORANTHENE	16	J
INDENO(1,2,3-CD)PYRENE	8	J
PYRENE	18	J
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	10	J

SSPB-08

PAH (µg/kg)		
BENZO(A)ANTHRACENE	3	J
BENZO(A)PYRENE	20	
BENZO(B)FLUORANTHENE	10	J
BENZO(G,H,I)PERYLENE	63	
BENZO(K)FLUORANTHENE	10	
CHRYSENE	2	J
FLUORANTHENE	10	
INDENO(1,2,3-CD)PYRENE	11	J
PHENANTHRENE	9	J
PYRENE	35	
SVOA (µg/kg)		
BENZO(A)PYRENE	380	J
BENZO(B)FLUORANTHENE	320	J
CHRYSENE	370	J
FLUORANTHENE	290	J
PHENANTHRENE	220	J
PYRENE	540	J
TPHEXT (mg/kg)		
DIESEL RANGE ORGANICS	247	Z
MOTOR OIL RANGE ORGANICS	277	Y

SSPB-07

PAH (µg/kg)		
BENZO(A)ANTHRACENE	3	
BENZO(A)PYRENE	10	
BENZO(B)FLUORANTHENE	9.7	
BENZO(G,H,I)PERYLENE	28	
BENZO(K)FLUORANTHENE	4	
CHRYSENE	12	
DIBENZO(A,H)ANTHRACENE	3	J
FLUORANTHENE	9	
INDENO(1,2,3-CD)PYRENE	7.2	
PHENANTHRENE	4	
PYRENE	12	
SVOA (µg/kg)		
4-METHYLPHENOL	56	J
CARBAZOLE	84	J
CHRYSENE	24	J
FLUORANTHENE	29	J
PENTACHLOROPHENOL	81	J
PYRENE	32	J
TPHEXT (mg/kg)		
DIESEL RANGE ORGANICS	98	Z
MOTOR OIL RANGE ORGANICS	95	Y

SSPB-04

PAH (µg/kg)		
BENZO(A)ANTHRACENE	4	
BENZO(A)PYRENE	5.5	
BENZO(B)FLUORANTHENE	6.8	
BENZO(G,H,I)PERYLENE	30	
BENZO(K)FLUORANTHENE	2	J
CHRYSENE	5.7	
FLUORANTHENE	14	
INDENO(1,2,3-CD)PYRENE	3	
PHENANTHRENE	9.8	
PYRENE	13	
SVOA (µg/kg)		
BENZO(A)PYRENE	16	J
BENZO(B)FLUORANTHENE	37	J
CHRYSENE	21	J
FLUORANTHENE	28	J
INDENO(1,2,3-CD)PYRENE	7	J
PHENANTHRENE	19	J
PYRENE	38	
TPHEXT (mg/kg)		
MOTOR OIL RANGE ORGANICS	304	Y

SSPB-06

PAH (µg/kg)		
BENZO(A)ANTHRACENE	1	J
BENZO(A)PYRENE	.6	J
BENZO(B)FLUORANTHENE	2	J
BENZO(K)FLUORANTHENE	1	J
CHRYSENE	3	
FLUORANTHENE	5.4	
PHENANTHRENE	4.9	
PYRENE	5.7	
SVOA (µg/kg)		
4-METHYLPHENOL	13	J
BENZO(A)ANTHRACENE	10	J
BENZO(A)PYRENE	11	J
BENZO(B)FLUORANTHENE	14	J
BENZO(G,H,I)PERYLENE	4	J
BENZO(K)FLUORANTHENE	5	J
CARBAZOLE	71	
CHRYSENE	12	J
FLUORANTHENE	16	J
INDENO(1,2,3-CD)PYRENE	5	J
PHENANTHRENE	9	J
PYRENE	17	J
TPHEXT (mg/kg)		
DIESEL RANGE ORGANICS	5	J
MOTOR OIL RANGE ORGANICS	13	Y

LEGEND

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- SEDIMENT SAMPLING LOCATION
- SURFACE SOIL SAMPLING LOCATION
- PAVED ROAD
- BUILDING OR CONCRETE, PAVED, OR COVERED AREA
- INSTALLATION RESTORATION SITE
- FENCE

SAMPLE ID — SSPB-07
COMPOUND CLASS — SVOA
ANALYTE — FLUORANTHENE 3.9 — CONCENTRATION (µg/kg)
PENTACHLOROPHENOL 19 J — QUALIFIER

QUALIFIERS:

J – VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED VALUE.

Y – HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD.

Z – CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN.

NOTES:

1. ONLY CHEMICAL DETECTIONS ARE POSTED.
2. SAMPLES TAKEN FROM THE UPPER 1.0 FOOT OF SOIL AND SEDIMENT.
3. DATA FOR SAMPLE SSPB-01 DISPLAYS DUPLICATE FIELD DATA.

N

50 0 50 100
SCALE: 1" = 100'

PLATE 28
NFD POINT MOLATE
FINAL PHASE II RI REPORT
IR SITE 4 PUBLIC BEACH AREA
SOIL AND SEDIMENT SAMPLING
LOCATIONS

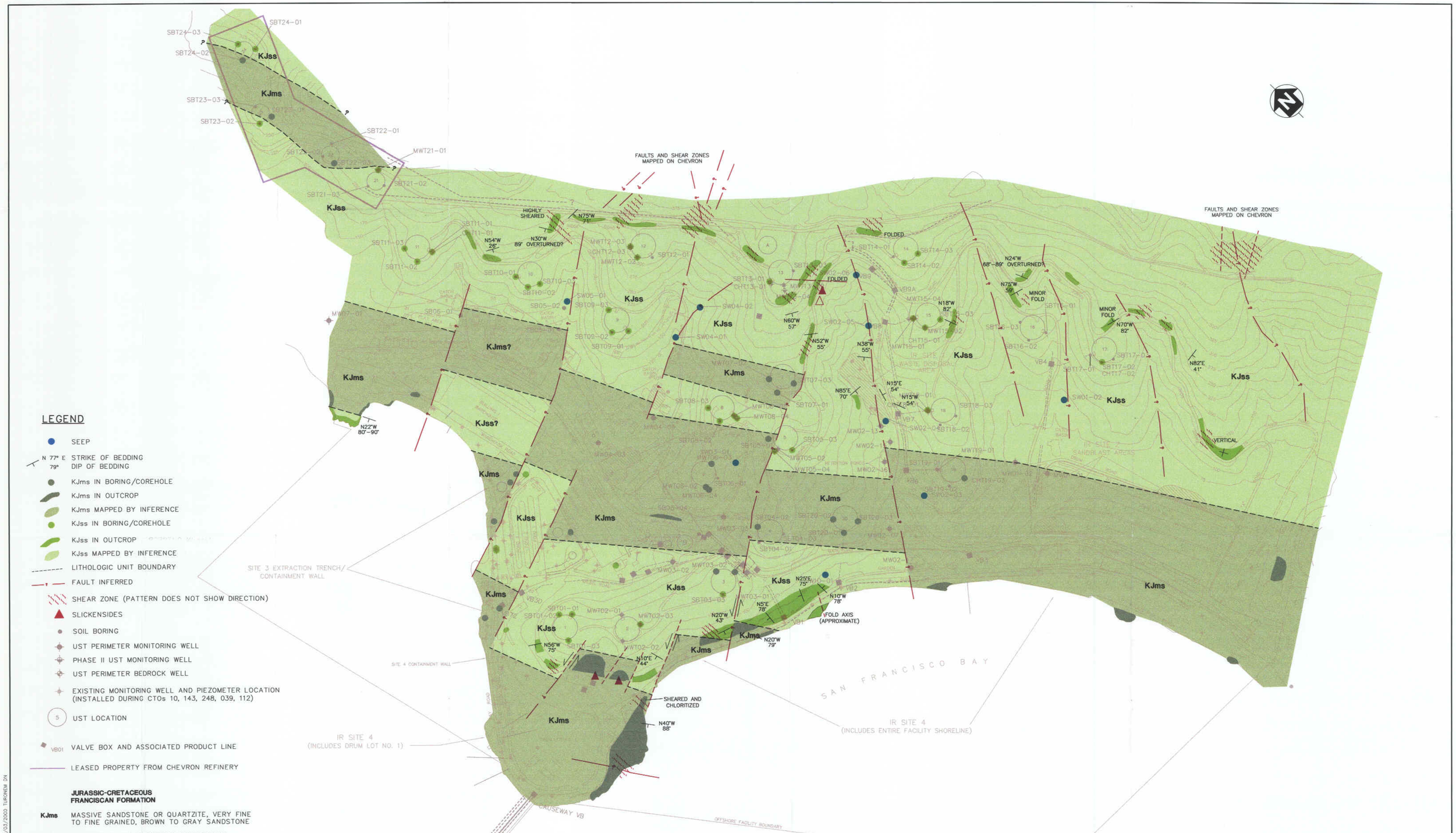


PLATE 29
NFD POINT MOLATE
FINAL PHASE II RI REPORT
PRELIMINARY BEDROCK GEOLOGIC MAP

APPENDIX A1

DATA QUALITY ASSESSMENT

The sampling design presented in the Phase II Remedial Investigation (RI) Final Field Work Plan was based upon authoritative (also known as judgment) sampling. Through the data quality objective (DQO) process, problem definition was formalized and decision statements were presented. Following through the seven step DQO process, each of the three Installation Restoration (IR) sites was identified in step 6, (Specify Limits on Decision Errors) where a qualitative, judgmental sampling design was applicable. This design allowed data collected to resolve the data gaps identified in the Phase II RI Work Plan. The DQO problems and decision statements presented in the work plan are considered to be satisfied by the results of the Phase II field investigation.

Data from the Phase II investigation has been aggregated with previous site data and basic summary statistics are presented in Tables 4-1 through 4-10 at the end of Section 4.0. Several other data presentation methods such as scatterplots have also been presented. Other, more rigorous statistical methods of analysis, such as those presented in the U.S. Environmental Protection Agency (EPA) guidance for Data Quality Assessment, EPA/QA G-9, (EPA 1996b) are not applicable to a non-probability sampling design.

All samples obtained for laboratory analysis as part of the Phase II RI sampling event were collected and analyzed according to procedures outlined in the Naval Fuel Depot (NFD) Point Molate, Richmond, California, Draft Final Quality Assurance Project Plan (TtEMI, 1998m) and the Phase II Final Work Plan, NFD Point Molate, Richmond, California (TtEMI, 1998k). All laboratory data have been evaluated by an independent validation contractor using validation procedures and guidelines established by the EPA (EPA 1991b). The quality of field data was assessed through the use of field quality control (QC) samples, which were collected on a regularly scheduled basis. The following sections summarize the data validation results and field QC samples collected.

DATA VALIDATION

Cursory data validation was completed on 100 percent of the analytical data, and full validation was completed on 10 percent of the analytical data. Appendix A1 includes all data validation reports prepared by the validation contractor for the Phase II RI analytical data.

The data validation reports this Appendix A1 for the Phase II RI laboratory analytical data are organized by sample delivery group (SDG). An SDG is a group of 20 or fewer samples received by the analytical laboratory over a period of up to 14 consecutive days. Appendix A1 consists of 17 SDG validation reports

labeled 986254, 986826, 991362, 991394, 991477, 991531, 991661, 991675, 991818, 991826, 991847, 991953, 992045, 992087, 992301, 992347, and 992404. The following sections summarize the data validation results by analytical method. Each section includes information summarized from all SDG validation reports. All appropriate data qualifiers are listed next to analytical results reported in Appendix A2 and used in figures, plates, and tables throughout this report. Appendix A2 includes a list of all data qualifier definitions. Overall, laboratory analytical data generated as part of the Phase II RI are valid and useable for all purposes.

CLP Volatile Organic Compounds

No major problems were reported in the first quarter 1998 groundwater analyses for Contract Laboratory Program (CLP) volatile organic compounds (VOCs). Minor initial and continuing calibration problems affected certain results, resulting in 137 data points being qualified as estimated (J-c or UJ-c). The positive results in 69 samples were qualified as non-detect (U-B) due to method blank contamination. Compounds in five samples were qualified as estimated (J-a) due to outlying surrogate recoveries. Lastly, 23 compounds were qualified as estimated (J-g) due to the results being below the contract-required quantitation limit (CRQL) and above the detection limit (DL).

TPH Purgeables

No major problems were reported in the Phase II RI analyses for total petroleum hydrocarbons-purgeables (TPH-p). A "Y" qualifier has been attached to two positive results (detections) to indicate that the chromatographic pattern match to the gasoline standard was less than 90 percent. The "Y" qualifier could indicate the presence of degraded fuel. In addition, a "Z" qualifier has been attached to 35 positive results to indicate that the chromatographic pattern was a single peak that did not resemble a petroleum hydrocarbon. The "Z" qualifier could indicate the presence of a volatile compound that is not a petroleum hydrocarbon, such as carbon tetrachloride, plant waxes, or other naturally-occurring organic compounds. In this situation, the TPH concentration may be estimated slightly higher than the actual concentration, resulting in a more conservation result. Furthermore, matrix spike/matrix spike duplicate (MS/MSD) problems resulted in three samples having data being qualified as estimated (J-e), while four samples had data that were qualified as estimated (J-g) due to the results being below the reporting limit (RL) and above the DL.

TPH Extractables

No major problems were reported in the phase II RI analyses for total petroleum hydrocarbons-extractable (TPH-e). A "Y" qualifier has been attached to 33 positive results (detections) to indicate that the chromatographic pattern match to the diesel, JP-5, or motor oil standards was less than 90 percent. The "Y" qualifier could indicate the presence of degraded fuel. A "Z" qualifier has been attached to eight positive results (detections) to indicate that the chromatographic pattern was a single peak that did not resemble a petroleum hydrocarbon pattern. The "Z" qualifier could indicate the presence of a volatile compound that is not a petroleum hydrocarbon, such as carbon tetrachloride, plant waxes, or other naturally-occurring organic compounds. In this situation, the TPH concentration may be estimated slightly higher than the actual concentration, resulting in more conservative result. Furthermore, six samples had results that were qualified as estimated (UJ-c/J-c) due to minor initial and continuing calibration problems, while four samples had results qualified as estimated (J-e) due to MS/MSD outliers. One sample had results qualified as estimated (UJ-a/J-a) due to surrogate problems. Lastly, eight samples were qualified as estimated (J-g) due to the results being below the RL and above the DL.

Aromatic Volatile Compounds

No major problems were reported in the Phase II RI analyses for aromatic volatile compounds of benzene, toluene, ethylbenzene, and xylene (BTEX) and methyl tert butyl ether (MTBE). Minor initial and continuing calibration problems in three samples resulted in the qualification of results as estimated (UJ-c/J-c). Six samples were qualified as estimated (J-g) due to the results being below the RL and above the DL

Semivolatile Organic Compounds

Significant problems were evident in the Phase II RI analysis for semivolatile compounds. The results for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol were rejected (R-c) in 26 samples due to major initial and continuing calibration problems. All other samples had no major problems for the semivolatile analyses. Minor initial and continuing calibration problems affected some results, resulting in 60 data points being qualified as estimated (J-c or UJ-c). The positive results in 27 samples were qualified as non-detect (U-C) due to method blank contamination. Compounds in one sample were qualified as estimated (J-a) due to outlying surrogate recoveries. Furthermore, the result in four samples were qualified as estimated (UJ-i/J-i) due to poor internal standard area counts, while 17 samples had results qualified as estimated (J-e/UJ-e) due to MS/MSD problems. Lastly, 34 compounds were qualified as estimated (J-g) due to the results being

below the CRQL and above the DL.

Pesticide Compounds

No major problems were reported in the pesticide compounds analyses. One sample had results that were qualified as estimated (J-g) due to the results being below the CRQL and above the DL.

FIELD QUALITY CONTROL SAMPLES

The following paragraphs summarize field QC sample collection pertinent to the Phase II RI at NFD Point Molate. The field QC samples collected included trip blanks, field duplicates, and MS/MSDs. Tables A1 and A2 lists the QC samples collected and the analyses that were conducted on the samples.

Trip Blanks

Trip blanks are used to detect possible contamination by VOCs that occurs during sample transport, shipping, or due to ambient site conditions. Trip blanks are analyzed for VOCs or TPH-p, depending on sample analysis requirements. A trip blank accompanied each cooler containing samples for VOC or TPH-p analysis. Nine coolers containing samples for VOC analysis were shipped to the analytical laboratory. One trip blank accompanied each cooler. No contamination was detected in most of the trip blanks. Trip blank TB4-1, sampled on 2/8/99, contained low level detects for bromoform, chloroform, dibromochloromethane, and bromdichloromethane. Trip blanks TB11-2, sampled 2/9/99, TB11-3, sampled 2/11/99, and TB01, sampled 2/25/99, exhibited low-level detects for chloroform.

Data Validation Reports

The following section contains the data validation reports for all of the SDGs for the Point Molate Phase II RI. These data were validated using the U.S. EPA National Functional Guidelines for organic and inorganic review (EPA, 1994) and the PRC validation SOW (PRC, 1994). One hundred percent of the data underwent a cursory validation and ten percent of the data underwent a full validation. These data were validated using the following criteria:

Organic Validation:

- Method compliance
- Holding time (including temperature control)
- Surrogate recoveries
- Internal standard performance
- Matrix spike. Matrix spike duplicate (MS/MSD)
- Blank spike or laboratory control sample (LCS)
- Blank contamination
- Calibrations
- Field duplicate
- Other qualifications
- Target compound list (TCL) identification (*full validation only*)
- Compound quantification and detection limits (*full validation only*)
- Overall assessments

Inorganic Validation

- Method compliance
- Holding time (including temperature control)
- Calibrations
- Blanks
- Matrix spike
- Laboratory control sample or blank spike
- Matrix duplicates
- ICP serial dilution
- Graphite surface atomic absorption QC
- Interference check sample
- Analyte quantitation (full validation only)
- Reported detection limits
- Other Qualification
- Overall assessment

TABLE A1

NAVAL FUEL DEPOT POINT MOLATE PHASE II RI QC SAMPLES

QC Sample	Sample Number (depth in ft. bgs)	Sample Date	Analysis Requested
Equipment Blank	EB-01	2/25/99	BTEX, VOA, SVOA, TPH-p, and TPH-e
Equipment Blank	EB-02	2/25/99	BTEX, VOA, SVOA, TPH-p, and TPH-e
Equipment Blank	ER-01	11/11/98	SVOA, PAH, and TPH-e
Equipment Blank	ER-02	11/12/98	PAH
Equipment Blank	MW02-50(10)	1/26/99	BTEX, VOA, PAH, TPH-p, and TPH-e
Trip Blank	TB-01	2/25/99	VOA
Trip Blank	TB-01	3/4/99	VOA, BTEX, and TPH-p
Trip Blank	TB-02	2/26/99	VOA
Trip Blank	TB02-01	1/21/99	VOA
Trip Blank	TB02-02	1/26/99	VOA
Trip Blank	TB101598	10/15/98	VOA
Trip Blank	TB11-01	2/5/99	VOA
Trip Blank	TB11-2	2/9/99	VOA
Trip Blank	TB11-3	2/11/99	VOA
Trip Blank	TB4-1	2/8/99	VOA
MS/MSD	SSPB-01	11/11/98	Pest/PCBs, SVOC, VOC, PAH, TPH-p, TPH-e
MS/MSD	BR04-1(22.5-23.3)	2/6/99	BTEX, VOA, PAH, TPH-p, and TPH-e
MS/MSD	SB02-20(15.5-17.6)	1/27/99	BTEX, VOA, PAH, TPH-p, and TPH-e
MS/MSD	SB4-1(10-11)	2/4/99	BTEX, VOA, PAH, TPH-p, and TPH-e
MS/MSD	MW11-85	2/19/99	BTEX, VOA, PAH, TDS, TPH-p, and TPH-e
MS/MSD	BR02-20	2/24/99	BTEX, VOA, PAH, TDS, TPH-p, and TPH-e

Notes:

BTEX	Benzene, toluene, ethylbenzene, and xylene
PAH	Polynuclear aromatic hydrocarbon
PCB	Polychlorinated biphenyl
Pest	Pesticides
SVOA	Semivolatile organic analysis
TPH-p	Total petroleum hydrocarbons-purgeable
TPH-e	Total petroleum hydrocarbons-extractable
TDS	Total dissolved solids
VOA	Volatile organic analysis

TABLE A-2

NAVAL FUEL DEPOT POINT MOLATE PHASE II RI FIELD DUPLICATES

Sample Number (depth in ft. bgs)	Duplicate Sample Number	Analysis Requested
SSPB-01	SSPB-01D	Pest/PCB, SVOA, PAH, TPH-p, and TPH-e
MW02-16	MW02-26	Metals, PAH, VOA, BTEX, TDS, TPH-p, and TPH-e
SB02-19(12-13)	SB02-19(24-25)	BTEX, VOA, PAH, TPH-p, TPH-e
SB11-94(14.5-15.5)	SB11-94(1.0-2.0)	BTEX, VOA, PAH, TPH-p, TPH-e
SB11-95(11.5-12.5)	SB11-95(10-11)	BTEX, VOA, PAH, TPH-p, TPH-e

Notes:

BTEX Benzene, ethylbenzene, toluene, and xylene
PAH Polynuclear aromatic hydrocarbons
PCB Polychlorinated biphenyls
MS/MSD Matrix spike/matrix spike duplicate
SVOA Semivolatile organic analysis
TPH-p Total petroleum hydrocarbons-purgeable
TPH-e Total petroleum hydrocarbons-extractable
TDS Total dissolved solids
VOA Volatile organic analysis

Field Duplicates

Field duplicate samples are collected and analyzed to provide an indication of combined sampling and analytical precision. Field duplicates are typically collected at a frequency of 10 percent. The frequency of collection for the phase II RI was 5 percent. In general, all relative percent differences (RPDs) for groundwater duplicate samples were acceptable and within QC limits. However, in some instances, RPDs were exceeded. On review of these exceedances, it was noted that some occurred when a contaminant was detected at or near the analytical detection limit in the original sample and the duplicate sample was qualified as not detected, causing the RPD to exceed 200 percent. Also, the inherent heterogeneity of soil samples creates the possibility of high RPDs. The data were not qualified on the basis of field duplicates alone; rather, the results were used in the evaluation of the entire data package.

MS/MSDs

MS/MSD samples are aliquots of a sample spiked in the laboratory with known quantities of compounds and are analyzed through the same procedures used for the field sample. The MS sample provides

information about the accuracy of the laboratory procedure, while the RPD of the MS/MSD recoveries assesses matrix-specific precision. One pair of MS/MSD samples is typically collected for every batch of 20 samples (a frequency of 5 percent). For Phase II RI samples, a MS/MSD collection frequency of 6 percent was achieved. In general, all percent recoveries and RPDs were acceptable and within QC limits. These limits were infrequently exceeded, but are not expected to affect the data quality. The data were not qualified on the basis of percent recoveries and RPDs alone; rather, the results were used in the evaluation of the entire data package. All percent recoveries and RPDs for MS/MSD samples are included in the data validation reports in this appendix.

NFD POINT MOLATE
INORGANIC DATA QUALIFIER CROSSOVER TABLE

LABORATORY QUALIFIERS		QUALIFIER DESCRIPTIONS	SUBQUALIFIERS		SUBQUALIFIER DESCRIPTIONS
Old	New		Old	New	
U	U	Not detected	H	h	Holding time exceedance
N	N	Spike Recovery	K	c	Calibration problems
E	E	Interference Present	I	e	Poor LCS recoveries
B	B	Below reporting limit	*	d	Duplicate precision not met
S	S	Value determined by MSA	N	e	Matrix spike precision not met
M	M	Duplicate precision not met (injection)	W	j	Post spike recovery not met
W	W	Post-spike recovery not met	D	j	Serial dilution exceedance
*	*	Duplicate precision not met (sample)	V	j	Could not find value
+	+	r for MSA below criteria	+	e	r for MSA below criteria
			E	g	Below reporting limit
			M	d	Duplicate injection precision not met.
			B	b	Blank contamination
			Z	b	Negative blank contamination
			U	U	Not detected
			J	J	Estimated
			R	R	Rejected

Notes:

LCS Laboratory control sample
MSA Method of standard addition
r Correlation coefficient

NFD POINT MOLATE
ORGANIC DATA QUALIFIER CROSSOVER TABLE

LABORATORY QUALIFIERS		QUALIFIER DESCRIPTIONS	SUBQUALIFIERS		SUBQUALIFIER DESCRIPTIONS
Old	New		Old	New	
U	U	Nondetected result	E	j	Other qualification
B	B	Blank Contamination	D	j	Other qualification
J	J	Estimated detected result	H	h	Holding time exceedance
D	D	Diluted value	I	j	Other qualification
P	P	Percent difference greater than 25%	S	a	Surrogate recovery exceedance
	E	Value exceeded calibration range	M	e	MS/LCS recovery exceedance
	C	GC/MS confirmation	N	j	Other qualification
			K	c	Calibration exceedance
			L	i	Internal standard exceedance
			T	j	Other qualification
			V	j	Other qualification
			*	e	MS/LCS recovery exceedance
				f	Field blank contamination
				g	Quantification below reporting limit
			U	U	Not detected
			J	J	Estimated
			R	R	Rejected

Notes:

GCMS Gas chromatograph/mass spectrometer
LCS Laboratory control sample
MS matrix spike

APPENDIX A-1

DATA QUALITY ASSESSMENT AND DATA VALIDATION SUMMARIES

DATA VALIDATION REPORT

Site:	NFD Pt. Molate Phase II RI
Contract Task Order (CTO) No.:	112
Laboratory:	Applied Physics & Chemistry Laboratory
Data Reviewer:	ETHIX
Review Date:	January 27, 1999

Sample Delivery Group (SDG) No.: 986254

Sample Nos.:						
	ER01	SDPB-05	SSPB-05	SSBB-02	SSBK-07	SSBK-12
	ER02	SDPB-06	SSPB-06	SSBK-03	SSBK-08*	SSBK-13
	SDPB-01	SSPB-01	SSPB-07	SSBK-04	SSBK-09	SSBK-14
	SDPB-02	SSPB-02	SSPB-08*	SSBK-05	SSBK-10	SSBK-15
	SDPB-03*	SSPB-03	SSBK-01	SSBK-06	SSBK-11	SSBK-16
	SDPB-04	SSPB-04				

* Full Validation Sample

Matrix: Soil and Water

Collection Dates: 11/11/98 and 11/12/98

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the Planning Research Corporation, Inc. (TtEMI) documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "TtEMI Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
PAH	✓	pg. 6	pg. 6	N/A	✓	✓	✓	N/A	pg. 7	pg. 7
SVOA	✓	✓	✓	N/A	pg. 9	pg. 9	pg. 10	pg. 11	pg. 12	pg. 13
Pesticide/PCB	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	pg. 14
TPHE	✓	✓	pg. 15	N/A	✓	✓	✓	N/A	pg. 15	pg. 15
TPHP	✓	✓	✓	N/A	✓	✓	✓	N/A	pg. 17	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Samples SSPB-08, SDPB-03 and SSBK-08

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
PAH	N/A	✓	✓	✓	N/A	✓	N/A	N/A
SVOA	✓	✓	✓	✓	✓	✓	N/A	N/A
Pesticide/PCB	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TPHE	N/A	N/A	✓	✓	N/A	✓	N/A	N/A
TPHP	N/A	N/A	✓	✓	N/A	✓	N/A	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

POLYNUCLEAR AROMATIC HYDROCARBONS ANALYSIS

I. Surrogate Recovery

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- All detected results for sample SDPB-03

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
SDPB-03	p-terphenyl	286	50-129

High percent recoveries indicate that detected results may be biased high.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy and precision problems in the MS/MSD analysis, the following detected and nondetected results are qualified as estimated (Je/UJe).

- phenanthrene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene and pyrene in matrix spike sample SSPB-01

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R / RPD	QC Limits
SSPB-01	phenanthrene	265-159/50	31-162/43
	benzo(g,h,i)perylene	81-176/74	34-163/43
	benzo(k)fluoranthene	129-235/58	38-164/41
	chrysene	115-206/57	36-159-41
	pyrene	77-122/45	

Only the spiked sample was affected by this outlier.

B. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- benzo(a)pyrene, benzo(b)fluoranthene and fluoranthene in matrix spike sample SSPB-01

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R / RPD	QC Limits
SSPB-01	benzo(a)pyrene	119-182/42	30-169/46
	benzo(b)fluoranthene	129-280/111	38-164/45
	fluoranthene	115-170-39	30-166-46

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high for benzo(a)pyrene, benzo(b)fluoranthene and fluoranthene.

III. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples SSPB-01/SSPB-01D:

- NC% for acenaphthene
- NC% for acenaphthylene
- 180.1% for anthracene
- 149% for benzo(a)anthracene
- 133% for benzo(a)pyrene
- 86% for benzo(b)fluoranthene
- 70.3% for benzo(g,h,i)perylene
- 110% for benzo(k)fluoranthene
- 127% for chrysene
- 78.3% for dibenz(a,h)anthracene
- 146% for fluoranthene
- NC% for fluorene
- 102% for indeno(1,2,3-cd)pyrene
- NC% for naphthalene
- 81.3% for phenanthrene
- 136% for pyrene

For soil samples, the field RPD guideline is $\pm$ 50%. The data are not qualified on the basis of field duplicate results.

IV. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All PAH detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

V. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with TTEMI's required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VI. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Blank Spike or Laboratory Control Sample (LCS)

A. Due to a problem in the LCS analysis, the following detected and nondetected results are qualified as estimated (Je/UJe).

- n-nitroso-d-n-propylamine and 4-nitrophenol in samples SDPB-01, SDPB-01RE, SDPB-02, SDPB-03, SDPB-04, SDPB-05, SDPB-06, SSPB-01, SSPB-02, SSPB-03, SSPB-04, SSPB-04RE, SSPB-05, SSPB-05RE, SSPB-06, SSPB-07, SSPB-08, SSPB-08RE, SSPB-01D

The result obtained in the analysis of the LCS was not within the control limits as shown below.

LCS ID	Compound	% R	QC Limits
98G4657	n-nitroso-d-n-propylamine	51,51	60-140
	4-nitrophenol	59,60	60-140

- phenol, 2-chlorophenol, 1,4-dichlorobenzene, n-nitroso-d-n-propylamine and 1,2,4-trichlorobenzene in sample ER01

The result obtained in the analysis of the LCS was not within the control limits as shown below.

LCS ID	Compound	% R	QC Limits
98G4664	phenol	57,58	60-140
	2-chlorophenol	58,59	60-140
	1,4-dichlorobenzene	43,43	60-140
	n-nitroso-di-n-propylamine	44,46	60-140
	1,2,4-trichlorobenzene	50,51	60-140

Detected results may be biased low and false nondetects may have been reported.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- dimethylphthalate in sample SDPB-04
- diethylphthalate in sample ER01
- di-n-butylphthalate in samples ER01, SDPB-01, SDPB-05, SSPB-03, SSPB-04, SSPB-04RE, SSPB-06 and SSPB-01D
- butylbenzylphthalate in samples ER01, SSPB-06 and SSPB-03
- bis(2-ethylhexyl)phthalate in samples SDPB-01, SDPB-06, SSPB-04, SSPB-04RE, SSPB-06 and SSPB-01D

Dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate and

bis(2-ethylhexyl)phthalate are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

III. Calibrations

A. Due to severe calibration problems, the following detected results are estimated and the nondetected results are rejected (Jc/Rc).

- 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol in samples ER01, SDPB-01, SDPB-01RE, SDPB-02, SDPB-03, SDPB-04, SDPB-05, SDPB-06, SSPB-01, SSPB-02, SSPB-03, SSPB-04, SSPB-04RE, SSPB-05, SSPB-05RE, SSPB-06, SSPB-07, SSPB-08, SSPB-08RE, SSPB-01D

The relative response factor (RRF) for 2,4-dinitrophenol was .023, which did not meet the QC limit of >0.05.

The relative response factor (RRF) for 4,6-dinitro-2-methylphenol was .041, which did not meet the QC limit of >0.05.

B. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- 3,3-dichlorobenzidine in samples ER01, SDPB-01, SDPB-01RE, SDPB-02, SDPB-03, SDPB-04, SDPB-05, SDPB-06, SSPB-01, SSPB-02, SSPB-03, SSPB-04, SSPB-04RE, SSPB-05, SSPB-05RE, SSPB-06, SSPB-07, SSPB-08, SSPB-08RE, SSPB-01D

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
11/10/98	3,3-dichlorobenzidine	36.5

C. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- 2-methylphenol, 4-chloroaniline, hexachlorocyclopentadiene, 3-nitroaniline, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol and 3,3-dichlorobenzidine in samples SSPB-06 and SDPB-06

- 2-methylphenol, 4-chloroaniline, hexachlorocyclopentadiene and 3-nitroaniline in samples SSPB-03, SSPB-01, SDPB-02, SSPB-01D, SDPB-04, SDPB-01, SSPB-05 and SSPB-08

- bis(2-chlorethyl)ether, 2-methylphenol, hexachlorobutadiene, 2,4-dinitrophenol, 2,4-dinitro-2-methylphenol, 3,3-dichlorobenzidine in samples SSPB-08RE, SDPB-03, SDPB-05, SSPB-04RE, SSPB-07, SSPB-02, SDPB-01RE and SSPB-05RE

- 2-methylphenol, 4-chloroaniline, hexachlorobutadiene, hexachlorocyclopentadiene, 3-nitroaniline, 2,4-dinitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol, carbazole and 3-3dichlorobenzidine in sample ER01

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
11/17/98 10:35	2-methylphenol	25.2
	4-chloroaniline	31.2
	hexachlorocyclopentadiene	-95.2
	pentachlorophenol	-26.2
	3-nitroaniline	43
11/17/98 19:37	2-methylphenol	28.1
	4-chloroaniline	34.4
	hexachlorocyclopentadiene	-87.3
	3-nitroaniline	35.8
11/18/98 11:19	bis(2-chloroethyl)ether	25.3
	2-methylphenol	30.2
	hexachlorobutadiene	-30.1
	hexachlorocyclopentadiene	-77.8
11/19/98 12:24	2-methylphenol	29.2
	4-chloroaniline	34
	hexachlorobutadiene	-32.7
	hexachlorocyclopentadiene	-74.6
	3-nitroaniline	44.8
	4-nitroaniline	31.5
	carbazole	29.5

IV. Internal Standards

A. Due to severe internal standard problems, the following detected results are qualified as estimated and the nondetected results are rejected (Ji/Ri).

- All compounds quantitated using perylene-d12 in samples SDPB-01 and SSPB-08

The internal standard area counts in the samples listed above were less than one quarter of the reference standard and are listed below.

Sample	Internal Standard	Value	QC Limits
SDPB-01	perylene-d12	42844	129463-517852
SSPB-08	perylene-d12	47077	129463-517852

Internal standard area counts of less than 25% of the standard area count may indicate a severe loss in instrument sensitivity.

B. Due to internal standard problems, the following detected and nondetected results are qualified as estimated (Ji/UJi).

- All compounds quantitated using perylene-d12 in samples SSPB-04, SSPB-05, SSPB-04RE, SDPB-01RE and SSPB-05RE

The internal standard area counts in the samples listed above were less than one half of the reference standard and are listed below.

Sample	Internal Standard	Value	QC Limits
SSPB-04	perylene-d12	70531	129463-517852
SSPB-05	perylene-d12	66385	129463-517852
SSPB-04RE	perylene-d12	84868	125352-501408
SDPB-01RE	perylene-d12	120724	125352-501408
SSPB-05RE	perylene-d12	104109	125352-501408

- All compounds quantitated using perylene-d12 and chrysene-d12 in sample SDPB-01

Sample	Internal Standard	Value	QC Limits
SDPB-01	perylene-d12	42844	129463-517852
	chrysene-d12	134951	142778-571114

Internal standard area counts of less than 50% of the standard area count may indicate a loss of instrument sensitivity.

V. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples SSPB-01/SSPB-01D:

- 74.1% for benzo(a)anthracene
- 78.1% for benzo(a)pyrene
- 16.7% for benzo(b)fluoranthene
- NQ for benzo(g,h,i)perylene
- 4.3% for benzo(k)fluoranthene
- NQ for bis(2-ethylhexyl)phthalate
- 0% for chrysene
- NQ for di-n-butylphthalate
- 16% for fluoranthene
- NQ for indeno(1,2,3-cd)pyrene
- 15.8% for phenanthrene
- 8% for pyrene

All other target compounds were nondetected.

For soil samples, the field RPD guideline is $\pm$ 50%. The data are not qualified on the basis of field duplicate results.

VI. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP SVOA detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SSPB-08 and SDPB-03

VII. GC/MS Tuning

A. The ion abundance criteria were met for the decafluorotriphenylphosphine (DFTPP) GC/MS performance checks. The samples were analyzed within 12 hours of the associated performance check.

VIII. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

IX. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with TTEMI's required report limits and reflect any dilutions, weights, volumes, and percent moisture.

X. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

XI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP PESTICIDE/PCB ANALYSIS

All cursory requirements were met by this method.

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP pesticide detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- diesel in matrix spike sample SSPB-01

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SSPB-01	diesel	158,133	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high for diesel.

II. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples SSPB-01/SSPB-01D:

- NC for diesel
- 47% for motoroil

For soil samples, the field RPD guideline is $\pm$ 50%. The data are not qualified on the basis of field duplicate results.

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All TPHE detected results reported below the TTEMI required report limit (RL)

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SDPB-03 and SSPB-08

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated.

The reported detection limits were consistent with TTEMI's required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

All cursory requirements were met by this method.

I. Field Duplicate

A. The following RPDs were obtained for the field duplicate samples SDPB-01 and SSPB-08:

- Samples were nondetect for TPH Purgeables

For soil samples, the field RPD guideline is $\pm$ 50%. The data are not qualified on the basis of field duplicate results.

Full Validation Criteria for Sample SDPB-03 and SSPB-08

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with TTEMI's required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to low response in the initial calibration in the semivolatile analysis, samples ER01, SDPB-01, SDPB-01RE, SDPB-02, SDPB-03, SDPB-04, SDPB-05, SDPB-06, SSPB-01, SSPB-02, SSPB-03, SSPB-04, SSPB-04RE, SSPB-05, SSPB-05RE, SSPB-06, SSPB-07, SSPB-07, SSPB-08, SSPB-08RE and SSPB-01D were rejected for 2,4-dinitrophenol and 4,6-dinitro-2-methylphenol. Due to low internal standard response in the semivolatile analysis, samples SDPB-01 and SSPB-08 were rejected for di-n-octylphthalate, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(g,h,I)perylene and dibenzo(a,h)anthracene.

B. Due to low LCS recoveries in the PAH analysis, detected and nondetected results for two compounds were qualified as estimated in fifteen samples and three reanalyses. In addition, the associated equipment blank was qualified for five compounds due to low LCS recoveries.

C. Due to common laboratory contamination in the semivolatile analysis, dimethylphthalate in one sample, diethylphthalate in the associated equipment blank, di-n-butylphthalate in seven samples and one reanalysis, butylbenzylpthalate in three samples and bis-2-ethylhexyl phthalate in five samples and one reanalysis were qualified as nondetect. Due to calibrations problems numerous compounds were qualified as estimated in all samples and reanalyses. Due to low internal standard response, detected and nondetected results quantitated using perylene d-12 were qualified as estimated in three samples and three reanalyses. Due to low internal standard response nondetected and detected results quantitated using chrysene-d12 were qualified as estimated in one sample.

D. Due to accuracy problems in the MS/MSD in the TPH extractable analysis, one sample was qualified as estimated for diesel.

C. Samples SDPB-01, SSPB-04 and SSPB-08 were reanalyzed for the semivolatiles analysis due to low internal standard response. The reanalyzed samples exhibited slightly better results. The reanalyses should be used as the final validated results.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the high number of qualifications made to the data indicate several analytical and/or matrix problems that limit the usability of the data.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate (Site 3)
Contract Task Order (CTO) No.:	CTO: 069-112B
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	March 10, 1999

Sample Delivery Group (SDG) No.: 986826

Sample Nos.:	TR1-1(9.0-9.5) *	TR1-6(7.0-8.0) *	TR1-7(45)
	TR1-7(7-9) *	TR1-7A(7)	TR1-8(9-10)

* Full Validation Samples

Matrix: Soil and Water (TCLP Extract)

Collection Date(s): December 7 - 9, 1998

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
SVOA	✓	✓	Page 6	N/A	✓	✓	Pgs. 6 - 7	✓	N/A	Page 7
TPHE	✓	Page 8	✓	N/A	✓	✓	Page 8	N/A	N/A	Page 8
TPHP	✓	✓	Page 10	N/A	✓	✓	✓	N/A	N/A	✓
VOA (8260)	Page 11	✓	Page 11	N/A	✓	✓	✓	✓	N/A	Page 11
SVOA (8270)	Page 12	✓	Page 12	N/A	Page 12	✓	✓	✓	N/A	✓
Pest (8081)	Page 12	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
Metals (CLP)	Page 13	N/A	✓	✓	✓	Page 13	✓	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) TR1-1(9.0-9.5), TR1-6(7.0-8.0), and TR1-7(7-9)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
TPHE	N/A	N/A	✓	✓	N/A	✓	N/A	N/A
TPHP	N/A	N/A	✓	✓	N/A	✓	N/A	N/A
Metals (CLP)	N/A	N/A	✓	✓	N/A	✓	✓	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following nondetected results are qualified as estimated (UJe).

- 4-Nitrophenol, 2,4-Dinitrotoluene, and Pentachlorophenol in matrix spike sample TR1-6(7.0-8.0).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
TR1-6 (7.0-8.0)	4-Nitrophenol	0%	0%	OK	11-114/50%
	2,4-Dinitrotoluene	0%	0%	OK	28-89/ 47%
	Pentachlorophenol	0%	0%	OK	17-109/ 47%

Only the spiked sample was affected by this outlier. False nondetects for 4-Nitrophenol, 2,4-Dinitrotoluene, and Pentachlorophenol may have been reported.

II. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Carbazole and 3,3'-Dichlorobenzidine in samples TR1-6(7.0-8.0), TR1-7(45), TR1-7(7-9), TR1-7A(7), and TR1-8(9-10).

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
12/14/98 (1211) GCMS-M	Carbazole	30.4
	3,3'-Dichlorobenzidine	33.1

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- 4-Chloroaniline and Hexachlorocyclopentadiene in samples TR1-6(7.0-8.0), TR1-7(45), TR1-7(7-9), TR1-7A(7), and TR1-8(9-10).

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
12/17/98 (1128) GCMS-M	4-Chloroaniline	78.6
	Hexachlorocyclopentadiene	-29.5

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Acenaphthene, Benzo(b)fluoranthene, Dibenzofuran, Fluoranthene, 2-Methylnaphthalene, Phenanthrene, and Pyrene detected results reported below the CRQL in samples TR1-7(45) and TR1-7(7-9).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

TPH EXTRACTABLE ANALYSIS

I. Surrogate Recovery

A. Due to surrogate recovery problems, the following detected and nondetected results are qualified as estimated (Ja/UJa).

- TPH Diesel, Motor Oil, and JP-5 in sample TR1-7(7-9).

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
TR1-7(7-9)	Octacosane, C28	44%	60 - 140%

Low recoveries indicate that detected and nondetected results may be biased low.

II. Calibrations

A. Due to continuing calibration problems, the following detected results are qualified as estimated (Jc).

- Motor Oil in samples TR1-1(9.0-9.5), TR1-6(7.0-8.0), TR1-7(7-9), TR1-7(45), and TR1-7A(7).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
12/17/98 (1325)	Motor Oil	19.

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Motor Oil detected results reported below the contract required report limit (RL) in samples TR1-7(7-9) and TR1-8(9-10).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample TR1-7(7-9)

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected result is qualified as estimated (Je).

- TPH Gasoline in matrix spike sample TR1-1(9.0-9.5).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
TR1-1(9.0-9.5)	TPH Gasoline	237%	258%	OK	70 - 130/ 30%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high for TPH Gasoline.

Full Validation Criteria for Sample TR1-1(9.0-9.5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

VOLATILE (EPA 8260) ORGANIC ANALYSIS

I. Holding Times and Sample Preparation

A. Samples were prepared following the TCLP (EPA 1311) extraction procedures. Holding times were met for all samples.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Noted below are accuracy problems in the MS/MSD analysis, however matrix spike sample TR1-7(7-9)T was non-detected for these QC Outliers. No action was taken on the data.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
TR1-7(7-9)T	Benzene	187%	171%	OK	70-130/ 30%
	Chlorobenzene	192%	202%	OK	70-130/ 30%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Chloroform detected results reported below the CRQL in samples TR1-6(7.0-8.0)T and TR1-7(7-9)T.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

SEMIVOLATILE (EPA 8270) ORGANIC ANALYSIS

I. Holding Times and Sample Preparation

A. Samples were prepared following the TCLP (EPA 1311) extraction procedures. Holding times were met for all samples.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following nondetected result is qualified as estimated (UJe).

- 2,4-Dinitrotoluene in matrix spike sample TR1-6(7.0-8.0)T.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
TR1-6(7.0-8.0)T	2,4-Dinitrotoluene	46%	45%	OK	50-150/ 50%

Only the spiked sample was affected by this outlier. False nondetects for 2,4-Dinitrotoluene may have been reported.

III. Blank Spike or Laboratory Control Sample (LCS)

A. Noted below are accuracy problems in the BS/BSD analysis, however no action was taken on the data based on these QC Outliers alone.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
TBSPK01	Pentachlorophenol	46%	46%	OK	60-140/ 50%

PESTICIDE (EPA 8081) ANALYSIS

I. Holding Times and Sample Preparation

A. Samples were prepared following the TCLP (EPA 1311) extraction procedures. Holding times were met for all samples.

CLP METALS ANALYSIS

I. Holding Times and Sample Preparation

A. Samples were prepared following the TCLP (EPA 1311) extraction procedures. Holding times were met for all samples.

II. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (UJb).

- Arsenic in sample TR1-7(7-9)T.
- Cadmium in sample TR1-6(7.0-8.0)T.
- Chromium in samples TR1-6)7.0-8.0)T and TR1-7(7-9)T.
- Selenium in samples TR1-6(7.0-8.0)T and TR1-7(7-9)T.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, µg/L
Arsenic	CCB2	2.2
Cadmium	CCB1	1.1
Chromium	CCB1	3.0
Selenium	PBW	2.5

Detected results less than 5x the maximum blank contamination were qualified.

Full Validation Criteria for Sample TR1-6(7.0-8.0)T

III. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. Graphite Furnace Atomic Absorption (GFAA) Analysis

A. GFAA analyses were not performed for SDG 986826.

V. ICP Interference Check Sample

A. Positive {and/or negative} results greater than the IDL for analytes that should not be present were detected in the ICSA solution. Further evaluation of the sample for concentrations of Al, Ca, Fe, or Mg indicates that spectral interferences may not exist (concentrations were less than 50% found in the ICSA solutions). Percent recoveries for the ICSAB solutions were within the 80-120% QC Limits.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to accuracy problems in the CLP Semivolatile analysis, three target compounds were qualified as estimated in matrix spike sample TR1-6(7.0-8.0). Due to initial and continuing calibration problems in the Semivolatile analysis, Carbazole, 3,3'-Dichlorobenzidine, 4-Chloroaniline, and Hexachlorocyclopentadiene were qualified as estimated in five samples. Due to results reported above the IDL but below the CRDL in the Semivolatile analysis, seven target compounds were qualified as estimated in two samples.

B. Due to surrogate recovery problems in the Non-CLP TPH Extractables analysis, three target compounds were qualified as estimated in sample TR1-7(7-9). Due to continuing calibration problems in the TPH Extractables analysis, Motor Oil was qualified as estimated in five samples. Due to results reported above the IDL but below the RL in the TPH Extractables analysis, Motor Oil was qualified as estimated in two samples.

C. Due to accuracy problems in the Non-CLP TPH Purgeables analysis, TPH Gasoline was qualified as estimated in matrix spike sample TR1-1(9.0-9.5).

D. Due to results reported above the IDL but below the RL in the Non-CLP Volatiles analysis, Chloroform was qualified as estimated in two samples.

E. Due to accuracy problems in the Non-CLP Semivolatile analysis, 2,4-Dinitrotoluene was qualified as estimated in matrix spike sample TR1-6(7.0-8.0)T.

F. Due to laboratory and method blank contamination in the CLP Metals analysis, Chromium and Selenium were considered non-detected in two samples, Arsenic and Cadmium were considered non-detected in one sample.

G. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: 069-112B0403
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	February 28, 1999

Sample Delivery Group (SDG) No.: 991362

Sample Nos.: SB02(18.7 - 19.2)

Matrix: Soil

Collection Date(s): January 20, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
TPHE	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
BTEX/ TPHP	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TDS	✓	N/A	✓	✓	✓	✓	✓	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

DATA ASSESSMENT

TPH EXTRACTABLE ANALYSIS

I. All Cursory QC criteria was evaluated and found to be within acceptable QC Limits.

TPH PURGEABLE/ BTEX ANALYSIS

I. All Cursory QC criteria was evaluated and found to be within acceptable QC Limits.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. All Cursory QC criteria was evaluated and found to be within acceptable QC Limits.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	March 21, 1999

Sample Delivery Group (SDG) No.: 99-1477

Sample Nos.:	SB02-19(12.0-13.0)	TB02-02
	SB02-19(24.0-25.0)	MW02-50(10.0)
	SB02-13(8.5-9.4) *	

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): January 25, & 26, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

S Rowell, President

Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

* Holding times
  GC/MS instrument performance check
* Initial and continuing calibrations
* Blanks
* Surrogate recovery
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Internal standard performance
  Target compound identification
  Tentatively identified compounds
  Compound quantitation
  Reported detection limits
  System performance
* Overall assessment of data for the SDG

CLP Inorganic Parameters

* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
  ICP interference check sample
  GFAA quality control
* ICP serial dilution
  Sample result verification
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

* Method compliance
* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
* Surrogate recovery
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 6	pg. 6	√	N/A	pg. 7
PAHs	√	√	pg. 8	N/A	√	√	pg. 8	N/A	N/A	pg. 8
TPHE	√	√	pg.10	N/A	√	√	√	N/A	N/A	pg.10
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample SB02-13(8.5-9.4)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples SB02-19(12.0-13.0), TB02-02, and MW02-50(10.0).
- 2-Butanone in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), and MW02-50(10.0).

Acetone and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).
- Acetone in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), TB02-02, and MW02-50(10.0).

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95
02-05-99 (1224)	Acetone	69.28

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).
- Acetone in samples TB02-02 and MW02-50(10.0).

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
01-29-99 (1312)	Bromomethane	35.2
02-05-99 (1641)	Acetone	33.1

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- 4-Methyl-2-pentanone detected result was reported below the CRQL for sample SB02-19(12.0-13.0).
- Chloroform detected result was reported below the CRQL for sample TB02-02.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- Acenaphthene, Acenaphthylene, Anthracene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, and Phenanthrene in matrix spike sample SB02-19(24.0-25.0).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	MS%R, MSD%R	QC Limits
SB02-19(24.0-25.0)	Acenaphthene	3290, 3380	50-150%
	Acenaphthylene	OK, 162	50-150%
	Anthracene	OK, 178	50-150%
	Benz(a)anthracene	658, 661	50-150%
	Benzo(b)fluoranthene	165, 166	50-150%
	Benzo(k)fluoranthene	267, 179	50-150%
	Chrysene	1150, 1150	50-150%
	Fluoranthene	4460, OK	50-150%
	Fluorene	759, 757	50-150%
	Phenanthrene	425, 427	50-150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Fluorene in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), and MW02-50(10.0).
- 1-Methylnaphthalene in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
02-01-99 (1143)	Fluorene	28%
02-01-99 (1758)	Fluorene	73%
02-01-99 (1727)	1-Methylnaphthalene	17%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Fluoranthene and Phenanthrene detected results were reported below the RL for sample MW02-50(10.0).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- TPH Diesel in sample SB02-19(24.0-25.0).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SB02-19(24.0-25.0)	TPH Diesel	12500, 9100	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- TPH Diesel was detected results reported below the contract required report limit (RL) for sample MW02-50(10.0).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Acetone in three samples; 2-Butanone in four samples. Due to initial calibration problems, the following were estimated: Bromomethane in three samples; Acetone in five samples. %RSDs > 30%. Due to analytical uncertainty of reporting results below the CRQL, 4-Methyl-2-pentanone was qualified as estimated for one sample and Chloroform was qualified as estimated for one sample.

B. Fluorene in four samples and 1-Methylnaphthalene in three samples were qualified as estimated due to continuing calibration problems in the Polynuclear Aromatic Hydrocarbon analysis. %Ds > 25%. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Fluoranthene and Phenanthrene in one sample.

C. Diesel was qualified as estimated in one sample due to analytical uncertainty of reporting results below the RL.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	March 19, 1999

Sample Delivery Group (SDG) No.: 99-1394

Sample Nos.:
SB02-09(20.6-30.1)
SB02-11(18.8-19.1)
WB02-09(19.0)
TB02-01

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): January 21, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

S. Howell, President
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

* Holding times
  GC/MS instrument performance check
* Initial and continuing calibrations
* Blanks
* Surrogate recovery
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Internal standard performance
  Target compound identification
  Tentatively identified compounds
  Compound quantitation
  Reported detection limits
  System performance
* Overall assessment of data for the SDG

CLP Inorganic Parameters

* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
  ICP interference check sample
  GFAA quality control
* ICP serial dilution
  Sample result verification
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

* Method compliance
* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
* Surrogate recovery
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 5	pg. 5	√	N/A	pg. 5
PAHs	√	√	pg. 6	N/A	√	√	pg. 6	N/A	N/A	pg. 6
TPHE	√	√	pg. 7	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	pg. 8
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in samples WB02-09(19.0) and TB02-01.
- Acetone in samples SB02-09(20.6-30.1) and WB02-09(19.0).

Methylene chloride and Acetone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-09(20.6-30.1) and SB02-11(18.8-19.1).
- Acetone in samples SB02-09(20.6-30.1), SB02-11(18.8-19.1), and TB02-01.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-22-99 (1450)	Acetone	30.13
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-09(20.6-30.1) and SB02-11(18.8-19.1).
- Dibromochloromethane in sample TB02-01.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
01-26-99 (2242)	Dibromochloromethane	-25.3
01-29-99 (1312)	Bromomethane	35.2

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Carbon disulfide, Ethylbenzene, 4-Methyl-2-pentanone, Styrene, and Toluene detected results were reported below the CRQL for sample SB02-11(18.8-19.1).
- Ethylbenzene, Styrene, Toluene, and Xylene(total) detected results were reported below the CRQL for sample WB02-09(19.0).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- All compounds in matrix spike sample SB02-09(20.6-30.1).

All recoveries (with the exception of Dibenz(a,h)anthracene which was acceptable) were above the QC limits of 50 - 150%. Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Pyrene in samples SB02-09(20.6-30.1) and SB02-11(18.8-19.1).
- 1-Methylnaphthalene in samples SB02-09(20.6-30.1), SB02-11(18.8-19.1), and WB02-09(19.0).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
01-27-99 (1547)	Pyrene	52%
02-01-99 (1727)	1-Methylnaphthalene	17%
02-02-99 (1223)	1-Methylnaphthalene	16%
02-02-99 (1444)	1-Methylnaphthalene	17%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Benzo(a)pyrene detected result was reported below the RL for sample SB02-09(20.6-30.1).
- Benzo(k)fluoranthene detected result was reported below the RL for sample SB02-11(18.8-19.1).
- Benzo(a)pyrene and Benzo(b)fluoranthene detected results were reported below the RL for sample WB02-09(19.0).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- TPH Diesel in sample SB02-09(20.6-30.1).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SB02-09(20.6-30.1)	TPH Diesel	663, 428	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

TPH PURGEABLE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- TPH Gasoline was detected results reported below the contract required report limit (RL) for sample SB02-11(18.8-19.1).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

BTEX / MTBE ANALYSIS

I. Cursory criteria was met.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Methylene chloride in two samples and Acetone in two samples. Due to initial calibration problems, the following were estimated: Bromomethane in two samples; Acetone in three samples. %RSDs > 30%. Dibromochloromethane in one sample was qualified as estimated due to continuing calibration problems. %D > 25%. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Carbon disulfide and 4-Methyl-2-pentanone in one sample, Ethylbenzene, Styrene, and Toluene in two samples, and Xylene(total) in one sample.

B. Pyrene in two samples and 1-Methylnaphthalene in three samples were qualified as estimated due to continuing calibration problems in the Polynuclear Aromatic Hydrocarbon analysis. %Ds > 25%. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Benzo(a)pyrene in two samples; Benzo(k)fluoranthene in one sample, and Benzo(b)fluoranthene in one sample.

C. Gasoline was qualified as estimated in one sample due to analytical uncertainty of reporting results below the RL.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	March 21, 1999

Sample Delivery Group (SDG) No.: 99-1477

Sample Nos.:	SB02-19(12.0-13.0)	TB02-02
	SB02-19(24.0-25.0)	MW02-50(10.0)
	SB02-13(8.5-9.4) *	

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): January 25, & 26, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

S Rowell, President
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 6	pg. 6	√	N/A	pg. 7
PAHs	√	√	pg. 8	N/A	√	√	pg. 8	N/A	N/A	pg. 8
TPHE	√	√	pg.10	N/A	√	√	√	N/A	N/A	pg.10
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample SB02-13(8.5-9.4)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples SB02-19(12.0-13.0), TB02-02, and MW02-50(10.0).
- 2-Butanone in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), and MW02-50(10.0).

Acetone and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).
- Acetone in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), TB02-02, and MW02-50(10.0).

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95
02-05-99 (1224)	Acetone	69.28

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).
- Acetone in samples TB02-02 and MW02-50(10.0).

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
01-29-99 (1312)	Bromomethane	35.2
02-05-99 (1641)	Acetone	33.1

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- 4-Methyl-2-pentanone detected result was reported below the CRQL for sample SB02-19(12.0-13.0).
- Chloroform detected result was reported below the CRQL for sample TB02-02.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- Acenaphthene, Acenaphthylene, Anthracene, Benz(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Fluoranthene, Fluorene, and Phenanthrene in matrix spike sample SB02-19(24.0-25.0).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	MS%R, MSD%R	QC Limits
SB02-19(24.0-25.0)	Acenaphthene	3290, 3380	50-150%
	Acenaphthylene	OK, 162	50-150%
	Anthracene	OK, 178	50-150%
	Benz(a)anthracene	658, 661	50-150%
	Benzo(b)fluoranthene	165, 166	50-150%
	Benzo(k)fluoranthene	267, 179	50-150%
	Chrysene	1150, 1150	50-150%
	Fluoranthene	4460, OK	50-150%
	Fluorene	759, 757	50-150%
	Phenanthrene	425, 427	50-150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Fluorene in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), SB02-13(8.5-9.4), and MW02-50(10.0).
- 1-Methylnaphthalene in samples SB02-19(12.0-13.0), SB02-19(24.0-25.0), and SB02-13(8.5-9.4).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
02-01-99 (1143)	Fluorene	28%
02-01-99 (1758)	Fluorene	73%
02-01-99 (1727)	1-Methylnaphthalene	17%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Fluoranthene and Phenanthrene detected results were reported below the RL for sample MW02-50(10.0).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- TPH Diesel in sample SB02-19(24.0-25.0).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SB02-19(24.0-25.0)	TPH Diesel	12500, 9100	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- TPH Diesel was detected results reported below the contract required report limit (RL) for sample MW02-50(10.0).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-13(8.5-9.4)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Acetone in three samples; 2-Butanone in four samples. Due to initial calibration problems, the following were estimated: Bromomethane in three samples; Acetone in five samples. %RSDs > 30%. Due to analytical uncertainty of reporting results below the CRQL, 4-Methyl-2-pentanone was qualified as estimated for one sample and Chloroform was qualified as estimated for one sample.

B. Fluorene in four samples and 1-Methylnaphthalene in three samples were qualified as estimated due to continuing calibration problems in the Polynuclear Aromatic Hydrocarbon analysis. %Ds > 25%. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Fluoranthene and Phenanthrene in one sample.

C. Diesel was qualified as estimated in one sample due to analytical uncertainty of reporting results below the RL.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	April 14, 1999
Sample Delivery Group (SDG) No.:	99-1661
Sample Nos.:	BR4-2(9.0-10.0) SB02-12(7.0-8.0) SB02-15(12.5-13.5) SB02-17(14.0-15.0) BR4-1(14) BR4-1(14-15) BR4-1(22.5-23.5) SB11-95(5) * SB11-95(10-11) SB11-95(11.5-12.5) SB11-95(21-22.5) TB4-1 * Full Validation Sample
Matrix:	Water and Soil
Collection Date(s):	February 2,3, 6-8, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

S Obleas, President
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	pg. 6	√	N/A	√	pg. 6	pg. 6, 7	√	N/A	pg. 7
PAHs	√	√	√	N/A	√	√	pg. 9	N/A	N/A	pg. 9
TPHE	√	√	√	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	pg. 12	N/A	√	√	√	N/A	N/A	pg. 12
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	pg. 13

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample SB11-95(5)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Surrogate Recovery

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- CLP Volatiles in samples BR4-1(14-15) and BR4-1(14-15)RE.

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
BR4-1(14-15)	Toluene-d8	142	88-110%
	Bromofluorobenzene	177	86-115%
BR4-1(14-15)RE	Bromofluorobenzene	119	86-115%

High percent recoveries indicate that detected results may be biased high.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in samples BR4-1(22.5-23.5), SB11-95(10-11), SB11-95(11.5-12.5), SB11-95(21-22.5), and BR4-1(14-15)RE.
- Acetone in samples BR4-2(9.0-10.0), SB02-12(7.0-8.0), SB02-15(12.5-13.5), SB02-17(14.0-15.0), BR4-1(14-15), SB11-95(10-11), and BR4-1(14-15)RE.
- 2-Butanone in sample SB11-95(11.5-12.5).

Methylene chloride, Acetone, and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

III. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Acetone in all samples.
- Bromomethane in all soil samples.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95
02-16-99 (1433)	Acetone	50.20

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- 1,2-Dichloroethane and 2-Hexanone in samples BR4-1(14-15), BR4-1(22.5-23.5), SB11-95(11.5-12.5), SB11-95(21-22.5), SB11-95(10-11 and BR4-1(14-15)RE.
- Acetone in samples BR4-1(14), SB11-95(5), TB4-1, SB11-95(10-11), and BR4-1(14-15)RE.
- 2-Butanone in samples SB11-95(10-11) and BR4-1(14-15)RE.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
02-15-99 (1331)	1,2-Dichloroethane	-30.7
	2-Hexanone	-28.4
02-16-99 (1911)	Acetone	28.0
02-17-99 (0607)	Acetone	31.9
02-18-99 (1759)	Acetone	-86.6
	1,2-Dichloroethane	-35.9
	2-Butanone	-52.6
	2-Hexanone	-43.2

IV. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Benzene, Toluene, Ethylbenzene, and Xylene(Total) detected results were reported below the CRQL for sample BR4-1(14).
- Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform detected results were reported below the CRQL for sample TB4-1.
- Ethylbenzene detected result was reported below the CRQL for sample BR4-1(14-15)RE.
- 4-Methyl-2-pentanone detected result was reported below the CRQL for sample SB02-15(12.5-13.5).
- Benzene, Toluene, Ethylbenzene, and Xylene(Total) detected results were reported below the CRQL for sample SB11-95(11.5-12.5).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-95(5)

V. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

VI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

IX. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- 1-Methylnaphthalene and 2-Methylnaphthalene in samples BR4-2(9.0-10.0), SB02-12(7.0-8.0), SB02-15(12.5-13.5), and SB02-17(14.0-15.0).
- Acenaphthene, Fluorene, Phenanthrene, Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, and Benzo(g,h,i)perylene in samples BR4-2(9.0-10.0), SB02-12(7.0-8.0), SB02-15(12.5-13.5), and SB02-17(14.0-15.0).
- Anthracene and Pyrene in samples BR4-2(9.0-10.0), SB02-12(7.0-8.0), SB02-15(12.5-13.5), SB02-17(14.0-15.0), BR4-1(14), and SB11-95(5).
- Fluoranthene in samples BR4-1(14), and SB11-95(5).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
02-08-99 (1404)	1-Methylnaphthalene	22%
	2-Methylnaphthalene	20%
02-08-99 (1546)	Acenaphthene	42%
	Fluorene	225%
	Phenanthrene	16%
	Anthracene	26%
	Pyrene	34%
	Benzo(a)anthracene	27%
	Chrysene	19%
	Benzo(a)pyrene	21%
02-08-99 (2201)	Acenaphthene	42%
	Fluorene	220%
	Phenanthrene	22%
	Anthracene	26%
	Pyrene	37%
	Benzo(a)anthracene	28%
	Chrysene	19%
	Benzo(a)pyrene	21%
	Benzo(g,h,i)perylene	23%
02-12-99 (1339)	Anthracene	16%
	Fluoranthene	35%
	Pyrene	18%
02-12-99 (1923)	Fluoranthene	22%
	Pyrene	33%

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Anthracene detected result was reported below the RL for sample SB11-95(5).
- Naphthalene detected result was reported below the RL for sample BR4-1(14-15).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-95(5)

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB11-95(5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- TPH Gasoline in matrix spike sample BR4-1(22.5-23.5).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
BR4-1(22.5-23.5)	TPH Gasoline	180, 180	70 - 130%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Gasoline detected results were reported below the RL for samples BR4-1(14-15), BR4-1(22.5-23.5), and SB11-95(10-11).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-95(5)

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Ethylbenzene detected results were reported below the RL for samples BR4-1(14-15) and BR4-1(22.5-23.5).
- Xylene(total) detected results were reported below the RL for samples BR4-1(14-15), BR4-1(22.5-23.5), and SB11-95(11.5-12.5).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-95(5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to surrogate recovery problems in the CLP Volatile analysis, the following were qualified as estimated: one target analyte for one sample and five target analytes for one sample. Due to common laboratory contamination, the following were considered nondetected: Methylene chloride in five samples; Acetone in seven samples; and 2-Butanone in one sample. Due to initial calibration problems, the following were estimated: Acetone in twelve samples and Bromomethane in nine samples. %RSDs > 30%. Due to continuing calibration problems, the following were estimated: 1,2-Dichloroethane and 2-Hexanone in six samples; Acetone in five samples; 2-Butanone in two samples. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Benzene, Toluene, and Xylene(total) in two samples; Ethylbenzene in three samples; Chloroform, Bromodichloromethane, Dibromochloromethane, and Bromoform in one sample; and 4-Methyl-2-pentanone in one sample.

B. Due to calibration problems in the Polynuclear Aromatic Hydrocarbon analysis, the following were qualified as estimated: 1-Methylnaphthalene, 2-Methylnaphthalene, Acenaphthene, Fluorene, Phenanthrene, Benzo(a)anthracene, Chrysene, Benzo(a)pyrene, and Benzo(g,h,i)perylene in four samples; Anthracene and Pyrene in six samples; and Fluoranthene in two samples. Due to analytical uncertainty of reporting results below the RL the following were qualified as estimated: Anthracene in one sample and Naphthalene in one sample.

C. Due to matrix spike problems in the TPH Purgeable analysis, two samples were estimated. Due to analytical uncertainty of reporting results below the RL, Gasoline was qualified as estimated in three samples.

D. Due to analytical uncertainty of reporting results below the RL in the BTEX analysis, Ethylbenzene was qualified as estimated in two samples and Xylene(total) was estimated in three samples.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	March 23, 1999

Sample Delivery Group (SDG) No.: 99-1531

Sample Nos.: SB02-16(11.0-11.7') *
SB02-16(11.7-12.8')
SB02-20(15.5-17.6')

* Full Validation Sample

Matrix: Soil

Collection Date(s): January 27, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

SObleas, President
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 6	pg. 6	√	N/A	√
PAHs	√	√	pg. 7	N/A	√	√	pg. 7	N/A	N/A	pg. 8
TPHE	√	√	pg. 9	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample SB02-20(15.5-17.6')

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples SB02-16(11.0-11.7'), SB02-16(11.7-12.8'), SB02-20(15.5-17.6').

Acetone is considered a common laboratory contaminant when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Bromomethane and Acetone in samples SB02-16(11.0-11.7'), SB02-16(11.7-12.8'), and SB02-20(15.5-17.6').

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95

Full Validation Criteria for Sample SB02-16(11.0-11.7')

III. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

IV. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

V. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VI. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
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I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected and nondetected results are qualified as estimated (Je / UJe).

- Acenaphthene, Acenaphthylene, Chrysene, Fluoranthene, Naphthalene, and Pyrene in matrix spike sample SB02-20(15.5-17.6').

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	MS%R, MSD%R	QC Limits
SB02-20(15.5-17.6')	Acenaphthene	29, 38	50 - 150%
	Acenaphthylene	45, OK	50 - 150%
	Chrysene	43, OK	50 - 150%
	Fluoranthene	45, OK	50 - 150%
	Naphthalene	35, 42	50 - 150%
	Pyrene	-79, -74	50 - 150%

Only the spiked sample was affected by this outlier. Detected results were biased low. False nondetects may have been reported.

B. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- Anthracene, Benzo(g,h,i)perylene, and Benzo(k)fluoranthene in matrix spike sample SB02-20(15.5-17.6').

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	MS%R, MSD%R	QC Limits
SB02-20(15.5-17.6')	Anthracene	158, 171	50 - 150%
	Benzo(g,h,i)perylene	OK, 153	50 - 150%
	Benzo(k)fluoranthene	231, 263	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Pyrene and Benzo(a)anthracene in samples SB02-16(11.0-11.7'), SB02-16(11.7-12.8'), and SB02-20(15.5-17.6').

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
02-03-99 (1808)	Pyrene	43%
	Benzo(a)anthracene	16%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Benzo(a)anthracene detected result was reported below the RL for sample SB02-16(11.0-11.7') and SB02-16(11.7-12.8')

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB02-16(11.0-11.7')

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- TPH Diesel in sample SB02-20(15.5-17.6').

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SB02-20(15.5-17.6')	TPH Diesel	-293, -205	50 - 150%

Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

Full Validation Criteria for Sample SB02-16(11.0-11.7')

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-16(11.0-11.7')

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SB02-16(11.0-11.7')

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Acetone in three samples. Due to initial calibration problems, the following were estimated: Bromomethane and Acetone in three samples. %RSDs > 30%.

B. Pyrene and Benzo(a)anthracene in three samples were qualified as estimated due to continuing calibration problems in the Polynuclear Aromatic Hydrocarbon analysis. %Ds > 25%. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Benzo(a)anthracene in two samples.

C. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: G0069-112B0403
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	April 15, 1998

Sample Delivery Group (SDG) No.: 991675

Sample Nos.:	SB4-1(10-11)	SB4-1(16.5-17.5)	SB4-1(17.5-18.5) *
	SB11-80(16-17)	SB11-82(11-12)	SB11-82(14-15)
	SB11-83(7-8)	SB11-83(11.5-12.5)	TB11-01

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): February 4 & 5, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	Page 6	Pgs. 6 - 7	√	N/A	√
PAH	√	Page 9	√	N/A	√	√	√	N/A	N/A	Page 9
TPHE	√	√	√	N/A	√	√	√	N/A	N/A	Page 10
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	Page 11
BTEX	√	√	√	N/A	√	√	Page 12	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) SB4-1(18.0-18.5)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAH	N/A	√	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in samples SB4-1(10-11), SB4-1(16.5-17.5), SB4-1(18.0-18.5), SB11-80(16-17), SB11-82(11-12), and SB11-83(11.5-12.5).
- Acetone in samples SB4-1(10-11), SB4-1(16.5-17.5), SB4-1(18.0-18.5), SB11-80(16-17), SB11-82(11-12), SB11-82(14-15), SB11-83(7-8), SB11-83(11.5-12.5), and TB11-01.

Methylene chloride and Acetone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

B. Due to trip blank contamination, the following results are considered nondetected (UJf).

- 2-Hexanone and 4-Methyl-2-pentanone in sample TB11-01.

The following compounds were detected in the associated trip blank at the concentrations noted below.

Compound	Blank ID	Concentration, µg/L
2-Hexanone	TB11-01	0.7
4-Methyl-2-pentanone	TB11-01	0.5

Detected results less than 5x the maximum blank contamination were qualified.

II. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Bromomethane in samples SB4-1(10-11), SB4-1(16.5-17.5), SB4-1(18.0-18.5), SB11-80(16-17), SB11-82(11-12), SB11-82(14-15), SB11-83(7-8), and SB11-83(11.5-12.5).
- Acetone in samples SB4-1(10-11), SB4-1(16.5-17.5), SB4-1(18.0-18.5), SB11-80(16-17), SB11-82(11-12), SB11-82(14-15), SB11-83(7-8), SB11-83(11.5-12.5), and TB11-01.

The following continuing calibrations had percent differences (%RSDs) of >30%.

Calibration Date	Compound	%RSD
2/5/99 (1224) GCMS-G	Acetone	69.3
1/29/99 (0951) GCMS-Q	Bromomethane	38.1
	Acetone	33.0

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone, and 2-Hexanone in samples SB4-1(10-11), SB4-1(16.5-17.5), SB4-1(18.0-18.5), SB11-80(16-17), SB11-82(11-12), and SB11-82(14-15).

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
2/9/99 (1143) GCMS-G	Acetone	-30.1
2/9/99 (1143) GCMS-Q	2-Hexanone	-31.0

Full Validation Criteria for Sample SB4-1(18.0-18.5)

III. GC/MS Tuning

A. The ion abundance criteria were met for the Bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

IV. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

V. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VI. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

EPA METHOD 8310 PAHs ANALYSIS

I. Surrogate Recoveries

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- Detected target PAH compounds in sample SB4-1(18.0-18.5).

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
SB4-1(18.0-18.5)	p-Terphenyl	164	60 - 140%

High percent recoveries indicate that detected results may be biased high.

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Anthracene detected results reported below the CRQL in sample SB4-1(18.0-18.5).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB4-1(18.0-18.5)

III. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Motor Oil detected results reported below the CRQL in sample SB11-82(11-12).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB4-1(18.0-18.5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- TPH Gasoline detected results reported below the CRQL in sample SB4-1(18.0-18.5).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB4-1(18.0-18.5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. Calibrations

A. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- m/p-Xylenes in sample SB11-83(11.5-12.5).

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
2/9/99 (1143) GCMS-G	Acetone	-30.1
2/9/99 (1143) GCMS-Q	2-Hexanone	-31.0

Full Validation Criteria for Sample SB4-1(18.0-18.5)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory blank contamination in the Volatiles analysis, Acetone was considered non-detected in nine samples, Methylene chloride was considered non-detected in six samples. Due to trip blank contamination in the Volatiles analysis, 2-Hexanone and 4-Methyl-2-pentanone were considered non-detected in one sample. Due to initial and continuing calibration problems in the Volatiles analysis, Acetone was qualified as estimated in nine samples, Bromomethane was qualified as estimated in eight samples, and 2-Hexanone was qualified as estimated in seven samples.

B. Due to surrogate recovery problems in the Non-CLP PAH analysis, four detected compounds were qualified as estimated in one sample. Due to results reported above the MDL but below the RL in the PAH analysis, Anthracene was qualified as estimated in one sample.

C. Due to results reported above the MDL but below the RL in the Non-CLP TPH Extractable analysis, Motor Oil was qualified as estimated in one sample.

D. Due to results reported above the MDL but below the RL in the Non-CLP TPH Purgeable analysis, TPH Gasoline was qualified as estimated in one sample.

E. Due to continuing calibration problems in the Non-CLP BTEX analysis, Xylene was qualified as estimated in one sample.

F. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: G0069-112B0403
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	April 16, 1998

Sample Delivery Group (SDG) No.: 991818

Sample Nos.: SB03-02(13.5-14.0) SB10-17(19.5-20.0) SB10-18(18.5-19.0)
SB11-96(14.5-15.0) SB11-96(17.5-18.0) * SB11-96(31.0-31.5)
TB11-02 MW03-02(5.0)

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): February 9 - 11, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	Page 6	√	N/A	√	Pgs. 6 - 7	Pgs. 7 - 8	Page 8	N/A	Page 8
PAH	√	√	√	N/A	√	√	√	N/A	N/A	√
TPHE	√	√	√	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	Page 12	N/A	√	√	√	N/A	N/A	√
BTEX	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) SB4-1(18.0-18.5)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAH	N/A	√	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Surrogate Recoveries

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- Detected target Volatile compounds in samples SB03-02(13.5-14.0), SB11-96(14.5-15.0), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0).

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
SB03-02(13.5-14.0)	Bromofluorobenzene	143	59 - 113%
SB11-96(14.5-15.0)	Bromofluorobenzene	170	59 - 113%
SB03-02(13.5-14.0)RE	Bromofluorobenzene	127	59 - 113%
SB11-96(14.5-15.0)RE	Bromofluorobenzene	156	59 - 113%

High percent recoveries indicate that detected results may be biased high.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in samples SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.
- Acetone in samples SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(17.5-18.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.
- 2-Butanone in sample MW03-02(5.0).

Methylene chloride, Acetone, and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

B. Due to trip blank contamination, the following results are considered nondetected (UJf).

- Chloroform in samples MW03-02(5.0) and TB1-2.

The following compounds were detected in the associated trip blank at the concentrations noted below.

Compound	Blank ID	Concentration, µg/L
Chloroform	TB11-2	6.0

Detected results less than 5x the maximum blank contamination were qualified.

III. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Bromomethane in samples SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(17.5-18.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.
- Acetone in samples MW03-02(5.0), TB11-2, SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(17.5-18.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.

The following continuing calibrations had percent differences (%RSDs) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1433) GCMS-G	Acetone	50.2
1/29/99 (0951) GCMS-Q	Bromomethane	38.1
	Acetone	33.0

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone in samples MW03-02(5.0), TB11-2, SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(17.5-18.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.
- 1,2-Dichloroethane in samples SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.
- 2-Butanone and 2-Hexanone in samples SB03-02(13.5-14.0), SB10-17(19.5-20.0), SB10-18(18.5-19.0), SB11-96(14.5-15.0), SB11-96(31.0-31.5), SB03-02(13.5-14.0)RE, and SB11-96(14.5-15.0)RE.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
2/16/99 (1911) GCMS-G	Acetone	28.0
2/15/99 (1143) GCMS-Q	Acetone	-49.3
	2-Butanone	-43.3
	2-Hexanone	-34.0
2/18/99 (1833) GCMS-Q	Acetone	-86.6
	1,2-Dichloroethane	-35.9
	2-Butanone	-52.6
	2-Hexanone	-43.2
2/18/99 (1240) GCMS-Q	Acetone	27.9

IV. Internal Standards

A. Due to internal standard problems, the following detected and nondetected results are qualified as estimated (Ji/UJi).

- All compounds quantitated using Chlorobenzene-d5 in sample SB03-02(13.5-14.0).

The internal standard area counts in the samples listed above were less than one half of the reference standard and are listed below.

Sample	Internal Standard	Value	QC Limits
SB03-02(13.5-14.0)	Chlorobenzene-d5	114716	524161-2096642

Internal standard area counts of less than 50% of the standard area count may indicate a loss of instrument sensitivity.

V. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Carbon disulfide, 4-Methyl-2-pentanone, and Xylene (total) detected results reported below the CRQL in samples SB03-02(13.5-14.0), SB11-96(14.5-15.0), and SB11-96(14.5-15.0)RE.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-96(17.5-18.0)

VI. GC/MS Tuning

A. The ion abundance criteria were met for the Bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

VII. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VIII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IX. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

X. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

EPA METHOD 8310 PAHs ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data.

Full Validation Criteria for Sample SB11-96(17.5-18.0)

II. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data.

Full Validation Criteria for Sample SB11-96(17.5-18.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected result is qualified as estimated (Je).

- TPH Gasoline in matrix spike sample SB11-96(31.0-31.5).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
SB11-96(31.0-31.5)	TPH Gasoline	50	53	OK	70 - 130%

Only the spiked sample was affected by this outlier. Detected results for TPH Gasoline were biased low.

Full Validation Criteria for Sample SB11-96(17.5-18.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data.

Full Validation Criteria for Sample SB11-96(17.5-18.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to surrogate recovery problems in the CLP Volatiles analysis, Xylene (total) detected results were qualified as estimated in two samples. Due to common laboratory blank contamination in the Volatiles analysis, Acetone was considered non-detected in nine samples, Methylene chloride was considered non-detected in seven samples. Due to trip blank contamination in the Volatiles analysis, Chloroform was considered non-detected in two sample. Due to initial and continuing calibration problems in the Volatiles analysis, Acetone was qualified as estimated in ten samples, Bromomethane, 2-Butanone, and 2-Hexanone were qualified as estimated in eight samples, and 1,2-Dichloroethane was qualified as estimated in three samples. Due to internal standard problems in the Volatile analysis, ten target compounds were qualified as estimated in one sample. Due to results reported above the MDL but below the CRDL in the Volatiles analysis, three target compounds were qualified as estimated in three samples.

B. Due to accuracy and precision problems in the Non-CLP TPH Purgeable analysis, TPH Gasoline was qualified as estimated in the MS/MSD sample.

C. Due to poor surrogate recovery problems, CLP Volatile sample SB11-96(14.5-15.0) was re-analyzed. Due to poor surrogate and internal standard recovery problems, CLP Volatile sample SB03-02(13.5-14.0) was re-analyzed. Re-analyzed sample SB11-96(14.5-15.0)RE exhibited similar surrogate recovery problems and qualifications, therefore the original sample results should be used as the final validated results. Re-analyzed sample SB03-02(13.5-14.0)RE exhibited similar surrogate recovery problems, however internal standard recoveries were within acceptable QC Limits; therefore, the re-analyzed sample results should be used as the final validated results with fewer qualifications and internal standard recoveries within QC Limits.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: G0069-112B0403
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	April 17, 1998

Sample Delivery Group (SDG) No.: 991826

Sample Nos.:	SB11-85(13.5-14.0)	SB11-86(14.5-15.0)	SB11-94(1.0-2.0) *
	SB11-94(14.5-15.0)	TB11-3	WB11-87(12.0)
	SW01-01	SW02-01	SW02-02
	SW03-01	SW03-02	SW03-03

* Full Validation Sample

Matrix: Soil and Water

Collection Date(s): February 11 & 12, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

* Holding times
  GC/MS instrument performance check
* Initial and continuing calibrations
* Blanks
* Surrogate recovery
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Internal standard performance
  Target compound identification
  Tentatively identified compounds
  Compound quantitation
  Reported detection limits
  System performance
* Overall assessment of data for the SDG

CLP Inorganic Parameters

* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
  ICP interference check sample
  GFAA quality control
* ICP serial dilution
  Sample result verification
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

* Method compliance
* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
* Surrogate recovery
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	Page 6	√	N/A	√	Page 6	Page 7	√	N/A	Page 8
PAH	√	Page 9	√	N/A	√	√	√	N/A	N/A	√
TPHE	√	√	√	N/A	√	√	√	N/A	N/A	Page 10
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX	√	√	√	N/A	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) SB11-94(1.0-2.0)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAH	N/A	√	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Surrogate Recoveries

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- Detected target Volatile compounds in samples SB11-85(13.5-14.0) and SB11-85(13.5-14.0)RE.

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
SB11-85(13.5-14.0)	Bromofluorobenzene	129	59 - 113%
SB11-85(13.5-14.0)	Bromofluorobenzene	119	59 - 113%

High percent recoveries indicate that detected results may be biased high.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in samples SB11-85(13.5-14.0), TB11-3, and WB11-87(12.0).
- Acetone in samples SB11-85(13.5-14.0), SB11-94(1.0-2.0), TB11-3, WB11-87(12.0), and SB11-85(13.5-14.0)RE.
- 2-Butanone in sample WB11-87(12.0).

Methylene chloride, Acetone, and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

B. Due to trip blank contamination, the following results are considered nondetected (UJf).

- Chloroform in sample TB11-3.

The following compounds were detected in the associated trip blank at the concentrations noted below.

Compound	Blank ID	Concentration, µg/L
Chloroform	TB11-3	6.0

Detected results less than 5x the maximum blank contamination were qualified.

III. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Bromomethane in sample SB11-85(13.5-14.0).
- Acetone in samples SB11-85(13.5-14.0), SB11-86(14.5-15.0), SB11-94(1.0-2.0), SB11-94(14.5-15.0), TB11-3, WB11-87(12.0), and SB11-85(13.5-14.0)RE.
- 2-Butanone in samples SB11-86(14.5-15.0) and SB11-85(13.5-14.0)RE.

The following continuing calibrations had percent differences (%RSDs) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1433) GCMS-G	Acetone	50.2
1/29/99 (0951) GCMS-Q	Bromomethane	38.1
	Acetone	33.0
2/24/99 (1238) GCMS-Q	Acetone	38.1
	2-Butanone	32.3

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acetone in samples SB11-85(13.5-14.0), SB11-86(14.5-15.0), SB11-94(1.0-2.0), SB11-94(14.5-15.0), TB11-3, WB11-87(12.0), and SB11-85(13.5-14.0)RE.
- 1,2-Dichloroethane in sample SB11-85(13.5-14.0).
- 2-Butanone and 2-Hexanone in samples SB11-85(13.5-14.0) and SB11-94(1.0-2.0).

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
2/16/99 (1911) GCMS-G	Acetone	28.0
2/20/99 (0329) GCMS-G	Acetone	31.0
2/23/99 (1214) GCMS-G	Acetone	39.0
	2-Butanone	30.7
	2-Hexanone	31.2
2/18/99 (1759) GCMS-Q	Acetone	-86.6
	1,2-Dichloroethane	-35.9
	2-Butanone	-52.6
	2-Hexanone	-43.2
2/24/99 (1754) GCMS-Q	Acetone	34.3

IV. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Chloromethane, Ethylbenzene, Toluene, Trichloroethene, and Xylene(total) detected results reported below the CRQL in samples SB11-85(13.5-14.0), SB11-94(1.0-2.0), WB11-87(12.0), and SB11-85(13.5-14.0)RE.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-94(1.0-2.0)

V. GC/MS Tuning

A. The ion abundance criteria were met for the Bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

VI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

IX. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

EPA METHOD 8310 PAHs ANALYSIS

I. Surrogate Recoveries

A. Due to surrogate recovery problems, the following detected results are qualified as estimated (Ja).

- Detected target PAH compounds in sample SB11-85(13.5-14.0) and SB11-86(14.5-15.0).

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
SB11-85(13.5-14.0)	p-Terphenyl	1420	60 - 140%
SB11-86(14.5-15.0)	p-Terphenyl	197	60 - 140%

High percent recoveries indicate that detected results may be biased high.

Full Validation Criteria for Sample SB11-94(1.0-2.0)

II. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Motor Oil detected result reported below the CRQL in sample SB11-86(14.5-15.0).

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SB11-94(1.0-2.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data.

Full Validation Criteria for Sample SB11-94(1.0-2.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data.

Full Validation Criteria for Sample SB11-94(1.0-2.0)

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to surrogate recovery problems in the CLP Volatiles analysis, four detected target compounds were qualified as estimated in two samples. Due to common laboratory blank contamination in the Volatiles analysis, Acetone was considered non-detected in five samples, Methylene chloride was considered non-detected in three samples, and 2-Butanone was considered non-detected in one sample. Due to trip blank contamination in the Volatiles analysis, Chloroform was considered non-detected in one sample. Due to initial and continuing calibration problems in the Volatiles analysis, Acetone was qualified as estimated in seven samples, 2-Butanone and 2-Hexanone were qualified as estimated in two samples, Bromomethane and 1,2-Dichloroethane were qualified as estimated in one sample. Due to results reported above the MDL but below the CRDL in the Volatiles analysis, five target compounds were qualified as estimated in four samples.

B. Due to surrogate recovery problems in the Non-CLP PAHs analysis, thirteen detected target compounds were qualified as estimated in sample SB11-85(13.5-14.0), and four detected target compounds were qualified as estimated in sample SB11-86(14.5-15.0).

C. Due to results reported above the MDL but below the CRDL in the Non-CLP TPH Extractable analysis, Motor Oil was qualified as estimated in one sample.

D. Due to poor surrogate recovery problems, CLP Volatile sample SB11-85(13.5-14.0) was re-analyzed. Re-analyzed sample SB11-96(14.5-15.0)RE exhibited similar surrogate recovery problems and qualifications, therefore the original sample results should be used as the final validated results.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	April 9, 1999
Sample Delivery Group (SDG) No.:	99-1847
Sample Nos.:	SB11-94(10.0-11.5) SW01-02 SW02-03 * SW02-04 SW02-05 SW02-06 SW03-04 SW03-99 SW04-01 SW05-01 SW10-01 TB02-03 * Full Validation Sample
Matrix:	Water and Soil
Collection Date(s):	February 12 & 13, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

S Obleas, President
Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 6	pg. 6	√	N/A	pg. 7
PAHs	√	√	pg. 8	N/A	√	√	pg. 8	N/A	N/A	pg. 9
TPHE	√	√	√	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	pg. 10
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	pg. 11

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample SW02-03

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Methylene chloride in sample SB11-94(10.0-11.5).
- Acetone in samples SB11-94(10.0-11.5), SW01-02, SW02-03, SW02-04, SW02-05, SW02-06, SW03-04, SW03-99, SW04-01, SW05-01, SW10-01, and TB02-03.
- 2-Butanone in samples SW01-02, SW02-03, SW02-04, SW02-05, SW02-06, SW03-04, SW04-01, and SW05-01.

Methylene chloride, Acetone, and 2-Butanone are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Acetone in all samples.
- Bromomethane in sample SB11-94(10.0-11.5).

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
01-29-99 (0951)	Bromomethane	38.10
	Acetone	32.95
02-16-99 (1433)	Acetone	50.20

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Acetone, 1,2-Dichloroethane, 2-Butanone and 2-Hexanone in sample SB11-94(10.0-11.5).
- Benzene in samples SW01-02, SW02-03, SW02-04, SW02-05, SW02-06, SW03-04, SW03-99, SW04-01, SW05-01, SW10-01, and TB02-03.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
02-18-99 (1759)	Acetone	-86.6
	1,2-Dichloroethane	-35.9
	2-Butanone	-52.6
	2-Hexanone	-43.2
02-19-99 (0930)	Benzene	-32.9

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Xylene(total) detected result was reported below the CRQL for sample SW02-03.
- Benzene detected result was reported below the CRQL for sample SW03-04.
- Trichloroethene detected result was reported below the CRQL for sample SW05-01.
- Chloroform detected result was reported below the CRQL for sample TB02-03.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SW02-03

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Due to accuracy problems in the MS/MSD analysis, the following detected and nondetected results are qualified as estimated (Je / UJe).

- Acenaphthene, Anthracene, Naphthalene in matrix spike sample SB11-94(10.0-11.5).

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	QC Limits
SB11-94(10.0-11.5)	Acenaphthene	14, 18	50-150%
	Anthracene	5, 0	50-150%
	Naphthalene	38, 26	50-150%

Only the spiked sample was affected by this outlier. Detected results were biased low. False nondetects may have been reported.

B. Due to accuracy problems in the MS/MSD analysis, the following detected results are qualified as estimated (Je).

- Benzo(a)anthracene, Benzo(a)pyrene; Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Fluorene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene in matrix spike sample SB11-94(10.0-11.5).

All recoveries were above the QC limits of 50 - 150%. Only the spiked sample was affected by this outlier. Spike recoveries above the QC limit indicate that detects may be biased high.

II. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Phenanthrene in all samples.
- Fluoranthene in samples SB11-94(10.0-11.5), SW01-02, SW02-03, SW02-04, SW02-05, SW02-06, SW03-04, SW03-99, SW04-01, and SW10-01.
- Anthracene and Benzo(a)pyrene in samples SB11-94(10.0-11.5), SW01-02, SW02-03, SW02-05, SW02-06, and SW04-01.
- Pyrene in samples SB11-94(10.0-11.5), SW01-02, SW02-03, SW02-05, SW02-06, SW04-01, and SW05-01.
- Naphthalene, Fluorene, and Benzo(g,h,i)perylene in samples SW02-03, SW02-05, SW02-06, SW04-01, and SW05-01.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
02-17-99 (2323)	Phenanthrene	22%
	Fluoranthene	32%
02-18-99 (0538)	Phenanthrene	19%
02-18-99 (0917)	Phenanthrene	28%
	Anthracene	20%
	Fluoranthene	20%
	Pyrene	31%
	Benzo(a)pyrene	22%

Calibration Date	Compound	%D
02-18-99 (1817)	Naphthalene	24%
	Fluorene	24%
	Phenanthrene	30%
	Pyrene	27%
	Benzo(g,h,i)perylene	28%

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- 1-Methylnaphthalene detected result was reported below the RL for sample SW02-03.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SW02-03

IV. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

V. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample SW02-03

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Gasoline detected result was reported below the RL for sample SW01-02.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SW02-03

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Ethylbenzene detected result was reported below the RL for sample SB11-94(10.0-11.5).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample SW02-03

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Methylene chloride in one sample; Acetone in twelve samples; and 2-Butanone in eight samples. Due to initial calibration problems, the following were estimated: Acetone in twelve samples and Bromomethane in one sample. %RSDs > 30%. Due to continuing calibration problems, the following were estimated: Acetone, 1,2-Dichloroethane, 2-Butanone and 2-Hexanone in one sample; Benzene in eleven samples. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: Xylene(total) in one sample; Benzene in one sample; Trichloroethene in one sample; and Chloroform in one sample.

B. Due to analytical uncertainty of reporting results below the RL in the Polynuclear Aromatic Hydrocarbon analysis, the following were qualified as estimated: Phenanthrene in eleven samples; Fluoranthene in ten samples; Pyrene in seven samples; Anthracene and Benzo(a)pyrene in six samples; Naphthalene, Fluorene, and Benzo(g,h,i)perylene in five samples. Due to analytical uncertainty of reporting results below the CRQL, the following were qualified as estimated: 1-Methylnaphthalene in one sample.

C. Due to analytical uncertainty of reporting results below the RL, Gasoline was qualified as estimated in one sample.

D. Due to analytical uncertainty of reporting results below the RL, Ethylbenzene was qualified as estimated in one sample.

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Tetra Tech EM Inc.

DATA VALIDATION REPORT

Site:	Pt. Molate
Contract Task Order (CTO) No.:	CTO-069
Laboratory:	Applied Physics & Chemistry Laboratory
Data Reviewer:	Nancy Weaver/Environmental Data Services, Inc.
Review Date:	April 14, 1999

Sample Delivery Group (SDG) No.: 99-1953

Sample Nos.: MW11-85* MW11-86 MW11-94

* Full Validation Sample

Matrix: Water

Collection Date(s): February 19, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Nancy Weaver

Certified by

5 South State Street, Suite 2, Concord, New Hampshire 03301 • Ph 603-226-0118 • Fax 603-226-0128

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	✓	✓	✓	N/A	✓	Pg.6	Pg.6	✓	N/A	Pg.7
PAH	✓	✓	N/A	N/A	✓	✓	✓	N/A	N/A	✓
BTEX	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TPHE	✓	✓	N/A	N/A	✓	✓	✓	N/A	N/A	✓
TPHP	✓	✓	N/A	N/A	✓	✓	✓	N/A	N/A	✓
TDS	✓	N/A	N/A	N/A	✓	✓	N/A	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) MW11-85

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	✓	✓	✓	✓	Pg.8	✓	N/A	N/A
PAH	N/A	✓	✓	✓	N/A	✓	N/A	N/A
BTEX	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TPHE	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TPHP	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TDS	N/A	✓	✓	✓	N/A	✓	N/A	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples MW11-85 and MW11-86.

Acetone and methylene chloride are considered common laboratory contaminants when found at levels less than 10x the CRQL in environmental samples and not found in the associated blanks.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acetone, 2-butanone, and 2-hexanone in all samples.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
2/23/99	Acetone	39.0
	2-Butanone	30.7
	2-Hexanone	31.2

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP VOA detected results reported below the CRQL.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample MW11-85

X. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

XI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

XII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were qualified "NJ" and all 'unknown" compounds were qualified "J."

XIV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Internal Standards

A. None.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. None.

X. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

XI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

B. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

IX. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

X. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

IX. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

X. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

IX. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

X. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. Holding Times

A. All criteria were met.

II. Calibrations

A. None.

III. Blank Contamination

A. All criteria were met.

IV. Duplicates

A. All criteria were met.

V. Laboratory Control Sample (LCS)

A. All criteria were met.

VI. Field Duplicate

A. None.

VII. Other Qualifications

A. None.

Full Validation Criteria for Sample MW11-85

VIII. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the volatile analysis, acetone was qualified as estimated in two samples.

B. Due to continuing calibration problems in the volatile analysis, three compounds were qualified as estimated in all samples.

C. All detected results reported below the CRQL were qualified as estimated.

D. All identified TIC compounds were qualified "NJ" and all 'unknown" compounds were qualified "J."

E. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate Phase II R1
Contract Task Order (CTO) No.:	CTO 069-112B0403
Laboratory:	APCL
Data Reviewer:	Sandra Obleas, The Data Validation Group, Inc.
Review Date:	April 7, 1999
Sample Delivery Group (SDG) No.:	99-2045
Sample Nos.:	BR02-19 MW02-17 MW10-17 MW03-02 MW10-18 *
	* Full Validation Sample
Matrix:	Water
Collection Date(s):	February 23 & 24, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

President

Certified by

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

* Holding times
  GC/MS instrument performance check
* Initial and continuing calibrations
* Blanks
* Surrogate recovery
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Internal standard performance
  Target compound identification
  Tentatively identified compounds
  Compound quantitation
  Reported detection limits
  System performance
* Overall assessment of data for the SDG

CLP Inorganic Parameters

* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
  ICP interference check sample
  GFAA quality control
* ICP serial dilution
  Sample result verification
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

* Method compliance
* Holding times
* Initial and continuing calibrations
* Blanks
* Matrix spike/matrix spike duplicate
* Laboratory control sample or blank spike
* Field duplicates
* Matrix duplicates
* Surrogate recovery
  Analyte quantitation
  Reported detection limits
* Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	pg. 6	pg. 6	√	N/A	pg. 6
METALS	√	N/A	√	√	√	pg. 8	√	N/A	N/A	pg. 8
PAHs	√	√	N/A	N/A	√	√	√	N/A	N/A	pg. 9
TPHE	√	√	N/A	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX / MTBE	√	√	√	N/A	√	√	√	N/A	N/A	√
TDS	√	N/A	√	√	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample MW10-18

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	√	√	√	√	√	√	N/A	N/A
PAHs	√	N/A	√	√	N/A	√	N/A	N/A
TPHE	N/A	N/A	√	√	N/A	√	N/A	N/A
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A
BTEX / MTBE	N/A	N/A	√	√	N/A	√	N/A	N/A
TDS	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples MW10-17, MW10-18, and MW03-02.

Acetone is considered a common laboratory contaminant when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

II. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc / UJc).

- Acetone in all samples.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
02-16-99 (1433)	Acetone	50.2

III. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Ethylbenzene and Xylene(total) detected results were reported below the CRQL for sample MW10-18.

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample MW10-18

IV. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

V. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

VI. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

VII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were reported with the "NJ" qualifier.

VIII. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP METALS ANALYSIS
(Total and Dissolved)

I. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (UJb).

- Aluminum, Copper and Nickel in dissolved sample MW02-17.
- Molybdenum in total and dissolved samples MW02-17.

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, ug/L
Aluminum	CCB5	28.1
Arsenic	CCB4	1.5
Calcium	CCB6	99.7
Copper	CCB3	2.8
Iron	PBW	9.03
Manganese	CCB4	1.4
Molybdenum	CCB6	0.6
Nickel	CCB1	0.6
Potassium	ICB	190.5
Sodium	CCB6	705.4
Thallium	CCB6	1.9

Detected results less than 5x the maximum blank contamination were qualified.

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Barium, Chromium, Cobalt, Iron, Lead, Potassium, Vanadium, and Zinc results above the IDL but below the CRDL for dissolved sample MW02-17.
- Arsenic, Barium, Beryllium, Cobalt, and Vanadium results above the IDL but below the CRDL for total sample MW02-17.

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS
EPA 8310

I. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Benz(a)anthracene and Chrysene detected results were reported below the RL for sample MW03-02.
- Fluorene detected result was reported below the RL for sample MW10-18.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample MW10-18

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample MW10-18

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample MW10-18

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX / MTBE ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample MW10-18

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. Cursory criteria met.

Full Validation Criteria for Sample MW10-18

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination in the CLP Volatile analysis, the following were considered nondetected: Acetone in three samples. Due to initial calibration problems, the following were estimated: Acetone in five samples. %RSD > 30%. Due to analytical uncertainty of reporting results below the CRQL, Ethylbenzene and Xylene(total) were qualified as estimated for one sample.

B. The following were considered nondetected due to calibration and method blank contamination in the CLP Metals analysis: Aluminum, Copper and Nickel in one sample; Molybdenum in two samples. Due to analytical uncertainty of reporting results above the IDL but below the CRDL, the following were qualified as estimated: Arsenic and Beryllium in one sample; Barium, Cobalt and Vanadium in two samples; Chromium, Iron, Lead, Potassium and Zinc in one sample.

C. Due to analytical uncertainty of reporting results below the RL in the Polynuclear Aromatic Hydrocarbon analysis, the following were qualified as estimated: Benz(a)anthracene and Chrysene in one sample and Fluorene in one sample.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Tetra Tech EM Inc.

DATA VALIDATION REPORT

Site:	Pt. Molate
Contract Task Order (CTO) No.:	CTO-069
Laboratory:	Applied Physics & Chemistry Laboratory
Data Reviewer:	Nancy Weaver/Environmental Data Services, Inc.
Review Date:	April 16, 1999

Sample Delivery Group (SDG) No.: 99-2087

Sample Nos.:				
	BR02-20	EB-01	EB-02	MW02-13**
	MW02-16	MW02-26*	MW11-80	MW11-88
	MW11-96	TB-01	BR02-18	BR10-19
	MW11-81	MW11-89	TB-02	

* Full Validation Sample for VOA, SVOA, PAH, BTEX, TPHE, TPHP, TDS
** Full Validation Sample for total metals

Matrix: Water

Collection Date(s): February 24, 25, and 26, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Nancy Weaver

Certified by

5 South State Street, Suite 2, Concord, New Hampshire 03301 • Ph 603-226-0118 • Fax 603-226-0128

DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	✓	✓	✓	N/A	✓	Pg.6	Pg.7	✓	N/A	Pg.7
SVOA	✓	Pg.9	✓	N/A	✓	Pg.9	Pg.10	✓	N/A	Pg.11
PAH	✓	✓	✓	N/A	✓	✓	Pg.13	N/A	N/A	Pg.14
BTEX	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TPHE	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	Pg.19
TPHP	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	Pg.21
Metals	✓	N/A	✓	✓	✓	Pg.15	✓	N/A	N/A	Pg.16
TDS	✓	N/A	✓	N/A	✓	✓	✓	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) MW02-26 and MW02-13 (metals only)

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
VOA	✓	✓	✓	✓	Pg.8	✓	N/A	N/A
SVOA	✓	✓	✓	✓	Pg.12	✓	N/A	N/A
PAH	N/A	✓	✓	✓	N/A	✓	N/A	N/A
BTEX	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TPHE	N/A	✓	✓	✓	N/A	✓	N/A	N/A
TPHP	N/A	✓	✓	✓	N/A	✓	N/A	N/A
Metals	N/A	✓	✓	✓	N/A	✓	✓	N/A
TDS	N/A	✓	✓	✓	N/A	✓	N/A	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Acetone in samples BR02-18, EB-02, MW11-89, MW11-96, TB-01, TB-02, MW02-13, MW02-16, MW02-26, MW11-80, and MW11-81.

Acetone and methylene chloride are considered common laboratory contaminants when found at levels less than 10x the CRQL in environmental samples and not found in the associated blanks.

B. Due to trip blank contamination, the following results are considered nondetected (UJf).

- Chloroform in samples MW11-96 and BR02-18.

The following compounds were detected in the associated field, trip, and equipment rinsate blanks at the concentrations noted below.

Compound	Blank ID	Concentration, µg/L
Chloroform	TB-01	6

Detected results less than 5x the maximum blank contamination were qualified.

VI. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acetone in all samples.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99	Acetone	50.2

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- 2-Hexanone in samples BR02-20, EB-01, EB-02, MW02-13, MW02-16, MW02-26, MW11-80, MW11-88, and MW11-96.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/2/99 (1223)	2-Hexanone	25.8

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP VOA detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

X. GC/MS Tuning

A. The ion abundance criteria were met for the bromofluorobenzene (BFB) GC/MS performance check. The samples were analyzed within 12 hours of the associated performance check.

XI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

XII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were qualified "NJ" and all 'unknown" compounds were qualified "J."

XIV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. Due to surrogate recovery problems, the following detected and nondetected results are qualified as estimated (Ja/UJa).

- All base/neutral compounds in samples MW11-81, MW11-81RE, and BR02-18RE.

The surrogates outside of QC limits are listed below.

Sample ID	Surrogate	% R	QC Limits
MW11-81	2-Fluorobiphenyl	34	43-116
	Terphenyl-d14	12	33-141
MW11-81RE	Nitrobenzene-d5	32	35-114
	2-Fluorobiphenyl	29	43-116
	Terphenyl-d14	11	33-141
BR02-18RE	Nitrobenzene-d5	33	35-114
	2-Fluorobiphenyl	35	43-116
	2-Fluorophenol	15	21-100

Low recoveries indicate that detected and nondetected results may be biased low.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Diethylphthalate in samples BR02-18RE, BR10-19, EB-01, MW02-13, MW02-16, MW02-16RE, MW11-80, MW11-81, MW11-81RE, and MW11-89.
- Di-n-butylphthalate in samples BR02-18RE, BR02-20, BR10-19, EB-02, MW02-13, MW11-80, MW11-81, MW11-81RE, MW11-89, and MW11-96.

- Butylbenzylphthalate in samples MW11-89 and MW11-96.
- bis(2-Ethylhexyl)phthalate in samples BR02-18, BR02-18RE, BR02-20, BR10-19, EB-01, EB-02, MW02-13, MW02-16, MW02-16RE, MW02-26, MW11-80, MW11-81, MW11-81RE, MW11-88, MW11-89, and MW11-96.

Dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate are considered common laboratory contaminants when found at levels less than 10x the CRQL in environmental samples and not found in the associated blanks.

VI. Calibrations

A. Due to severe calibration problems, the following detected results are estimated and the nondetected results are rejected (Jc/Rc).

- 2,4-Dinitrophenol in samples BR02-20, EB-01, EB-02, MW02-13, MW02-26, MW11-88, MW11-96, BR02-18, MW11-81, and MW11-89.

The relative response factor (RRF) for 2,4-dinitrophenol was 0.028, which did not meet the QC limit of >0.05.

B. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Diethylphthalate in all samples.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99	Diethylphthalate	45.9

C. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- 4-Chloroaniline, hexachlorocyclopentadiene, diethylphthalate, 4,6-dinitro-2-methylphenol, and 3,3'-dichlorobenzidine in samples BR02-20, EB-01, EB-02, MW02-13, MW02-26, MW11-88, MW11-96, BR02-18, MW11-81, and MW11-89.
- 4-Chloroaniline, 2,4-dinitrophenol, diethylphthalate, bis(2-ethylhexyl)phthalate, and benzo(g,h,i)perylene in samples MW11-80, MW02-16, MW11-81RE, BR10-19, BR02-18RE, and MW02-16RE.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/3/99	4-Chloroaniline	48.1
	Hexachlorocyclopentadiene	25.8
	Diethylphthalate	30.6

Calibration Date	Compound	%D
3/3/99 (cont.)	4,6-Dinitro-2-methylphenol	60.0
	3,3'-Dichlorobenzidine	26.4
3/4/99	4-Chloroaniline	27.7
	2,4-Dinitrophenol	43.0
	Diethylphthalate	26.3
	Bis(2-ethylhexyl)phthalate	25.1
	Benzo(g,h,i)perylene	25.3

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP SVOA detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. 2-Methylnaphthalene was detected in several samples. Since 1-methylnaphthalene was not in the calibration standard, it is unknown if it co-elutes with 2-methylnaphthalene. However, both 1-methylnaphthalene and 2-methylnaphthalene were in the SW8310 standard and they were separated on the C18 column used in the analysis. Method SW-8310 results indicated that 1-methylnaphthalene was present in the sample, not 2-methylnaphthalene. Therefore, it is possible that 2-methylnaphthalene coelutes with 1-methylnaphthalene in the GC/MS column and 2-methylnaphthalene detected in the samples was actually 1-methylnaphthalene.

- 2-Methylnaphthalane has been qualified as estimated in sample MW02-16, MW02-26, and MW11-88.

X. GC/MS Tuning

A. The ion abundance criteria were met for the decafluorotriphenylphosphine (DFTPP) GC/MS performance checks. The samples were analyzed within 12 hours of the associated performance check.

XI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

XII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were qualified "NJ" and all 'unknown" compounds were qualified "J."

XIV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Anthracene, 1-methylnaphthalene, and 2-methylnaphthalene in all samples.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/2/99	Anthracene	70
	1-Methylnaphthalene	19
	2-Methylnaphthalene	22

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All PAH detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample MW02-26

IX. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

X. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

CLP METALS ANALYSIS (TOTAL & DISSOLVED)

I. Holding Times

A. All criteria were met.

II. Calibrations

A. All criteria were met.

III. Blank Contamination

A. Due to calibration and method blank contamination, the following results are considered nondetected (UJb).

- Aluminum in samples BR02-18 (dissolved) and MW02-13 (dissolved).
- Antimony in samples MW02-13 (dissolved) and MW02-16 (dissolved).
- Arsenic in samples BR02-18 (dissolved and total), MW02-26 (dissolved), and MW02-16 (dissolved).
- Copper in samples BR02-18 (total), MW02-26 (dissolved and total), MW02-13 (total), and MW02-16 (dissolved and total).
- Lead in samples BR02-18 (dissolved and total), MW02-26 (dissolved and total), MW02-13 (dissolved and total), and MW02-16 (dissolved).
- Nickel in samples BR02-18 (dissolved) and MW02-13 (dissolved).

The following metals were detected in the associated calibration and method blanks at the concentrations noted below.

Analyte	Blank ID	Concentration, µg/L
Aluminum	CCB4	28.1
Antimony	CCB5	2.2
Arsenic	CCB4	1.5
Copper	CCB5	3.5
Lead	CCB5	1.2
Nickel	CCB1	0.6

Detected results less than 5x the maximum blank contamination were qualified.

IV. Matrix Spike (MS)

A. All criteria were met.

V. Matrix Duplicate

A. All criteria were met.

VI. Laboratory Control Sample (LCS)

A. All criteria were met.

VII. ICP Serial Dilution

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP metals results above the IDL but below the CRDL

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

Full Validation Criteria for Sample MW02-13 (total)

X. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XI. Graphite Furnace Atomic Absorption (GFAA) Analysis

A. N/A

XII. ICP Interference Check Sample

A. All criteria were met.

BTEX ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

B. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

IX. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

X. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH EXTRACTABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All TPHE results above the IDL but below the CRDL.

Results above the IDL but below the CRDL are considered qualitatively acceptable but quantitatively unreliable due to uncertainties in the analytical precision near the limit of detection.

B. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

Full Validation Criteria for Sample MW02-26

IX. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

X. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TPH PURGEABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All TPHP detected results reported below the contract required report limit (RL).

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

Full Validation Criteria for Sample MW02-26

IX. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

X. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. Holding Times

A. All criteria were met.

II. Calibrations

A. None.

III. Blank Contamination

A. All criteria were met.

IV. Duplicates

A. All criteria were met.

V. MS/MSD

A. All criteria were met.

VI. Laboratory Control Sample (LCS)

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

IX. Analyte Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to a low continuing calibration RRF value in the semivolatile analysis, 2,4-dinitrophenol was rejected in ten samples.

B. Due to surrogate problems in the semivolatile analysis, all base/neutral compounds were qualified as estimated in three samples.

C. Due to blank contamination in the volatile analysis, acetone was qualified as nondetected in eleven samples.

D. Due to trip blank contamination in the volatile analysis, chloroform was qualified as nondetected in two samples.

E. Due to blank contamination in the semivolatile analysis, four compounds were qualified as nondetected in several samples.

F. Due to blank contamination in the metals analysis, six compounds were qualified as nondetected in several samples.

G. Due to calibration problems in the volatile analysis, acetone was qualified as estimated in all samples and 2-hexanone was qualified as estimated in nine samples.

H. Due to calibration problems in the semivolatile analysis, five compounds were qualified as estimated in all samples.

I. Due to calibration problems in the PAH analysis, three compounds were qualified as estimated in all samples.

J. Due to a co-elution problem in the semivolatile analysis, 2-methylnaphthalene has been qualified as estimated in three samples.

K. All detected results reported below the contract required report limit (RL) have been qualified as estimated.

L. All identified TIC compounds were qualified "NJ" and all 'unknown" compounds were qualified "J."

M. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Tetra Tech EM Inc.

DATA VALIDATION REPORT

Site:	Pt. Molate
Contract Task Order (CTO) No.:	CTO-069
Laboratory:	Applied Physics & Chemistry Laboratory
Data Reviewer:	Nancy Weaver/Environmental Data Services, Inc.
Review Date:	April 15, 1999

Sample Delivery Group (SDG) No.: 99-2300

Sample Nos.: MW03-03* TB-01

* Full Validation Sample (SVOA and PAH only)

Matrix: Water

Collection Date(s): March 5, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Nancy Weaver

Certified by

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DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
SVOA	✓	✓	N/A	N/A	✓	Pg.6	Pg.6	✓	N/A	Pg.7
PAH	✓	✓	N/A	N/A	✓	✓	Pg.9	N/A	N/A	✓
BTEX	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TPHE	✓	✓	N/A	N/A	✓	✓	Pg.12	N/A	N/A	✓
TPHP	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) MW03-03

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
SVOA	N/A	✓	✓	✓	Pg.8	✓	N/A	N/A
PAH	N/A	✓	✓	✓	✓	✓	N/A	N/A

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Di-n-butylphthalate in sample MW03-03.
- Butylbenzylphthalate in samples MW03-03.

Dimethylphthalate, diethylphthalate, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate are considered common laboratory contaminants when found at levels less than 10x the CRQL in environmental samples and not found in the associated blanks.

VI. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Diethylphthalate in sample MW03-03.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99	Diethylphthalate	45.9

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Benzyl alcohol, 4-chloroaniline, hexachlorocyclopentadiene, 2,4-dinitrophenol, diethylphthalate, 4,6-dinitro-2-methylphenol, di-n-butylphthalate, butylbenzylphthalate, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate in sample MW03-03.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/12/99	4-Chloroaniline	33.1
	Hexachlorocyclopentadiene	38.9
	2,4-Dinitrophenol	40.7
	Diethylphthalate	25.3
	4,6-Dinitro-2-methylphenol	26.2
	Di-n-butylphthalate	28.4
	Butylbenzylphthalate	30.7
	Bis(2-ethylhexyl)phthalate	51.2
	Di-n-octylphthalate	48.7

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All CLP SVOA detected results reported below the CRQL

Detected results reported below the CRQL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. 2-Methylnaphthalene was detected in sample MW03-03. Since 1-methylnaphthalene was not in the calibration standard, it is unknown if it co-elutes with 2-methylnaphthalene. However, both 1-methylnaphthalene and 2-methylnaphthalene were in the SW8310 standard and they were separated on the C18 column used in the analysis. Method SW-8310 results indicated that 1-methylnaphthalene was present in the sample, not 2-methylnaphthalene. Therefore, it is possible that 2-methylnaphthalene coelutes with 1-methylnaphthalene in the GC/MS column and 2-methylnaphthalene detected in sample MW03-03 was actually 1-methylnaphthalene.

- 2-Methylnaphthalane has been qualified as estimated in sample MW03-03.

Full Validation Criteria for Sample MW03-03

X. GC/MS Tuning

A. The ion abundance criteria were met for the decafluorotriphenylphosphine (DFTPP) GC/MS performance checks. The samples were analyzed within 12 hours of the associated performance check.

XI. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

XII. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XIII. Tentatively Identified Compounds (TICs)

A. The sample spectra and library searches were evaluated. TIC results were recalculated and found to be correct. All identified compounds were qualified "NJ" and all "unknown" compounds were qualified "J."

XIV. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acenaphthene, fluorene, pyrene, benzo(a)pyrene, and benzo(a)anthracene in sample MW03-03.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
3/11/99 (2325)	Acenaphthene	16
	Fluorene	26
	Pyrene	25
	Benzo(a)pyrene	21
	Benzo(a)anthracene	95

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

Full Validation Criteria for Sample MW03-03

IX. Target Compound List (TCL) Identification

A. The relative retention times, mass spectra, and peak identifications of the samples were evaluated. Target compound identification was considered to be correct.

X. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

XI. System Performance

A. The samples were evaluated for reconstructed ion chromatogram (RIC) baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

TPH EXTRACTABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- JP5 in sample MW03-03.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
3/9/99	JP5	20

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

TPH PURGEABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to common laboratory contamination problems in the semivolatile analysis, two compounds were qualified as estimated in one sample.

B. Due to calibration problems in the semivolatile analysis, nine compounds were qualified as estimated in one sample.

C. Due to calibration problems in the PAH analysis, five compounds were qualified as estimated in one sample.

D. Due to calibration problems in the TPHE analysis, one compound was qualified as estimated in one sample.

E. Due to a co-elution problem in the semivolatile analysis, 2-methylnaphthalene has been qualified as estimated in one sample.

F. All semivolatile detected results reported below the contract required report limit (RL) have been qualified as estimated.

G. All identified compounds were qualified "NJ" and all "unknown" compounds were qualified "J."

H. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Environmental Data Services, Inc.

Specializing in Laboratory Data Validation

Tetra Tech EM Inc.

DATA VALIDATION REPORT

Site:	Pt. Molate
Contract Task Order (CTO) No.:	CTO-069
Laboratory:	Applied Physics & Chemistry Laboratory
Data Reviewer:	Nancy Weaver/Environmental Data Services, Inc.
Review Date:	April 15, 1999

Sample Delivery Group (SDG) No.: 99-2301

Sample Nos.: MW11-83 TB-01

Matrix: Water

Collection Date(s): March 4, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Nancy Weaver

Certified by

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DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	✓	✓	✓	N/A	✓	✓	Pg.5	✓	N/A	✓
SVOA	✓	✓	N/A	N/A	✓	✓	Pg.7	✓	N/A	✓
PAH	✓	✓	N/A	N/A	✓	✓	Pg.9	N/A	N/A	✓
BTEX	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TPHE	✓	✓	✓	N/A	✓	✓	Pg.12	N/A	N/A	Pg.13
TPHP	✓	✓	✓	N/A	✓	✓	✓	N/A	N/A	✓
TDS	✓	N/A	✓	N/A	✓	✓	N/A	N/A	N/A	✓

Notes:
✓ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acetone in samples MW11 and TB-01.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99	Acetone	50.2

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acetone in samples MW11 and TB-01.

- The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/10/99	Acetone	39.8

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. None.

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to initial calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Diethylphthalate in sample MW11-83.

The following initial calibrations had percent relative standard deviations (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99	Diethylphthalate	45.9

B. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- 4-Chloroaniline, hexachlorocyclopentadiene, 3-nitroaniline, di-n-butylphthalate, 3,3'-dichlorobenzidine, bis(2-ethylhexyl)phthalate, and di-n-octylphthalate in sample MW11-83.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/12/99	4-Chloroaniline	48.7
	Hexachlorocyclopentadiene	34.2
	3-Nitroaniline	39.1
	Di-n-butylphthalate	42.6
	3,3'-Dichlorobenzidine	40.0
	Bis(2-ethylhexyl)phthalate	51.5
	Di-n-octylphthalate	58.1

VII. Internal Standards

A. All criteria were met.

VIII. Field Duplicate

A. None.

IX. Other Qualifications

A. None.

POLYNUCLEAR AROMATIC HYDROCARBON ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. None.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- Acenaphthene, fluorene, pyrene, and benzo(a)pyrene in sample MW11-83.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
3/11/99 (2325)	Acenaphthene	16
	Fluorene	26
	Pyrene	25
	Benzo(a)pyrene	21

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

BTEX ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

B. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

TPH EXTRACTABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. Due to continuing calibration problems, the following detected and nondetected results are qualified as estimated (Jc/UJc).

- JP5 in sample MW11-83.

The following continuing calibrations had percent differences (%D) of >15%.

Calibration Date	Compound	%D
3/9/99	JP5	20

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. The following results are qualified as estimated (Jg).

- All TPHE detected results reported below the contract required report limit (RL)

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

B. The laboratory flagged positive results with a "Y" if they matched a typical fuel pattern and "Z" if they did not match a typical fuel pattern. No action was taken on this basis.

TPH PURGEABLE ANALYSIS

I. Holding Times

A. All criteria were met.

II. Surrogate Recovery

A. All criteria were met.

III. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. All criteria were met.

IV. Blank Spike or Laboratory Control Sample (LCS)

A. All criteria were met.

V. Blank Contamination

A. All criteria were met.

VI. Calibrations

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. Holding Times

A. All criteria were met.

II. Calibrations

A. None.

III. Blank Contamination

A. All criteria were met.

IV. Duplicates

A. All criteria were met.

V. MS/MSD

A. All criteria were met.

VI. Laboratory Control Sample (LCS)

A. All criteria were met.

VII. Field Duplicate

A. None.

VIII. Other Qualifications

A. None.

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to calibration problems in the volatile analysis, acetone was qualified as estimated in two samples.

B. Due to calibration problems in the semivolatile analysis, eight compounds were qualified as estimated in one sample.

C. Due to calibration problems in the PAH analysis, four compounds were qualified as estimated in one sample.

D. Due to calibration problems in the TPHE analysis, one compound was qualified as estimated in one sample.

E. All TPHE detected results reported below the contract required report limit (RL) have been qualified as estimated.

F. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: G0069-112B0403
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	April 25, 1999

Sample Delivery Group (SDG) No.: 992347

Sample Nos.: BR11-90

* Full Validation Sample

Matrix: Water

Collection Date(s): March 7, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

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DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ Estimated nondetected result

J Estimated detected result

R Rejected result

NJ Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a Surrogate recovery exceedance

b Laboratory method blank and common blank contamination

c Calibration exceedance

d Duplicate precision exceedance

e Matrix spike/laboratory control sample (LCS) recovery exceedance

f Field blank contamination

g Quantification below reporting limit

h Holding time exceedance

i Internal standard exceedance

j Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	√	Page 6	√	N/A	√
SVOA	√	√	Page 7	N/A	√	Page 7	Pgs. 7 - 8	√	N/A	√
TPHE	√	√	Page 9	N/A	√	√	√	N/A	N/A	√
PAHs	√	√	Page 9	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX	√	√	√	N/A	√	√	Page 10	N/A	N/A	Page 10
TDS	√	N/A	√	√	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) BR11-90

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
BTEX	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone in sample BR11-90.

The following initial calibration had percent relative standard deviation (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1433) GCMS-G	Acetone	50.2

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone and 2-Butanone in sample BR11-90.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/15/99 (0020) GCMS-G	Acetone	26.3
	2-Butanone	-44.6

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. An MS/MSD analysis was not performed.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Diethylphthalate in sample BR11-90.
- di-n-Butylphthalate in sample BR11-90.
- Butylbenzylphthalate in sample BR11-90.
- bis(2-Ethylhexyl)phthalate in sample BR11-90.

Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, and bis(2-ethylhexyl)phthalate are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

III. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Diethylphthalate in sample BR11-90.

The following initial calibration had percent relative standard deviation (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1114) GCMS-Z	Diethylphthalate	45.9

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Hexachlorocyclopentadiene, 2,4-Dinitrophenol, 4-Nitrophenol, di-n-Butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate, and di-n-Octylphthalate in sample BR11-90.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/16/99 (1255) GCMS-Z	Hexachlorocyclopentadiene	35.8
	2,4-Dinitrophenol	29.6
	4-Nitrophenol	-27.2
	di-n-Butylphthalate	-34.6
	Butylbenzylphthalate	-29.1
	bis(2-Ethylhexyl)phthalate	-55.9
	di-n-Octylphthalate	-71.7

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. An MS/MSD analysis was not performed.

EPA 8310 PAHs ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Accuracy problems are noted in the MS/MSD analysis, however qualifications were not made to the data based on MS/MSD QC outliers alone.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
MWT19-01	Anthracene	43	44	OK	50-150/ 50%
	Fluoranthene	36	37	OK	50-150/ 50%
	Pyrene	44	45	OK	50-150/ 50%

TPH PURGEABLE ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data

BTEX ANALYSIS

I. Calibrations

A. Due to initial calibration problems, the following detected results are qualified as estimated (Jc).

- Ethylbenzene and Xylene (total) in sample BR11-90.

The following initial calibrations had percent relative standard deviations (%RSD) of >20%.

Calibration Date	Compound	%RSD
3/8/99 - IC	Ethylbenzene	20.9
	m/p-Xylene	21.7
	o-Xylene	24.2

II. Other Qualifications

A. The following results are qualified as estimated (Jg).

- Benzene and Toluene detected results reported below the contract required report limit (RL) in sample BR11-90.

Detected results reported below the RL are considered to be qualitatively acceptable, but quantitatively unreliable due to the uncertainty in analytical precision near the limit of detection.

Full Validation Criteria for Sample BR11-90

III. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

IV. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

TOTAL DISSOLVED SOLIDS ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to initial and continuing calibration problems in the CLP Volatile analysis, Acetone and 2-Butanone were qualified as estimated in one sample.

B. Due to common laboratory blank contamination in the CLP Semivolatiles analysis, Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, and bis(2-Ethylhexyl)phthalate were considered non-detected in one sample. Due to initial and continuing calibration problems in the Semivolatiles analysis, Hexachlorocyclopentadiene, 2,4-Dinitrophenol, 4-Nitrophenol, Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate, and di-n-Octylphthalate were qualified as estimated in one sample.

C. Due to initial calibration problems in the Non-CLP BTEX analysis, Ethylbenzene and Xylene (total) were qualified as estimated in one sample. Due to results reported above the MDL but below the required reporting limit in the BTEX analysis, Benzene and Toluene were qualified as estimated in one sample.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

Tetra Tech EM Inc.
DATA VALIDATION REPORT

Site:	Point Molate
Contract Task Order (CTO) No.:	CTO: G0069-112B0404
Laboratory:	APCL
Data Reviewer:	Steve Frazier/ The DV Group, Inc.
Review Date:	April 24, 1999

Sample Delivery Group (SDG) No.: 992404

Sample Nos.: MW11-82

* Full Validation Samples

Matrix: Water

Collection Date(s): March 9, 1999

The data were qualified according to the U.S. Environmental Protection Agency (EPA) documents "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (February 1994) and "USEPA Contract Laboratory Program National Functional Guidelines For Inorganic Data Review" (February 1994). In addition, the PRC documents "Data Validation Guidelines for CLP Organic Analyses," "Data Validation Guidelines for CLP Inorganic Analyses," "Data Validation Guidelines for Non-CLP Organic Analyses," "Data Validation Guidelines for Non-CLP Inorganic and Physical Analyses" (September 1996), and the document entitled "PRC Comprehensive Long-term Environmental Action Navy II Analytical Services Statement of Work" (June 1995) were used along with other specified criteria in EPA methods. Data validation requirements are presented below.

I certify that all data validation criteria outlined in the above referenced documents were assessed, and any qualifications made to the data were in accordance with those documents.

Stephen M. Frazier, Vice-President

Certified by Stephen M. Frazier, Vice-President

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DATA VALIDATION REQUIREMENTS

Full validation includes all parameters listed below. Cursory validation parameters are indicated by an asterisk (*).

CLP Organic Parameters

*	Holding times
	GC/MS instrument performance check
*	Initial and continuing calibrations
*	Blanks
*	Surrogate recovery
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Internal standard performance
	Target compound identification
	Tentatively identified compounds
	Compound quantitation
	Reported detection limits
	System performance
*	Overall assessment of data for the SDG

CLP Inorganic Parameters

*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
	ICP interference check sample
	GFAA quality control
*	ICP serial dilution
	Sample result verification
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

Non-CLP Organic and Inorganic Parameters

*	Method compliance
*	Holding times
*	Initial and continuing calibrations
*	Blanks
*	Matrix spike/matrix spike duplicate
*	Laboratory control sample or blank spike
*	Field duplicates
*	Matrix duplicates
*	Surrogate recovery
	Analyte quantitation
	Reported detection limits
*	Overall assessment of data for the SDG

DATA VALIDATION QUALIFIERS AND CODES

Data Validation Qualifiers

UJ	Estimated nondetected result
J	Estimated detected result
R	Rejected result
NJ	Tentatively Identified Compound (TIC)

Data Validation Qualifier Codes

a	Surrogate recovery exceedance
b	Laboratory method blank and common blank contamination
c	Calibration exceedance
d	Duplicate precision exceedance
e	Matrix spike/laboratory control sample (LCS) recovery exceedance
f	Field blank contamination
g	Quantification below reporting limit
h	Holding time exceedance
i	Internal standard exceedance
j	Other qualifications

TABLE 1
CURSORY DATA VALIDATION SUMMARY

Analysis	Holding Times	Surrogates	MS/MSD	Matrix Duplicates	LCS	Blanks	Calibrations	Internal Standards	Field Duplicates	Other
VOA	√	√	√	N/A	√	√	Page 6	√	N/A	√
SVOA	√	√	Page 7	N/A	√	Page 7	Pgs. 7 - 8	√	N/A	√
TPHE	√	√	Page 9	N/A	√	√	√	N/A	N/A	√
PAHs	√	√	Page 9	N/A	√	√	√	N/A	N/A	√
TPHP	√	√	√	N/A	√	√	√	N/A	N/A	√
BTEX	√	√	√	N/A	√	√	Page 10	N/A	N/A	√
TDS	√	N/A	√	√	√	√	√	N/A	N/A	√

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers are described in the text.

TABLE 2
FULL DATA VALIDATION SUMMARY
Sample(s) MW11-82

Analysis	GC/MS Tuning	Target Compound List Identification	Compound or Analyte Quantification	Reported Detection Limits	Tentatively Identified Compounds	System Performance	Interference Check Sample	Graphite Furnace Quality Control
TPHP	N/A	N/A	√	√	N/A	√	N/A	N/A

Notes:
√ indicates that all quality control criteria were met for the parameter as specified in the prescribed methods and data validation guidelines.
N/A indicates the parameter is not applicable to an analysis.
If criteria were not met and the data were qualified, a page number is indicated where the qualification is detailed.
The data were evaluated for all validation criteria and were found to be in control except where noted. Any outliers found are described below.

DATA ASSESSMENT

CLP VOLATILE ORGANIC ANALYSIS

I. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone in sample MW11-82.

The following initial calibration had percent relative standard deviation (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1433) GCMS-G	Acetone	50.2

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Acetone and 2-Butanone in sample MW11-82.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/15/99 (0020) GCMS-G	Acetone	26.3
	2-Butanone	-44.6

CLP SEMIVOLATILE ORGANIC ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. An MS/MSD analysis was not performed.

II. Blank Contamination

A. Due to common laboratory contamination, the following results are considered nondetected (UJb).

- Diethylphthalate in sample MW11-82.
- di-n-Butylphthalate in sample MW11-82.
- Butylbenzylphthalate in sample MW11-82.
- bis(2-Ethylhexyl)phthalate in sample MW11-82.

Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, and bis(2-ethylhexyl)phthalate are considered common laboratory contaminants when found at levels less than 5x the CRQL in environmental samples and not found in the associated blanks.

III. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Diethylphthalate in sample MW11-82.

The following initial calibration had percent relative standard deviation (%RSD) of >30%.

Calibration Date	Compound	%RSD
2/16/99 (1114) GCMS-Z	Diethylphthalate	45.9

B. Due to continuing calibration problems, the following nondetected results are qualified as estimated (UJc).

- Hexachlorocyclopentadiene, 2,4-Dinitrophenol, 4-Nitrophenol, di-n-Butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate, and di-n-Octylphthalate in sample MW11-82.

The following continuing calibrations had percent differences (%D) of >25%.

Calibration Date	Compound	%D
3/16/99 (1255) GCMS-Z	Hexachlorocyclopentadiene	35.8
	2,4-Dinitrophenol	29.6
	4-Nitrophenol	-27.2
	di-n-Butylphthalate	-34.6
	Butylbenzylphthalate	-29.1
	bis(2-Ethylhexyl)phthalate	-55.9
	di-n-Octylphthalate	-71.7

TPH EXTRACTABLE ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Accuracy problems are noted in the MS/MSD analysis, however qualifications were not made to the data based on MS/MSD QC outliers alone.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
MWT19-01	TPH Diesel	377	417	OK	50-150/ 50%

EPA 8310 PAHs ANALYSIS

I. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

A. Accuracy problems are noted in the MS/MSD analysis, however qualifications were not made to the data based on MS/MSD QC outliers alone.

The recoveries that did not meet the QC limits are listed below.

Sample ID	Compound	%R	%R	RPD	QC Limits
MWT19-01	Anthracene	43	44	OK	50-150/ 50%
	Fluoranthene	36	37	OK	50-150/ 50%
	Pyrene	44	45	OK	50-150/ 50%

TPH PURGEABLE ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data

Full Validation Criteria for Sample MW11-82

II. Compound Quantitation and Reported Detection Limits

A. Sample results were recalculated, with the proper dilution factors, weights, volumes, and percent moisture used to calculate the sample results. The samples were found to be correctly quantitated. The reported detection limits were consistent with the contract required report limits and reflect any dilutions, weights, volumes, and percent moisture.

III. System Performance

A. The samples were evaluated for baseline shifts, extraneous peaks, loss of resolution, and peak tailing. No system degradation was noted.

BTEX ANALYSIS

I. Calibrations

A. Due to initial calibration problems, the following nondetected results are qualified as estimated (UJc).

- Ethylbenzene and Xylene (total) in sample MW11-82.

The following initial calibrations had percent relative standard deviations (%RSD) of >20%.

Calibration Date	Compound	%RSD
3/8/99 - IC	Ethylbenzene	20.9
	m/p-Xylene	21.7
	o-Xylene	24.2

TOTAL DISSOLVED SOLIDS ANALYSIS

I. All Cursory QC criteria were found to be within control limits. QC criteria were reviewed and verified form raw data

OVERALL ASSESSMENT OF DATA

I. Method Compliance and Additional Comments

A. All analyses were conducted within all specifications of the requested methods.

II. Usability

A. Due to initial and continuing calibration problems in the CLP Volatile analysis, Acetone and 2-Butanone were qualified as estimated in one sample.

B. Due to common laboratory blank contamination in the CLP Semivolatiles analysis, Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, and bis(2-Ethylhexyl)phthalate were considered non-detected in one sample. Due to initial and continuing calibration problems in the Semivolatiles analysis, Hexachlorocyclopentadiene, 2,4-Dinitrophenol, 4-Nitrophenol, Diethylphthalate, di-n-Butylphthalate, Butylbenzylphthalate, bis(2-Ethylhexyl)phthalate, and di-n-Octylphthalate were qualified as estimated in one sample.

C. Due to initial calibration problems in the Non-CLP BTEX analysis, Ethylbenzene and Xylene (total) were qualified as estimated in one sample.

D. The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable. Sample results that were found to be rejected (R) are unusable for all purposes. Sample results that were found to be estimated (J) are usable for limited purposes only. Based upon the cursory and full data validation all other results are considered valid and usable for all purposes. In general, the absence of rejected data and the small number of qualifiers added to the data indicate high usability.

N30519_000247
NFD POINT MOLATE
SSIC NO. 5090.3.A

VOLUME III OF III
FOLDER 2 OF 2

FINAL PHASE II REMEDIAL INVESTIGATION REPORT

NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

VOLUME III

June 2, 2000

Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract Number N62474-94-D-7609
Contract Task Order 112

Prepared for

Department of the Navy
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FINAL PHASE II REMEDIAL INVESTIGATION REPORT
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA

June 2, 2000

Prepared by

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APPENDIX A-2

ANALYTICAL DATA

NFD POINT MOLATE
DRAFT PHASE II RI REPORT
DATA QUALIFIERS

NOTES

NA NOT ANALYZED

ND NOT DETECTED

NR NOT REPORTED

ORGANIC DATA QUALIFIERS

B COMPOUND DETECTED IN AN ASSOCIATED BLANK AS WELL AS THE SAMPLE

D COMPOUND WAS IDENTIFIED IN AN ANALYSIS AT A SECONDARY DILUTION FACTOR

J VALUE WAS QUANTITATIVELY IDENTIFIED BUT REPORTED AS AN ESTIMATED QUANTITY

J-A VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY EXCEEDANCE

J-E VALUE WAS ESTIMATED DUE TO BEING OUT OF CALIBRATION RANGE

J-G VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT

J-H VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE

J-K VALUE WAS ESTIMATED DUE TO CALIBRATION OR TUNING CRITERIA BEING OUT OF QC LIMITS

J-L VALUE WAS ESTIMATED DUE TO INTERNAL STANDARD RECOVERIES BEING OUT OF QC LIMITS

J-N VALUE WAS ESTIMATED DUE TO LACK OF CALIBRATION FOR THE COMPOUND; HOWEVER, THERE WAS PRESUMPTIVE EVIDENCE OF THE PRESENCE OF THE COMPOUND

J-S VALUE WAS ESTIMATED DUE TO SURROGATE RECOVERY BEING OUT OF QC LIMITS

R VALUE IS NOT USABLE

Y HYDROCARBON MIXTURE DID NOT EXHIBIT A REASONABLE PATTERN MATCH WITH THE CALIBRATION STANDARD

Z CHROMATOGRAPHIC RESPONSE DID NOT RESEMBLE A TYPICAL FUEL PATTERN

INORGANIC DATA QUALIFIERS

B	VALUE WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
E	VALUE WAS ESTIMATED DUE TO PRESENCE OF INTERFERENCE
J-B	VALUE WAS ESTIMATED SINCE IT WAS LESS THAN THE CONTRACT REQUIRED DETECTION LIMIT (CRDL) BUT GREATER THAN THE INSTRUMENT DETECTION LIMIT (IDL)
J-D	VALUE WAS ESTIMATED DUE TO INDUCTIVELY COUPLED PLASMA (ICP) SERIAL DILUTION CRITERIA BEING EXCEEDED
J-E	VALUE WAS ESTIMATED DUE TO MATRIX SPIKE OR LABORATORY CONTROL SAMPLE (LCS) RECOVERY EXCEEDANCE
J-G	VALUE WAS ESTIMATED DUE TO QUANTIFICATION BELOW THE REPORTING LIMIT
J-H	VALUE WAS ESTIMATED DUE TO METHOD HOLDING TIME EXCEEDANCE
J-M	VALUE WAS ESTIMATED DUE TO DUPLICATE INJECTION PRECISION CRITERIA NOT BEING MET
J-N	VALUE WAS ESTIMATED DUE TO MATRIX SPIKE RECOVERIES BEING OUT OF QC LIMITS
J-W	VALUE WAS ESTIMATED DUE TO GRAPHITE FURNACE ATOMIC ABSORPTION QC LIMITS BEING EXCEEDED
J-Z	ANALYTE WAS ESTIMATED DUE TO NEGATIVE BLANK PROBLEMS
J-*	VALUE WAS ESTIMATED DUE TO PRECISION OF LABORATORY DUPLICATE SAMPLES BEING OUT OF QC LIMITS
N	SPIKED SAMPLE RECOVERY WAS NOT WITHIN CONTROL LIMITS
R	VALUE IS NOT USABLE
S	REPORTED VALUE WAS DETERMINED BY THE METHOD OF STANDARD ADDITIONS (MSA)
U	THE ANALYTE WAS NOT DETECTED AT THE REPORTED QUANTITY

INORGANIC DATA QUALIFIERS (CONTINUED)

W POST-DIGESTION SPIKE RECOVERY OF THE FURNACE ATOMIC ABSORPTION ANALYSIS (FAAA) WAS OUT OF CONTROL LIMITS, WHILE THE SAMPLE ABSORBANCE WAS LESS THAN 50 PERCENT OF THE SPIKED ABSORBANCE

* DUPLICATE SAMPLE ANALYSIS NOT WITHIN CONTROL LIMITS

+ CORRELATION COEFFICIENT FOR THE MSA WAS LESS THAN 0.995

SOIL

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV		EXCV		EXCV		EXCV		EXCV		EXCV		SB	
Point Name:	TR1-1		TR1-6		TR1-7		TR1-7		TR1-7A		TR1-8		BR02-19	
Sample Id:	TR1-1(9.0-9.5)		TR1-6(7.0-8.0)		TR1-7(45)		TR1-7(7-9)		TR1-7A(7)		TR1-8(9-10)		SB02-19(12.0-13.0	
Sample Date:	07-DEC-98		07-DEC-98		08-DEC-98		08-DEC-98		08-DEC-98		09-DEC-98		25-JAN-99	
Sample Depth:	9 - 9.5 ft		7 - 8 ft		6 - 7 ft		7 - 9 ft		7 - 8 ft		9 - 10 ft		12 - 13 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)														
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		24	U
DIESEL RANGE ORGANICS	1200	U	68	U	60	U	58	UJ	12	U	59	U	1200	U
ETHYLBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		24	U
GASOLINE RANGE ORGANICS	**3600**	J	N/A		.6	U	**50**		.61	U	**2**	Z	**12000**	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	**6900**		68	U	60	U	**550**	J	12	U	**850**		**9200**	Y
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		120	U
MOTOR OIL RANGE ORGANICS	**1400**	J	**280**	J	**130**	J	**54**	J	**37**	J	**55**	J	1200	U
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A		N/A		N/A		24	U
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		48	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,2-DICHLOROBENZENE	N/A		2.2	U	1.5	U	1.5	U	.19	U	.19	U	N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
1,3-DICHLOROBENZENE	N/A		2.2	U	1.5	U	1.5	U	.19	U	.19	U	N/A	
1,4-DICHLOROBENZENE	N/A		2.2	U	1.5	U	1.5	U	.19	U	.19	U	N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		.012	UJ
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		**.004**	J
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		.049	UJ
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		.012	U
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		.012	UJ
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		.012	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR02-19 (FD)		BR02-20		SB02-01		SB02-01		SB02-01		SB02-01		SB02-01	
Sample Id:	SB02-19(24.0-25.0)		SB02-20(15.5-17.6)		SB02-01 (17.5-18.0)		SB02-01 (19.5-20.0)		SB02-01 (20.0-20.5)		SB02-01 (28.0-28.5)		SB02-01 (8.5-9.0)	
Sample Date:	25-JAN-99		27-JAN-99		16-FEB-94		16-FEB-94		16-FEB-94		16-FEB-94		16-FEB-94	
Sample Depth:	12 - 13 ft		15.5 - 17.6 ft		17.5 - 18 ft		19.5 - 20 ft		20 - 20.5 ft		28 - 28.5 ft		8.5 - 9 ft	
Investigation:	PHASEII_RI		PHASEII_RI		94WDA		94WDA		94WDA		94WDA		94WDA	
TPH (MG/KG)														
BENZENE	23	U	1.5	U	.3	UJ	N/A		.24	U	.61	UJ	.006	U
DIESEL RANGE ORGANICS	1200	U	61	U	N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	23	U	1.5	U	.3	UJ	N/A		.24	U	.61	UJ	.006	U
GASOLINE RANGE ORGANICS	**9500**	Z	**1400**	Z	60	U	N/A		47	U	120	U	1.2	U
JP4 RANGE ORGANICS	N/A		N/A		12	U	N/A		5.9	U	24	U	N/A	
JP5 RANGE ORGANICS	**9400**	Y	**820**	Y	**1900**	J	N/A		**1200**	J	**4300**	J	N/A	
METHYL-T-BUTYL ETHER	120	U	7.6	U	N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	1200	U	61	U	N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		**160**	Z	N/A		5.9	U	24	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		**1200**	Y	N/A		**560**	Y	**1800**	Y	1.2	U
TOLUENE	23	U	1.5	U	.3	UJ	N/A		.24	U	.61	UJ	.006	U
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		120	U	N/A		59	U	240	U	N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		12	U	N/A		5.9	U	24	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		12	U	N/A		5.9	U	24	U	N/A	
XYLENE (TOTAL)	47	U	3	U	.3	UJ	N/A		.24	U	.61	UJ	.006	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,1,2,2-TETRACHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,1,2-TRICHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,1-DICHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,1-DICHLOROETHENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.39	U	N/A		N/A	
1,2-DICHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,2-DICHLOROETHENE (TOTAL)	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,2-DICHLOROPROPANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.39	U	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.39	U	N/A		N/A	
2-BUTANONE	.012	UJ	.061	U	N/A		N/A		.012	U	N/A		.012	U
2-HEXANONE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
4-METHYL-2-PENTANONE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
ACETONE	**.067**	J	.24	UJ	N/A		N/A		.02	UJ	N/A		.012	U
BENZENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
BROMODICHLOROMETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
BROMOFORM	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
BROMOMETHANE	.012	UJ	.061	UJ	N/A		N/A		.012	U	N/A		.012	U
CARBON DISULFIDE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB02-01		SB02-02		SB02-02		SB02-02		SB02-04		SB02-04		SB02-05	
Sample Id:	SB02-01 (9.0-10.0)		SB02-02 (10.5-11.0)		SB02-02 (14.0-14.5)		SB02-02 (5.0)		SB02-04 (27.5-28.0)		SB02-04 (1.0)		SB02-05 (0.0-1.5)	
Sample Date:	16-FEB-94		17-FEB-94		17-FEB-94		27-JUL-94		17-FEB-94		27-JUL-94		26-JUL-94	
Sample Depth:	9 - 10 ft		10.5 - 11 ft		14 - 14.5 ft		5 ft		27.5 - 28 ft		1 ft		0 - 1.5 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
TPH (MG/KG)														
BENZENE	N/A		.22	U	.028	U	N/A		.006	U	N/A		N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		.22	U	.028	U	N/A		.006	U	N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		44	U	5.7	U	N/A		1.2	U	N/A		N/A	
JP4 RANGE ORGANICS	2.4	U	5.6	U	1.1	U	N/A		1.2	U	N/A		1	UJ
JP5 RANGE ORGANICS	2.4	UJ	1200	J	1.1	U	N/A		1.2	U	N/A		1	UJ
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	170	Y	5.6	U	1.1	U	N/A		1.2	U	N/A		520	J
OTHER LIGHT TPH COMPONENTS	N/A		490	Y	39	Y	N/A		1.2	U	N/A		N/A	
TOLUENE	N/A		.22	U	.028	U	N/A		.006	U	N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	24	U	56	U	11	U	N/A		12	U	N/A		10	UJ
TPH - DIESEL F-76 (C8-C28)	2.4	U	5.6	U	1.1	UJ	N/A		1.2	UJ	N/A		1	UJ
TPH - WEATHERED DIESEL(C8-C26)	2.4	U	5.6	U	1.1	U	N/A		1.2	U	N/A		1	UJ
XYLENE (TOTAL)	N/A		.22	U	.028	U	N/A		.006	U	N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,2-DICHLOROBENZENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
1,2-DICHLOROETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
1,3-DICHLOROBENZENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
1,4-DICHLOROBENZENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
2-BUTANONE	N/A		N/A		.016	UJ	N/A		.012	U	N/A		N/A	
2-HEXANONE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
ACETONE	N/A		N/A		.079	UJ	N/A		.012	U	N/A		N/A	
BENZENE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
BROMOFORM	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	
BROMOMETHANE	N/A		N/A		.011	UJ	N/A		.012	U	N/A		N/A	
CARBON DISULFIDE	N/A		N/A		.011	U	N/A		.012	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07	
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.	
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94	
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
TPH (MG/KG)														
BENZENE	.005	U	.24	U	.23	U	.01		.005	U	N/A		.23	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.005	U	.24	U	.23	UJ	.008	U	.005	U	N/A		.23	UJ
GASOLINE RANGE ORGANICS	1.1	UJ	48	UJ	46	UJ	1.6	UJ	1.1	UJ	N/A		46	UJ
JP4 RANGE ORGANICS	N/A		2.4	U	20	U	1.6	U	1.1	U	23	U	N/A	
JP5 RANGE ORGANICS	N/A		600		6400		1.6	U	1.1	U	7500		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		54	Y	20	U	360		1.1	U	23	U	N/A	
OTHER LIGHT TPH COMPONENTS	2.3	Y	410	Y	1600	J	15	Y	1.1	U	N/A		1100	Y
TOLUENE	.005	U	.24	U	.23	U	.01		.005	U	N/A		.23	U
TPH - BUNKER FUEL (C10-C28)	N/A		24	U	200	U	16	U	11	U	230	U	N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		2.4	UJ	20	UJ	1.6	UJ	1.1	UJ	23	UJ	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		2.4	U	20	U	1.6	U	1.1	U	23	U	N/A	
XYLENE (TOTAL)	.005	U	.24	U	1.2	J	.013		.005	U	N/A		.23	UJ
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,1,2,2-TETRACHLOROETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,1,2-TRICHLOROETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,1-DICHLOROETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,1-DICHLOROETHENE	.011	UJ	.06	UJ	.05	UJ	.016	UJ	.011	UJ	N/A		.057	UJ
1,2-DICHLOROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A	
1,2-DICHLOROETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,2-DICHLOROETHENE (TOTAL)	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,2-DICHLOROPROPANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
1,3-DICHLOROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A	
2-BUTANONE	.011	UJ	.032	J	.008	J	.19	J	.011	UJ	N/A		.057	U
2-HEXANONE	.011	U	.06	U	.05	U	.004	J	.011	U	N/A		.057	U
4-METHYL-2-PENTANONE	.011	U	.06	U	.05	U	.006	J	.011	U	N/A		.057	U
ACETONE	.005	U	.085	J	.044	UJ	.45	D	.011	U	N/A		.098	J
BENZENE	.011	U	.06	U	.05	U	.012	J	.011	U	N/A		.057	U
BROMODICHLOROMETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
BROMOFORM	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
BROMOMETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
CARBON DISULFIDE	.011	UJ	.06	U	.05	U	.016	UJ	.011	UJ	N/A		.057	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB02-07		SB02-08		SB02-09		SB02-11		SB02-13		SB02-15		SB02-16	
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)		SB02-09(20.6-30.1)		SB02-11(18.8-19.1)		SB02-13(8.5-9.4)		SB02-15(12.5-13.5)		SB02-16(11.0-11.7	
Sample Date:	27-JUL-94		20-JAN-99		21-JAN-99		21-JAN-99		26-JAN-99		02-FEB-99		27-JAN-99	
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft		20.6 - 30.1 ft		18.8 - 19.1 ft		8.5 - 9.4 ft		12.5 - 13.5 ft		11 - 11.7 ft	
Investigation:	94WDA		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)														
BENZENE	1.3	U	.056	U	3	U	.58	U	24	U	3	U	6.2	U
DIESEL RANGE ORGANICS	N/A		110	U	120	Z	910	Z	1200	U	600	U	620	U
ETHYLBENZENE	1.3	UJ	.056	U	3	U	.58	U	24	U	7.5		6.2	U
GASOLINE RANGE ORGANICS	260	UJ	47		900	Z	100	J	12000	Z	12400	Z	8100	Z
JP4 RANGE ORGANICS	130	U	N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	41000		1300		350	Y	58	U	9000	Y	3500		8100	
METHYL-T-BUTYL ETHER	N/A		.28	U	15	U	5.5		120	U	15	U	31	U
MOTOR OIL RANGE ORGANICS	N/A		110	U	61	U	79	Z	1200	U	600	U	620	U
OTHER HEAVY TPH COMPONENTS	130	U	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	2300	J	N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	1.3	U	.056	U	3	U	.58	U	24	U	3	U	6.2	U
TPH - BUNKER FUEL (C10-C28)	1300	U	N/A		N/A		N/A		N/A		600	U	N/A	
TPH - DIESEL F-76 (C8-C28)	130	UJ	N/A		N/A		N/A		N/A		600	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	130	U	N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	7.4	J	.11	U	6.1	U	1.2	U	48	U	24		12	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,1,2,2-TETRACHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,1,2-TRICHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,1-DICHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,1-DICHLOROETHENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,2-DICHLOROETHENE (TOTAL)	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,2-DICHLOROPROPANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	16	UJ	N/A		.012	U	.11		.012	UJ	.06	U	.12	U
2-HEXANONE	16	UJ	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
4-METHYL-2-PENTANONE	16	UJ	N/A		.012	U	.002	J	.012	U	.016	J	.12	U
ACETONE	11	J	N/A		.012	UJ	.42	J	.064	J	.19	UJ	.27	UJ
BENZENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
BROMODICHLOROMETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
BROMOFORM	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
BROMOMETHANE	16	U	N/A		.012	UJ	.012	UJ	.012	UJ	.06	UJ	.12	UJ
CARBON DISULFIDE	1.2	J	N/A		.012	U	.001	J	.012	U	.06	U	.12	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	
Point Name:	SB02-16		SB02-17	
Sample Id:	SB02-16(11.7-12.8)		SB02-17(14.0-15.0)	
Sample Date:	27-JAN-99		03-FEB-99	
Sample Depth:	11.7 - 12.8 ft		14 - 15 ft	
Investigation:	PHASEII_RI		PHASEII_RI	
TPH (MG/KG)				
BENZENE	3.1	U	2.9	U
DIESEL RANGE ORGANICS	620	U	**20**	Y
ETHYLBENZENE	3.1	U	2.9	U
GASOLINE RANGE ORGANICS	**4100**	Z	**1300**	Z
JP4 RANGE ORGANICS	N/A		N/A	
JP5 RANGE ORGANICS	**2300**		12	U
METHYL-T-BUTYL ETHER	15	U	15	U
MOTOR OIL RANGE ORGANICS	620	U	12	U
OTHER HEAVY TPH COMPONENTS	N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A	
TOLUENE	3.1	U	2.9	U
TPH - BUNKER FUEL (C10-C28)	N/A		12	U
TPH - DIESEL F-76 (C8-C28)	N/A		12	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A	
XYLENE (TOTAL)	6.2	U	5.9	U
VOA (MG/KG)				
1,1,1-TRICHLOROETHANE	.12	U	.012	U
1,1,2,2-TETRACHLOROETHANE	.12	U	.012	U
1,1,2-TRICHLOROETHANE	.12	U	.012	U
1,1-DICHLOROETHANE	.12	U	.012	U
1,1-DICHLOROETHENE	.12	U	.012	U
1,2-DICHLOROBENZENE	N/A		N/A	
1,2-DICHLOROETHANE	.12	U	.012	U
1,2-DICHLOROETHENE (TOTAL)	.12	U	.012	U
1,2-DICHLOROPROPANE	.12	U	.012	U
1,3-DICHLOROBENZENE	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A	
2-BUTANONE	.12	U	.012	U
2-HEXANONE	.12	U	.012	U
4-METHYL-2-PENTANONE	.12	U	.012	U
ACETONE	.39	UJ	.031	UJ
BENZENE	.12	U	.012	U
BROMODICHLOROMETHANE	.12	U	.012	U
BROMOFORM	.12	U	.012	U
BROMOMETHANE	.12	UJ	.012	UJ
CARBON DISULFIDE	.12	U	.012	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV	EXCV	EXCV	EXCV	EXCV	EXCV	SB	
Point Name:	TR1-1	TR1-6	TR1-7	TR1-7	TR1-7A	TR1-8	BR02-19	
Sample Id:	TR1-1(9.0-9.5)	TR1-6(7.0-8.0)	TR1-7(45)	TR1-7(7-9)	TR1-7A(7)	TR1-8(9-10)	SB02-19(12.0-13.0	
Sample Date:	07-DEC-98	07-DEC-98	08-DEC-98	08-DEC-98	08-DEC-98	09-DEC-98	25-JAN-99	
Sample Depth:	9 - 9.5 ft	7 - 8 ft	6 - 7 ft	7 - 9 ft	7 - 8 ft	9 - 10 ft	12 - 13 ft	
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	
VOA (MG/KG)								
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	.012	U
PAH (MG/KG)								
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	**14.8**	J
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	**19.6**	
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	.6	U
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	**.44**	
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	**.03**	
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	**.27**	
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	.06	U
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	UJ
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	.6	U
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	**.847**	
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	.024	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR02-19 (FD)		BR02-20		SB02-01		SB02-01		SB02-01		SB02-01		SB02-01	
Sample Id:	SB02-19(24.0-25.0)		SB02-20(15.5-17.6)		SB02-01 (17.5-18.0)		SB02-01 (19.5-20.0)		SB02-01 (20.0-20.5)		SB02-01 (28.0-28.5)		SB02-01 (8.5-9.0)	
Sample Date:	25-JAN-99		27-JAN-99		16-FEB-94		16-FEB-94		16-FEB-94		16-FEB-94		16-FEB-94	
Sample Depth:	12 - 13 ft		15.5 - 17.6 ft		17.5 - 18 ft		19.5 - 20 ft		20 - 20.5 ft		28 - 28.5 ft		8.5 - 9 ft	
Investigation:	PHASEII_RI		PHASEII_RI		94WDA		94WDA		94WDA		94WDA		94WDA	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
CHLOROBENZENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
CHLOROETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
CHLOROFORM	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
CHLOROMETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
CIS-1,3-DICHLOROPROPENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
DIBROMOCHLOROMETHANE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
ETHYLBENZENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
METHYL-T-BUTYL ETHER	N/A		.061	U	N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
STYRENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
TETRACHLOROETHENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
TOLUENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		**.001**	J
TRANS-1,3-DICHLOROPROPENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
TRICHLOROETHENE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
VINYL CHLORIDE	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
XYLENE (TOTAL)	.012	U	.061	U	N/A		N/A		.012	U	N/A		.012	U
PAH (MG/KG)														
1-METHYLNAPHTHALENE	**12.8**	J	**.76**		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	**17.4**		.61	U	N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	.59	U	.61	U	N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	.23	U	.24	U	N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	.023	U	**.26**	J	N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
CHRYSENE	.023	U	**.05**		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	.059	U	**.06**		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	.023	U	**.086**		N/A		N/A		N/A		N/A		N/A	
FLUORENE	.023	UJ	.024	U	N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	.023	U	.024	U	N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	.59	U	.61	U	N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	**.744**		**.085**		N/A		N/A		N/A		N/A		N/A	
PYRENE	**.072**		**.16**	J	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB02-01	SB02-02	SB02-02	SB02-02	SB02-04	SB02-04	SB02-05
Sample Id:	SB02-01 (9.0-10.0)	SB02-02 (10.5-11.0)	SB02-02 (14.0-14.5)	SB02-02 (5.0)	SB02-04 (27.5-28.0)	SB02-04 (1.0)	SB02-05 (0.0-1.5)
Sample Date:	16-FEB-94	17-FEB-94	17-FEB-94	27-JUL-94	17-FEB-94	27-JUL-94	26-JUL-94
Sample Depth:	9 - 10 ft	10.5 - 11 ft	14 - 14.5 ft	5 ft	27.5 - 28 ft	1 ft	0 - 1.5 ft
Investigation:	94WDA	94WDA	94WDA	94WDA	94WDA	94WDA	94WDA
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
CHLOROBENZENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
CHLOROETHANE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
CHLOROFORM	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
CHLOROMETHANE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
ETHYLBENZENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	.011 UJ	N/A	.012 U	N/A	N/A
STYRENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
TOLUENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
TRICHLOROETHENE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
VINYL CHLORIDE	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	.011 U	N/A	.012 U	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07	
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.	
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94	
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
CHLOROBENZENE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
CHLOROETHANE	.011	UJ	.06	U	.05	U	.016	UJ	.011	UJ	N/A		.057	U
CHLOROFORM	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
CHLOROMETHANE	.011	U	.06	UJ	.05	UJ	.005	J	.011	U	N/A		.057	UJ
CIS-1,3-DICHLOROPROPENE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
DIBROMOCHLOROMETHANE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
ETHYLBENZENE	.011	U	.06	U	.05	U	.004	J	.011	U	N/A		.057	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
STYRENE	.011	U	.06	U	.05	U	.004	J	.011	U	N/A		.057	U
TETRACHLOROETHENE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
TOLUENE	.011	U	.06	U	.004	J	.013	J	.011	U	N/A		.057	U
TRANS-1,3-DICHLOROPROPENE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
TRICHLOROETHENE	.011	U	.06	U	.05	U	.016	U	.011	U	N/A		.057	U
VINYL CHLORIDE	.011	U	.06	UJ	.05	UJ	.016	U	.011	U	N/A		.057	UJ
XYLENE (TOTAL)	.011	U	.06	U	.05	U	.03	JD	.011	U	N/A		.004	J
PAH (MG/KG)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB02-07		SB02-08		SB02-09		SB02-11		SB02-13		SB02-15		SB02-16	
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)		SB02-09(20.6-30.1)		SB02-11(18.8-19.1)		SB02-13(8.5-9.4)		SB02-15(12.5-13.5)		SB02-16(11.0-11.7	
Sample Date:	27-JUL-94		20-JAN-99		21-JAN-99		21-JAN-99		26-JAN-99		02-FEB-99		27-JAN-99	
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft		20.6 - 30.1 ft		18.8 - 19.1 ft		8.5 - 9.4 ft		12.5 - 13.5 ft		11 - 11.7 ft	
Investigation:	94WDA		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)														
CARBON TETRACHLORIDE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
CHLOROBENZENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
CHLOROETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
CHLOROFORM	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
CHLOROMETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
CIS-1,3-DICHLOROPROPENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
DIBROMOCHLOROMETHANE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
ETHYLBENZENE	10	J	N/A		.012	U	.006	J	.012	U	.11		.12	U
METHYL-T-BUTYL ETHER	N/A		N/A		.012	U	.012	U	N/A		N/A		.12	U
METHYLENE CHLORIDE	1.5	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
STYRENE	16	U	N/A		.012	U	.006	J	.012	U	.06	U	.12	U
TETRACHLOROETHENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
TOLUENE	6.4	J	N/A		.012	U	.002	J	.012	U	.06	U	.12	U
TRANS-1,3-DICHLOROPROPENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
TRICHLOROETHENE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
VINYL CHLORIDE	16	U	N/A		.012	U	.012	U	.012	U	.06	U	.12	U
XYLENE (TOTAL)	93	J	N/A		.012	U	.021		.012	U	.63		.12	U
PAH (MG/KG)														
1-METHYLNAPHTHALENE	N/A		N/A		.9	J	23	J	27.4	J	9.32	J	11	
2-METHYLNAPHTHALENE	N/A		N/A		1.5		30.7		39.6		5.2	J	14.9	
ACENAPHTHENE	N/A		N/A		7.6	U	7.3	U	.6	U	.3	UJ	.62	U
ACENAPHTHYLENE	N/A		N/A		3	U	3.2		.48		.12	U	.25	U
ANTHRACENE	N/A		N/A		1.1		18.6		.024	U	.048	J	.17	
BENZO(A)ANTHRACENE	N/A		N/A		.79		3.1		.18		.313	J	.016	J
BENZO(A)PYRENE	N/A		N/A		.25	J	.3		.024	U	.012	UJ	.025	U
BENZO(B)FLUORANTHENE	N/A		N/A		.3	U	.4		.024	U	.012	U	.025	U
BENZO(G,H,I)PERYLENE	N/A		N/A		.3	U	.29	U	.024	U	.012	UJ	.025	U
BENZO(K)FLUORANTHENE	N/A		N/A		.3	U	.17	J	.024	U	.012	U	.025	U
CHRYSENE	N/A		N/A		.6		1.9		.42		.041	J	.025	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		.76	U	.73	U	.06	U	.03	U	.062	U
FLUORANTHENE	N/A		N/A		3.8		22		.024	U	.012	U	.025	U
FLUORENE	N/A		N/A		1.2		18		.024	UJ	.012	UJ	.025	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		.3	U	.29	U	.024	U	.012	U	.025	U
NAPHTHALENE	N/A		N/A		7.6	U	43		.6	U	1.3		.62	U
PHENANTHRENE	N/A		N/A		5.5		49.1		.702		.13	J	.49	
PYRENE	N/A		N/A		2.2	J	7.92	J	.064		1.06	J	.04	J

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	
Point Name:	SB02-16		SB02-17	
Sample Id:	SB02-16(11.7-12.8)		SB02-17(14.0-15.0)	
Sample Date:	27-JAN-99		03-FEB-99	
Sample Depth:	11.7 - 12.8 ft		14 - 15 ft	
Investigation:	PHASEII_RI		PHASEII_RI	
VOA (MG/KG)				
CARBON TETRACHLORIDE	.12	U	.012	U
CHLOROBENZENE	.12	U	.012	U
CHLOROETHANE	.12	U	.012	U
CHLOROFORM	.12	U	.012	U
CHLOROMETHANE	.12	U	.012	U
CIS-1,3-DICHLOROPROPENE	.12	U	.012	U
DIBROMOCHLOROMETHANE	.12	U	.012	U
ETHYLBENZENE	.12	U	.012	U
METHYL-T-BUTYL ETHER	.12	U	N/A	
METHYLENE CHLORIDE	.12	U	.012	U
STYRENE	.12	U	.012	U
TETRACHLOROETHENE	.12	U	.012	U
TOLUENE	.12	U	.012	U
TRANS-1,3-DICHLOROPROPENE	.12	U	.012	U
TRICHLOROETHENE	.12	U	.012	U
VINYL CHLORIDE	.12	U	.012	U
XYLENE (TOTAL)	.12	U	.012	U
PAH (MG/KG)				
1-METHYLNAPHTHALENE	**1.2**		.059	UJ
2-METHYLNAPHTHALENE	**1.3**		.059	UJ
ACENAPHTHENE	.62	U	.059	UJ
ACENAPHTHYLENE	.25	U	.024	U
ANTHRACENE	.025	U	.0024	UJ
BENZO(A)ANTHRACENE	**.018**	J	.0024	UJ
BENZO(A)PYRENE	.025	U	.0024	UJ
BENZO(B)FLUORANTHENE	.025	U	.0024	U
BENZO(G,H,I)PERYLENE	.025	U	.0024	UJ
BENZO(K)FLUORANTHENE	.025	U	.0024	U
CHRYSENE	.025	U	.0024	UJ
DIBENZO(A,H)ANTHRACENE	.062	U	.0059	U
FLUORANTHENE	.025	U	.0024	U
FLUORENE	.025	U	.0024	UJ
INDENO(1,2,3-CD)PYRENE	.025	U	.0024	U
NAPHTHALENE	.62	U	.059	U
PHENANTHRENE	**.11**		**.0055**	J
PYRENE	.025	UJ	.0024	UJ

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV		EXCV		EXCV		EXCV		EXCV		EXCV		SB
Point Name:	TR1-1		TR1-6		TR1-7		TR1-7		TR1-7A		TR1-8		BR02-19
Sample Id:	TR1-1(9.0-9.5)		TR1-6(7.0-8.0)		TR1-7(45)		TR1-7(7-9)		TR1-7A(7)		TR1-8(9-10)		SB02-19(12.0-13.0
Sample Date:	07-DEC-98		07-DEC-98		08-DEC-98		08-DEC-98		08-DEC-98		09-DEC-98		25-JAN-99
Sample Depth:	9 - 9.5 ft		7 - 8 ft		6 - 7 ft		7 - 9 ft		7 - 8 ft		9 - 10 ft		12 - 13 ft
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI
SVOA (MG/KG)													
1,2,4-TRICHLOROBENZENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2,4,5-TRICHLOROPHENOL	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
2,4,6-TRICHLOROPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2,4-DICHLOROPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2,4-DIMETHYLPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2,4-DINITROPHENOL	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
2,4-DINITROTOLUENE	N/A		4.5	UJ	3.2	U	3.1	U	.4	U	.39	U	N/A
2,6-DINITROTOLUENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2-CHLORONAPHTHALENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2-CHLOROPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2-METHYLNAPHTHALENE	N/A		4.5	U	3.2	U	.78	J	.4	U	.39	U	N/A
2-METHYLPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
2-NITROANILINE	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
2-NITROPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
3,3'-DICHLOROBENZIDINE	N/A		4.5	UJ	3.2	UJ	3.1	UJ	.4	UJ	.39	UJ	N/A
3-NITROANILINE	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
4-CHLORO-3-METHYLPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
4-CHLOROANILINE	N/A		4.5	UJ	3.2	UJ	3.1	UJ	.4	UJ	.39	UJ	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
4-METHYLPHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
4-NITROANILINE	N/A		11	U	8	U	7.8	U	1	U	.97	U	N/A
4-NITROPHENOL	N/A		11	UJ	8	U	7.8	U	1	U	.97	U	N/A
ACENAPHTHENE	N/A		4.5	U	.41	J	.32	J	.4	U	.39	U	N/A
ACENAPHTHYLENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
ANTHRACENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BENZO(A)ANTHRACENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BENZO(A)PYRENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BENZO(B)FLUORANTHENE	N/A		4.5	U	.39	J	3.1	U	.4	U	.39	U	N/A
BENZO(G,H,I)PERYLENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BENZO(K)FLUORANTHENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BIS(2-CHLOROETHYL)ETHER	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		1.8	U	1.3	U	1.2	U	.16	U	.15	U	N/A
BUTYLBENZYLPHTHALATE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
CARBAZOLE	N/A		4.5	UJ	3.2	UJ	3.1	UJ	.4	UJ	.39	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR02-19 (FD)	BR02-20	SB02-01	SB02-01	SB02-01	SB02-01	SB02-01
Sample Id:	SB02-19(24.0-25.0)	SB02-20(15.5-17.6)	SB02-01 (17.5-18.0)	SB02-01 (19.5-20.0)	SB02-01 (20.0-20.5)	SB02-01 (28.0-28.5)	SB02-01 (8.5-9.0)
Sample Date:	25-JAN-99	27-JAN-99	16-FEB-94	16-FEB-94	16-FEB-94	16-FEB-94	16-FEB-94
Sample Depth:	12 - 13 ft	15.5 - 17.6 ft	17.5 - 18 ft	19.5 - 20 ft	20 - 20.5 ft	28 - 28.5 ft	8.5 - 9 ft
Investigation:	PHASEII_RI	PHASEII_RI	94WDA	94WDA	94WDA	94WDA	94WDA
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	.94 UJ	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	.39 UJ	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	.39 UJ	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	SB		SB		SB		SB	
Point Name:	SB02-01		SB02-02	SB02-02		SB02-02		SB02-04		SB02-04	
Sample Id:	SB02-01 (9.0-10.0)		SB02-02 (10.5-11.0)	SB02-02 (14.0-14.5)		SB02-02 (5.0)		SB02-04 (27.5-28.0)		SB02-04 (1.0)	
Sample Date:	16-FEB-94		17-FEB-94	17-FEB-94		27-JUL-94		17-FEB-94		27-JUL-94	
Sample Depth:	9 - 10 ft		10.5 - 11 ft	14 - 14.5 ft		5 ft		27.5 - 28 ft		1 ft	
Investigation:	94WDA		94WDA	94WDA		94WDA		94WDA		94WDA	
SVOA (MG/KG)											
1,2,4-TRICHLOROBENZENE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	.4	UJ	N/A	.37	U	N/A		.4	UJ	N/A	
2,4,5-TRICHLOROPHENOL	.98	U	N/A	.91	U	N/A		.96	U	N/A	
2,4,6-TRICHLOROPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2,4-DICHLOROPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2,4-DIMETHYLPHENOL	.4	U	N/A	.37	UJ	N/A		.4	U	N/A	
2,4-DINITROPHENOL	.98	U	N/A	.91	U	N/A		.96	U	N/A	
2,4-DINITROTOLUENE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2,6-DINITROTOLUENE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2-CHLORONAPHTHALENE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2-CHLOROPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
2-METHYLNAPHTHALENE	.027	J	N/A	.37	U	N/A		.4	U	N/A	
2-METHYLPHENOL	.4	U	N/A	.37	UJ	N/A		.4	U	N/A	
2-NITROANILINE	.98	U	N/A	.91	U	N/A		.96	U	N/A	
2-NITROPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
3,3'-DICHLOROBENZIDINE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
3-NITROANILINE	.98	UJ	N/A	.91	UJ	N/A		.96	UJ	N/A	
4,6-DINITRO-2-METHYLPHENOL	.98	U	N/A	.91	U	N/A		.96	U	N/A	
4-BROMOPHENYL-PHENYLETHER	.4	U	N/A	.37	U	N/A		.4	U	N/A	
4-CHLORO-3-METHYLPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
4-CHLOROANILINE	.4	UJ	N/A	.37	UJ	N/A		.4	UJ	N/A	
4-CHLOROPHENYL-PHENYLETHER	.4	U	N/A	.37	U	N/A		.4	U	N/A	
4-METHYLPHENOL	.4	U	N/A	.37	U	N/A		.4	U	N/A	
4-NITROANILINE	.98	U	N/A	.91	UJ	N/A		.96	U	N/A	
4-NITROPHENOL	.98	U	N/A	.91	UJ	N/A		.96	U	N/A	
ACENAPHTHENE	.023	J	N/A	.37	U	N/A		.4	U	N/A	
ACENAPHTHYLENE	.1	J	N/A	.37	U	N/A		.4	U	N/A	
ANTHRACENE	.2	J	N/A	.37	U	N/A		.4	U	N/A	
BENZO(A)ANTHRACENE	.14	J	N/A	.37	U	N/A		.4	U	N/A	
BENZO(A)PYRENE	.62		N/A	.37	U	N/A		.4	U	N/A	
BENZO(B)FLUORANTHENE	1		N/A	.37	U	N/A		.4	U	N/A	
BENZO(G,H,I)PERYLENE	2.1		N/A	.37	U	N/A		.4	U	N/A	
BENZO(K)FLUORANTHENE	.45		N/A	.37	U	N/A		.4	U	N/A	
BIS(2-CHLOROETHOXY)METHANE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
BIS(2-CHLOROETHYL)ETHER	.4	U	N/A	.37	U	N/A		.4	U	N/A	
BIS(2-ETHYLHEXYL)PHTHALATE	.4	U	N/A	.37	U	N/A		.4	U	N/A	
BUTYLBENZYLPHTHALATE	.045	J	N/A	.37	U	N/A		.013	J	N/A	
CARBAZOLE	.4	UJ	N/A	.37	UJ	N/A		.4	UJ	N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA
SVOA (MG/KG)													
1,2,4-TRICHLOROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
2,4,5-TRICHLOROPHENOL	N/A		.95	U	.8	U	1.3	U	.87	U	.91	U	N/A
2,4,6-TRICHLOROPHENOL	N/A		.39	U	.33	U	.52	U	.36	U	.38	U	N/A
2,4-DICHLOROPHENOL	N/A		.39	U	.33	UJ	.52	U	.36	U	.38	UJ	N/A
2,4-DIMETHYLPHENOL	N/A		.39	U	.33	UJ	.52	U	.36	U	.38	UJ	N/A
2,4-DINITROPHENOL	N/A		.95	U	.8	U	1.3	U	.87	U	.91	U	N/A
2,4-DINITROTOLUENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
2,6-DINITROTOLUENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
2-CHLORONAPHTHALENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
2-CHLOROPHENOL	N/A		.39	U	.33	U	.52	U	.36	U	.38	U	N/A
2-METHYLNAPHTHALENE	N/A		.39	U	N/A		**.57**		.36	U	N/A		N/A
2-METHYLPHENOL	N/A		.39	U	.33	U	.52	U	.36	U	.38	U	N/A
2-NITROANILINE	N/A		.95	UJ	N/A		1.3	U	.87	U	N/A		N/A
2-NITROPHENOL	N/A		.39	U	.33	UJ	.52	U	.36	U	.38	UJ	N/A
3,3'-DICHLOROBENZIDINE	N/A		.39	UJ	N/A		.52	UJ	.36	U	N/A		N/A
3-NITROANILINE	N/A		.95	UJ	N/A		1.3	UJ	.87	UJ	N/A		N/A
4,6-DINITRO-2-METHYLPHENOL	N/A		.95	U	.8	U	1.3	U	.87	U	.91	U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
4-CHLORO-3-METHYLPHENOL	N/A		.39	U	.33	UJ	.52	U	.36	U	.38	UJ	N/A
4-CHLOROANILINE	N/A		.39	UJ	N/A		.52	UJ	.36	U	N/A		N/A
4-CHLOROPHENYL-PHENYLETHER	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
4-METHYLPHENOL	N/A		.39	U	.33	U	.52	U	.36	U	.38	U	N/A
4-NITROANILINE	N/A		.95	U	N/A		1.3	U	.87	U	N/A		N/A
4-NITROPHENOL	N/A		.95	UJ	.8	U	1.3	U	.87	U	.91	U	N/A
ACENAPHTHENE	N/A		.39	U	N/A		**1.2**		.36	U	N/A		N/A
ACENAPHTHYLENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
ANTHRACENE	N/A		.39	U	N/A		**.15**	J	.36	U	N/A		N/A
BENZO(A)ANTHRACENE	N/A		.39	U	N/A		**.14**	J	.36	U	N/A		N/A
BENZO(A)PYRENE	N/A		.39	U	N/A		**.18**	J	.36	UJ	N/A		N/A
BENZO(B)FLUORANTHENE	N/A		.39	U	N/A		**.27**	J	.36	U	N/A		N/A
BENZO(G,H,I)PERYLENE	N/A		.39	U	N/A		.52	U	.36	UJ	N/A		N/A
BENZO(K)FLUORANTHENE	N/A		.39	U	N/A		**.2**	J	.36	U	N/A		N/A
BIS(2-CHLOROETHOXY)METHANE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
BIS(2-CHLOROETHYL)ETHER	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		.39	UJ	N/A		.52	U	**.04**	J	N/A		N/A
BUTYLBENZYLPHTHALATE	N/A		**.032**	J	**.01**	J	**.027**	J	**.026**	J	N/A		N/A
CARBAZOLE	N/A		.39	UJ	N/A		.52	U	.36	UJ	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB02-07		SB02-08	SB02-09	SB02-11	SB02-13	SB02-15	SB02-16
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)	SB02-09(20.6-30.1)	SB02-11(18.8-19.1)	SB02-13(8.5-9.4)	SB02-15(12.5-13.5)	SB02-16(11.0-11.7
Sample Date:	27-JUL-94		20-JAN-99	21-JAN-99	21-JAN-99	26-JAN-99	02-FEB-99	27-JAN-99
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft	20.6 - 30.1 ft	18.8 - 19.1 ft	8.5 - 9.4 ft	12.5 - 13.5 ft	11 - 11.7 ft
Investigation:	94WDA		PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	5.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	5.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	35	E	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	5.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A		N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	5.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB
Point Name:	SB02-16	SB02-17
Sample Id:	SB02-16(11.7-12.8)	SB02-17(14.0-15.0)
Sample Date:	27-JAN-99	03-FEB-99
Sample Depth:	11.7 - 12.8 ft	14 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)		
1,2,4-TRICHLOROBENZENE	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A
2-CHLOROPHENOL	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A
2-METHYLPHENOL	N/A	N/A
2-NITROANILINE	N/A	N/A
2-NITROPHENOL	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A
3-NITROANILINE	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A
4-CHLOROANILINE	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A
4-METHYLPHENOL	N/A	N/A
4-NITROANILINE	N/A	N/A
4-NITROPHENOL	N/A	N/A
ACENAPHTHENE	N/A	N/A
ACENAPHTHYLENE	N/A	N/A
ANTHRACENE	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A
BENZO(A)PYRENE	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A
CARBAZOLE	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV		EXCV		EXCV		EXCV		EXCV		EXCV		SB
Point Name:	TR1-1		TR1-6		TR1-7		TR1-7		TR1-7A		TR1-8		BR02-19
Sample Id:	TR1-1(9.0-9.5)		TR1-6(7.0-8.0)		TR1-7(45)		TR1-7(7-9)		TR1-7A(7)		TR1-8(9-10)		SB02-19(12.0-13.0
Sample Date:	07-DEC-98		07-DEC-98		08-DEC-98		08-DEC-98		08-DEC-98		09-DEC-98		25-JAN-99
Sample Depth:	9 - 9.5 ft		7 - 8 ft		6 - 7 ft		7 - 9 ft		7 - 8 ft		9 - 10 ft		12 - 13 ft
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI
SVOA (MG/KG)													
CHRYSENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
DI-N-BUTYLPHTHALATE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
DI-N-OCTYLPHTHALATE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
DIBENZO(A,H)ANTHRACENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
DIBENZOFURAN	N/A		4.5	U	3.2	U	.41	J	.4	U	.39	U	N/A
DIETHYLPHTHALATE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
DIMETHYLPHTHALATE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
FLUORANTHENE	N/A		4.5	U	.92	J	3.1	U	.4	U	.39	U	N/A
FLUORENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
HEXACHLOROBENZENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
HEXACHLOROBUTADIENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		4.5	UJ	3.2	UJ	3.1	UJ	.4	UJ	.39	UJ	N/A
HEXACHLOROETHANE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
INDENO(1,2,3-CD)PYRENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
ISOPHORONE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
N-NITROSODIPHENYLAMINE (1)	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
NAPHTHALENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
NITROBENZENE	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
PENTACHLOROPHENOL	N/A		11	UJ	8	U	7.8	U	1	U	.97	U	N/A
PHENANTHRENE	N/A		4.5	U	1.4	J	.56	J	.4	U	.39	U	N/A
PHENOL	N/A		4.5	U	3.2	U	3.1	U	.4	U	.39	U	N/A
PYRENE	N/A		4.5	U	.69	J	3.1	U	.4	U	.39	U	N/A
PCB (MG/KG)													
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PEST (MG/KG)													
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR02-19 (FD)	BR02-20	SB02-01	SB02-01	SB02-01	SB02-01	SB02-01
Sample Id:	SB02-19(24.0-25.0)	SB02-20(15.5-17.6)	SB02-01 (17.5-18.0)	SB02-01 (19.5-20.0)	SB02-01 (20.0-20.5)	SB02-01 (28.0-28.5)	SB02-01 (8.5-9.0)
Sample Date:	25-JAN-99	27-JAN-99	16-FEB-94	16-FEB-94	16-FEB-94	16-FEB-94	16-FEB-94
Sample Depth:	12 - 13 ft	15.5 - 17.6 ft	17.5 - 18 ft	19.5 - 20 ft	20 - 20.5 ft	28 - 28.5 ft	8.5 - 9 ft
Investigation:	PHASEII_RI	PHASEII_RI	94WDA	94WDA	94WDA	94WDA	94WDA
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	.15 J	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	.051 J	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	.055 J	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	.39 UJ	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	.94 U	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	.13 J	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	.39 U	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	.054 J	N/A	N/A
PCB (MG/KG)							
AROCLOR-1016	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
AROCLOR-1221	N/A	N/A	N/A	.084 UJ	N/A	N/A	N/A
AROCLOR-1232	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
AROCLOR-1242	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
AROCLOR-1248	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
AROCLOR-1254	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
AROCLOR-1260	N/A	N/A	N/A	.041 UJ	N/A	N/A	N/A
PEST (MG/KG)							
4,4'-DDD	N/A	N/A	N/A	.0041 UJ	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	.0041 UJ	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	N/A	.0041 UJ	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB02-01		SB02-02		SB02-02		SB02-02		SB02-04		SB02-04		SB02-05	
Sample Id:	SB02-01 (9.0-10.0)		SB02-02 (10.5-11.0)		SB02-02 (14.0-14.5)		SB02-02 (5.0)		SB02-04 (27.5-28.0)		SB02-04 (1.0)		SB02-05 (0.0-1.5)	
Sample Date:	16-FEB-94		17-FEB-94		17-FEB-94		27-JUL-94		17-FEB-94		27-JUL-94		26-JUL-94	
Sample Depth:	9 - 10 ft		10.5 - 11 ft		14 - 14.5 ft		5 ft		27.5 - 28 ft		1 ft		0 - 1.5 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
SVOA (MG/KG)														
CHRYSENE	.65		N/A		.37	U	N/A		.4	U	N/A		1.6	U
DI-N-BUTYLPHTHALATE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
DI-N-OCTYLPHTHALATE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
DIBENZO(A,H)ANTHRACENE	.5		N/A		.37	U	N/A		.4	U	N/A		1.6	U
DIBENZOFURAN	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
DIETHYLPHTHALATE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
DIMETHYLPHTHALATE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
FLUORANTHENE	.082	J	N/A		.37	U	N/A		.4	U	N/A		.13	J
FLUORENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
HEXACHLOROBENZENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
HEXACHLOROBUTADIENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
HEXACHLOROCYCLOPENTADIENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
HEXACHLOROETHANE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
INDENO(1,2,3-CD)PYRENE	1.8		N/A		.37	U	N/A		.4	U	N/A		1.6	U
ISOPHORONE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
N-NITROSO-DI-N-PROPYLAMINE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
N-NITROSODIPHENYLAMINE (1)	.4	UJ	N/A		.37	UJ	N/A		.038	J	N/A		.24	U
NAPHTHALENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
NITROBENZENE	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
PENTACHLOROPHENOL	.98	U	N/A		.91	U	N/A		.96	U	N/A		4	U
PHENANTHRENE	.08	J	N/A		.37	U	N/A		.4	U	N/A		1.6	U
PHENOL	.4	U	N/A		.37	U	N/A		.4	U	N/A		1.6	U
PYRENE	.13	J	N/A		.37	U	N/A		.4	U	N/A		.16	J
PCB (MG/KG)														
AROCLOR-1016	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
AROCLOR-1221	.082	UJ	N/A		.076	UJ	N/A		.081	UJ	N/A		.067	UJ
AROCLOR-1232	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
AROCLOR-1242	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
AROCLOR-1248	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
AROCLOR-1254	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
AROCLOR-1260	.04	UJ	N/A		.037	UJ	N/A		.04	UJ	N/A		.033	UJ
PEST (MG/KG)														
4,4'-DDD	.0041	J	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
4,4'-DDE	.0059	J	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
4,4'-DDT	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0044	J

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA
SVOA (MG/KG)													
CHRYSENE	N/A		.39	U	.042	J	.22	J	.36	U	N/A		N/A
DI-N-BUTYLPHTHALATE	N/A		.018	J	N/A		.036	J	.018	J	.026	J	N/A
DI-N-OCTYLPHTHALATE	N/A		.39	UJ	N/A		.52	U	.36	U	N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A		.39	U	N/A		.52	U	.36	UJ	N/A		N/A
DIBENZOFURAN	N/A		.029	J	.57	J	.65		.36	U	N/A		N/A
DIETHYLPHTHALATE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
DIMETHYLPHTHALATE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
FLUORANTHENE	N/A		.029	J	.018	J	.48	J	.36	U	.044	J	N/A
FLUORENE	N/A		.39	U	N/A		.87		.36	U	N/A		N/A
HEXACHLOROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
HEXACHLOROBUTADIENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
HEXACHLOROCYCLOPENTADIENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
HEXACHLOROETHANE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		.39	U	N/A		.52	U	.36	UJ	N/A		N/A
ISOPHORONE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
N-NITROSODIPHENYLAMINE (1)	N/A		.39	UJ	N/A		.52	U	.03	U	N/A		N/A
NAPHTHALENE	N/A		.39	U	N/A		.078	J	.36	U	N/A		N/A
NITROBENZENE	N/A		.39	U	N/A		.52	U	.36	U	N/A		N/A
PENTACHLOROPHENOL	N/A		.95	U	.8	U	1.3	U	.87	U	.91	U	N/A
PHENANTHRENE	N/A		.032	J	.13	J	1.3		.36	U	N/A		N/A
PHENOL	N/A		.39	U	.33	U	.52	U	.36	U	.38	U	N/A
PYRENE	N/A		.048	J	.034	J	.41	J	.36	U	.076	J	N/A
PCB (MG/KG)													
AROCLOR-1016	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
AROCLOR-1221	N/A		.08	UJ	.067	UJ	.11	UJ	.073	UJ	.076	UJ	N/A
AROCLOR-1232	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
AROCLOR-1242	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
AROCLOR-1248	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
AROCLOR-1254	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
AROCLOR-1260	N/A		.039	UJ	.033	UJ	.052	UJ	.036	UJ	.037	UJ	N/A
PEST (MG/KG)													
4,4'-DDD	N/A		.011	J	.0033	UJ	.028	J	.0036	UJ	.0037	UJ	N/A
4,4'-DDE	N/A		.01	J	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
4,4'-DDT	N/A		.047	J	.0033	UJ	.021	J	.0036	UJ	.0037	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB02-07		SB02-08	SB02-09	SB02-11	SB02-13	SB02-15	SB02-16
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)	SB02-09(20.6-30.1)	SB02-11(18.8-19.1)	SB02-13(8.5-9.4)	SB02-15(12.5-13.5)	SB02-16(11.0-11.7
Sample Date:	27-JUL-94		20-JAN-99	21-JAN-99	21-JAN-99	26-JAN-99	02-FEB-99	27-JAN-99
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft	20.6 - 30.1 ft	18.8 - 19.1 ft	8.5 - 9.4 ft	12.5 - 13.5 ft	11 - 11.7 ft
Investigation:	94WDA		PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)								
CHRYSENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	**2.4**	J	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	**.23**	J	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	**.71**	J	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	**17**		N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	5.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	**.26**	J	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	2.2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	**.31**	J	N/A	N/A	N/A	N/A	N/A	N/A
PCB (MG/KG)								
AROCLOR-1016	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1221	.088	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1232	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1242	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1248	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1254	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
AROCLOR-1260	.043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
PEST (MG/KG)								
4,4'-DDD	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB
Point Name:	SB02-16	SB02-17
Sample Id:	SB02-16(11.7-12.8)	SB02-17(14.0-15.0)
Sample Date:	27-JAN-99	03-FEB-99
Sample Depth:	11.7 - 12.8 ft	14 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)		
CHRYSENE	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A
DIBENZOFURAN	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A
FLUORANTHENE	N/A	N/A
FLUORENE	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A
HEXACHLOROETHANE	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A
ISOPHORONE	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A
NAPHTHALENE	N/A	N/A
NITROBENZENE	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A
PHENANTHRENE	N/A	N/A
PHENOL	N/A	N/A
PYRENE	N/A	N/A
PCB (MG/KG)		
AROCLOR-1016	N/A	N/A
AROCLOR-1221	N/A	N/A
AROCLOR-1232	N/A	N/A
AROCLOR-1242	N/A	N/A
AROCLOR-1248	N/A	N/A
AROCLOR-1254	N/A	N/A
AROCLOR-1260	N/A	N/A
PEST (MG/KG)		
4,4'-DDD	N/A	N/A
4,4'-DDE	N/A	N/A
4,4'-DDT	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV	EXCV	EXCV	EXCV	EXCV	EXCV	SB
Point Name:	TR1-1	TR1-6	TR1-7	TR1-7	TR1-7A	TR1-8	BR02-19
Sample Id:	TR1-1(9.0-9.5)	TR1-6(7.0-8.0)	TR1-7(45)	TR1-7(7-9)	TR1-7A(7)	TR1-8(9-10)	SB02-19(12.0-13.0
Sample Date:	07-DEC-98	07-DEC-98	08-DEC-98	08-DEC-98	08-DEC-98	09-DEC-98	25-JAN-99
Sample Depth:	9 - 9.5 ft	7 - 8 ft	6 - 7 ft	7 - 9 ft	7 - 8 ft	9 - 10 ft	12 - 13 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
PEST (MG/KG)							
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB		SB	SB	SB
Point Name:	BR02-19 (FD)	BR02-20	SB02-01	SB02-01		SB02-01	SB02-01	SB02-01
Sample Id:	SB02-19(24.0-25.0)	SB02-20(15.5-17.6)	SB02-01 (17.5-18.0)	SB02-01 (19.5-20.0)		SB02-01 (20.0-20.5)	SB02-01 (28.0-28.5)	SB02-01 (8.5-9.0)
Sample Date:	25-JAN-99	27-JAN-99	16-FEB-94	16-FEB-94		16-FEB-94	16-FEB-94	16-FEB-94
Sample Depth:	12 - 13 ft	15.5 - 17.6 ft	17.5 - 18 ft	19.5 - 20 ft		20 - 20.5 ft	28 - 28.5 ft	8.5 - 9 ft
Investigation:	PHASEII_RI	PHASEII_RI	94WDA	94WDA		94WDA	94WDA	94WDA
PEST (MG/KG)								
ALDRIN	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	.0041	UJ	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	.0021	UJ	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	.021	UJ	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	.21	UJ	N/A	N/A	N/A
METALS (MG/KG)								
ALUMINUM	N/A	N/A	N/A	16100		N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	7.8	UJ	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	7		N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	154		N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	.88	B	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	1	U	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	1850		N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	28.4		N/A	N/A	N/A
COBALT	N/A	N/A	N/A	6.5	B	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	229		N/A	N/A	N/A
IRON	N/A	N/A	N/A	27200		N/A	N/A	N/A
LEAD	N/A	N/A	N/A	23.7	J	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	6190		N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	293		N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	.13	U	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	32.3		N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	2320		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB02-01		SB02-02		SB02-02		SB02-02		SB02-04		SB02-04		SB02-05	
Sample Id:	SB02-01 (9.0-10.0)		SB02-02 (10.5-11.0)		SB02-02 (14.0-14.5)		SB02-02 (5.0)		SB02-04 (27.5-28.0)		SB02-04 (1.0)		SB02-05 (0.0-1.5)	
Sample Date:	16-FEB-94		17-FEB-94		17-FEB-94		27-JUL-94		17-FEB-94		27-JUL-94		26-JUL-94	
Sample Depth:	9 - 10 ft		10.5 - 11 ft		14 - 14.5 ft		5 ft		27.5 - 28 ft		1 ft		0 - 1.5 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
PEST (MG/KG)														
ALDRIN	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
ALPHA-BHC	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
ALPHA-CHLORDANE	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
BETA-BHC	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
DELTA-BHC	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
DIELDRIN	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
ENDOSULFAN I	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
ENDOSULFAN II	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
ENDOSULFAN SULFATE	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
ENDRIN	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
ENDRIN ALDEHYDE	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
ENDRIN KETONE	.004	UJ	N/A		.0037	UJ	N/A		.004	UJ	N/A		.0033	UJ
GAMMA-BHC (LINDANE)	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
GAMMA-CHLORDANE	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
HEPTACHLOR	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
HEPTACHLOR EPOXIDE	.0021	UJ	N/A		.0019	UJ	N/A		.002	UJ	N/A		.0017	UJ
METHOXYCHLOR	.021	UJ	N/A		.019	UJ	N/A		.02	UJ	N/A		.017	UJ
TOXAPHENE	.21	UJ	N/A		.19	UJ	N/A		.2	UJ	N/A		.17	UJ
METALS (MG/KG)														
ALUMINUM	12300		N/A		14400		16600		12100		11300		11800	
ANTIMONY	7.6	UJ	N/A		7	UJ	11.7	J	7.5	UJ	6.5	UJ	7.2	J
ARSENIC	5.1		N/A		5.9	S	7.4		3.2		5.1	UJ	5.1	
BARIUM	155		N/A		177		256		168		297		202	
BERYLLIUM	.92	B	N/A		.74	B	.28	U	.85	B	.5	U	.08	U
CADMIUM	1	B	N/A		.91	U	.13	U	.97	U	.14	U	.12	U
CALCIUM	4620		N/A		3560		4160		2700		13900		3550	
CHROMIUM	20.5		N/A		24.9		27.7		33.1		18.3		22.2	
COBALT	5.5	U	N/A		4	U	29.5		2.3	U	13		11.1	
COPPER	15.2		N/A		25.5		34.7	J	18.5		30.1	J	21	J
IRON	16100		N/A		18800		22900		20200		16800		15200	
LEAD	53	J	N/A		40.5		20.9		13.4	J	15.4		23.5	
MAGNESIUM	3590		N/A		4600		7880		5230		5000		4210	
MANGANESE	247		N/A		283		730		140		280		335	
MERCURY	.12	U	N/A		.11	UN*	.1	B	.62		.11		.07	B
NICKEL	24.5		N/A		27.9		47.7		35.4		25.8		26.6	
POTASSIUM	3330		N/A		2730	UJ	2330	J	1790		2620	J	2330	J

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA
PEST (MG/KG)													
ALDRIN	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
ALPHA-BHC	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
ALPHA-CHLORDANE	N/A		.002	UJ	.0017	UJ	.0056	J	.0018	UJ	.0019	UJ	N/A
BETA-BHC	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
DELTA-BHC	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
DIELDRIN	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
ENDOSULFAN I	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
ENDOSULFAN II	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
ENDOSULFAN SULFATE	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
ENDRIN	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
ENDRIN ALDEHYDE	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
ENDRIN KETONE	N/A		.0039	UJ	.0033	UJ	.0052	UJ	.0036	UJ	.0037	UJ	N/A
GAMMA-BHC (LINDANE)	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
GAMMA-CHLORDANE	N/A		.002	UJ	.0017	UJ	.0062	J	.0018	UJ	.0019	UJ	N/A
HEPTACHLOR	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
HEPTACHLOR EPOXIDE	N/A		.002	UJ	.0017	UJ	.0027	UJ	.0018	UJ	.0019	UJ	N/A
METHOXYCHLOR	N/A		.02	UJ	.017	UJ	.027	UJ	.018	UJ	.019	UJ	N/A
TOXAPHENE	N/A		.2	UJ	.17	UJ	.27	UJ	.18	UJ	.19	UJ	N/A
METALS (MG/KG)													
ALUMINUM	N/A		14500		12000		16000		15000		18300		N/A
ANTIMONY	N/A		16.5	J	6.3	UJ	9	UJ	8.7	J	10.1	J	N/A
ARSENIC	N/A		6.1		3.6	UJ	6.8	UJ	8.5		6.8		N/A
BARIUM	N/A		164		125		325		309		221		N/A
BERYLLIUM	N/A		.13	U	.13	U	.13	U	.24	U	.16	U	N/A
CADMIUM	N/A		.14	U	.13	U	.19	U	.13	U	.14	U	N/A
CALCIUM	N/A		3170		4430		3940		4050		4370		N/A
CHROMIUM	N/A		24.5		21.7		35.6		25.2		28		N/A
COBALT	N/A		10.8	B	9.4	B	11.3	B	19.3		15.1		N/A
COPPER	N/A		22.6	J	13.3	J	29.8	J	38	J	29.7	J	N/A
IRON	N/A		17300		12500		16100		23600		21600		N/A
LEAD	N/A		24		11.4		240		17.8		14.7		N/A
MAGNESIUM	N/A		4860		4290		4770		6690		6600		N/A
MANGANESE	N/A		234		254		266		562		549		N/A
MERCURY	N/A		.08	B	.19		.08	U	.14		.16		N/A
NICKEL	N/A		28.1		18.4		34.8		40.5		40.1		N/A
POTASSIUM	N/A		3090	J	1210	J	3040	J	1830	J	3270	J	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB02-07		SB02-08	SB02-09	SB02-11	SB02-13	SB02-15	SB02-16
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)	SB02-09(20.6-30.1)	SB02-11(18.8-19.1)	SB02-13(8.5-9.4)	SB02-15(12.5-13.5)	SB02-16(11.0-11.7
Sample Date:	27-JUL-94		20-JAN-99	21-JAN-99	21-JAN-99	26-JAN-99	02-FEB-99	27-JAN-99
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft	20.6 - 30.1 ft	18.8 - 19.1 ft	8.5 - 9.4 ft	12.5 - 13.5 ft	11 - 11.7 ft
Investigation:	94WDA		PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
PEST (MG/KG)								
ALDRIN	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	.0043	UJ	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	.0022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	.022	UJ	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	.22	UJ	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)								
ALUMINUM	11700		N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	8.7	J	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	3.3	UJ	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	183		N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	.2	U	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	.16	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	6450		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	16.2		N/A	N/A	N/A	N/A	N/A	N/A
COBALT	10.1	B	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	11.1	J	N/A	N/A	N/A	N/A	N/A	N/A
IRON	11800		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	12.5		N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	3700		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	251		N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.12	B	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	22.5		N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	3150	J	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB
Point Name:	SB02-16	SB02-17
Sample Id:	SB02-16(11.7-12.8)	SB02-17(14.0-15.0)
Sample Date:	27-JAN-99	03-FEB-99
Sample Depth:	11.7 - 12.8 ft	14 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI
PEST (MG/KG)		
ALDRIN	N/A	N/A
ALPHA-BHC	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A
BETA-BHC	N/A	N/A
DELTA-BHC	N/A	N/A
DIELDRIN	N/A	N/A
ENDOSULFAN I	N/A	N/A
ENDOSULFAN II	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A
ENDRIN	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A
ENDRIN KETONE	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A
HEPTACHLOR	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A
METHOXYCHLOR	N/A	N/A
TOXAPHENE	N/A	N/A
METALS (MG/KG)		
ALUMINUM	N/A	N/A
ANTIMONY	N/A	N/A
ARSENIC	N/A	N/A
BARIUM	N/A	N/A
BERYLLIUM	N/A	N/A
CADMIUM	N/A	N/A
CALCIUM	N/A	N/A
CHROMIUM	N/A	N/A
COBALT	N/A	N/A
COPPER	N/A	N/A
IRON	N/A	N/A
LEAD	N/A	N/A
MAGNESIUM	N/A	N/A
MANGANESE	N/A	N/A
MERCURY	N/A	N/A
NICKEL	N/A	N/A
POTASSIUM	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	EXCV	EXCV	EXCV	EXCV	EXCV	EXCV	SB
Point Name:	TR1-1	TR1-6	TR1-7	TR1-7	TR1-7A	TR1-8	BR02-19
Sample Id:	TR1-1(9.0-9.5)	TR1-6(7.0-8.0)	TR1-7(45)	TR1-7(7-9)	TR1-7A(7)	TR1-8(9-10)	SB02-19(12.0-13.0
Sample Date:	07-DEC-98	07-DEC-98	08-DEC-98	08-DEC-98	08-DEC-98	09-DEC-98	25-JAN-99
Sample Depth:	9 - 9.5 ft	7 - 8 ft	6 - 7 ft	7 - 9 ft	7 - 8 ft	9 - 10 ft	12 - 13 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)							
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB		SB	SB	SB
Point Name:	BR02-19 (FD)	BR02-20	SB02-01	SB02-01		SB02-01	SB02-01	SB02-01
Sample Id:	SB02-19(24.0-25.0)	SB02-20(15.5-17.6)	SB02-01 (17.5-18.0)	SB02-01 (19.5-20.0)		SB02-01 (20.0-20.5)	SB02-01 (28.0-28.5)	SB02-01 (8.5-9.0)
Sample Date:	25-JAN-99	27-JAN-99	16-FEB-94	16-FEB-94		16-FEB-94	16-FEB-94	16-FEB-94
Sample Depth:	12 - 13 ft	15.5 - 17.6 ft	17.5 - 18 ft	19.5 - 20 ft		20 - 20.5 ft	28 - 28.5 ft	8.5 - 9 ft
Investigation:	PHASEII_RI	PHASEII_RI	94WDA	94WDA		94WDA	94WDA	94WDA
METALS (MG/KG)								
SELENIUM	N/A	N/A	N/A	.75	U	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	.5	U	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	**212**	B	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	.75	UW	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	**41.5**		N/A	N/A	N/A
ZINC	N/A	N/A	N/A	**324**	J	N/A	N/A	N/A
WATER QUALITY (MG/KG)								
TOTAL ORGANIC CARBON	N/A	N/A	N/A	**7200**		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB02-01		SB02-02		SB02-02		SB02-02		SB02-04		SB02-04		SB02-05	
Sample Id:	SB02-01 (9.0-10.0)		SB02-02 (10.5-11.0)		SB02-02 (14.0-14.5)		SB02-02 (5.0)		SB02-04 (27.5-28.0)		SB02-04 (1.0)		SB02-05 (0.0-1.5)	
Sample Date:	16-FEB-94		17-FEB-94		17-FEB-94		27-JUL-94		17-FEB-94		27-JUL-94		26-JUL-94	
Sample Depth:	9 - 10 ft		10.5 - 11 ft		14 - 14.5 ft		5 ft		27.5 - 28 ft		1 ft		0 - 1.5 ft	
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA	
METALS (MG/KG)														
SELENIUM	.73	U	N/A		.68	U	.51	U	.73	U	.52	U	.46	U
SILVER	.49	U	N/A		.45	U	.44	U	.48	U	.45	U	.4	U
SODIUM	177	B	N/A		297	U	469	B	481	B	488	B	340	B
THALLIUM	.73	U	N/A		N/A		.44	U	.73	UW	.45	U	.4	U
VANADIUM	29.5		N/A		32.8		35.4		35.1		29.2		33.1	
ZINC	86.9	J	N/A		92.7	J	90.5		43.6	J	69.5		66.4	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	9000		N/A		5300		N/A		6700		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB02-05		SB02-05		SB02-05		SB02-06		SB02-07		SB02-07		SB02-07
Sample Id:	SB02-05 (1.0-1.5)		SB02-05 (17.0-18.0)		SB02-05 (21.0-22.0)		SB02-06 (20.5-21.0)		SB02-07 (1.0-2.0)		SB02-07 (10.0-11.0)		SB02-07 (10.5-11.
Sample Date:	26-JUL-94		26-JUL-94		26-JUL-94		26-JUL-94		27-JUL-94		27-JUL-94		27-JUL-94
Sample Depth:	1 - 1.5 ft		17 - 18 ft		21 - 22 ft		20.5 - 21 ft		1 - 2 ft		10 - 11 ft		10.5 - 11 ft
Investigation:	94WDA		94WDA		94WDA		94WDA		94WDA		94WDA		94WDA
METALS (MG/KG)													
SELENIUM	N/A		.55	U	.51	U	.73	U	.5	U	.52	U	N/A
SILVER	N/A		.47	U	.44	U	.63	U	.43	U	.45	U	N/A
SODIUM	N/A		361	B	288	B	401	B	453	B	393	B	N/A
THALLIUM	N/A		.47	U	.44	U	.63	U	.43	U	.45	U	N/A
VANADIUM	N/A		39.4		30.1		41.4		36.1		40.8		N/A
ZINC	N/A		72		43.3		448		90.8		80.7		N/A
WATER QUALITY (MG/KG)													
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB02-07		SB02-08	SB02-09	SB02-11	SB02-13	SB02-15	SB02-16
Sample Id:	SB02-07 (14.0-15.0)		SB02-08(18.7-19.2)	SB02-09(20.6-30.1)	SB02-11(18.8-19.1)	SB02-13(8.5-9.4)	SB02-15(12.5-13.5)	SB02-16(11.0-11.7
Sample Date:	27-JUL-94		20-JAN-99	21-JAN-99	21-JAN-99	26-JAN-99	02-FEB-99	27-JAN-99
Sample Depth:	14 - 15 ft		18.7 - 19.2 ft	20.6 - 30.1 ft	18.8 - 19.1 ft	8.5 - 9.4 ft	12.5 - 13.5 ft	11 - 11.7 ft
Investigation:	94WDA		PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)								
SELENIUM	.6	U	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	.52	U	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	346	B	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	.52	U	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	32.5		N/A	N/A	N/A	N/A	N/A	N/A
ZINC	50		N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)								
TOTAL ORGANIC CARBON	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Soil Analytical Results

Point Type:	SB	SB
Point Name:	SB02-16	SB02-17
Sample Id:	SB02-16(11.7-12.8)	SB02-17(14.0-15.0)
Sample Date:	27-JAN-99	03-FEB-99
Sample Depth:	11.7 - 12.8 ft	14 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI
METALS (MG/KG)		
SELENIUM	N/A	N/A
SILVER	N/A	N/A
SODIUM	N/A	N/A
THALLIUM	N/A	N/A
VANADIUM	N/A	N/A
ZINC	N/A	N/A
WATER QUALITY (MG/KG)		
TOTAL ORGANIC CARBON	N/A	N/A

GROUNDWATER

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW		MW		MW		MW		MW	
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01	
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01(24)	
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97		25-FEB-99		23-FEB-99		24-FEB-99		30-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1		PHASEII_RI		PHASEII_RI		PHASEII_RI		GW1Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.002	U
DIESEL RANGE ORGANICS	N/A		N/A		4	Z	.1	U	.1	U	.1	U	N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.002	U
GASOLINE RANGE ORGANICS	.05	U	.05	U	.24	Z	.05	U	.05	U	.05	U	.25	U
JP4 RANGE ORGANICS	.05	U	.05	U	N/A		N/A		N/A		N/A		.05	U
JP5 RANGE ORGANICS	.05	U	.05	U	.1	U	.1	U	.1	U	.1	U	3.4	
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		.1	Z	.1	U	.12	U	.1	U	N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	6.2	Y	5.4	Y	N/A		N/A		N/A		N/A		.81	Y
OTHER LIGHT TPH COMPONENTS	2	Y	1.7	Y	N/A		N/A		N/A		N/A		6.8	Y
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.002	U
TPH - BUNKER FUEL (C10-C28)	.5	U	.5	U	.1	U	.1	U	.1	U	.1	U	.5	U
TPH - DIESEL F-76 (C8-C28)	.05	U	.05	U	.1	U	.1	U	.1	U	.1	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	.05	U	.05	U	N/A		N/A		N/A		N/A		.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	N/A		.001	U	.001	U	.001	U	.002	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,2-DICHLOROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
1,2-DICHLOROETHANE	2	U	2	U	3	U	.5	U	10	U	.5	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
1,3-DICHLOROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
1,4-DICHLOROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2-BUTANONE	40		38		7	J	2	U	10	U	2	U	2	U
2-HEXANONE	2	U	2	U	10	U	2	U	10	U	2	UJ	2	U
4-METHYL-2-PENTANONE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
ACETONE	5	J	5	J	10	UJ	2	UJ	10	UJ	2	UJ	2	U
BENZENE	.2	J	.2	J	3	U	.5	U	10	U	.5	U	.09	J
BROMODICHLOROMETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
BROMOFORM	2	U	2	U	10	U	2	U	10	U	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.1	U	**1.5**	Y	N/A		N/A		N/A		.1	U	**2.77**	Z
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	**.2**	Z	**.56**	Z	.05	U	.05	U	.05	UJ	**.16**	Z	**.59**	Z
JP4 RANGE ORGANICS	N/A		N/A		.053	U	.05	U	.05	U	N/A		N/A	
JP5 RANGE ORGANICS	**2**	Z	.1	U	.053	U	.05	U	.05	U	.1	U	.1	U
M,P-XYLENE	.001	U	N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	**.003**	J	.005	U	N/A		N/A		N/A		N/A		.005	U
MOTOR OIL RANGE ORGANICS	.1	U	.1	U	N/A		N/A		N/A		.1	U	**.41**	Z
O-XYLENE	.0005	U	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		.053	U	.05	U	**7.1**	Y	N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		**.06**	Y	.05	U	**1.7**	Y	N/A		N/A	
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	**.0005**		.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.1	U	N/A		.53	U	.5	U	.5	U	**4.46**	Z	.1	U
TPH - DIESEL F-76 (C8-C28)	.1	U	N/A		.053	U	.05	U	.05	UJ	.1	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		.053	U	.05	U	.05	U	N/A		N/A	
XYLENE (TOTAL)	N/A		.001	U	.0005	U	.0005	U	**.002**		N/A		.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,1,2-TRICHLOROETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,1-DICHLOROETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,1-DICHLOROETHENE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,2-DICHLOROBENZENE	1	U	5	UJ	10	U	N/A		10	U	2	U	1	U
1,2-DICHLOROETHANE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		2	U	N/A		5	UJ	10	U	2	U
1,2-DICHLOROPROPANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
1,3-DICHLOROBENZENE	1	U	5	UJ	10	U	N/A		10	U	2	U	1	U
1,4-DICHLOROBENZENE	1	U	5	UJ	10	U	N/A		10	U	2	U	1	U
2-BUTANONE	2	U	N/A		2	U	N/A		5	UJ	**2**	J	2	U
2-HEXANONE	2	U	N/A		2	U	N/A		5	UJ	10	U	2	U
4-METHYL-2-PENTANONE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
ACETONE	2	UJ	N/A		2	UJ	N/A		4	UJ	10	UJ	2	UJ
BENZENE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
BROMODICHLOROMETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
BROMOFORM	2	U	N/A		2	U	N/A		5	U	10	U	2	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-06		MW02-06		MW02-07		MW02-07		MW02-07		MW02-07		MW02-07	
Sample Id:	MW02-06		MW02-06		MW02-07 (19.0)		MW02-07(15.3)		MW02-07		MW02-07		MW02-07	
Sample Date:	20-JAN-99		15-NOV-99		03-AUG-94		21-DEC-94		30-OCT-97		09-APR-98		20-JAN-99	
Sample Depth:														
Investigation:	SEMI_EVENT3		UST_PHASEII		94WDA		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.007		.002	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	2.05	Y	2.35	Y	N/A		N/A		2	U	.5	U	51	J
ETHYLBENZENE	.0005	U	.0005	U	.054		.015		.0021		.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.64	Z	.36	Z	.5	UJ	.25	UJ	.33	Z	.58	Z	1.46	Z
JP4 RANGE ORGANICS	N/A		N/A		2.5	UJ	.1	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		.1	U	400	J	.1	U	38		16	Y	N/A	
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.005	U	.005	U	N/A		N/A		N/A		.003	J	.005	U
MOTOR OIL RANGE ORGANICS	.66	Z	.5	U	N/A		N/A		2	U	.5	U	N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		2.5	UJ	.1	U	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		72	Y	5.5	Y	N/A		N/A		N/A	
TOLUENE	.0005	U	.0005	U	.12		.002	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	N/A		.1	U	25	UJ	1	U	2	U	.5	U	N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		.1	U	2.5	UJ	.1	U	2	U	.5	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		2.5	UJ	15		N/A		N/A		N/A	
XYLENE (TOTAL)	.001	U	.001	U	.49		.17		N/A		.001	U	.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,1,2-TRICHLOROETHANE	N/A		N/A		25	U	10	UJ	10	U	2	U	10	U
1,1-DICHLOROETHANE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,1-DICHLOROETHENE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,2-DICHLOROBENZENE	20	U	N/A		N/A		40	U	10	U	4	U	20	U
1,2-DICHLOROETHANE	N/A		N/A		25	U	10	U	3	U	.5	U	10	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,2-DICHLOROPROPANE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
1,3-DICHLOROBENZENE	20	U	N/A		N/A		40	U	10	U	4	U	20	U
1,4-DICHLOROBENZENE	20	U	N/A		N/A		40	U	10	U	4	U	20	U
2-BUTANONE	N/A		N/A		25	U	10	U	5	J	2	U	10	UJ
2-HEXANONE	N/A		N/A		25	U	10	UJ	10	U	2	U	10	UJ
4-METHYL-2-PENTANONE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
ACETONE	N/A		N/A		41	UJ	14	UJ	10	UJ	2	UJ	10	UJ
BENZENE	N/A		N/A		6	J	.7	J	3	U	.5	U	10	U
BROMODICHLOROMETHANE	N/A		N/A		25	U	10	U	10	U	2	U	10	U
BROMOFORM	N/A		N/A		25	U	10	U	10	U	2	U	10	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		SB	
Point Name:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-16 (FD)		MW02-16		SB02-09	
Sample Id:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-26		MW02-16		WB02-09(19.0)	
Sample Date:	23-SEP-99		24-FEB-99		29-SEP-99		25-FEB-99		25-FEB-99		28-SEP-99		21-JAN-99	
Sample Depth:													19 ft	
Investigation:	UST_PHASEII		PHASEII_RI		UST_PHASEII		PHASEII_RI		PHASEII_RI		UST_PHASEII		PHASEII_RI	
TPH (MG/L)														
BENZENE	.0025	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.85	U	.1	U	.47	Y	1.6	Y	1.8	Y	.1	U	10	Z
ETHYLBENZENE	.0072		.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0015	
GASOLINE RANGE ORGANICS	10.8	Z	.03	J	.03	J	1.68	Z	2.03	Z	1.03	Z	1.94	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	17.2		.1	U	.1	U	3.94		4.2		5.61	UJ	29	Y
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.025	U	N/A		.005	U	N/A		N/A		.005	U	.005	U
MOTOR OIL RANGE ORGANICS	4.3	U	.1	U	.5	U	.1	U	.1	U	.5	U	1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.0025	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0006	
TPH - BUNKER FUEL (C10-C28)	.85	U	.1	U	.1	U	.1	U	.1	U	.1	U	N/A	
TPH - DIESEL F-76 (C8-C28)	.85	U	.1	U	.1	U	.1	U	.1	U	.1	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.007		.001	U	.001	U	.001	U	.001	U	.001	U	.0044	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,1,2,2-TETRACHLOROETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,1,2-TRICHLOROETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,1-DICHLOROETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,1-DICHLOROETHENE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,2-DICHLOROBENZENE	N/A		1	U	N/A		4	U	8	U	N/A		N/A	
1,2-DICHLOROETHANE	N/A		.5	U	N/A		3	U	3	U	N/A		10	U
1,2-DICHLOROETHENE (TOTAL)	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,2-DICHLOROPROPANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
1,3-DICHLOROBENZENE	N/A		1	U	N/A		4	U	8	U	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		1	U	N/A		4	U	8	U	N/A		N/A	
2-BUTANONE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
2-HEXANONE	N/A		2	UJ	N/A		10	UJ	10	UJ	N/A		10	U
4-METHYL-2-PENTANONE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
ACETONE	N/A		2	UJ	N/A		13	UJ	10	UJ	N/A		10	UJ
BENZENE	N/A		.5	U	N/A		3	U	3	U	N/A		10	U
BROMODICHLOROMETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
BROMOFORM	N/A		2	U	N/A		10	U	10	U	N/A		10	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW		MW		MW		MW		MW	
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01	
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01(24)	
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97		25-FEB-99		23-FEB-99		24-FEB-99		30-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1		PHASEII_RI		PHASEII_RI		PHASEII_RI		GW1Q94	
VOA (UG/L)														
BROMOMETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
CARBON DISULFIDE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
CARBON TETRACHLORIDE	2	U	2	U	3	U	.5	U	10	U	.5	U	2	U
CHLOROBENZENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
CHLOROETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
CHLOROFORM	2	U	2	U	10	U	2	UJ	10	U	2	U	2	U
CHLOROMETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
CIS-1,3-DICHLOROPROPENE	2	U	2	U	3	U	.5	U	10	U	.5	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
ETHYLBENZENE	1	J	1	J	10	U	2	U	10	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
STYRENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
TOLUENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	3	U	.5	U	10	U	.5	U	2	U
TRICHLOROETHENE	2	U	2	U	10	U	2	U	10	U	2	U	2	U
VINYL CHLORIDE	2	U	2	U	3	U	.7		10	U	.5	U	2	U
XYLENE (TOTAL)	.1	J	.1	J	10	U	2	U	10	U	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	1	U	1	UJ	N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	1	U	1	UJ	N/A	
ACENAPHTHENE	N/A		N/A		N/A		5	U	5	U	5	U	N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		2	U	2	U	2	U	N/A	
ANTHRACENE	N/A		N/A		N/A		.2	UJ	.2	U	.2	UJ	N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
CHRYSENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		.5	U	.5	U	.5	U	N/A	
FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
FLUORENE	N/A		N/A		N/A		1	U	1	U	1	U	N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
NAPHTHALENE	N/A		N/A		N/A		5	U	5	U	5	U	N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
VOA (UG/L)														
BROMOMETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CARBON DISULFIDE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CARBON TETRACHLORIDE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
CHLOROBENZENE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CHLOROETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CHLOROFORM	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CHLOROMETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
CIS-1,3-DICHLOROPROPENE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
DIBROMOCHLOROMETHANE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
ETHYLBENZENE	2	U	N/A		2	U	N/A		.3	J	10	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	UJ	N/A		2	U	N/A		1	U	10	U	.5	UJ
STYRENE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
TETRACHLOROETHENE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
TOLUENE	2	U	N/A		2	U	N/A		.7	J	10	U	2	U
TRANS-1,3-DICHLOROPROPENE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
TRICHLOROETHENE	2	U	N/A		2	U	N/A		5	U	10	U	2	U
VINYL CHLORIDE	.5	U	N/A		2	U	N/A		5	U	3	U	.5	U
XYLENE (TOTAL)	2	U	N/A		2	U	N/A		2	J	10	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW02-06	MW02-06	MW02-07	MW02-07	MW02-07	MW02-07	MW02-07
Sample Id:	MW02-06	MW02-06	MW02-07 (19.0)	MW02-07(15.3)	MW02-07	MW02-07	MW02-07
Sample Date:	20-JAN-99	15-NOV-99	03-AUG-94	21-DEC-94	30-OCT-97	09-APR-98	20-JAN-99
Sample Depth:							
Investigation:	SEMI_EVENT3	UST_PHASEII	94WDA	GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
VOA (UG/L)							
BROMOMETHANE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CARBON DISULFIDE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CARBON TETRACHLORIDE	N/A	N/A	25 U	10 U	3 U	.5 U	10 U
CHLOROBENZENE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CHLOROETHANE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CHLOROFORM	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CHLOROMETHANE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
CIS-1,3-DICHLOROPROPENE	N/A	N/A	25 U	10 U	3 U	.5 U	10 U
DIBROMOCHLOROMETHANE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
ETHYLBENZENE	N/A	N/A	**45**	**19**	10 U	2 U	10 U
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	4 U	10 U	10 U	.4 UJ	10 UJ
STYRENE	N/A	N/A	25 U	10 U	10 U	**.4** J	10 U
TETRACHLOROETHENE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
TOLUENE	N/A	N/A	**98**	**3** J	10 U	**.7** J	10 U
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	25 U	10 U	3 U	.5 U	10 U
TRICHLOROETHENE	N/A	N/A	25 U	10 U	10 U	2 U	10 U
VINYL CHLORIDE	N/A	N/A	25 U	10 U	3 U	.5 U	10 U
XYLENE (TOTAL)	N/A	N/A	**400**	**200**	**3** J	2 U	10 U
PAH (UG/L)							
1-METHYLNAPHTHALENE	N/A	**7**	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	**11**	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	**8**	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	2 U	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	**1.8**	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	**.4**	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	**.2**	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	**.2**	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	.2 U	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	**.1** J	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	**.73**	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	.5 U	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	**4.82**	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	**7.7**	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	.2 U	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	**16**	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		SB	
Point Name:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-16 (FD)		MW02-16		SB02-09	
Sample Id:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-26		MW02-16		WB02-09(19.0)	
Sample Date:	23-SEP-99		24-FEB-99		29-SEP-99		25-FEB-99		25-FEB-99		28-SEP-99		21-JAN-99	
Sample Depth:													19 ft	
Investigation:	UST_PHASEII		PHASEII_RI		UST_PHASEII		PHASEII_RI		PHASEII_RI		UST_PHASEII		PHASEII_RI	
VOA (UG/L)														
BROMOMETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CARBON DISULFIDE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CARBON TETRACHLORIDE	N/A		.5	U	N/A		3	U	3	U	N/A		10	U
CHLOROBENZENE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CHLOROETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CHLOROFORM	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CHLOROMETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
CIS-1,3-DICHLOROPROPENE	N/A		.5	U	N/A		3	U	3	U	N/A		10	U
DIBROMOCHLOROMETHANE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
ETHYLBENZENE	N/A		2	U	N/A		10	U	10	U	N/A		.5	J
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		10	U
METHYLENE CHLORIDE	N/A		2	U	N/A		10	U	10	U	N/A		10	UJ
STYRENE	N/A		2	U	N/A		10	U	10	U	N/A		.5	J
TETRACHLOROETHENE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
TOLUENE	N/A		2	U	N/A		10	U	10	U	N/A		.5	J
TRANS-1,3-DICHLOROPROPENE	N/A		.5	U	N/A		3	U	3	U	N/A		10	U
TRICHLOROETHENE	N/A		2	U	N/A		10	U	10	U	N/A		10	U
VINYL CHLORIDE	N/A		.6		N/A		3	U	3	U	N/A		10	U
XYLENE (TOTAL)	N/A		2	U	N/A		10	U	10	U	N/A		2	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	100		1	UJ	5	U	38	J	49	J	5	U	200	J
2-METHYLNAPHTHALENE	140		1	UJ	5	U	1	UJ	1	UJ	5	U	390	
ACENAPHTHENE	5	U	5	U	5	U	5	U	5	U	5	U	1300	U
ACENAPHTHYLENE	2	U	2	U	2	U	2	U	2	U	2	U	500	U
ANTHRACENE	.2		.2	UJ	.2	U	.2	UJ	.2	UJ	.2	U	170	
BENZO(A)ANTHRACENE	.72		.2	U	.2	U	.2	U	.2	U	.2	U	140	
BENZO(A)PYRENE	.2	U	.2	U	.2	U	.2	U	.2	U	.2	U	38	J
BENZO(B)FLUORANTHENE	.2	U	.2	U	.2	U	.2	U	.2	U	.2	U	29	J
BENZO(G,H,I)PERYLENE	.2	U	.2	U	.2	UJ	.2	U	.2	U	.2	UJ	50	U
BENZO(K)FLUORANTHENE	.2	U	.2	U	.2	U	.2	U	.2	U	.2	U	50	U
CHRYSENE	.1	J	.2	U	.2	U	.2	U	.2	U	.2	U	70	
DIBENZO(A,H)ANTHRACENE	.5	U	.5	U	.5	U	.5	U	.5	U	.5	U	130	U
FLUORANTHENE	.93		.2	U	.2	U	.2	U	.2	U	.2	U	630	
FLUORENE	2.2		1	U	1	U	1	U	1	U	1	U	300	
INDENO(1,2,3-CD)PYRENE	.2	U	.2	U	.2	U	.2	U	.2	U	.2	U	50	U
NAPHTHALENE	17		5	U	5	U	5	U	5	U	5	U	1300	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW		MW		MW		MW		MW	
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01	
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01(24)	
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97		25-FEB-99		23-FEB-99		24-FEB-99		30-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1		PHASEII_RI		PHASEII_RI		PHASEII_RI		GW1Q94	
PAH (UG/L)														
PHENANTHRENE	N/A		N/A		N/A		1	U	1	U	1	U	N/A	
PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,4,5-TRICHLOROPHENOL	25	UJ	25	UJ	3	U	20	U	N/A		3	U	26	U
2,4,6-TRICHLOROPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,4-DICHLOROPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,4-DIMETHYLPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,4-DINITROPHENOL	25	UJ	25	UJ	N/A		N/A		N/A		N/A		26	U
2,4-DINITROTOLUENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2,6-DINITROTOLUENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2-CHLORONAPHTHALENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2-CHLOROPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2-METHYLNAPHTHALENE	67	J	72	J	10		8	U	N/A		1	U	9	J
2-METHYLPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
2-NITROANILINE	25	UJ	25	UJ	3	U	20	U	N/A		3	U	26	U
2-NITROPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
3,3'-DICHLOROBENZIDINE	10	UJ	10	UJ	1	U	8	UJ	N/A		1	UJ	10	UJ
3-NITROANILINE	25	UJ	25	UJ	3	U	20	U	N/A		3	U	26	U
4,6-DINITRO-2-METHYLPHENOL	25	UJ	25	UJ	3	J	20	UJ	N/A		3	UJ	26	U
4-BROMOPHENYL-PHENYLETHER	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	UJ
4-CHLORO-3-METHYLPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
4-CHLOROANILINE	10	UJ	10	UJ	1	U	8	UJ	N/A		1	UJ	10	UJ
4-CHLOROPHENYL-PHENYLETHER	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
4-METHYLPHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
4-NITROANILINE	25	UJ	25	UJ	3	U	20	U	N/A		3	U	26	U
4-NITROPHENOL	25	UJ	25	UJ	3	J	20	U	N/A		3	U	26	U
ACENAPHTHENE	10	UJ	10	UJ	.3	J	8	U	N/A		1	U	10	U
ACENAPHTHYLENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
ANTHRACENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BENZO(A)ANTHRACENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BENZO(A)PYRENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BENZO(B)FLUORANTHENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BENZO(G,H,I)PERYLENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BENZO(K)FLUORANTHENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
PAH (UG/L)														
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	1	U	10	UJ	10	U	N/A		10	UJ	2	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2,4,5-TRICHLOROPHENOL	3	U	25	UJ	26	U	N/A		25	U	5	U	3	U
2,4,6-TRICHLOROPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2,4-DICHLOROPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2,4-DIMETHYLPHENOL	1	U	10	UJ	10	U	N/A		12		2	U	.7	J
2,4-DINITROPHENOL	N/A		25	UJ	26	U	N/A		25	UJ	N/A		3	UJ
2,4-DINITROTOLUENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2,6-DINITROTOLUENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2-CHLORONAPHTHALENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2-CHLOROPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2-METHYLNAPHTHALENE	2		10	UJ	10	U	N/A		54		5		1	
2-METHYLPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
2-NITROANILINE	3	U	25	UJ	26	U	N/A		25	U	5	U	3	U
2-NITROPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
3,3'-DICHLOROBENZIDINE	1	U	10	UJ	10	UJ	N/A		10	U	2	U	1	U
3-NITROANILINE	3	U	25	UJ	26	U	N/A		25	UJ	5	U	3	U
4,6-DINITRO-2-METHYLPHENOL	3	U	25	UJ	26	U	N/A		25	U	5	J	3	UJ
4-BROMOPHENYL-PHENYLETHER	1	U	10	UJ	10	UJ	N/A		10	U	2	U	1	U
4-CHLORO-3-METHYLPHENOL	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
4-CHLOROANILINE	1	U	10	UJ	10	UJ	N/A		10	U	2	U	1	U
4-CHLOROPHENYL-PHENYLETHER	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
4-METHYLPHENOL	1	U	10	UJ	10	U	N/A		4	J	2	U	1	U
4-NITROANILINE	3	U	25	UJ	26	U	N/A		25	U	5	U	3	U
4-NITROPHENOL	3	U	25	UJ	26	U	N/A		25	U	5	J	3	U
ACENAPHTHENE	1	U	10	UJ	10	U	N/A		66		11		13	
ACENAPHTHYLENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
ANTHRACENE	1	U	10	UJ	10	U	N/A		10	U	1	J	1	
BENZO(A)ANTHRACENE	1	U	10	UJ	10	U	N/A		10	U	2	U	.7	J
BENZO(A)PYRENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
BENZO(B)FLUORANTHENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
BENZO(G,H,I)PERYLENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
BENZO(K)FLUORANTHENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-06		MW02-06		MW02-07		MW02-07		MW02-07		MW02-07		MW02-07	
Sample Id:	MW02-06		MW02-06		MW02-07 (19.0)		MW02-07(15.3)		MW02-07		MW02-07		MW02-07	
Sample Date:	20-JAN-99		15-NOV-99		03-AUG-94		21-DEC-94		30-OCT-97		09-APR-98		20-JAN-99	
Sample Depth:														
Investigation:	SEMI_EVENT3		UST_PHASEII		94WDA		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
PAH (UG/L)														
PHENANTHRENE	N/A		9.2		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		3.7		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,2'-OXYBIS(1-CHLOROPROPANE)	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,4,5-TRICHLOROPHENOL	100	U	N/A		N/A		100	U	25	U	10	U	100	U
2,4,6-TRICHLOROPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,4-DICHLOROPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,4-DIMETHYLPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,4-DINITROPHENOL	100	U	N/A		N/A		100	U	N/A		10	UJ	100	U
2,4-DINITROTOLUENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2,6-DINITROTOLUENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2-CHLORONAPHTHALENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2-CHLOROPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
2-METHYLNAPHTHALENE	40	U	N/A		1800	J	160		85		4		40	U
2-METHYLPHENOL	40	UJ	N/A		N/A		40	U	10	U	4	U	40	UJ
2-NITROANILINE	100	U	N/A		N/A		100	U	25	U	10	U	100	U
2-NITROPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
3,3'-DICHLOROBENZIDINE	40	UJ	N/A		N/A		40	UJ	10	U	4	U	40	UJ
3-NITROANILINE	100	U	N/A		N/A		100	UJ	25	U	10	U	100	U
4,6-DINITRO-2-METHYLPHENOL	100	U	N/A		N/A		100	U	25	J	10	UJ	100	U
4-BROMOPHENYL-PHENYLETHER	40	U	N/A		N/A		40	U	10	U	4	U	40	U
4-CHLORO-3-METHYLPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
4-CHLOROANILINE	40	UJ	N/A		N/A		40	UJ	10	U	4	U	40	UJ
4-CHLOROPHENYL-PHENYLETHER	40	U	N/A		N/A		40	U	10	U	4	U	40	U
4-METHYLPHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
4-NITROANILINE	100	U	N/A		N/A		100	U	25	U	10	U	100	U
4-NITROPHENOL	100	U	N/A		N/A		100	UJ	25	J	10	U	100	U
ACENAPHTHENE	8	J	N/A		N/A		40	U	10	U	4	U	40	U
ACENAPHTHYLENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
ANTHRACENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BENZO(A)ANTHRACENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BENZO(A)PYRENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BENZO(B)FLUORANTHENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BENZO(G,H,I)PERYLENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BENZO(K)FLUORANTHENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	SB
Point Name:	MW02-07	MW02-13	MW02-15	MW02-16	MW02-16 (FD)	MW02-16	SB02-09
Sample Id:	MW02-07	MW02-13	MW02-15	MW02-16	MW02-26	MW02-16	WB02-09(19.0)
Sample Date:	23-SEP-99	24-FEB-99	29-SEP-99	25-FEB-99	25-FEB-99	28-SEP-99	21-JAN-99
Sample Depth:							19 ft
Investigation:	UST_PHASEII	PHASEII_RI	UST_PHASEII	PHASEII_RI	PHASEII_RI	UST_PHASEII	PHASEII_RI
PAH (UG/L)							
PHENANTHRENE	4.8	1 U	1 U	1 U	1 U	1 U	1100
PYRENE	1.1	.2 U	.2 UJ	.1 J	.2 U	.2 UJ	350
SVOA (UG/L)							
1,2,4-TRICHLOROBENZENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	3 U	N/A	10 U	20 U	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,4-DICHLOROPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	10 UJ	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2,6-DINITROTOLUENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2-CHLORONAPHTHALENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2-CHLOROPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2-METHYLNAPHTHALENE	N/A	1 U	N/A	18 J	32 J	N/A	N/A
2-METHYLPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
2-NITROANILINE	N/A	3 U	N/A	10 U	20 U	N/A	N/A
2-NITROPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	1 UJ	N/A	4 U	8 UJ	N/A	N/A
3-NITROANILINE	N/A	3 U	N/A	10 U	20 U	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	3 UJ	N/A	10 U	20 UJ	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	1 U	N/A	4 U	8 U	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
4-CHLOROANILINE	N/A	1 UJ	N/A	4 UJ	8 UJ	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	1 U	N/A	4 U	8 U	N/A	N/A
4-METHYLPHENOL	N/A	1 U	N/A	4 U	8 U	N/A	N/A
4-NITROANILINE	N/A	3 U	N/A	10 U	20 U	N/A	N/A
4-NITROPHENOL	N/A	3 U	N/A	10 U	20 U	N/A	N/A
ACENAPHTHENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
ACENAPHTHYLENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
ANTHRACENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
BENZO(A)ANTHRACENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
BENZO(A)PYRENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	1 U	N/A	4 UJ	8 U	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	1 U	N/A	4 U	8 U	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW		MW		MW		MW		MW	
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01	
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2		BR02-18		BR02-19		BR02-20		MW02-01(24)	
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97		25-FEB-99		23-FEB-99		24-FEB-99		30-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1		PHASEII_RI		PHASEII_RI		PHASEII_RI		GW1Q94	
SVOA (UG/L)														
BIS(2-CHLOROETHOXY)METHANE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	UJ	10	UJ	1	U	8	UJ	N/A		2	UJ	10	U
BUTYLBENZYLPHTHALATE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	.9	J
CARBAZOLE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
CHRYSENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
DI-N-BUTYLPHTHALATE	10	UJ	10	UJ	1	U	8	U	N/A		1	UJ	10	U
DI-N-OCTYLPHTHALATE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
DIBENZO(A,H)ANTHRACENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
DIBENZOFURAN	10	UJ	3	UJ	1		8	U	N/A		1	U	1	J
DIETHYLPHTHALATE	10	UJ	10	UJ	1	U	8	UJ	N/A		1	UJ	10	U
DIMETHYLPHTHALATE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
FLUORANTHENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
FLUORENE	10	UJ	10	UJ	.4	J	8	U	N/A		1	U	10	U
HEXACHLOROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	UJ
HEXACHLOROBUTADIENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	UJ	10	UJ	1	J	8	UJ	N/A		1	UJ	10	U
HEXACHLOROETHANE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
INDENO(1,2,3-CD)PYRENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
ISOPHORONE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
N-NITROSODIPHENYLAMINE (1)	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	UJ
NAPHTHALENE	21	J	23	J	1	U	8	U	N/A		1	U	10	U
NITROBENZENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
PENTACHLOROPHENOL	25	UJ	25	UJ	3	U	20	U	N/A		3	U	26	U
PHENANTHRENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
PHENOL	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
PYRENE	10	UJ	10	UJ	1	U	8	U	N/A		1	U	10	U
PCB (UG/L)														
AROCLOR-1016	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ
AROCLOR-1221	2	UJ	2	UJ	N/A		N/A		N/A		N/A		2	UJ
AROCLOR-1232	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ
AROCLOR-1242	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ
AROCLOR-1248	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ
AROCLOR-1254	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ
AROCLOR-1260	1	UJ	1	UJ	N/A		N/A		N/A		N/A		1	UJ

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
SVOA (UG/L)														
BIS(2-CHLOROETHOXY)METHANE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
BIS(2-CHLOROETHYL)ETHER	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	.8	UJ	4	UJ	10	U	N/A		10	U	2	U	1	UJ
BUTYLBENZYLPHTHALATE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
CARBAZOLE	1	U	10	UJ	10	U	N/A		6	J	2		2	
CHRYSENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
DI-N-BUTYLPHTHALATE	.3	UJ	10	UJ	10	U	N/A		10	U	2	U	.5	UJ
DI-N-OCTYLPHTHALATE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
DIBENZO(A,H)ANTHRACENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
DIBENZOFURAN	.6	J	10	UJ	10	U	N/A		37		6		7	
DIETHYLPHTHALATE	1	U	10	UJ	10	U	N/A		10	U	.9	J	1	U
DIMETHYLPHTHALATE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
FLUORANTHENE	1	U	10	UJ	10	U	N/A		6	J	1	J	4	
FLUORENE	1	U	10	UJ	10	U	N/A		44		7		9	
HEXACHLOROBENZENE	1	U	10	UJ	10	UJ	N/A		10	U	2	U	1	U
HEXACHLOROBUTADIENE	1	U	10	UJ	10	U	N/A		10	UJ	2	U	1	U
HEXACHLOROCYCLOPENTADIENE	1	U	10	UJ	10	U	N/A		10	UJ	2	J	1	UJ
HEXACHLOROETHANE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
INDENO(1,2,3-CD)PYRENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
ISOPHORONE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
N-NITROSODIPHENYLAMINE (1)	1	U	10	UJ	10	UJ	N/A		10	U	2	U	1	U
NAPHTHALENE	1	U	1	J	10	U	N/A		220	D	24		11	
NITROBENZENE	1	U	10	UJ	10	U	N/A		10	U	2	U	1	U
PENTACHLOROPHENOL	3	U	25	UJ	26	U	N/A		25	U	5	U	3	U
PHENANTHRENE	1	U	10	UJ	10	U	N/A		36		8		6	
PHENOL	1	U	10	UJ	10	U	N/A		.7	J	2	U	1	U
PYRENE	1	U	10	UJ	10	U	N/A		10	UJ	.8	J	3	
PCB (UG/L)														
AROCLOR-1016	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	
AROCLOR-1221	N/A		N/A		2	UJ	N/A		2	UJ	N/A		N/A	
AROCLOR-1232	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	
AROCLOR-1242	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	
AROCLOR-1248	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	
AROCLOR-1254	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	
AROCLOR-1260	N/A		N/A		1	UJ	N/A		1	UJ	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-06		MW02-06		MW02-07		MW02-07		MW02-07		MW02-07		MW02-07	
Sample Id:	MW02-06		MW02-06		MW02-07 (19.0)		MW02-07(15.3)		MW02-07		MW02-07		MW02-07	
Sample Date:	20-JAN-99		15-NOV-99		03-AUG-94		21-DEC-94		30-OCT-97		09-APR-98		20-JAN-99	
Sample Depth:														
Investigation:	SEMI_EVENT3		UST_PHASEII		94WDA		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
SVOA (UG/L)														
BIS(2-CHLOROETHOXY)METHANE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BIS(2-CHLOROETHYL)ETHER	40	U	N/A		N/A		40	U	10	U	4	U	40	U
BIS(2-ETHYLHEXYL)PHTHALATE	16	U	N/A		N/A		40	U	3	J	2	UJ	16	U
BUTYLBENZYLPHTHALATE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
CARBAZOLE	40	UJ	N/A		N/A		40	U	10	U	4	U	40	UJ
CHRYSENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
DI-N-BUTYLPHTHALATE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
DI-N-OCTYLPHTHALATE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
DIBENZO(A,H)ANTHRACENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
DIBENZOFURAN	40	U	N/A		71	J	3	J	3	J	4	U	40	U
DIETHYLPHTHALATE	40	U	N/A		N/A		40	U	10	U	4	U	40	UJ
DIMETHYLPHTHALATE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
FLUORANTHENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
FLUORENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
HEXACHLOROBENZENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
HEXACHLOROBUTADIENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
HEXACHLOROCYCLOPENTADIENE	40	U	N/A		N/A		40	U	10	J	4	UJ	40	U
HEXACHLOROETHANE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
INDENO(1,2,3-CD)PYRENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
ISOPHORONE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
N-NITROSO-DI-N-PROPYLAMINE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
N-NITROSODIPHENYLAMINE (1)	40	U	N/A		89	J	40	U	10	U	4	U	40	U
NAPHTHALENE	40	U	N/A		720	J	220		39		4	U	40	U
NITROBENZENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
PENTACHLOROPHENOL	100	U	N/A		N/A		100	U	25	U	10	U	100	U
PHENANTHRENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
PHENOL	40	U	N/A		N/A		40	U	10	U	4	U	40	U
PYRENE	40	U	N/A		N/A		40	U	10	U	4	U	40	U
PCB (UG/L)														
AROCLOR-1016	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		2	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		1	UJ	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW		MW	MW		MW		MW	SB
Point Name:	MW02-07	MW02-13		MW02-15	MW02-16		MW02-16 (FD)		MW02-16	SB02-09
Sample Id:	MW02-07	MW02-13		MW02-15	MW02-16		MW02-26		MW02-16	WB02-09(19.0)
Sample Date:	23-SEP-99	24-FEB-99		29-SEP-99	25-FEB-99		25-FEB-99		28-SEP-99	21-JAN-99
Sample Depth:										19 ft
Investigation:	UST_PHASEII	PHASEII_RI		UST_PHASEII	PHASEII_RI		PHASEII_RI		UST_PHASEII	PHASEII_RI
SVOA (UG/L)										
BIS(2-CHLOROETHOXY)METHANE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	1	U	N/A	4	U	8	U	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	8	UJ	N/A	4	UJ	8	UJ	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
CARBAZOLE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
CHRYSENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	1	UJ	N/A	4	U	8	U	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
DIBENZOFURAN	N/A	1	U	N/A	4	U	8	U	N/A	N/A
DIETHYLPHTHALATE	N/A	1	UJ	N/A	4	UJ	8	UJ	N/A	N/A
DIMETHYLPHTHALATE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
FLUORANTHENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
FLUORENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
HEXACHLOROBENZENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
HEXACHLOROBUTADIENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	1	UJ	N/A	4	U	8	UJ	N/A	N/A
HEXACHLOROETHANE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
ISOPHORONE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	1	U	N/A	4	U	8	U	N/A	N/A
NAPHTHALENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
NITROBENZENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
PENTACHLOROPHENOL	N/A	3	U	N/A	10	U	20	U	N/A	N/A
PHENANTHRENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
PHENOL	N/A	1	U	N/A	4	U	8	U	N/A	N/A
PYRENE	N/A	1	U	N/A	4	U	8	U	N/A	N/A
PCB (UG/L)										
AROCLOR-1016	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1221	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1232	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1242	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1248	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1254	N/A	N/A		N/A	N/A		N/A		N/A	N/A
AROCLOR-1260	N/A	N/A		N/A	N/A		N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW	MW		MW		MW		MW	
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2	BR02-18		BR02-19		BR02-20		MW02-01	
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2	BR02-18		BR02-19		BR02-20		MW02-01(24)	
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97	25-FEB-99		23-FEB-99		24-FEB-99		30-MAR-94	
Sample Depth:													
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1	PHASEII_RI		PHASEII_RI		PHASEII_RI		GW1Q94	
PEST (UG/L)													
4,4'-DDD	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
4,4'-DDE	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
4,4'-DDT	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ALDRIN	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
ALPHA-BHC	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
ALPHA-CHLORDANE	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
BETA-BHC	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
DELTA-BHC	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
DIELDRIN	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ENDOSULFAN I	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
ENDOSULFAN II	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ENDOSULFAN SULFATE	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ENDRIN	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ENDRIN ALDEHYDE	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
ENDRIN KETONE	.1	UJ	.1	UJ	N/A	N/A		N/A		N/A		.1	UJ
GAMMA-BHC (LINDANE)	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
GAMMA-CHLORDANE	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
HEPTACHLOR	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
HEPTACHLOR EPOXIDE	.05	UJ	.05	UJ	N/A	N/A		N/A		N/A		.05	UJ
METHOXYCHLOR	.5	UJ	.5	UJ	N/A	N/A		N/A		N/A		.5	UJ
TOXAPHENE	5	UJ	5	UJ	N/A	N/A		N/A		N/A		5	UJ
METALS-Total (UG/L)													
ALUMINUM	200	U	200	U	N/A	2750		N/A		N/A		12700	
ANTIMONY	31	UJ	31	UJ	N/A	1.5	U	N/A		N/A		31	UJ
ARSENIC	35.7		34.8		N/A	3.7	UJ	N/A		N/A		3.5	B
BARIUM	225		219		N/A	117	J	N/A		N/A		134	B
BERYLLIUM	1	U	1	U	N/A	.11	U	N/A		N/A		1	U
CADMIUM	4	U	5.2	UJ	N/A	.17	U	N/A		N/A		4	U
CALCIUM	89900		87600		N/A	50700		N/A		N/A		20900	
CHROMIUM	3	U	3	U	N/A	11.8		N/A		N/A		20.2	
COBALT	4.6	B	2.8	B	N/A	1.3	J	N/A		N/A		3.8	B
COPPER	2	U	2	U	N/A	1.5	UJ	N/A		N/A		25	U
IRON	62600		60900		N/A	1720		N/A		N/A		34300	
LEAD	2.8	J	1.9	J	N/A	2.3	UJ	N/A		N/A		10.2	S
LEAD, ORGANIC	100	U	100	U	N/A	N/A		N/A		N/A		100	U
MAGNESIUM	74400		72700		N/A	23000		N/A		N/A		35500	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
PEST (UG/L)														
4,4'-DDD	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
4,4'-DDE	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
4,4'-DDT	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ALDRIN	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
ALPHA-BHC	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
ALPHA-CHLORDANE	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
BETA-BHC	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
DELTA-BHC	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
DIELDRIN	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ENDOSULFAN I	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
ENDOSULFAN II	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ENDOSULFAN SULFATE	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ENDRIN	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ENDRIN ALDEHYDE	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
ENDRIN KETONE	N/A		N/A		.1	UJ	N/A		.1	UJ	N/A		N/A	
GAMMA-BHC (LINDANE)	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
GAMMA-CHLORDANE	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
HEPTACHLOR	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
HEPTACHLOR EPOXIDE	N/A		N/A		.05	UJ	N/A		.05	UJ	N/A		N/A	
METHOXYCHLOR	N/A		N/A		.5	UJ	N/A		.5	UJ	N/A		N/A	
TOXAPHENE	N/A		N/A		5	UJ	N/A		5	UJ	N/A		N/A	
METALS-Total (UG/L)														
ALUMINUM	2260		N/A		8060		N/A		22100		N/A		1800	
ANTIMONY	2.7	J	N/A		31	UJ	N/A		28.6	U	N/A		2.9	J
ARSENIC	11.2	J	N/A		15.8		N/A		18.3		N/A		2.4	J
BARIUM	91.8	J	N/A		188	B	N/A		567		N/A		109	J
BERYLLIUM	.11	U	N/A		1	U	N/A		.4	U	N/A		.11	U
CADMIUM	.39	UJ	N/A		4	U	N/A		1.4	U	N/A		.18	U
CALCIUM	13200		N/A		18000		N/A		96300		N/A		22400	
CHROMIUM	4	J	N/A		11.6		N/A		56.2		N/A		4	J
COBALT	3.1	UJ	N/A		2	U	N/A		39.6	B	N/A		1.9	UJ
COPPER	9.4	UJ	N/A		2	U	N/A		53	J	N/A		8.6	UJ
IRON	10300		N/A		8660		N/A		39300		N/A		12900	
LEAD	40.2		N/A		6.8	J	N/A		85.7	J	N/A		9.1	
LEAD, ORGANIC	N/A		N/A		100	U	N/A		N/A		N/A		N/A	
MAGNESIUM	21200		N/A		28900		N/A		59200		N/A		13800	

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW		MW	MW	MW	MW
Point Name:	MW02-06	MW02-06	MW02-07		MW02-07	MW02-07	MW02-07	MW02-07
Sample Id:	MW02-06	MW02-06	MW02-07 (19.0)		MW02-07(15.3)	MW02-07	MW02-07	MW02-07
Sample Date:	20-JAN-99	15-NOV-99	03-AUG-94		21-DEC-94	30-OCT-97	09-APR-98	20-JAN-99
Sample Depth:								
Investigation:	SEMI_EVENT3	UST_PHASEII	94WDA		GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
PEST (UG/L)								
4,4'-DDD	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ALDRIN	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	.1	UJ	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	.05	UJ	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	.5	UJ	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	5	UJ	N/A	N/A	N/A	N/A
METALS-Total (UG/L)								
ALUMINUM	N/A	N/A	2210		N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	28.6	U	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	15.9		N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	275		N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	11.9		N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	12.4		N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	62000		N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	18.2		N/A	N/A	N/A	N/A
COBALT	N/A	N/A	16.6	B	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	15.4	J	N/A	N/A	N/A	N/A
IRON	N/A	N/A	8600		N/A	N/A	N/A	N/A
LEAD	N/A	N/A	17.6	J	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A		N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	44100		N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	SB
Point Name:	MW02-07	MW02-13	MW02-15	MW02-16	MW02-16 (FD)	MW02-16	SB02-09
Sample Id:	MW02-07	MW02-13	MW02-15	MW02-16	MW02-26	MW02-16	WB02-09(19.0)
Sample Date:	23-SEP-99	24-FEB-99	29-SEP-99	25-FEB-99	25-FEB-99	28-SEP-99	21-JAN-99
Sample Depth:							19 ft
Investigation:	UST_PHASEII	PHASEII_RI	UST_PHASEII	PHASEII_RI	PHASEII_RI	UST_PHASEII	PHASEII_RI
PEST (UG/L)							
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Total (UG/L)							
ALUMINUM	N/A	4920	N/A	4910	3250	N/A	N/A
ANTIMONY	N/A	1.5 U	N/A	1.5 U	1.5 U	N/A	N/A
ARSENIC	N/A	1.2 U	N/A	20.2	17.2	N/A	N/A
BARIUM	N/A	98.9 J	N/A	105 J	74.8 J	N/A	N/A
BERYLLIUM	N/A	.11 U	N/A	.11 U	.11 U	N/A	N/A
CADMIUM	N/A	.17 U	N/A	.18 J	.17 U	N/A	N/A
CALCIUM	N/A	59600	N/A	51600	51100	N/A	N/A
CHROMIUM	N/A	8.3 J	N/A	14.7	11.2	N/A	N/A
COBALT	N/A	1.5 J	N/A	10.8 J	8.8 J	N/A	N/A
COPPER	N/A	6.9 UJ	N/A	16 UJ	12 UJ	N/A	N/A
IRON	N/A	3190	N/A	16600	12600	N/A	N/A
LEAD	N/A	3.9 UJ	N/A	8.9	5.9 UJ	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	18600	N/A	43900	42400	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW		EXW		EXW	MW		MW	MW	MW
Point Name:	ERM-EW2		ERM-EW2 (FD)		ERM-EW2	BR02-18		BR02-19	BR02-20	MW02-01
Sample Id:	ERM02-02(14)		MW02-99(14)		ERM-EW2	BR02-18		BR02-19	BR02-20	MW02-01(24)
Sample Date:	30-MAR-94		30-MAR-94		30-OCT-97	25-FEB-99		23-FEB-99	24-FEB-99	30-MAR-94
Sample Depth:										
Investigation:	GW1Q94		GW1Q94		SEMI_EVENT1	PHASEII_RI		PHASEII_RI	PHASEII_RI	GW1Q94
METALS-Total (UG/L)										
MANGANESE	7240		7050		N/A	528		N/A	N/A	2800
MERCURY	.47	J	.73	J	N/A	.097	U	N/A	N/A	.52	J
MOLYBDENUM	N/A		N/A		N/A	5.8		N/A	N/A	N/A
NICKEL	7	U	7	U	N/A	6.4	J	N/A	N/A	16.7	B
POTASSIUM	626	U	626	U	N/A	2890	J	N/A	N/A	5000	U
SELENIUM	N/A		N/A		N/A	2.9	U	N/A	N/A	N/A
SILVER	2	U	2	U	N/A	.8	U	N/A	N/A	2	U
SODIUM	53300		52300		N/A	41000		N/A	N/A	32500
THALLIUM	2	UJ	2	UJ	N/A	1.6	U	N/A	N/A	2	UJ
VANADIUM	2	U	2	U	N/A	6	J	N/A	N/A	27.4	J
ZINC	1	U	20	U	N/A	12.2	J	N/A	N/A	45
METALS-Diss. (UG/L)										
ALUMINUM	14	U	14	U	N/A	55.3	UJ	N/A	N/A	14	U
ANTIMONY	31	U	31	U	N/A	1.5	U	N/A	N/A	31	U
ARSENIC	22.5		24		N/A	4.8	UJ	N/A	N/A	9.9	B
BARIUM	142	B	2	U	N/A	93.1	J	N/A	N/A	41.3	B
BERYLLIUM	1	U	1	U	N/A	.11	U	N/A	N/A	1	U
CADMIUM	4	U	4	U	N/A	.17	U	N/A	N/A	4	U
CALCIUM	83700		5000	U	N/A	51100		N/A	N/A	19400
CHROMIUM	3	U	3	U	N/A	1.3	J	N/A	N/A	3	U
COBALT	2.6	B	2	U	N/A	.32	J	N/A	N/A	2	U
COPPER	2	U	2	U	N/A	1.2	U	N/A	N/A	2	U
IRON	47300		5	U	N/A	73.3	J	N/A	N/A	5170
LEAD	1	U	1	U	N/A	1.4	UJ	N/A	N/A	1	U
MAGNESIUM	69300		21	U	N/A	22100		N/A	N/A	31100
MANGANESE	6690		15	U	N/A	490		N/A	N/A	2500
MERCURY	.1	U	.1	U	N/A	.097	U	N/A	N/A	.1	U
MOLYBDENUM	N/A		N/A		N/A	6		N/A	N/A	N/A
NICKEL	7	U	7	U	N/A	1.1	UJ	N/A	N/A	7	U
POTASSIUM	5000	U	626	U	N/A	2280	J	N/A	N/A	626	U
SELENIUM	N/A		2.5	U	N/A	2.9	U	N/A	N/A	N/A
SILVER	2	U	2	U	N/A	.8	U	N/A	N/A	2	U
SODIUM	48800		18	U	N/A	46400		N/A	N/A	30900
THALLIUM	2	UJ	2	UJ	N/A	1.6	U	N/A	N/A	2	UJ
VANADIUM	2	U	2	U	N/A	1.9	J	N/A	N/A	20	UJ
ZINC	1	U	1	U	N/A	7.7	J	N/A	N/A	20	U

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-01		MW02-01		MW02-04		MW02-04		MW02-06		MW02-06		MW02-06	
Sample Id:	MW02-01		MW02-01		MW02-04(29)		MW02-04 (26.5)		MW02-06 (20.0)		MW02-06		MW02-06	
Sample Date:	09-APR-98		23-JAN-99		30-MAR-94		01-JUL-94		02-AUG-94		31-OCT-97		09-APR-98	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		94WDA		SEMI_EVENT1		SEMI_EVENT2	
METALS-Total (UG/L)														
MANGANESE	1030		N/A		80.8		N/A		5350		N/A		967	
MERCURY	.095	U	N/A		.48	J	N/A		.1	U	N/A		.096	B
MOLYBDENUM	.84	U	N/A		N/A		N/A		N/A		N/A		.84	U
NICKEL	4.2	UJ	N/A		14.5	B	N/A		76.7		N/A		4.6	UJ
POTASSIUM	1090	J	N/A		5000	U	N/A		9170	J	N/A		1470	J
SELENIUM	1.9	UN	N/A		N/A		N/A		7.3		N/A		1.9	UJ
SILVER	.19	U	N/A		2	U	N/A		2	U	N/A		.19	U
SODIUM	28000		N/A		193000		N/A		81600	J	N/A		29700	
THALLIUM	1.4	U	N/A		2	UJ	N/A		2	U	N/A		1.4	U
VANADIUM	8.8	J	N/A		15.8	J	N/A		56.2		N/A		6.2	J
ZINC	83		N/A		19.7	J	N/A		296	J	N/A		61.3	
METALS-Diss. (UG/L)														
ALUMINUM	32.7	J	N/A		14	U	N/A		25.1	U	N/A		104	J
ANTIMONY	1.6	J	N/A		31	U	N/A		28.6	U	N/A		1.2	U
ARSENIC	9.4	J	N/A		2	U	N/A		3.1	U	N/A		1.3	J
BARIUM	52	J	N/A		109	B	N/A		178	B	N/A		74.7	J
BERYLLIUM	.11	U	N/A		1	U	N/A		.4	U	N/A		.11	U
CADMIUM	.25	UJ	N/A		4	U	N/A		.6	U	N/A		.18	U
CALCIUM	12600		N/A		16600		N/A		87900		N/A		21400	
CHROMIUM	.57	U	N/A		3	U	N/A		2.3	B	N/A		.57	U
COBALT	2.4	UJ	N/A		2	U	N/A		18	B	N/A		1.4	UJ
COPPER	3.8	UJ	N/A		2	U	N/A		2	J	N/A		3.8	UJ
IRON	5540		N/A		5	U	N/A		458		N/A		10100	
LEAD	1.7	J	N/A		1	U	N/A		5.8	UJ	N/A		1.7	J
MAGNESIUM	19900		N/A		25400		N/A		51800		N/A		13300	
MANGANESE	971		N/A		26.4		N/A		4810	J	N/A		939	
MERCURY	.095	U	N/A		.1	U	N/A		.1	U	N/A		.11	J
MOLYBDENUM	.84	U	N/A		N/A		N/A		N/A		N/A		.84	U
NICKEL	1.3	UJ	N/A		7	U	N/A		12.2	B	N/A		1.6	UJ
POTASSIUM	519	J	N/A		5000	U	N/A		4590	B	N/A		896	J
SELENIUM	2	UJ	N/A		N/A		N/A		4	B	N/A		1.9	U
SILVER	.19	U	N/A		2	U	N/A		2	U	N/A		.19	U
SODIUM	27200		N/A		181000		N/A		78800		N/A		29900	
THALLIUM	1.4	U	N/A		2	UJ	N/A		2	U	N/A		1.8	UJ
VANADIUM	3	J	N/A		2	U	N/A		1.4	U	N/A		2.5	J
ZINC	43.8		N/A		20	U	N/A		37.5	J	N/A		11.6	J

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW		MW	MW	MW	MW
Point Name:	MW02-06	MW02-06	MW02-07		MW02-07	MW02-07	MW02-07	MW02-07
Sample Id:	MW02-06	MW02-06	MW02-07 (19.0)		MW02-07(15.3)	MW02-07	MW02-07	MW02-07
Sample Date:	20-JAN-99	15-NOV-99	03-AUG-94		21-DEC-94	30-OCT-97	09-APR-98	20-JAN-99
Sample Depth:								
Investigation:	SEMI_EVENT3	UST_PHASEII	94WDA		GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Total (UG/L)								
MANGANESE	N/A	N/A	5080		N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	.1	U	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A		N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	21	B	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	2790	J	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	15		N/A	N/A	N/A	N/A
SILVER	N/A	N/A	2	U	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	53600	J	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	2.8	J	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	19.1	B	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	35.5	UJ	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	N/A	46.4	U	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	28.6	U	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	3.1	U	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	185	B	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	.4	U	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	.62	U	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	54900		N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	2.3	U	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	3.1	B	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	1.6	J	N/A	N/A	N/A	N/A
IRON	N/A	N/A	667		N/A	N/A	N/A	N/A
LEAD	N/A	N/A	4.3	UJ	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	38800		N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	4450	J	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	.1	U	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A		N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	6.7	B	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	1610	B	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	3	B	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	2	U	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	47700		N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	2	U	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	34.8	J	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		SB
Point Name:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-16 (FD)		MW02-16		SB02-09
Sample Id:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-26		MW02-16		WB02-09(19.0)
Sample Date:	23-SEP-99		24-FEB-99		29-SEP-99		25-FEB-99		25-FEB-99		28-SEP-99		21-JAN-99
Sample Depth:													19 ft
Investigation:	UST_PHASEII		PHASEII_RI		UST_PHASEII		PHASEII_RI		PHASEII_RI		UST_PHASEII		PHASEII_RI
METALS-Total (UG/L)													
MANGANESE	N/A		120		N/A		3520		3500		N/A		N/A
MERCURY	N/A		.097	U	N/A		.097	U	.097	U	N/A		N/A
MOLYBDENUM	N/A		2.5	J	N/A		.44	U	.44	U	N/A		N/A
NICKEL	N/A		4.7	J	N/A		16.7		11.4		N/A		N/A
POTASSIUM	N/A		3430	J	N/A		3960	J	3820	J	N/A		N/A
SELENIUM	N/A		2.9	U	N/A		3.9	J	2.9	U	N/A		N/A
SILVER	N/A		.8	U	N/A		.8	U	.8	U	N/A		N/A
SODIUM	N/A		41400		N/A		44400		43300		N/A		N/A
THALLIUM	N/A		1.6	U	N/A		6.2		4.8		N/A		N/A
VANADIUM	N/A		8.6	J	N/A		13.7	J	9.3	J	N/A		N/A
ZINC	N/A		43.9		N/A		34.3		24.6		N/A		N/A
METALS-Diss. (UG/L)													
ALUMINUM	N/A		49	UJ	N/A		608		257		N/A		N/A
ANTIMONY	N/A		1.6	UJ	N/A		1.7	UJ	1.5	U	N/A		N/A
ARSENIC	N/A		1.2	U	N/A		5.8	UJ	5.6	UJ	N/A		N/A
BARIUM	N/A		55.5	J	N/A		56	J	44.4	J	N/A		N/A
BERYLLIUM	N/A		.11	U	N/A		.11	U	.11	U	N/A		N/A
CADMIUM	N/A		.17	U	N/A		.17	U	.17	U	N/A		N/A
CALCIUM	N/A		59700		N/A		51300		50600		N/A		N/A
CHROMIUM	N/A		1.9	J	N/A		6.1	J	5.4	J	N/A		N/A
COBALT	N/A		.29	U	N/A		5.6	J	5.5	J	N/A		N/A
COPPER	N/A		1.2	U	N/A		4.9	UJ	8.2	UJ	N/A		N/A
IRON	N/A		52.1	J	N/A		1310		1120		N/A		N/A
LEAD	N/A		1.6	UJ	N/A		2.6	UJ	1.9	UJ	N/A		N/A
MAGNESIUM	N/A		18100		N/A		42100		41000		N/A		N/A
MANGANESE	N/A		16.1		N/A		3360		3350		N/A		N/A
MERCURY	N/A		.097	U	N/A		.097	U	.097	U	N/A		N/A
MOLYBDENUM	N/A		2.5	J	N/A		.44	U	.44	U	N/A		N/A
NICKEL	N/A		1.3	UJ	N/A		5.4	J	5.3	J	N/A		N/A
POTASSIUM	N/A		2110	J	N/A		3230	J	3080	J	N/A		N/A
SELENIUM	N/A		2.9	U	N/A		3.1	J	2.9	U	N/A		N/A
SILVER	N/A		.8	U	N/A		1.1	J	.92	J	N/A		N/A
SODIUM	N/A		46900		N/A		50200		48400		N/A		N/A
THALLIUM	N/A		1.6	U	N/A		4.8		5.1		N/A		N/A
VANADIUM	N/A		.9	J	N/A		1.6	J	.95	J	N/A		N/A
ZINC	N/A		9.5	J	N/A		9.6	J	9	J	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	EXW	EXW	EXW	MW	MW	MW	MW
Point Name:	ERM-EW2	ERM-EW2 (FD)	ERM-EW2	BR02-18	BR02-19	BR02-20	MW02-01
Sample Id:	ERM02-02(14)	MW02-99(14)	ERM-EW2	BR02-18	BR02-19	BR02-20	MW02-01(24)
Sample Date:	30-MAR-94	30-MAR-94	30-OCT-97	25-FEB-99	23-FEB-99	24-FEB-99	30-MAR-94
Sample Depth:							
Investigation:	GW1Q94	GW1Q94	SEMI_EVENT1	PHASEII_RI	PHASEII_RI	PHASEII_RI	GW1Q94
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	326	353	534	N/A
TOTAL ORGANIC CARBON	46	46	N/A	N/A	N/A	N/A	18

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW02-01	MW02-01	MW02-04	MW02-04	MW02-06	MW02-06	MW02-06
Sample Id:	MW02-01	MW02-01	MW02-04(29)	MW02-04 (26.5)	MW02-06 (20.0)	MW02-06	MW02-06
Sample Date:	09-APR-98	23-JAN-99	30-MAR-94	01-JUL-94	02-AUG-94	31-OCT-97	09-APR-98
Sample Depth:							
Investigation:	SEMI_EVENT2	SEMI_EVENT3	GW1Q94	GW2Q94	94WDA	SEMI_EVENT1	SEMI_EVENT2
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	**739**	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	**2.8**	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW02-06	MW02-06	MW02-07	MW02-07	MW02-07	MW02-07	MW02-07
Sample Id:	MW02-06	MW02-06	MW02-07 (19.0)	MW02-07(15.3)	MW02-07	MW02-07	MW02-07
Sample Date:	20-JAN-99	15-NOV-99	03-AUG-94	21-DEC-94	30-OCT-97	09-APR-98	20-JAN-99
Sample Depth:							
Investigation:	SEMI_EVENT3	UST_PHASEII	94WDA	GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	**190**	N/A	N/A	N/A	**510**	N/A	**150**
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 1 Waste Disposal Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		SB
Point Name:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-16 (FD)		MW02-16		SB02-09
Sample Id:	MW02-07		MW02-13		MW02-15		MW02-16		MW02-26		MW02-16		WB02-09(19.0)
Sample Date:	23-SEP-99		24-FEB-99		29-SEP-99		25-FEB-99		25-FEB-99		28-SEP-99		21-JAN-99
Sample Depth:													19 ft
Investigation:	UST_PHASEII		PHASEII_RI		UST_PHASEII		PHASEII_RI		PHASEII_RI		UST_PHASEII		PHASEII_RI
WATER QUALITY (MG/L)													
CHLORIDE	**37**		N/A		N/A		N/A		N/A		**29**		N/A
NITRATE	1.3	U	N/A		.1	U	N/A		N/A		1.3	U	N/A
NITRITE	1.3	U	N/A		.1	U	N/A		N/A		1.3	U	N/A
SULFATE	**3**	B	N/A		N/A		N/A		N/A		6.3	U	N/A
TDS	N/A		**350**		N/A		**414**		**461**		N/A		N/A
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

SOIL

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR11-96		BR11-96		BR11-96		SB03-01		SB03-01		SB11-07		SB11-07	
Sample Id:	SB11-96(14.5-15.0)		SB11-96(17.5-18.0)		SB11-96(31.0-31.5)		SB03-01(22.5-23.0)		SB03-01(5.0-6.0)		SB11-07(19.0-20.0)		SB11-07(22.5-23.5	
Sample Date:	09-FEB-99		09-FEB-99		09-FEB-99		01-AUG-94		01-AUG-94		24-JAN-92		24-JAN-92	
Sample Depth:	14.5 - 15 ft		17.5 - 18 ft		31 - 31.5 ft		22.5 - 23 ft		5 - 6 ft		19 - 20 ft		22.5 - 23.5 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PM_AREA3		PM_AREA3		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	1.1	U	1.2	U	.00055	U	.006	U	.006	U	.007	U	.007	U
DIESEL RANGE ORGANICS	550	U	580	U	11	U	N/A		N/A		1.4	U	1.4	U
ETHYLBENZENE	**4**		**7.3**		.0009		.006	U	.006	U	.007	U	.007	U
GASOLINE RANGE ORGANICS	**15000**		**17000**		.6	J	1.2	UJ	1.2	UJ	1.4	U	1.4	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		1.2	UJ	1.2	UJ	N/A		N/A	
JP5 RANGE ORGANICS	550	U	580	U	11	U	1.2	UJ	1.2	UJ	1.4	U	1.4	U
METHYL-T-BUTYL ETHER	55	U	58	U	.027	U	N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	550	U	580	U	11	U	N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		1.2	UJ	**150**	J	**80**		**30**	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		1.2	U	**3.3**	Y	**14**		.007	U
TOLUENE	**4.9**		**9.9**		.00055	U	.006	U	**.019**		.007	U	.007	U
TPH - BUNKER FUEL (C10-C28)	**16100**		**13200**		**57**		12	UJ	12	UJ	**260**	X	14	U
TPH - DIESEL F-76 (C8-C28)	550	U	580	U	11	U	1.2	UJ	1.2	UJ	N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		1.2	UJ	1.2	UJ	N/A		N/A	
XYLENE (TOTAL)	2.2	U	**8.6**		**.0009**	J	.006	U	.006	U	.007	U	.007	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.11	UJ	12	U	.011	U	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.11	UJ	12	U	.011	UJ	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	.11	U	12	U	.011	UJ	N/A		N/A		N/A		N/A	
2-HEXANONE	.11	UJ	12	U	.011	UJ	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
ACETONE	.11	UJ	12	UJ	.011	UJ	N/A		N/A		N/A		N/A	
BENZENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
BROMOFORM	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
BROMOMETHANE	.11	UJ	12	UJ	.011	UJ	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-08		SB11-09		SB11-09		SB11-09		SB11-09		SB11-09		SB11-09 (FD)	
Sample Id:	SB11-08(19.5-20.0)		SB11-09(11.0-11.5)		SB11-09(15.5-16.0)		SB11-09(21.0-22.0)		SB11-09(27.5-28.0)		SB11-09(37.0-38.0)		SB11-09(21.0-22.0	
Sample Date:	24-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92	
Sample Depth:	19.5 - 20 ft		11 - 11.5 ft		15.5 - 16 ft		21 - 22 ft		27.5 - 28 ft		37 - 38 ft		21 - 22 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.007	U	.005	U	.012	U	.006	U	.007	U	.006	U	.007	U
DIESEL RANGE ORGANICS	75	X	1.1	U	24	U	13	U	1.4	U	1.2	U	13	U
ETHYLBENZENE	.007	U	.005	U	.019	X	.006	U	.007	U	.006	U	.007	U
GASOLINE RANGE ORGANICS	1.4	U	1.1	U	2.4	U	1.3	U	1.4	U	1.2	U	1.3	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	1.4	U	1.1	U	24	U	13	U	1.4	U	1.2	U	13	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	72		120		1000		470		130		35		530	
OTHER LIGHT TPH COMPONENTS	.007	U	.005	U	110		N/A		.007	U	.006	U	48	
TOLUENE	.007	U	.005	U	.012	U	.006	U	.007	U	.006	U	.007	U
TPH - BUNKER FUEL (C10-C28)	14	U	170		5400	X	2400	X	14	U	12	U	2400	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.007	U	.005	U	.21	X	.063	X	.007	U	.006	U	.041	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		.027	UB	.029	UB	N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
ACETONE	N/A		N/A		.04	UB	.03	UB	N/A		N/A		N/A	
BENZENE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
BROMOFORM	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		.06	U	.064	U	N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-10		SB11-10		SB11-10		SB11-12		SB11-12		SB11-12		SB11-13	
Sample Id:	SB11-10(12.0-13.0)		SB11-10(22.3-22.5)		SB11-10(33.5-34.0)		SB11-12(13.0-14.0)		SB11-12(17.0-18.0)		SB11-12(33.5-34.0)		SB11-13(16.5-18.5	
Sample Date:	27-JAN-92		27-JAN-92		27-JAN-92		28-JAN-92		28-JAN-92		28-JAN-92		29-JAN-92	
Sample Depth:	12 - 13 ft		22.3 - 22.5 ft		33.5 - 34 ft		13 - 14 ft		17 - 18 ft		33.5 - 34 ft		16.5 - 18.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.006	U	.007	U	.007	U	.006	U	.006	U	.06	U	.13	U
DIESEL RANGE ORGANICS	60	U	1.4	U	1.4	U	2700	X	12000	X	740	X	14000	X
ETHYLBENZENE	.008		.007	U	.007	U	.006	U	.006	U	.06	U	.13	U
GASOLINE RANGE ORGANICS	1.2	U	1.4	U	1.4	U	1.2	U	1.2	U	12	U	25	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	60	U	1.4	U	1.4	U	12	U	50	U	2.4	U	51	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	1700		170		53		1300	X	4500	X	370	X	4600	X
OTHER LIGHT TPH COMPONENTS	68		.007	U	.007	U	140		180		530		460	
TOLUENE	.006	U	.007	U	.007	U	.006	U	.006	U	.06	U	3.4	X
TPH - BUNKER FUEL (C10-C28)	9200	X	14	U	14	U	120	U	500	U	24	U	510	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.006	U	.007	U	.007	U	.72		.35		.06	U	.13	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-14		SB11-14		SB11-14		SB11-14		SB11-15		SB11-15		SB11-15	
Sample Id:	SB11-14(14.5-17.5)		SB11-14(20.5-21.0)		SB11-14(26.5-27.0)		SB11-14(43.5-44.0)		SB11-15(13.0)		SB11-15(16.0-17.5)		SB11-15(22.5-23.0	
Sample Date:	29-JAN-92		29-JAN-92		29-JAN-92		29-JAN-92		03-FEB-92		03-FEB-92		03-FEB-92	
Sample Depth:	14.5 - 17.5 ft		20.5 - 21 ft		26.5 - 27 ft		43.5 - 44 ft		13 ft		16 - 17.5 ft		22.5 - 23 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.12	U	.006	U	.007	U	.006	U	.023	U	.025	U	.007	U
DIESEL RANGE ORGANICS	9200	X	590	X	7.6	X	40	X	8800	X	6400	X	1.4	U
ETHYLBENZENE	.12	U	.006	U	.007	U	.006	U	.023	U	.025	U	.007	U
GASOLINE RANGE ORGANICS	430	X	37		1.4	U	1.3	U	4.7	U	5	U	1.4	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	48	U	2.5	U	1.4	U	1.3	U	1200	X	1500	X	1.4	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	1900	X	200	X	76	X	29	X	5100	X	2400	X	96	X
OTHER LIGHT TPH COMPONENTS	.12	U	.006	U	.007	U	15		430	J	880		.007	U
TOLUENE	.12	U	.006	U	.007	U	.006	U	.023	U	.025	U	.007	U
TPH - BUNKER FUEL (C10-C28)	480	U	25	U	14	U	13	U	470	U	620	U	14	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.3	X	.025		.007	U	.006	U	.023	U	4.6		.007	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,1,2,2-TETRACHLOROETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,1,2-TRICHLOROETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,1-DICHLOROETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,1-DICHLOROETHENE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,2-DICHLOROBENZENE	36	U	N/A		N/A		N/A		N/A		38	U	N/A	
1,2-DICHLOROETHANE	1.4	UJ	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,2-DICHLOROPROPANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
1,3-DICHLOROBENZENE	36	U	N/A		N/A		N/A		N/A		38	U	N/A	
1,4-DICHLOROBENZENE	36	U	N/A		N/A		N/A		N/A		38	U	N/A	
2-BUTANONE	.97	UB	N/A		N/A		N/A		N/A		1.5	U	N/A	
2-HEXANONE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
4-METHYL-2-PENTANONE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
ACETONE	.89	J	N/A		N/A		N/A		N/A		1.5	U	N/A	
BENZENE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
BROMODICHLOROMETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
BROMOFORM	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
BROMOMETHANE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	
CARBON DISULFIDE	1.4	U	N/A		N/A		N/A		N/A		1.5	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-16		SB11-16		SB11-16		SB11-16		SB11-21		SB11-21		SB11-21	
Sample Id:	SB11-16(13.0)		SB11-16(16.0)		SB11-16(17.5-18.0)		SB11-16(21.0-24.0)		SB11-21(20.5-21.0)		SB11-21(21.0-21.5)		SB11-21(23.5-24.5	
Sample Date:	03-FEB-92		03-FEB-92		03-FEB-92		03-FEB-92		06-FEB-92		06-FEB-92		06-FEB-92	
Sample Depth:	13 ft		16 ft		17.5 - 18 ft		21 - 24 ft		20.5 - 21 ft		21 - 21.5 ft		23.5 - 24.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.013	U	.05	U	.006	U	.007	U	.046	U	.006	U	.007	U
DIESEL RANGE ORGANICS	**10000**	X	**9200**	X	1.2	U	**17**	X	1.1	U	1.1	U	1.4	U
ETHYLBENZENE	.013	U	.05	U	.006	U	.007	U	.046	U	.006	U	.007	U
GASOLINE RANGE ORGANICS	2.5	U	10	U	1.2	U	1.4	U	9.2	U	1.1	U	1.4	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	**3500**	X	**760**	X	1.2	U	1.4	U	**37**	X	1.1	U	1.4	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**3700**	X	**4200**	X	1.2	U	1.4	U	1.1	U	1.1	U	1.4	U
OTHER LIGHT TPH COMPONENTS	**510**		**730**		.006	U	.007	U	**450**		.006	U	.007	U
TOLUENE	.013	U	.05	U	.006	U	**.019**	X	.046	U	**.01**	X	**.01**	X
TPH - BUNKER FUEL (C10-C28)	3700	U	510	U	12	U	14	U	**310**	X	**10**	JX	**23**	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.013	U	**15**	X	.006	U	**.012**	X	**9.8**	X	**.051**	X	**.01**	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		**.01**	BJ	N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		**.026**		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		.011	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-25		SB11-25		SB11-26		SB11-26		SB11-27		SB11-27		SB11-27	
Sample Id:	SB11-25(16.0-16.5)		SB11-25(18.8-19.2)		SB11-26(13.0-13.5)		SB11-26(18-18.5)		SB11-27(12.5-13.0)		SB11-27(15.0-15.5)		SB11-27(25-25.2)	
Sample Date:	07-FEB-92		07-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92	
Sample Depth:	16 - 16.5 ft		18.8 - 19.2 ft		13 - 13.5 ft		18 - 18.5 ft		12.5 - 13 ft		15 - 15.5 ft		25 - 25.2 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.24	U	.24	U	.049	U	.006	U	.12	U	.059	U	.008	U
DIESEL RANGE ORGANICS	**7700**		**7600**		**3700**		**370**		**22000**		**18000**		1.5	U
ETHYLBENZENE	.24	U	.24	U	.049	U	.006	U	.12	U	.059	U	.008	U
GASOLINE RANGE ORGANICS	47	U	48	U	9.8	U	1.2	U	24	U	12	U	1.5	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	59	U	30	U	12	U	2.3	U	240	U	59	U	**100**	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	59	U	30	U	12	U	2.3	U	**3500**		59	U	**100**	
OTHER LIGHT TPH COMPONENTS	**3300**		**1700**		**410**		**68**		**1700**		**1000**		.008	U
TOLUENE	.24	U	.24	U	**.24**		.006	U	**.46**		**.7**		.008	U
TPH - BUNKER FUEL (C10-C28)	590	U	300	U	120	U	23	U	2400	U	590	U	15	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	**29**		**5.8**		**.72**		**.17**		**5.5**		**4.1**		.008	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,1,2,2-TETRACHLOROETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,1,2-TRICHLOROETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,1-DICHLOROETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,1-DICHLOROETHENE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,2-DICHLOROBENZENE	60	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,2-DICHLOROPROPANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
1,3-DICHLOROBENZENE	60	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	60	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
2-HEXANONE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
4-METHYL-2-PENTANONE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
ACETONE	.056	U	N/A		N/A		N/A		N/A		**.54**		N/A	
BENZENE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
BROMODICHLOROMETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
BROMOFORM	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
BROMOMETHANE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	
CARBON DISULFIDE	.056	U	N/A		N/A		N/A		N/A		.059	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-27A		SB11-27A		SB11-28		SB11-28		SB11-29		SB11-29		SB11-30	
Sample Id:	SB11-27A(15.5-16.0)		SB11-27A(22.4-22.7)		SB11-28(14.5-15.0)		SB11-28(15.3-15.8)		SB11-29(10.2-10.7)		SB11-29(11.5-12.0)		SB11-30(4.5-9.5)	
Sample Date:	19-MAR-92		19-MAR-92		11-FEB-92		11-FEB-92		12-FEB-92		12-FEB-92		12-FEB-92	
Sample Depth:	15.5 - 16 ft		22.4 - 22.7 ft		14.5 - 15 ft		15.3 - 15.8 ft		10.2 - 10.7 ft		11.5 - 12 ft		4.5 - 9.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.69	X	.007	U	.012	U	.007	U	.11	U	.012	U	.024	U
DIESEL RANGE ORGANICS	10000	X	1.4	U	5400		1.4	U	110	U	49	U	140	
ETHYLBENZENE	.06	U	.007	U	.012	U	.007	U	.11	U	.25		1.5	
GASOLINE RANGE ORGANICS	12	U	1.4	U	2.4	U	1.4	U	23	U	2.5	U	240	
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	48	U	1.4	U	24	U	1.4	U	15000		5800		1.2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	480	U	59	X	240	U	N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	48	U	1.4	U	24	U	25		25000		49	U	32	
OTHER LIGHT TPH COMPONENTS	490		.007		160		.007	U	1500		360		.024	U
TOLUENE	.52	X	.007	U	.049		.007	U	.11	U	.023		3.2	
TPH - BUNKER FUEL (C10-C28)	480	U	14	U	N/A		14	U	1100	U	16000		12	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	2	X	.007	U	.38		.007	U	4.1		1.2		2.5	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	12	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	12	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	12	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-31		SB11-31		SB11-31A		SB11-31A		SB11-34		SB11-34		SB11-35	
Sample Id:	SB11-31(17.8-18.3)		SB11-31(8.4-8.8)		SB11-31A(18.1-18.4)		SB11-31A(23.0-23.5)		SB11-34(18.0-18.5)		SB11-34(9.0-14.0)		SB11-35(17.0-17.5	
Sample Date:	12-FEB-92		12-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92	
Sample Depth:	17.8 - 18.3 ft		8.4 - 8.8 ft		18.1 - 18.4 ft		23 - 23.5 ft		18 - 18.5 ft		9 - 14 ft		17 - 17.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.024	U	.006	U	.13	U	.007	U	.007	U	.012	U	**.098**	
DIESEL RANGE ORGANICS	120	U	6	U	150	U	1.4	U	1.4	U	24	U	240	U
ETHYLBENZENE	.024	U	**.35**		.13	U	.007	U	.007	U	.012	U	**.097**	
GASOLINE RANGE ORGANICS	4.8	U	1.2	U	26	U	1.4	U	1.4	U	2.4	U	2.4	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	120	U	6	U	150	U	1.4	U	1.4	U	24	U	240	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	120	U	**1800**		150	U	1.4	U	1.4	U	24	U	240	U
OTHER LIGHT TPH COMPONENTS	**240**		**73**		**230**		.007	U	.007	U	**110**		**160**	
TOLUENE	.024	U	**1.1**		.13	U	**.026**		.007	U	.012	U	**.02**	
TPH - BUNKER FUEL (C10-C28)	**39000**		60	U	**29000**	X	**24**	X	**310**	X	**5800**	X	**55000**	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	**.23**		**.81**		.13	U	**.049**		.007	U	**.1**		**.29**	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-37B		SB11-37B		SB11-40		SB11-40		SB11-40		SB11-41		SB11-41	
Sample Id:	SB11-37B(17.8-18.1)		SB11-37B(23.5-24.0)		SB11-40(11.0-11.5)		SB11-40(15.4-15.7)		SB11-40(7.0-7.5)		SB11-41(15.8-16.1)		SB11-41(7.0-7.5)	
Sample Date:	25-MAR-92		25-MAR-92		21-FEB-92		21-FEB-92		21-FEB-92		21-FEB-92		21-FEB-92	
Sample Depth:	17.8 - 18.1 ft		23.5 - 24 ft		11 - 11.5 ft		15.4 - 15.7 ft		7 - 7.5 ft		15.8 - 16.1 ft		7 - 7.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.007	U	N/A		.006	U	.012	U	.026	U	.013	U	.012	U
DIESEL RANGE ORGANICS	4.2	U	N/A		1.2	U	30	U	64	U	7.9	U	30	U
ETHYLBENZENE	.007	U	N/A		.006	U	.012	U	.026	U	.013	U	.012	U
GASOLINE RANGE ORGANICS	1.4	U	N/A		1.2	U	2.4	U	5.1	U	2.6	U	2.4	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	4.2	U	N/A		1.2	U	30	U	64	U	7.9	U	30	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	**300**	X	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**170**	X	N/A		1.2	U	30	U	64	U	7.9	U	30	U
OTHER LIGHT TPH COMPONENTS	**.007**		N/A		.006	U	**150**		**300**		**87**		**61**	
TOLUENE	.007	U	N/A		.006	U	.012	U	.026	U	.013	U	.012	U
TPH - BUNKER FUEL (C10-C28)	42	U	N/A		**72**	X	**8500**	X	**13000**	X	**21000**	X	**9000**	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.007	U	N/A		.006	U	.012	U	.026	U	.013	U	.012	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-42		SB11-42		SB11-42		SB11-42		SB11-43		SB11-43		SB11-44	
Sample Id:	SB11-42(16.0-16.5)		SB11-42(17.5-18.0)		SB11-42(18.4-18.6)		SB11-42(6.2-7.0)		SB11-43(10.5-11.0)		SB11-43(9.7-10.0)		SB11-44(12.3-12.7	
Sample Date:	11-MAR-92		11-MAR-92		11-MAR-92		11-MAR-92		11-MAR-92		11-MAR-92		12-MAR-92	
Sample Depth:	16 - 16.5 ft		17.5 - 18 ft		18.4 - 18.6 ft		6.2 - 7 ft		10.5 - 11 ft		9.7 - 10 ft		12.3 - 12.7 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.006	U	.007	U	.006	U	.015	X	.18	X	.006	U	.006	U
DIESEL RANGE ORGANICS	260	U	1.3	U	1.2	U	48	U	56	U	51	U	11	U
ETHYLBENZENE	.006	U	.007	U	.006	U	.18	X	.031	X	.006	U	.051	X
GASOLINE RANGE ORGANICS	1.3	U	1.3	U	1.2	U	1.2	U	1.4	U	1.3	U	1.1	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	260	U	1.3	U	1.2	U	48	U	56	U	51	U	11	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	2600	U	300	X	12	U	2900	X	17000	X	2400	X	2200	X
OTHER HEAVY TPH COMPONENTS	260	U	1.3	U	1.2	U	48	U	56	U	51	U	11	U
OTHER LIGHT TPH COMPONENTS	93		14		.006	U	160		50		60		120	
TOLUENE	.006	U	.007	U	.006	U	.006	U	.044	X	.043		.22	X
TPH - BUNKER FUEL (C10-C28)	54000	X	330	X	64	X	11000	X	15000	X	9500	X	2900	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.047	X	.007	U	.006	U	.22	X	.13	X	.098		.44	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-44		SB11-44		SB11-45		SB11-45		SB11-45 (FD)		SB11-46		SB11-46	
Sample Id:	SB11-44(16.8-17.2)		SB11-44(17.1-17.3)		SB11-45(22.9-23.2)		SB11-45(9.5-10.0)		SB11-45(18.5-19.5)		SB11-46(12.5-14.5)		SB11-46(16.8-17.1	
Sample Date:	12-MAR-92		12-MAR-92		13-MAR-92		13-MAR-92		13-MAR-92		16-MAR-92		16-MAR-92	
Sample Depth:	16.8 - 17.2 ft		17.1 - 17.3 ft		22.9 - 23.2 ft		9.5 - 10 ft		9.5 - 10 ft		12.5 - 14.5 ft		16.8 - 17.1 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.049	U	N/A		.006	U	.012	U	.023	U	.006	U	.006	U
DIESEL RANGE ORGANICS	49	U	N/A		1.2	U	240	U	230	U	48	U	12	U
ETHYLBENZENE	.31	X	N/A		.006	U	.012	U	.023	U	.092		.006	U
GASOLINE RANGE ORGANICS	9.8	U	N/A		1.2	U	2.4	U	4.7	U	1.2	U	1.2	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	49	U	N/A		1.2	U	240	U	230	U	48	U	12	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	5700	X	N/A		12	U	9200	X	7800	X	480	U	350	X
OTHER HEAVY TPH COMPONENTS	49	U	N/A		23	X	240	U	230	U	48	U	12	U
OTHER LIGHT TPH COMPONENTS	380		N/A		.006	U	400		570		100		28	
TOLUENE	.049	U	N/A		.006	U	.11	X	.023	U	.006	U	.006	U
TPH - BUNKER FUEL (C10-C28)	15000	X	N/A		12	U	74000	X	66000	X	13000	X	930	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	1.9	X	N/A		.006	U	1.4	X	.023	X	.42		.006	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,2-DICHLOROBENZENE	N/A		12	U	N/A		12	U	N/A		12	U	N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
1,3-DICHLOROBENZENE	N/A		12	U	N/A		12	U	N/A		12	U	N/A	
1,4-DICHLOROBENZENE	N/A		12	U	N/A		12	U	N/A		12	U	N/A	
2-BUTANONE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
2-HEXANONE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
ACETONE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
BENZENE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
BROMOFORM	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
BROMOMETHANE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	
CARBON DISULFIDE	N/A		N/A		N/A		1.4	U	N/A		1.4	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-46		SB11-46 (FD)		SB11-47		SB11-47		SB11-49		SB11-50		SB11-53	
Sample Id:	SB11-46(17.5-17.7)		SB11-46(22.5-24.5)		SB11-47(12.5-13.0)		SB11-47(16.0-16.5)		SB11-49(6.8-7.2)		SB11-50(5.0-5.5)		SB11-53(10.5-11.0	
Sample Date:	16-MAR-92		16-MAR-92		16-MAR-92		16-MAR-92		17-MAR-92		18-MAR-92		24-MAR-92	
Sample Depth:	17.5 - 17.7 ft		12.5 - 14.5 ft		12.5 - 13 ft		16 - 16.5 ft		6.8 - 7.2 ft		5 - 5.5 ft		10.5 - 11 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.006	U	.006	U	.008	U	.007	U	.006	U	.006	U	.006	U
DIESEL RANGE ORGANICS	62	U	49	U	380	U	15	U	1.3	U	45	U	180	U
ETHYLBENZENE	.006	U	**.085**	X	**.084**	X	.007	U	.006	U	.006	U	.006	U
GASOLINE RANGE ORGANICS	1.5	U	1.2	U	1.5	U	1.5	U	1.3	U	1.1	U	1.2	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	62	U	49	U	380	U	15	U	1.3	U	45	U	180	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	**3100**	X	490	U	**19000**	X	150	U	13	U	450	U	1800	U
OTHER HEAVY TPH COMPONENTS	**9700**	X	49	U	380	U	**590**	X	1.3	U	45	U	180	U
OTHER LIGHT TPH COMPONENTS	**14**		**100**		**200**		**33**		**14**		**100**		**120**	
TOLUENE	.006	U	.006	U	.008	U	.007	U	.006	U	.006	U	.006	U
TPH - BUNKER FUEL (C10-C28)	620	U	**13000**	X	**83000**	X	150	U	**3.6**	JX	**15000**	X	**40000**	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.006	U	**.4**	X	**.47**	X	.007	U	.006	U	**.38**	X	**.32**	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,1,2,2-TETRACHLOROETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,1,2-TRICHLOROETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,1-DICHLOROETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,1-DICHLOROETHENE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,2-DICHLOROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,2-DICHLOROETHENE (TOTAL)	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,2-DICHLOROPROPANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
1,3-DICHLOROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
2-HEXANONE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
4-METHYL-2-PENTANONE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
ACETONE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
BENZENE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
BROMODICHLOROMETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
BROMOFORM	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
BROMOMETHANE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U
CARBON DISULFIDE	N/A		1.5	U	1.8	U	N/A		1.5	U	1.4	U	1.5	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-53		SB11-54		SB11-54		SB11-54		SB11-54		SB11-54		SB11-94	
Sample Id:	SB11-53(12.5-13.5)		SB11-54 (11.5-12.0)		SB11-54 (12.0-12.5)		SB11-54 (12.5-13.0)		SB11-54 (23.5-24.0)		SB11-54 (24.5-25.0)		SB11-94(10-11.5)	
Sample Date:	24-MAR-92		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		12-FEB-99	
Sample Depth:	12.5 - 13.5 ft		11.5 - 12 ft		12 - 12.5 ft		12.5 - 13 ft		23.5 - 24 ft		24.5 - 25 ft		10 - 11.5 ft	
Investigation:	92SOIL		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		PHASEII_RI	
TPH (MG/KG)														
BENZENE	N/A		N/A		.006	U	N/A		N/A		.007	U	.027	U
DIESEL RANGE ORGANICS	64	U	N/A		N/A		N/A		N/A		N/A		550	U
ETHYLBENZENE	N/A		N/A		.006	U	N/A		N/A		.007	U	.025	J
GASOLINE RANGE ORGANICS	N/A		N/A		1.1	U	N/A		N/A		1.4	U	86	Z
JP4 RANGE ORGANICS	N/A		1.1	U	1.1	U	N/A		N/A		1.4	U	N/A	
JP5 RANGE ORGANICS	64	U	1.1	U	1.1	U	N/A		N/A		1.4	U	550	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		.14	U
MOTOR OIL RANGE ORGANICS	640	U	N/A		N/A		N/A		N/A		N/A		550	U
OTHER HEAVY TPH COMPONENTS	64	U	1.1	U	1.1	U	N/A		N/A		1.4	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		10	Y	N/A		N/A		5.9	Y	N/A	
TOLUENE	N/A		N/A		.006	U	N/A		N/A		.007	U	.027	U
TPH - BUNKER FUEL (C10-C28)	9300	X	11	U	11	U	N/A		N/A		30	X	10000	
TPH - DIESEL F-76 (C8-C28)	N/A		1.1	UJ	66	J	N/A		N/A		1.4	UJ	550	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.1	U	1.1	U	N/A		N/A		1.4	U	N/A	
XYLENE (TOTAL)	N/A		N/A		.006	U	N/A		N/A		.007	U	.32	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,1,2-TRICHLOROETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,1-DICHLOROETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,1-DICHLOROETHENE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,2-DICHLOROBENZENE	13	U	.37	U	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	UJ
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,2-DICHLOROPROPANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
1,3-DICHLOROBENZENE	13	U	.37	U	N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	13	U	.37	U	N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	UJ
2-HEXANONE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	UJ
4-METHYL-2-PENTANONE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
ACETONE	N/A		N/A		.074	UJ	N/A		N/A		N/A		.11	UJ
BENZENE	N/A		N/A		.011	J	N/A		N/A		N/A		.11	U
BROMODICHLOROMETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
BROMOFORM	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U
BROMOMETHANE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	UJ
CARBON DISULFIDE	N/A		N/A		.019	U	N/A		N/A		N/A		.11	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB	
Point Name:	SB11-94		SB11-94 (FD)		SB11-95		SB11-95		SB11-95 (FD)	
Sample Id:	SB11-94(14.5-15.0)		SB11-94(1.0-2.0)		SB11-95(10-11)		SB11-95(21-22.5)		SB11-95(11.5-12.5)	
Sample Date:	12-FEB-99		12-FEB-99		07-FEB-99		07-FEB-99		07-FEB-99	
Sample Depth:	14.5 - 15 ft		14.5 - 15 ft		10 - 11 ft		21 - 22.5 ft		10 - 11 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)										
BENZENE	13	U	26	U	.028	U	.0058	U	.008	
DIESEL RANGE ORGANICS	630	U	650	U	560	U	27		680	
ETHYLBENZENE	13	U	26	U	.028	U	.0058	U	.0057	U
GASOLINE RANGE ORGANICS	4000	Z	6000	Z	4	J	1.2	U	4.5	J
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	630	U	650	U	560	U	12	U	57	U
METHYL-T-BUTYL ETHER	63	U	130	U	.14	U	.029	U	.029	U
MOTOR OIL RANGE ORGANICS	5700		4500		3500		38		170	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A	
TOLUENE	13	U	26	U	.028	U	.0058	U	.0057	U
TPH - BUNKER FUEL (C10-C28)	10000		8600		4500		12	U	57	U
TPH - DIESEL F-76 (C8-C28)	630	U	650	U	560	U	12	U	57	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	25	U	52	U	.056	U	.012	U	.007	J
VOA (MG/KG)										
1,1,1-TRICHLOROETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
1,1,2,2-TETRACHLOROETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
1,1,2-TRICHLOROETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
1,1-DICHLOROETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
1,1-DICHLOROETHENE	13	U	6.5	U	.11	U	.012	U	.023	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	13	U	6.5	U	.11	UJ	.012	UJ	.023	UJ
1,2-DICHLOROETHENE (TOTAL)	13	U	6.5	U	.11	U	.012	U	.023	U
1,2-DICHLOROPROPANE	13	U	6.5	U	.11	U	.012	U	.023	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	13	U	6.5	UJ	.11	UJ	.012	U	.023	UJ
2-HEXANONE	13	U	6.5	UJ	.11	UJ	.012	UJ	.023	UJ
4-METHYL-2-PENTANONE	13	U	6.5	U	.11	U	.012	U	.023	U
ACETONE	13	UJ	6.5	UJ	.11	UJ	.18	J	.21	J
BENZENE	13	U	6.5	U	.11	U	.012	U	.007	J
BROMODICHLOROMETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
BROMOFORM	13	U	6.5	U	.11	U	.012	U	.023	U
BROMOMETHANE	13	U	6.5	U	.11	UJ	.012	UJ	.023	UJ
CARBON DISULFIDE	13	U	6.5	U	.11	U	.012	U	.023	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR11-96		BR11-96		BR11-96		SB03-01		SB03-01		SB11-07		SB11-07	
Sample Id:	SB11-96(14.5-15.0)		SB11-96(17.5-18.0)		SB11-96(31.0-31.5)		SB03-01(22.5-23.0)		SB03-01(5.0-6.0)		SB11-07(19.0-20.0)		SB11-07(22.5-23.5	
Sample Date:	09-FEB-99		09-FEB-99		09-FEB-99		01-AUG-94		01-AUG-94		24-JAN-92		24-JAN-92	
Sample Depth:	14.5 - 15 ft		17.5 - 18 ft		31 - 31.5 ft		22.5 - 23 ft		5 - 6 ft		19 - 20 ft		22.5 - 23.5 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PM_AREA3		PM_AREA3		92SOIL		92SOIL	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
CHLOROBENZENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
CHLOROETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
CHLOROFORM	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
CHLOROMETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
ETHYLBENZENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.11	UJ	12	U	.011	UJ	N/A		N/A		N/A		N/A	
STYRENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
TOLUENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
TRICHLOROETHENE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
VINYL CHLORIDE	.11	U	12	U	.011	U	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	**.019**	J	12	U	.011	U	N/A		N/A		N/A		N/A	
PAH (MG/KG)														
1-METHYLNAPHTHALENE	**32**		**34**		**.056**		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	**3.2**		2.9	U	.055	U	N/A		N/A		N/A		N/A	
ACENAPHTHENE	2.8	U	2.9	U	.055	U	N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	1.1	U	**1.7**		.022	U	N/A		N/A		N/A		N/A	
ANTHRACENE	**.77**		**.78**		**.002**		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	**6.21**		**5.05**		.0022	U	N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
CHRYSENE	**1**		**.88**		**.002**		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	.28	U	.29	U	.0055	U	N/A		N/A		N/A		N/A	
FLUORANTHENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
FLUORENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	
NAPHTHALENE	2.8	U	2.9	U	.055	U	N/A		N/A		N/A		N/A	
PHENANTHRENE	**5.59**		**6.34**		**.0098**		N/A		N/A		N/A		N/A	
PYRENE	.11	U	.12	U	.0022	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-08	SB11-09	SB11-09	SB11-09	SB11-09	SB11-09	SB11-09 (FD)
Sample Id:	SB11-08(19.5-20.0)	SB11-09(11.0-11.5)	SB11-09(15.5-16.0)	SB11-09(21.0-22.0)	SB11-09(27.5-28.0)	SB11-09(37.0-38.0)	SB11-09(21.0-22.0
Sample Date:	24-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92
Sample Depth:	19.5 - 20 ft	11 - 11.5 ft	15.5 - 16 ft	21 - 22 ft	27.5 - 28 ft	37 - 38 ft	21 - 22 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	.06 U	.007 UB	N/A	N/A	N/A
STYRENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
TOLUENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	.06 U	.064 U	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-10	SB11-10	SB11-10	SB11-12	SB11-12	SB11-12	SB11-13
Sample Id:	SB11-10(12.0-13.0)	SB11-10(22.3-22.5)	SB11-10(33.5-34.0)	SB11-12(13.0-14.0)	SB11-12(17.0-18.0)	SB11-12(33.5-34.0)	SB11-13(16.5-18.5
Sample Date:	27-JAN-92	27-JAN-92	27-JAN-92	28-JAN-92	28-JAN-92	28-JAN-92	29-JAN-92
Sample Depth:	12 - 13 ft	22.3 - 22.5 ft	33.5 - 34 ft	13 - 14 ft	17 - 18 ft	33.5 - 34 ft	16.5 - 18.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB		SB	SB
Point Name:	SB11-14		SB11-14	SB11-14	SB11-14	SB11-15		SB11-15	SB11-15
Sample Id:	SB11-14(14.5-17.5)		SB11-14(20.5-21.0)	SB11-14(26.5-27.0)	SB11-14(43.5-44.0)	SB11-15(13.0)		SB11-15(16.0-17.5)	SB11-15(22.5-23.0
Sample Date:	29-JAN-92		29-JAN-92	29-JAN-92	29-JAN-92	03-FEB-92		03-FEB-92	03-FEB-92
Sample Depth:	14.5 - 17.5 ft		20.5 - 21 ft	26.5 - 27 ft	43.5 - 44 ft	13 ft		16 - 17.5 ft	22.5 - 23 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL		92SOIL	92SOIL
VOA (MG/KG)									
CARBON TETRACHLORIDE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
CHLOROBENZENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
CHLOROETHANE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
CHLOROFORM	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
CHLOROMETHANE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
CIS-1,3-DICHLOROPROPENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
DIBROMOCHLOROMETHANE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
ETHYLBENZENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
METHYLENE CHLORIDE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
STYRENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
TETRACHLOROETHENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
TOLUENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
TRANS-1,3-DICHLOROPROPENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
TRICHLOROETHENE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
VINYL CHLORIDE	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
XYLENE (TOTAL)	1.4	U	N/A	N/A	N/A	N/A	1.5	U	N/A
PAH (MG/KG)									
1-METHYLNAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
2-METHYLNAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ACENAPHTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ACENAPHTHYLENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(A)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(A)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(B)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(G,H,I)PERYLENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(K)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
CHRYSENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
FLUORENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
NAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
PHENANTHRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-16	SB11-16	SB11-16	SB11-16	SB11-21	SB11-21	SB11-21
Sample Id:	SB11-16(13.0)	SB11-16(16.0)	SB11-16(17.5-18.0)	SB11-16(21.0-24.0)	SB11-21(20.5-21.0)	SB11-21(21.0-21.5)	SB11-21(23.5-24.5
Sample Date:	03-FEB-92	03-FEB-92	03-FEB-92	03-FEB-92	06-FEB-92	06-FEB-92	06-FEB-92
Sample Depth:	13 ft	16 ft	17.5 - 18 ft	21 - 24 ft	20.5 - 21 ft	21 - 21.5 ft	23.5 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	**.003** J	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	**.006** J	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	**.002** J	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	.011 U	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	**.007** J	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB		SB	SB
Point Name:	SB11-25		SB11-25	SB11-26	SB11-26	SB11-27		SB11-27	SB11-27
Sample Id:	SB11-25(16.0-16.5)		SB11-25(18.8-19.2)	SB11-26(13.0-13.5)	SB11-26(18-18.5)	SB11-27(12.5-13.0)		SB11-27(15.0-15.5)	SB11-27(25-25.2)
Sample Date:	07-FEB-92		07-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92		10-FEB-92	10-FEB-92
Sample Depth:	16 - 16.5 ft		18.8 - 19.2 ft	13 - 13.5 ft	18 - 18.5 ft	12.5 - 13 ft		15 - 15.5 ft	25 - 25.2 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL		92SOIL	92SOIL
VOA (MG/KG)									
CARBON TETRACHLORIDE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
CHLOROBENZENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
CHLOROETHANE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
CHLOROFORM	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
CHLOROMETHANE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
CIS-1,3-DICHLOROPROPENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
DIBROMOCHLOROMETHANE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
ETHYLBENZENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
METHYLENE CHLORIDE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
STYRENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
TETRACHLOROETHENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
TOLUENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
TRANS-1,3-DICHLOROPROPENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
TRICHLOROETHENE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
VINYL CHLORIDE	.056	U	N/A	N/A	N/A	N/A	.059	U	N/A
XYLENE (TOTAL)	.056	U	N/A	N/A	N/A	N/A	.07		N/A
PAH (MG/KG)									
1-METHYLNAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
2-METHYLNAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ACENAPHTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ACENAPHTHYLENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(A)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(A)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(B)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(G,H,I)PERYLENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BENZO(K)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
CHRYSENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
FLUORENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
NAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
PHENANTHRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A
PYRENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-27A	SB11-27A	SB11-28	SB11-28	SB11-29	SB11-29	SB11-30
Sample Id:	SB11-27A(15.5-16.0)	SB11-27A(22.4-22.7)	SB11-28(14.5-15.0)	SB11-28(15.3-15.8)	SB11-29(10.2-10.7)	SB11-29(11.5-12.0)	SB11-30(4.5-9.5)
Sample Date:	19-MAR-92	19-MAR-92	11-FEB-92	11-FEB-92	12-FEB-92	12-FEB-92	12-FEB-92
Sample Depth:	15.5 - 16 ft	22.4 - 22.7 ft	14.5 - 15 ft	15.3 - 15.8 ft	10.2 - 10.7 ft	11.5 - 12 ft	4.5 - 9.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-31	SB11-31	SB11-31A	SB11-31A	SB11-34	SB11-34	SB11-35
Sample Id:	SB11-31(17.8-18.3)	SB11-31(8.4-8.8)	SB11-31A(18.1-18.4)	SB11-31A(23.0-23.5)	SB11-34(18.0-18.5)	SB11-34(9.0-14.0)	SB11-35(17.0-17.5
Sample Date:	12-FEB-92	12-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92
Sample Depth:	17.8 - 18.3 ft	8.4 - 8.8 ft	18.1 - 18.4 ft	23 - 23.5 ft	18 - 18.5 ft	9 - 14 ft	17 - 17.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-37B	SB11-37B	SB11-40	SB11-40	SB11-40	SB11-41	SB11-41
Sample Id:	SB11-37B(17.8-18.1)	SB11-37B(23.5-24.0)	SB11-40(11.0-11.5)	SB11-40(15.4-15.7)	SB11-40(7.0-7.5)	SB11-41(15.8-16.1)	SB11-41(7.0-7.5)
Sample Date:	25-MAR-92	25-MAR-92	21-FEB-92	21-FEB-92	21-FEB-92	21-FEB-92	21-FEB-92
Sample Depth:	17.8 - 18.1 ft	23.5 - 24 ft	11 - 11.5 ft	15.4 - 15.7 ft	7 - 7.5 ft	15.8 - 16.1 ft	7 - 7.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-42	SB11-42	SB11-42	SB11-42	SB11-43	SB11-43	SB11-44
Sample Id:	SB11-42(16.0-16.5)	SB11-42(17.5-18.0)	SB11-42(18.4-18.6)	SB11-42(6.2-7.0)	SB11-43(10.5-11.0)	SB11-43(9.7-10.0)	SB11-44(12.3-12.7
Sample Date:	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	12-MAR-92
Sample Depth:	16 - 16.5 ft	17.5 - 18 ft	18.4 - 18.6 ft	6.2 - 7 ft	10.5 - 11 ft	9.7 - 10 ft	12.3 - 12.7 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-44	SB11-44	SB11-45	SB11-45	SB11-45 (FD)	SB11-46	SB11-46
Sample Id:	SB11-44(16.8-17.2)	SB11-44(17.1-17.3)	SB11-45(22.9-23.2)	SB11-45(9.5-10.0)	SB11-45(18.5-19.5)	SB11-46(12.5-14.5)	SB11-46(16.8-17.1
Sample Date:	12-MAR-92	12-MAR-92	13-MAR-92	13-MAR-92	13-MAR-92	16-MAR-92	16-MAR-92
Sample Depth:	16.8 - 17.2 ft	17.1 - 17.3 ft	22.9 - 23.2 ft	9.5 - 10 ft	9.5 - 10 ft	12.5 - 14.5 ft	16.8 - 17.1 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
CHLOROBENZENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
CHLOROETHANE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
CHLOROFORM	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
CHLOROMETHANE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
ETHYLBENZENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
STYRENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
TOLUENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
TRICHLOROETHENE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
VINYL CHLORIDE	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	1.4 U	N/A	1.4 U	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-46	SB11-46 (FD)	SB11-47	SB11-47	SB11-49	SB11-50	SB11-53
Sample Id:	SB11-46(17.5-17.7)	SB11-46(22.5-24.5)	SB11-47(12.5-13.0)	SB11-47(16.0-16.5)	SB11-49(6.8-7.2)	SB11-50(5.0-5.5)	SB11-53(10.5-11.0
Sample Date:	16-MAR-92	16-MAR-92	16-MAR-92	16-MAR-92	17-MAR-92	18-MAR-92	24-MAR-92
Sample Depth:	17.5 - 17.7 ft	12.5 - 14.5 ft	12.5 - 13 ft	16 - 16.5 ft	6.8 - 7.2 ft	5 - 5.5 ft	10.5 - 11 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
CHLOROBENZENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
CHLOROETHANE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
CHLOROFORM	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
CHLOROMETHANE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
CIS-1,3-DICHLOROPROPENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
DIBROMOCHLOROMETHANE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
ETHYLBENZENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
METHYLENE CHLORIDE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
STYRENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
TETRACHLOROETHENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
TOLUENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
TRANS-1,3-DICHLOROPROPENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
TRICHLOROETHENE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
VINYL CHLORIDE	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
XYLENE (TOTAL)	N/A	1.5 U	1.8 U	N/A	1.5 U	1.4 U	1.5 U
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB	
Point Name:	SB11-53	SB11-54	SB11-54	SB11-54	SB11-54	SB11-54	SB11-94	
Sample Id:	SB11-53(12.5-13.5)	SB11-54 (11.5-12.0)	SB11-54 (12.0-12.5)	SB11-54 (12.5-13.0)	SB11-54 (23.5-24.0)	SB11-54 (24.5-25.0)	SB11-94(10-11.5)	
Sample Date:	24-MAR-92	14-FEB-94	14-FEB-94	14-FEB-94	14-FEB-94	14-FEB-94	12-FEB-99	
Sample Depth:	12.5 - 13.5 ft	11.5 - 12 ft	12 - 12.5 ft	12.5 - 13 ft	23.5 - 24 ft	24.5 - 25 ft	10 - 11.5 ft	
Investigation:	92SOIL	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	PHASEII_RI	
VOA (MG/KG)								
CARBON TETRACHLORIDE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
CHLOROBENZENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
CHLOROETHANE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
CHLOROFORM	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
CHLOROMETHANE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
CIS-1,3-DICHLOROPROPENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
DIBROMOCHLOROMETHANE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
ETHYLBENZENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
METHYLENE CHLORIDE	N/A	N/A	**.023**	B	N/A	N/A	N/A	.11	UJ
STYRENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
TETRACHLOROETHENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
TOLUENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
TRICHLOROETHENE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
VINYL CHLORIDE	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
XYLENE (TOTAL)	N/A	N/A	.019	U	N/A	N/A	N/A	.11	U
PAH (MG/KG)								
1-METHYLNAPHTHALENE	N/A	N/A	N/A		N/A	N/A	N/A	**12.1**	
2-METHYLNAPHTHALENE	N/A	N/A	N/A		N/A	N/A	N/A	**1.2**	
ACENAPHTHENE	N/A	N/A	N/A		N/A	N/A	N/A	.55	U
ACENAPHTHYLENE	N/A	N/A	N/A		N/A	N/A	N/A	.22	U
ANTHRACENE	N/A	N/A	N/A		N/A	N/A	N/A	**.39**	J
BENZO(A)ANTHRACENE	N/A	N/A	N/A		N/A	N/A	N/A	**5.14**	
BENZO(A)PYRENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	UJ
BENZO(B)FLUORANTHENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	U
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	U
BENZO(K)FLUORANTHENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	U
CHRYSENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	U
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A		N/A	N/A	N/A	.055	U
FLUORANTHENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	UJ
FLUORENE	N/A	N/A	N/A		N/A	N/A	N/A	**.799**	
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	U
NAPHTHALENE	N/A	N/A	N/A		N/A	N/A	N/A	.55	U
PHENANTHRENE	N/A	N/A	N/A		N/A	N/A	N/A	**2.89**	J
PYRENE	N/A	N/A	N/A		N/A	N/A	N/A	.022	UJ

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB	
Point Name:	SB11-94		SB11-94 (FD)		SB11-95		SB11-95		SB11-95 (FD)	
Sample Id:	SB11-94(14.5-15.0)		SB11-94(1.0-2.0)		SB11-95(10-11)		SB11-95(21-22.5)		SB11-95(11.5-12.5)	
Sample Date:	12-FEB-99		12-FEB-99		07-FEB-99		07-FEB-99		07-FEB-99	
Sample Depth:	14.5 - 15 ft		14.5 - 15 ft		10 - 11 ft		21 - 22.5 ft		10 - 11 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)										
CARBON TETRACHLORIDE	13	U	6.5	U	.11	U	.012	U	.023	U
CHLOROBENZENE	13	U	6.5	U	.11	U	.012	U	.023	U
CHLOROETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
CHLOROFORM	13	U	6.5	U	.11	U	.012	U	.023	U
CHLOROMETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
CIS-1,3-DICHLOROPROPENE	13	U	6.5	U	.11	U	.012	U	.023	U
DIBROMOCHLOROMETHANE	13	U	6.5	U	.11	U	.012	U	.023	U
ETHYLBENZENE	13	U	.72	J	.11	U	.012	U	.002	J
METHYLENE CHLORIDE	13	U	6.5	U	.11	UJ	.012	UJ	.023	UJ
STYRENE	13	U	6.5	U	.11	U	.012	U	.023	U
TETRACHLOROETHENE	13	U	6.5	U	.11	U	.012	U	.023	U
TOLUENE	13	U	6.5	U	.11	U	.012	U	.006	J
TRANS-1,3-DICHLOROPROPENE	13	U	6.5	U	.11	U	.012	U	.023	U
TRICHLOROETHENE	13	U	6.5	U	.11	U	.012	U	.023	U
VINYL CHLORIDE	13	U	6.5	U	.11	U	.012	U	.023	U
XYLENE (TOTAL)	13	U	3.7	J	.11	U	.012	U	.017	J
PAH (MG/KG)										
1-METHYLNAPHTHALENE	18		16		3.8		.058	U	.29	U
2-METHYLNAPHTHALENE	3.1	U	3.3	U	2.8	U	.058	U	.29	U
ACENAPHTHENE	3.1	U	3.3	U	2.8	U	.058	U	.29	U
ACENAPHTHYLENE	1.3	U	1.3	U	1.1	U	.023	U	.11	U
ANTHRACENE	1		.53		.11	U	.0023	U	.011	U
BENZO(A)ANTHRACENE	9.21		6.87		.64		.0056		.22	
BENZO(A)PYRENE	.13	U	.13	U	.11	U	.0023	U	.011	U
BENZO(B)FLUORANTHENE	2.2		1.7		.11	U	.0023	U	.011	U
BENZO(G,H,I)PERYLENE	.13	U	.13	U	.11	U	.0023	U	.011	U
BENZO(K)FLUORANTHENE	.13	U	.13	U	.11	U	.0023	U	.011	U
CHRYSENE	1.3		1		1.1		.031		.046	
DIBENZO(A,H)ANTHRACENE	.31	U	.33	U	.28	U	.0058	U	.029	U
FLUORANTHENE	.13	U	.13	U	.11	U	.034		.2	
FLUORENE	.13	U	1		.11	U	.0023	U	.01	
INDENO(1,2,3-CD)PYRENE	.13	U	.13	U	.11	U	.0023	U	.011	U
NAPHTHALENE	3.1	U	3.3	U	2.8	U	.058	U	.29	U
PHENANTHRENE	4.44		3.99		1.4		.0076		.093	
PYRENE	.13	U	.13	U	4.76		.025		.011	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR11-96	BR11-96	BR11-96	SB03-01	SB03-01	SB11-07	SB11-07
Sample Id:	SB11-96(14.5-15.0)	SB11-96(17.5-18.0)	SB11-96(31.0-31.5)	SB03-01(22.5-23.0)	SB03-01(5.0-6.0)	SB11-07(19.0-20.0)	SB11-07(22.5-23.5
Sample Date:	09-FEB-99	09-FEB-99	09-FEB-99	01-AUG-94	01-AUG-94	24-JAN-92	24-JAN-92
Sample Depth:	14.5 - 15 ft	17.5 - 18 ft	31 - 31.5 ft	22.5 - 23 ft	5 - 6 ft	19 - 20 ft	22.5 - 23.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PM_AREA3	PM_AREA3	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB		SB		SB	SB	SB
Point Name:	SB11-08	SB11-09	SB11-09		SB11-09		SB11-09	SB11-09	SB11-09 (FD)
Sample Id:	SB11-08(19.5-20.0)	SB11-09(11.0-11.5)	SB11-09(15.5-16.0)		SB11-09(21.0-22.0)		SB11-09(27.5-28.0)	SB11-09(37.0-38.0)	SB11-09(21.0-22.0
Sample Date:	24-JAN-92	27-JAN-92	27-JAN-92		27-JAN-92		27-JAN-92	27-JAN-92	27-JAN-92
Sample Depth:	19.5 - 20 ft	11 - 11.5 ft	15.5 - 16 ft		21 - 22 ft		27.5 - 28 ft	37 - 38 ft	21 - 22 ft
Investigation:	92SOIL	92SOIL	92SOIL		92SOIL		92SOIL	92SOIL	92SOIL
SVOA (MG/KG)									
1,2,4-TRICHLOROBENZENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	9.6	U	10	U	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	.29	J	4.2	U	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	4	U	4.2	U	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-10	SB11-10	SB11-10	SB11-12	SB11-12	SB11-12	SB11-13
Sample Id:	SB11-10(12.0-13.0)	SB11-10(22.3-22.5)	SB11-10(33.5-34.0)	SB11-12(13.0-14.0)	SB11-12(17.0-18.0)	SB11-12(33.5-34.0)	SB11-13(16.5-18.5
Sample Date:	27-JAN-92	27-JAN-92	27-JAN-92	28-JAN-92	28-JAN-92	28-JAN-92	29-JAN-92
Sample Depth:	12 - 13 ft	22.3 - 22.5 ft	33.5 - 34 ft	13 - 14 ft	17 - 18 ft	33.5 - 34 ft	16.5 - 18.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB		SB	SB
Point Name:	SB11-14		SB11-14	SB11-14	SB11-14	SB11-15	SB11-15		SB11-15
Sample Id:	SB11-14(14.5-17.5)		SB11-14(20.5-21.0)	SB11-14(26.5-27.0)	SB11-14(43.5-44.0)	SB11-15(13.0)	SB11-15(16.0-17.5)		SB11-15(22.5-23.0
Sample Date:	29-JAN-92		29-JAN-92	29-JAN-92	29-JAN-92	03-FEB-92	03-FEB-92		03-FEB-92
Sample Depth:	14.5 - 17.5 ft		20.5 - 21 ft	26.5 - 27 ft	43.5 - 44 ft	13 ft	16 - 17.5 ft		22.5 - 23 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL		92SOIL
SVOA (MG/KG)									
1,2,4-TRICHLOROBENZENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,4,5-TRICHLOROPHENOL	89	U	N/A	N/A	N/A	N/A	94	U	N/A
2,4,6-TRICHLOROPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,4-DICHLOROPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,4-DIMETHYLPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,4-DINITROPHENOL	89	U	N/A	N/A	N/A	N/A	94	U	N/A
2,4-DINITROTOLUENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2,6-DINITROTOLUENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2-CHLORONAPHTHALENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2-CHLOROPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2-METHYLNAPHTHALENE	**12**	J	N/A	N/A	N/A	N/A	**45**		N/A
2-METHYLPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
2-NITROANILINE	89	U	N/A	N/A	N/A	N/A	94	U	N/A
2-NITROPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
3,3'-DICHLOROBENZIDINE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
3-NITROANILINE	89	U	N/A	N/A	N/A	N/A	94	U	N/A
4,6-DINITRO-2-METHYLPHENOL	89	U	N/A	N/A	N/A	N/A	94	U	N/A
4-BROMOPHENYL-PHENYLETHER	36	U	N/A	N/A	N/A	N/A	38	U	N/A
4-CHLORO-3-METHYLPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
4-CHLOROANILINE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
4-CHLOROPHENYL-PHENYLETHER	36	U	N/A	N/A	N/A	N/A	38	U	N/A
4-METHYLPHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
4-NITROANILINE	89	U	N/A	N/A	N/A	N/A	94	U	N/A
4-NITROPHENOL	89	U	N/A	N/A	N/A	N/A	94	U	N/A
ACENAPHTHENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
ACENAPHTHYLENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
ANTHRACENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BENZO(A)ANTHRACENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BENZO(A)PYRENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BENZO(B)FLUORANTHENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BENZO(G,H,I)PERYLENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BENZO(K)FLUORANTHENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BIS(2-CHLOROETHOXY)METHANE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BIS(2-CHLOROETHYL)ETHER	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
BUTYLBENZYLPHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
CARBAZOLE	36	U	N/A	N/A	N/A	N/A	38	U	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-16	SB11-16	SB11-16	SB11-16	SB11-21	SB11-21	SB11-21
Sample Id:	SB11-16(13.0)	SB11-16(16.0)	SB11-16(17.5-18.0)	SB11-16(21.0-24.0)	SB11-21(20.5-21.0)	SB11-21(21.0-21.5)	SB11-21(23.5-24.5
Sample Date:	03-FEB-92	03-FEB-92	03-FEB-92	03-FEB-92	06-FEB-92	06-FEB-92	06-FEB-92
Sample Depth:	13 ft	16 ft	17.5 - 18 ft	21 - 24 ft	20.5 - 21 ft	21 - 21.5 ft	23.5 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB11-25		SB11-25	SB11-26	SB11-26	SB11-27	SB11-27	SB11-27
Sample Id:	SB11-25(16.0-16.5)		SB11-25(18.8-19.2)	SB11-26(13.0-13.5)	SB11-26(18-18.5)	SB11-27(12.5-13.0)	SB11-27(15.0-15.5)	SB11-27(25-25.2)
Sample Date:	07-FEB-92		07-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92
Sample Depth:	16 - 16.5 ft		18.8 - 19.2 ft	13 - 13.5 ft	18 - 18.5 ft	12.5 - 13 ft	15 - 15.5 ft	25 - 25.2 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	150	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	150	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	**52**	J	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	150	U	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	150	U	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	150	U	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	60	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	60	U	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	150	U	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	60	U	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	60	U	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB11-27A		SB11-27A	SB11-28	SB11-28	SB11-29	SB11-29	SB11-30
Sample Id:	SB11-27A(15.5-16.0)		SB11-27A(22.4-22.7)	SB11-28(14.5-15.0)	SB11-28(15.3-15.8)	SB11-29(10.2-10.7)	SB11-29(11.5-12.0)	SB11-30(4.5-9.5)
Sample Date:	19-MAR-92		19-MAR-92	11-FEB-92	11-FEB-92	12-FEB-92	12-FEB-92	12-FEB-92
Sample Depth:	15.5 - 16 ft		22.4 - 22.7 ft	14.5 - 15 ft	15.3 - 15.8 ft	10.2 - 10.7 ft	11.5 - 12 ft	4.5 - 9.5 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	30	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	30	U	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	28		N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	30	U	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	30	U	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	30	U	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	12	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	12	U	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	30	U	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	30	U	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	12	U	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-31	SB11-31	SB11-31A	SB11-31A	SB11-34	SB11-34	SB11-35
Sample Id:	SB11-31(17.8-18.3)	SB11-31(8.4-8.8)	SB11-31A(18.1-18.4)	SB11-31A(23.0-23.5)	SB11-34(18.0-18.5)	SB11-34(9.0-14.0)	SB11-35(17.0-17.5
Sample Date:	12-FEB-92	12-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92	17-FEB-92
Sample Depth:	17.8 - 18.3 ft	8.4 - 8.8 ft	18.1 - 18.4 ft	23 - 23.5 ft	18 - 18.5 ft	9 - 14 ft	17 - 17.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-37B	SB11-37B	SB11-40	SB11-40	SB11-40	SB11-41	SB11-41
Sample Id:	SB11-37B(17.8-18.1)	SB11-37B(23.5-24.0)	SB11-40(11.0-11.5)	SB11-40(15.4-15.7)	SB11-40(7.0-7.5)	SB11-41(15.8-16.1)	SB11-41(7.0-7.5)
Sample Date:	25-MAR-92	25-MAR-92	21-FEB-92	21-FEB-92	21-FEB-92	21-FEB-92	21-FEB-92
Sample Depth:	17.8 - 18.1 ft	23.5 - 24 ft	11 - 11.5 ft	15.4 - 15.7 ft	7 - 7.5 ft	15.8 - 16.1 ft	7 - 7.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-42	SB11-42	SB11-42	SB11-42	SB11-43	SB11-43	SB11-44
Sample Id:	SB11-42(16.0-16.5)	SB11-42(17.5-18.0)	SB11-42(18.4-18.6)	SB11-42(6.2-7.0)	SB11-43(10.5-11.0)	SB11-43(9.7-10.0)	SB11-44(12.3-12.7
Sample Date:	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	12-MAR-92
Sample Depth:	16 - 16.5 ft	17.5 - 18 ft	18.4 - 18.6 ft	6.2 - 7 ft	10.5 - 11 ft	9.7 - 10 ft	12.3 - 12.7 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB			SB			SB			SB			SB			SB			SB		
Point Name:	SB11-44			SB11-44			SB11-45			SB11-45			SB11-45 (FD)			SB11-46			SB11-46		
Sample Id:	SB11-44(16.8-17.2)			SB11-44(17.1-17.3)			SB11-45(22.9-23.2)			SB11-45(9.5-10.0)			SB11-45(18.5-19.5)			SB11-46(12.5-14.5)			SB11-46(16.8-17.1		
Sample Date:	12-MAR-92			12-MAR-92			13-MAR-92			13-MAR-92			13-MAR-92			16-MAR-92			16-MAR-92		
Sample Depth:	16.8 - 17.2 ft			17.1 - 17.3 ft			22.9 - 23.2 ft			9.5 - 10 ft			9.5 - 10 ft			12.5 - 14.5 ft			16.8 - 17.1 ft		
Investigation:	92SOIL			92SOIL			92SOIL			92SOIL			92SOIL			92SOIL			92SOIL		
SVOA (MG/KG)																					
1,2,4-TRICHLOROBENZENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,4,5-TRICHLOROPHENOL	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
2,4,6-TRICHLOROPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,4-DICHLOROPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,4-DIMETHYLPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,4-DINITROPHENOL	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
2,4-DINITROTOLUENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2,6-DINITROTOLUENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2-CHLORONAPHTHALENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2-CHLOROPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2-METHYLNAPHTHALENE	N/A			**5.2**	J		N/A			**45**			N/A			**8.2**	J		N/A		
2-METHYLPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
2-NITROANILINE	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
2-NITROPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
3,3'-DICHLOROBENZIDINE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
3-NITROANILINE	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
4,6-DINITRO-2-METHYLPHENOL	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
4-BROMOPHENYL-PHENYLETHER	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
4-CHLORO-3-METHYLPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
4-CHLOROANILINE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
4-CHLOROPHENYL-PHENYLETHER	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
4-METHYLPHENOL	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
4-NITROANILINE	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
4-NITROPHENOL	N/A			30	U		N/A			29	U		N/A			30	U		N/A		
ACENAPHTHENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
ACENAPHTHYLENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
ANTHRACENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BENZO(A)ANTHRACENE	N/A			12	U		N/A			**2.6**	J		N/A			12	U		N/A		
BENZO(A)PYRENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BENZO(B)FLUORANTHENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BENZO(G,H,I)PERYLENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BENZO(K)FLUORANTHENE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BIS(2-CHLOROETHOXY)METHANE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BIS(2-CHLOROETHYL)ETHER	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BIS(2-ETHYLHEXYL)PHTHALATE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
BUTYLBENZYLPHTHALATE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		
CARBAZOLE	N/A			12	U		N/A			12	U		N/A			12	U		N/A		

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-46		SB11-46 (FD)		SB11-47		SB11-47		SB11-49		SB11-50		SB11-53	
Sample Id:	SB11-46(17.5-17.7)		SB11-46(22.5-24.5)		SB11-47(12.5-13.0)		SB11-47(16.0-16.5)		SB11-49(6.8-7.2)		SB11-50(5.0-5.5)		SB11-53(10.5-11.0	
Sample Date:	16-MAR-92		16-MAR-92		16-MAR-92		16-MAR-92		17-MAR-92		18-MAR-92		24-MAR-92	
Sample Depth:	17.5 - 17.7 ft		12.5 - 14.5 ft		12.5 - 13 ft		16 - 16.5 ft		6.8 - 7.2 ft		5 - 5.5 ft		10.5 - 11 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,4-DICHLOROPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,4-DINITROPHENOL	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2,6-DINITROTOLUENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2-CHLORONAPHTHALENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2-CHLOROPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		**9.2**	J	**36**		N/A		N/A		N/A		N/A	
2-METHYLPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
2-NITROANILINE	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
2-NITROPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
3-NITROANILINE	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
4-CHLOROANILINE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
4-METHYLPHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
4-NITROANILINE	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
4-NITROPHENOL	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		**.74**	J	15	U	N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHYL)ETHER	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
BUTYLBENZYLPHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
CARBAZOLE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB	SB	SB	SB	SB
Point Name:	SB11-53		SB11-54		SB11-54	SB11-54	SB11-54	SB11-54	SB11-94
Sample Id:	SB11-53(12.5-13.5)		SB11-54 (11.5-12.0)		SB11-54 (12.0-12.5)	SB11-54 (12.5-13.0)	SB11-54 (23.5-24.0)	SB11-54 (24.5-25.0)	SB11-94(10-11.5)
Sample Date:	24-MAR-92		14-FEB-94		14-FEB-94	14-FEB-94	14-FEB-94	14-FEB-94	12-FEB-99
Sample Depth:	12.5 - 13.5 ft		11.5 - 12 ft		12 - 12.5 ft	12.5 - 13 ft	23.5 - 24 ft	24.5 - 25 ft	10 - 11.5 ft
Investigation:	92SOIL		94DRUMLOT1		94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	PHASEII_RI
SVOA (MG/KG)									
1,2,4-TRICHLOROBENZENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	1.7	J	.37	U	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	13	U	.37	UJ	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	13	U	.37	UJ	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB
Point Name:	SB11-94	SB11-94 (FD)	SB11-95	SB11-95	SB11-95 (FD)
Sample Id:	SB11-94(14.5-15.0)	SB11-94(1.0-2.0)	SB11-95(10-11)	SB11-95(21-22.5)	SB11-95(11.5-12.5)
Sample Date:	12-FEB-99	12-FEB-99	07-FEB-99	07-FEB-99	07-FEB-99
Sample Depth:	14.5 - 15 ft	14.5 - 15 ft	10 - 11 ft	21 - 22.5 ft	10 - 11 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)					
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR11-96	BR11-96	BR11-96	SB03-01	SB03-01	SB11-07	SB11-07
Sample Id:	SB11-96(14.5-15.0)	SB11-96(17.5-18.0)	SB11-96(31.0-31.5)	SB03-01(22.5-23.0)	SB03-01(5.0-6.0)	SB11-07(19.0-20.0)	SB11-07(22.5-23.5
Sample Date:	09-FEB-99	09-FEB-99	09-FEB-99	01-AUG-94	01-AUG-94	24-JAN-92	24-JAN-92
Sample Depth:	14.5 - 15 ft	17.5 - 18 ft	31 - 31.5 ft	22.5 - 23 ft	5 - 6 ft	19 - 20 ft	22.5 - 23.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PM_AREA3	PM_AREA3	92SOIL	92SOIL
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-08		SB11-09		SB11-09		SB11-09		SB11-09		SB11-09		SB11-09 (FD)	
Sample Id:	SB11-08(19.5-20.0)		SB11-09(11.0-11.5)		SB11-09(15.5-16.0)		SB11-09(21.0-22.0)		SB11-09(27.5-28.0)		SB11-09(37.0-38.0)		SB11-09(21.0-22.0	
Sample Date:	24-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92		27-JAN-92	
Sample Depth:	19.5 - 20 ft		11 - 11.5 ft		15.5 - 16 ft		21 - 22 ft		27.5 - 28 ft		37 - 38 ft		21 - 22 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
SVOA (MG/KG)														
CHRYSENE	N/A		N/A		4	U	.99	J	N/A		N/A		N/A	
DI-N-BUTYLPHTHALATE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
DI-N-OCTYLPHTHALATE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
DIBENZOFURAN	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
DIETHYLPHTHALATE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
DIMETHYLPHTHALATE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
FLUORENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
HEXACHLOROBENZENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
HEXACHLOROBUTADIENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
HEXACHLOROETHANE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
ISOPHORONE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
NITROBENZENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
PENTACHLOROPHENOL	N/A		N/A		9.6	U	10	U	N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
PHENOL	N/A		N/A		4	U	4.2	U	N/A		N/A		N/A	
PYRENE	N/A		N/A		.65	J	.32	J	N/A		N/A		N/A	
METALS (MG/KG)														
ALUMINUM	N/A		14800		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		5	UNJ	N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A		1.9		N/A		N/A		N/A		N/A		N/A	
BARIUM	N/A		87.5		N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	N/A		.98	*	N/A		N/A		N/A		N/A		N/A	
CADMIUM	N/A		.65	U	N/A		N/A		N/A		N/A		N/A	
CALCIUM	N/A		18500		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A		13		N/A		N/A		N/A		N/A		N/A	
COBALT	N/A		8.8		N/A		N/A		N/A		N/A		N/A	
COPPER	N/A		15.2		N/A		N/A		N/A		N/A		N/A	
IRON	N/A		15000		N/A		N/A		N/A		N/A		N/A	
LEAD	4.9	*	10.9	*	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB	
Point Name:	SB11-10	SB11-10	SB11-10	SB11-12	SB11-12	SB11-12	SB11-13	
Sample Id:	SB11-10(12.0-13.0)	SB11-10(22.3-22.5)	SB11-10(33.5-34.0)	SB11-12(13.0-14.0)	SB11-12(17.0-18.0)	SB11-12(33.5-34.0)	SB11-13(16.5-18.5	
Sample Date:	27-JAN-92	27-JAN-92	27-JAN-92	28-JAN-92	28-JAN-92	28-JAN-92	29-JAN-92	
Sample Depth:	12 - 13 ft	22.3 - 22.5 ft	33.5 - 34 ft	13 - 14 ft	17 - 18 ft	33.5 - 34 ft	16.5 - 18.5 ft	
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	
SVOA (MG/KG)								
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
METALS (MG/KG)								
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	13300	
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	5.4	UNJ
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	1	
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	66.5	
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	.85	*
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	.7	U
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	11200	
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	11	
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	6.6	
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	10.1	
IRON	N/A	N/A	N/A	N/A	N/A	N/A	12100	
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	9.7	S*

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB		SB
Point Name:	SB11-14		SB11-14	SB11-14	SB11-14	SB11-15	SB11-15		SB11-15
Sample Id:	SB11-14(14.5-17.5)		SB11-14(20.5-21.0)	SB11-14(26.5-27.0)	SB11-14(43.5-44.0)	SB11-15(13.0)	SB11-15(16.0-17.5)		SB11-15(22.5-23.0
Sample Date:	29-JAN-92		29-JAN-92	29-JAN-92	29-JAN-92	03-FEB-92	03-FEB-92		03-FEB-92
Sample Depth:	14.5 - 17.5 ft		20.5 - 21 ft	26.5 - 27 ft	43.5 - 44 ft	13 ft	16 - 17.5 ft		22.5 - 23 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL		92SOIL
SVOA (MG/KG)									
CHRYSENE	1.5	UB	N/A	N/A	N/A	N/A	2	UB	N/A
DI-N-BUTYLPHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
DI-N-OCTYLPHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
DIBENZO(A,H)ANTHRACENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
DIBENZOFURAN	36	U	N/A	N/A	N/A	N/A	38	U	N/A
DIETHYLPHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
DIMETHYLPHTHALATE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
FLUORANTHENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
FLUORENE	**4.3**	J	N/A	N/A	N/A	N/A	**4.5**	J	N/A
HEXACHLOROBENZENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
HEXACHLOROBUTADIENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
HEXACHLOROCYCLOPENTADIENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
HEXACHLOROETHANE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
INDENO(1,2,3-CD)PYRENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
ISOPHORONE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
N-NITROSODIPHENYLAMINE (1)	36	U	N/A	N/A	N/A	N/A	38	U	N/A
NAPHTHALENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
NITROBENZENE	36	U	N/A	N/A	N/A	N/A	38	U	N/A
PENTACHLOROPHENOL	89	U	N/A	N/A	N/A	N/A	94	U	N/A
PHENANTHRENE	**6.4**	J	N/A	N/A	N/A	N/A	**8.2**	J	N/A
PHENOL	36	U	N/A	N/A	N/A	N/A	38	U	N/A
PYRENE	1.7	UB	N/A	N/A	N/A	N/A	1.8	UB	N/A
METALS (MG/KG)									
ALUMINUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ANTIMONY	N/A		N/A	N/A	N/A	N/A	N/A		N/A
ARSENIC	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BARIUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
BERYLLIUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
CADMIUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
CALCIUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
CHROMIUM	N/A		N/A	N/A	N/A	N/A	N/A		N/A
COBALT	N/A		N/A	N/A	N/A	N/A	N/A		N/A
COPPER	N/A		N/A	N/A	N/A	N/A	N/A		N/A
IRON	N/A		N/A	N/A	N/A	N/A	N/A		N/A
LEAD	N/A		N/A	N/A	N/A	N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB11-16		SB11-16	SB11-16	SB11-16	SB11-21	SB11-21	SB11-21
Sample Id:	SB11-16(13.0)		SB11-16(16.0)	SB11-16(17.5-18.0)	SB11-16(21.0-24.0)	SB11-21(20.5-21.0)	SB11-21(21.0-21.5)	SB11-21(23.5-24.5
Sample Date:	03-FEB-92		03-FEB-92	03-FEB-92	03-FEB-92	06-FEB-92	06-FEB-92	06-FEB-92
Sample Depth:	13 ft		16 ft	17.5 - 18 ft	21 - 24 ft	20.5 - 21 ft	21 - 21.5 ft	23.5 - 24.5 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)								
CHRYSENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)								
ALUMINUM	16600		N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	5.8	UNJ	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	5.7		N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	55.7		N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	1.1	*	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	.75	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	7950		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	18.4		N/A	N/A	N/A	N/A	N/A	N/A
COBALT	8.5		N/A	N/A	N/A	N/A	N/A	N/A
COPPER	15.3		N/A	N/A	N/A	N/A	N/A	N/A
IRON	17100		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	14	*+	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB		SB
Point Name:	SB11-25		SB11-25	SB11-26	SB11-26	SB11-27	SB11-27		SB11-27
Sample Id:	SB11-25(16.0-16.5)		SB11-25(18.8-19.2)	SB11-26(13.0-13.5)	SB11-26(18-18.5)	SB11-27(12.5-13.0)	SB11-27(15.0-15.5)		SB11-27(25-25.2)
Sample Date:	07-FEB-92		07-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92	10-FEB-92		10-FEB-92
Sample Depth:	16 - 16.5 ft		18.8 - 19.2 ft	13 - 13.5 ft	18 - 18.5 ft	12.5 - 13 ft	15 - 15.5 ft		25 - 25.2 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL		92SOIL
SVOA (MG/KG)									
CHRYSENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DI-N-BUTYLPHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DI-N-OCTYLPHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DIBENZO(A,H)ANTHRACENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DIBENZOFURAN	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DIETHYLPHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
DIMETHYLPHTHALATE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
FLUORANTHENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
FLUORENE	**6.8**	J	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROBENZENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROBUTADIENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROCYCLOPENTADIENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROETHANE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
INDENO(1,2,3-CD)PYRENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
ISOPHORONE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
N-NITROSO-DI-N-PROPYLAMINE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
N-NITROSODIPHENYLAMINE (1)	60	U	N/A	N/A	N/A	N/A	N/A		N/A
NAPHTHALENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
NITROBENZENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
PENTACHLOROPHENOL	150	U	N/A	N/A	N/A	N/A	N/A		N/A
PHENANTHRENE	**11**	J	N/A	N/A	N/A	N/A	N/A		N/A
PHENOL	60	U	N/A	N/A	N/A	N/A	N/A		N/A
PYRENE	60	U	N/A	N/A	N/A	N/A	N/A		N/A
METALS (MG/KG)									
ALUMINUM	**14100**		N/A	N/A	N/A	N/A	**9820**		N/A
ANTIMONY	5.2	U	N/A	N/A	N/A	N/A	5.1	U	N/A
ARSENIC	**.76**		N/A	N/A	N/A	N/A	**1.9**	B	N/A
BARIUM	**73.1**	J	N/A	N/A	N/A	N/A	**69.4**	J	N/A
BERYLLIUM	.88	UB	N/A	N/A	N/A	N/A	.71	UB	N/A
CADMIUM	**.76**		N/A	N/A	N/A	N/A	.67	U	N/A
CALCIUM	**8410**		N/A	N/A	N/A	N/A	**6790**		N/A
CHROMIUM	**18.1**		N/A	N/A	N/A	N/A	**15.1**		N/A
COBALT	**9.6**		N/A	N/A	N/A	N/A	**4.8**		N/A
COPPER	**28.1**		N/A	N/A	N/A	N/A	46.4	UB	N/A
IRON	**20600**		N/A	N/A	N/A	N/A	**15500**		N/A
LEAD	**11.8**	NW*J	N/A	N/A	N/A	N/A	**6.4**	NW*J	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB11-27A		SB11-27A	SB11-28	SB11-28	SB11-29	SB11-29	SB11-30
Sample Id:	SB11-27A(15.5-16.0)		SB11-27A(22.4-22.7)	SB11-28(14.5-15.0)	SB11-28(15.3-15.8)	SB11-29(10.2-10.7)	SB11-29(11.5-12.0)	SB11-30(4.5-9.5)
Sample Date:	19-MAR-92		19-MAR-92	11-FEB-92	11-FEB-92	12-FEB-92	12-FEB-92	12-FEB-92
Sample Depth:	15.5 - 16 ft		22.4 - 22.7 ft	14.5 - 15 ft	15.3 - 15.8 ft	10.2 - 10.7 ft	11.5 - 12 ft	4.5 - 9.5 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)								
CHRYSENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	12	U	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	12	U	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	30	U	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	**6.9**	J	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	12	U	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	**.57**	J	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)								
ALUMINUM	**9220**		N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	5.5	UN	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	**1.6**	NJ	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	**235**	N*J	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	**.72**		N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	.96	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	**7100**		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	**7.7**		N/A	N/A	N/A	N/A	N/A	N/A
COBALT	**5.2**		N/A	N/A	N/A	N/A	N/A	N/A
COPPER	35.8	UBN*J	N/A	N/A	N/A	N/A	N/A	N/A
IRON	**11500**		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	**8.5**		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB11-31		SB11-31		SB11-31A		SB11-31A		SB11-34		SB11-34		SB11-35
Sample Id:	SB11-31(17.8-18.3)		SB11-31(8.4-8.8)		SB11-31A(18.1-18.4)		SB11-31A(23.0-23.5)		SB11-34(18.0-18.5)		SB11-34(9.0-14.0)		SB11-35(17.0-17.5
Sample Date:	12-FEB-92		12-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92
Sample Depth:	17.8 - 18.3 ft		8.4 - 8.8 ft		18.1 - 18.4 ft		23 - 23.5 ft		18 - 18.5 ft		9 - 14 ft		17 - 17.5 ft
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL
SVOA (MG/KG)													
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIBENZOFURAN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIETHYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIMETHYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEXACHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEXACHLOROBUTADIENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEXACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ISOPHORONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NITROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PENTACHLOROPHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METALS (MG/KG)													
ALUMINUM	**12700**		N/A		**14600**		N/A		N/A		N/A		N/A
ANTIMONY	5.7	U	N/A		5.8	U	N/A		N/A		N/A		N/A
ARSENIC	**5.2**		N/A		**1.9**	B	N/A		N/A		N/A		N/A
BARIUM	**68.9**	J	N/A		**151**	J	N/A		N/A		N/A		N/A
BERYLLIUM	.82	UB	N/A		.85	UJ	N/A		N/A		N/A		N/A
CADMIUM	**1.4**		N/A		.76	U	N/A		N/A		N/A		N/A
CALCIUM	**10200**		N/A		**9870**		N/A		N/A		N/A		N/A
CHROMIUM	**14.5**		N/A		**15.4**		N/A		N/A		N/A		N/A
COBALT	**8.3**		N/A		**6.3**	B	N/A		N/A		N/A		N/A
COPPER	11	UB	N/A		11	UJ	N/A		N/A		N/A		N/A
IRON	**16500**		N/A		**15300**		N/A		N/A		N/A		N/A
LEAD	**7.3**	N*J	N/A		**14.2**	N*	N/A		N/A		.61	U	.61

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-37B		SB11-37B		SB11-40		SB11-40		SB11-40		SB11-41		SB11-41	
Sample Id:	SB11-37B(17.8-18.1)		SB11-37B(23.5-24.0)		SB11-40(11.0-11.5)		SB11-40(15.4-15.7)		SB11-40(7.0-7.5)		SB11-41(15.8-16.1)		SB11-41(7.0-7.5)	
Sample Date:	25-MAR-92		25-MAR-92		21-FEB-92		21-FEB-92		21-FEB-92		21-FEB-92		21-FEB-92	
Sample Depth:	17.8 - 18.1 ft		23.5 - 24 ft		11 - 11.5 ft		15.4 - 15.7 ft		7 - 7.5 ft		15.8 - 16.1 ft		7 - 7.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
SVOA (MG/KG)														
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZOFURAN	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIETHYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIMETHYLPHTHALATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEXACHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEXACHLOROBUTADIENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEXACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ISOPHORONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NITROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PENTACHLOROPHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METALS (MG/KG)														
ALUMINUM	19900		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	6.1	UNJ	N/A		N/A		N/A		N/A		N/A		N/A	
ARSENIC	6.7		N/A		N/A		N/A		N/A		N/A		N/A	
BARIUM	82.1		N/A		N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	.62	*	N/A		N/A		N/A		N/A		N/A		N/A	
CADMIUM	.8	U	N/A		N/A		N/A		N/A		N/A		N/A	
CALCIUM	5760		N/A		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	46.2		N/A		N/A		N/A		N/A		N/A		N/A	
COBALT	12.3		N/A		N/A		N/A		N/A		N/A		N/A	
COPPER	34.1		N/A		N/A		N/A		N/A		N/A		N/A	
IRON	24600		N/A		N/A		N/A		N/A		N/A		N/A	
LEAD	16.8	*	N/A		N/A		N/A		11.8	W*	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-42	SB11-42	SB11-42	SB11-42	SB11-43	SB11-43	SB11-44
Sample Id:	SB11-42(16.0-16.5)	SB11-42(17.5-18.0)	SB11-42(18.4-18.6)	SB11-42(6.2-7.0)	SB11-43(10.5-11.0)	SB11-43(9.7-10.0)	SB11-44(12.3-12.7
Sample Date:	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92	12-MAR-92
Sample Depth:	16 - 16.5 ft	17.5 - 18 ft	18.4 - 18.6 ft	6.2 - 7 ft	10.5 - 11 ft	9.7 - 10 ft	12.3 - 12.7 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	**20800**	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	6.5 UNJ	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	**15.2** S	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	**70.9**	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	**.64** *	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	.85 U	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	**5400**	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	**70.6**	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	**17.2**	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	**155**	N/A	N/A
IRON	N/A	N/A	N/A	N/A	**31000**	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	**37.9** S*	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB			SB			SB			SB			SB			SB		
Point Name:	SB11-44			SB11-44			SB11-45			SB11-45			SB11-45 (FD)			SB11-46		
Sample Id:	SB11-44(16.8-17.2)			SB11-44(17.1-17.3)			SB11-45(22.9-23.2)			SB11-45(9.5-10.0)			SB11-45(18.5-19.5)			SB11-46(12.5-14.5)		
Sample Date:	12-MAR-92			12-MAR-92			13-MAR-92			13-MAR-92			13-MAR-92			16-MAR-92		
Sample Depth:	16.8 - 17.2 ft			17.1 - 17.3 ft			22.9 - 23.2 ft			9.5 - 10 ft			9.5 - 10 ft			12.5 - 14.5 ft		
Investigation:	92SOIL			92SOIL			92SOIL			92SOIL			92SOIL			92SOIL		
SVOA (MG/KG)																		
CHRYSENE	N/A	12	U	N/A	12	U	N/A	.93	J	N/A								
DI-N-BUTYLPHTHALATE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
DI-N-OCTYLPHTHALATE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
DIBENZO(A,H)ANTHRACENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
DIBENZOFURAN	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
DIETHYLPHTHALATE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
DIMETHYLPHTHALATE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
FLUORANTHENE	N/A	12	U	N/A	1.9	J	N/A	12	U	N/A								
FLUORENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
HEXACHLOROBENZENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
HEXACHLOROBUTADIENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
HEXACHLOROCYCLOPENTADIENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
HEXACHLOROETHANE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
INDENO(1,2,3-CD)PYRENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
ISOPHORONE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
N-NITROSO-DI-N-PROPYLAMINE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
N-NITROSODIPHENYLAMINE (1)	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
NAPHTHALENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
NITROBENZENE	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
PENTACHLOROPHENOL	N/A	30	U	N/A	29	U	N/A	30	U	N/A								
PHENANTHRENE	N/A	6.9	J	N/A	18		N/A	3.6	J	N/A								
PHENOL	N/A	12	U	N/A	12	U	N/A	12	U	N/A								
PYRENE	N/A	1.9	J	N/A	5.2	J	N/A	1	J	N/A								
METALS (MG/KG)																		
ALUMINUM	N/A	17300		N/A	13400		N/A	N/A		N/A								
ANTIMONY	N/A	5.3	U	N/A	5.2	U	N/A	N/A		N/A								
ARSENIC	N/A	2.4		N/A	.88		N/A	N/A		N/A								
BARIUM	N/A	207	J	N/A	132	J	N/A	N/A		N/A								
BERYLLIUM	N/A	.71	UB	N/A	.72	UB	N/A	N/A		N/A								
CADMIUM	N/A	.69	U	N/A	.68	U	N/A	N/A		N/A								
CALCIUM	N/A	3140		N/A	4240		N/A	N/A		N/A								
CHROMIUM	N/A	26.8		N/A	14.8		N/A	N/A		N/A								
COBALT	N/A	7.7		N/A	6.8	B	N/A	N/A		N/A								
COPPER	N/A	26		N/A	11.7	UB	N/A	N/A		N/A								
IRON	N/A	22700		N/A	14200		N/A	N/A		N/A								
LEAD	N/A	19.8	NW*J	N/A	10.7	NW*J	N/A	13.2	W*	N/A								

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-46		SB11-46 (FD)		SB11-47		SB11-47		SB11-49		SB11-50		SB11-53	
Sample Id:	SB11-46(17.5-17.7)		SB11-46(22.5-24.5)		SB11-47(12.5-13.0)		SB11-47(16.0-16.5)		SB11-49(6.8-7.2)		SB11-50(5.0-5.5)		SB11-53(10.5-11.0	
Sample Date:	16-MAR-92		16-MAR-92		16-MAR-92		16-MAR-92		17-MAR-92		18-MAR-92		24-MAR-92	
Sample Depth:	17.5 - 17.7 ft		12.5 - 14.5 ft		12.5 - 13 ft		16 - 16.5 ft		6.8 - 7.2 ft		5 - 5.5 ft		10.5 - 11 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
SVOA (MG/KG)														
CHRYSENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DI-N-BUTYLPHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DI-N-OCTYLPHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DIBENZOFURAN	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DIETHYLPHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
DIMETHYLPHTHALATE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
FLUORENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
HEXACHLOROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
HEXACHLOROBUTADIENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
HEXACHLOROETHANE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
ISOPHORONE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
NITROBENZENE	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
PENTACHLOROPHENOL	N/A		31	U	38	U	N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		**3.2**	J	**25**		N/A		N/A		N/A		N/A	
PHENOL	N/A		12	U	15	U	N/A		N/A		N/A		N/A	
PYRENE	N/A		**1.1**	J	**9.2**	J	N/A		N/A		N/A		N/A	
METALS (MG/KG)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BARIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CADMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CALCIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
COBALT	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
COPPER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
IRON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
LEAD	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB	SB	SB	SB	SB
Point Name:	SB11-53		SB11-54		SB11-54	SB11-54	SB11-54	SB11-54	SB11-94
Sample Id:	SB11-53(12.5-13.5)		SB11-54 (11.5-12.0)		SB11-54 (12.0-12.5)	SB11-54 (12.5-13.0)	SB11-54 (23.5-24.0)	SB11-54 (24.5-25.0)	SB11-94(10-11.5)
Sample Date:	24-MAR-92		14-FEB-94		14-FEB-94	14-FEB-94	14-FEB-94	14-FEB-94	12-FEB-99
Sample Depth:	12.5 - 13.5 ft		11.5 - 12 ft		12 - 12.5 ft	12.5 - 13 ft	23.5 - 24 ft	24.5 - 25 ft	10 - 11.5 ft
Investigation:	92SOIL		94DRUMLOT1		94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	PHASEII_RI
SVOA (MG/KG)									
CHRYSENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
FLUORENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	13	U	.37	UJ	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	32	U	.9	U	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	13	U	.077	J	N/A	N/A	N/A	N/A	N/A
PHENOL	13	U	.37	U	N/A	N/A	N/A	N/A	N/A
PYRENE	2.3	J	.046	J	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)									
ALUMINUM	17600		13100		N/A	N/A	N/A	N/A	N/A
ANTIMONY	14.8	UBNJ	7	UJ	N/A	N/A	N/A	N/A	N/A
ARSENIC	2.6	NW	12.7		N/A	N/A	N/A	N/A	N/A
BARIUM	190	N*J	87.3		N/A	N/A	N/A	N/A	N/A
BERYLLIUM	1		.67	B	N/A	N/A	N/A	N/A	N/A
CADMIUM	1	U	1.9		N/A	N/A	N/A	N/A	N/A
CALCIUM	12500		5200		N/A	N/A	N/A	N/A	N/A
CHROMIUM	14.7		22.7		N/A	N/A	N/A	N/A	N/A
COBALT	12.1		6.1	U	N/A	N/A	N/A	N/A	N/A
COPPER	20.7	UBN*J	27.3		N/A	N/A	N/A	N/A	N/A
IRON	24600		20900		N/A	N/A	N/A	N/A	N/A
LEAD	11.5	+	22.2		N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB
Point Name:	SB11-94	SB11-94 (FD)	SB11-95	SB11-95	SB11-95 (FD)
Sample Id:	SB11-94(14.5-15.0)	SB11-94(1.0-2.0)	SB11-95(10-11)	SB11-95(21-22.5)	SB11-95(11.5-12.5)
Sample Date:	12-FEB-99	12-FEB-99	07-FEB-99	07-FEB-99	07-FEB-99
Sample Depth:	14.5 - 15 ft	14.5 - 15 ft	10 - 11 ft	21 - 22.5 ft	10 - 11 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)					
CHRYSENE	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)					
ALUMINUM	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR11-96	BR11-96	BR11-96	SB03-01	SB03-01	SB11-07	SB11-07
Sample Id:	SB11-96(14.5-15.0)	SB11-96(17.5-18.0)	SB11-96(31.0-31.5)	SB03-01(22.5-23.0)	SB03-01(5.0-6.0)	SB11-07(19.0-20.0)	SB11-07(22.5-23.5
Sample Date:	09-FEB-99	09-FEB-99	09-FEB-99	01-AUG-94	01-AUG-94	24-JAN-92	24-JAN-92
Sample Depth:	14.5 - 15 ft	17.5 - 18 ft	31 - 31.5 ft	22.5 - 23 ft	5 - 6 ft	19 - 20 ft	22.5 - 23.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PM_AREA3	PM_AREA3	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-08	SB11-09	SB11-09	SB11-09	SB11-09	SB11-09	SB11-09 (FD)
Sample Id:	SB11-08(19.5-20.0)	SB11-09(11.0-11.5)	SB11-09(15.5-16.0)	SB11-09(21.0-22.0)	SB11-09(27.5-28.0)	SB11-09(37.0-38.0)	SB11-09(21.0-22.0
Sample Date:	24-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92	27-JAN-92
Sample Depth:	19.5 - 20 ft	11 - 11.5 ft	15.5 - 16 ft	21 - 22 ft	27.5 - 28 ft	37 - 38 ft	21 - 22 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	**4000**	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	**351** N	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	**17.2**	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	**3180** J	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	.43 UNWJ	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	.65 UNJ	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	296 UB	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	.65 U	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	**28.1**	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	**39.7**	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB	
Point Name:	SB11-10	SB11-10	SB11-10	SB11-12	SB11-12	SB11-12	SB11-13	
Sample Id:	SB11-10(12.0-13.0)	SB11-10(22.3-22.5)	SB11-10(33.5-34.0)	SB11-12(13.0-14.0)	SB11-12(17.0-18.0)	SB11-12(33.5-34.0)	SB11-13(16.5-18.5	
Sample Date:	27-JAN-92	27-JAN-92	27-JAN-92	28-JAN-92	28-JAN-92	28-JAN-92	29-JAN-92	
Sample Depth:	12 - 13 ft	22.3 - 22.5 ft	33.5 - 34 ft	13 - 14 ft	17 - 18 ft	33.5 - 34 ft	16.5 - 18.5 ft	
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	
METALS (MG/KG)								
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	**3620**	
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	**192**	N
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	.12	UNJ
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	**16**	
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	**2490**	J
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	.47	UNWJ
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	.7	UNJ
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	325	UB
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	.7	U
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	**24.8**	
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	**35.3**	
WATER QUALITY (MG/KG)								
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-14	SB11-14	SB11-14	SB11-14	SB11-15	SB11-15	SB11-15
Sample Id:	SB11-14(14.5-17.5)	SB11-14(20.5-21.0)	SB11-14(26.5-27.0)	SB11-14(43.5-44.0)	SB11-15(13.0)	SB11-15(16.0-17.5)	SB11-15(22.5-23.0
Sample Date:	29-JAN-92	29-JAN-92	29-JAN-92	29-JAN-92	03-FEB-92	03-FEB-92	03-FEB-92
Sample Depth:	14.5 - 17.5 ft	20.5 - 21 ft	26.5 - 27 ft	43.5 - 44 ft	13 ft	16 - 17.5 ft	22.5 - 23 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB	SB	SB
Point Name:	SB11-16		SB11-16	SB11-16	SB11-16	SB11-21	SB11-21	SB11-21
Sample Id:	SB11-16(13.0)		SB11-16(16.0)	SB11-16(17.5-18.0)	SB11-16(21.0-24.0)	SB11-21(20.5-21.0)	SB11-21(21.0-21.5)	SB11-21(23.5-24.5
Sample Date:	03-FEB-92		03-FEB-92	03-FEB-92	03-FEB-92	06-FEB-92	06-FEB-92	06-FEB-92
Sample Depth:	13 ft		16 ft	17.5 - 18 ft	21 - 24 ft	20.5 - 21 ft	21 - 21.5 ft	23.5 - 24.5 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)								
LEAD, ORGANIC	N/A		N/A	N/A	N/A	.58 U	.57 U	N/A
MAGNESIUM	**4810**		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	**236**	N	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.13	UNJ	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	**22.3**		N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	**3870**	J	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	.5	UNWJ	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	.75	UNJ	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	**1920**	J	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	.75	U	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	**31.7**		N/A	N/A	N/A	N/A	N/A	N/A
ZINC	**46.3**		N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)								
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB11-25		SB11-25		SB11-26		SB11-26		SB11-27		SB11-27	
Sample Id:	SB11-25(16.0-16.5)		SB11-25(18.8-19.2)		SB11-26(13.0-13.5)		SB11-26(18-18.5)		SB11-27(12.5-13.0)		SB11-27(15.0-15.5)		SB11-27(25-25.2)
Sample Date:	07-FEB-92		07-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92		10-FEB-92
Sample Depth:	16 - 16.5 ft		18.8 - 19.2 ft		13 - 13.5 ft		18 - 18.5 ft		12.5 - 13 ft		15 - 15.5 ft		25 - 25.2 ft
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL
METALS (MG/KG)													
LEAD, ORGANIC	**2**		N/A		N/A		N/A		N/A		.59	U	N/A
MAGNESIUM	**4520**		N/A		N/A		N/A		N/A		**3720**		N/A
MANGANESE	**272**		N/A		N/A		N/A		N/A		**236**		N/A
MERCURY	.1	UJ	N/A		N/A		N/A		N/A		.11	UJ	N/A
NICKEL	**28.2**		N/A		N/A		N/A		N/A		**19.5**		N/A
POTASSIUM	**3440**	J	N/A		N/A		N/A		N/A		**2850**	J	N/A
SELENIUM	**.47**	BNJ	N/A		N/A		N/A		N/A		.44	UNW	N/A
SILVER	.68	UNJ	N/A		N/A		N/A		N/A		.67	UNJ	N/A
SODIUM	366	UB	N/A		N/A		N/A		N/A		405	UB	N/A
THALLIUM	.68	UW	N/A		N/A		N/A		N/A		.67	U	N/A
VANADIUM	**27.6**		N/A		N/A		N/A		N/A		**21.9**		N/A
ZINC	**62.1**	E	N/A		N/A		N/A		N/A		**106**	E	N/A
WATER QUALITY (MG/KG)													
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
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Point Type:	SB		SB	SB	SB	SB	SB	SB
Point Name:	SB11-27A		SB11-27A	SB11-28	SB11-28	SB11-29	SB11-29	SB11-30
Sample Id:	SB11-27A(15.5-16.0)		SB11-27A(22.4-22.7)	SB11-28(14.5-15.0)	SB11-28(15.3-15.8)	SB11-29(10.2-10.7)	SB11-29(11.5-12.0)	SB11-30(4.5-9.5)
Sample Date:	19-MAR-92		19-MAR-92	11-FEB-92	11-FEB-92	12-FEB-92	12-FEB-92	12-FEB-92
Sample Depth:	15.5 - 16 ft		22.4 - 22.7 ft	14.5 - 15 ft	15.3 - 15.8 ft	10.2 - 10.7 ft	11.5 - 12 ft	4.5 - 9.5 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)								
LEAD, ORGANIC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	**3380**		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	**180**	NJ	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.12	U	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	**17.2**		N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	2510	UB	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	.24	UNWJ	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A		N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	393	UB	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	.48	U	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	**16.3**		N/A	N/A	N/A	N/A	N/A	N/A
ZINC	**34.1**	E	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)								
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A		**7700**	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB11-31		SB11-31		SB11-31A		SB11-31A		SB11-34		SB11-34		SB11-35
Sample Id:	SB11-31(17.8-18.3)		SB11-31(8.4-8.8)		SB11-31A(18.1-18.4)		SB11-31A(23.0-23.5)		SB11-34(18.0-18.5)		SB11-34(9.0-14.0)		SB11-35(17.0-17.5
Sample Date:	12-FEB-92		12-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92		17-FEB-92
Sample Depth:	17.8 - 18.3 ft		8.4 - 8.8 ft		18.1 - 18.4 ft		23 - 23.5 ft		18 - 18.5 ft		9 - 14 ft		17 - 17.5 ft
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL
METALS (MG/KG)													
LEAD, ORGANIC	.6	U	.6	U	5.3		.72	U	.72	U	.61	U	.64
MAGNESIUM	4020		N/A		3730		N/A		N/A		N/A		N/A
MANGANESE	277		N/A		279		N/A		N/A		N/A		N/A
MERCURY	.13	J	N/A		.2	J	N/A		N/A		N/A		N/A
NICKEL	22.6		N/A		20.9		N/A		N/A		N/A		N/A
POTASSIUM	3260	J	N/A		3710	J	N/A		N/A		N/A		N/A
SELENIUM	.5	UNWJ	N/A		.5	J	N/A		N/A		N/A		N/A
SILVER	.75	UN	N/A		.76	UN	N/A		N/A		N/A		N/A
SODIUM	486	UB	N/A		489	UJ	N/A		N/A		N/A		N/A
THALLIUM	.75	UW	N/A		.76	UW	N/A		N/A		N/A		N/A
VANADIUM	24.9		N/A		26.2		N/A		N/A		N/A		N/A
ZINC	41.1	E	N/A		38.7	E	N/A		N/A		N/A		N/A
WATER QUALITY (MG/KG)													
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB		SB	SB	SB	SB
Point Name:	SB11-37B		SB11-37B	SB11-40		SB11-40	SB11-41	SB11-41	
Sample Id:	SB11-37B(17.8-18.1)		SB11-37B(23.5-24.0)	SB11-40(11.0-11.5)		SB11-40(15.4-15.7)	SB11-40(7.0-7.5)	SB11-41(15.8-16.1)	SB11-41(7.0-7.5)
Sample Date:	25-MAR-92		25-MAR-92	21-FEB-92		21-FEB-92	21-FEB-92	21-FEB-92	21-FEB-92
Sample Depth:	17.8 - 18.1 ft		23.5 - 24 ft	11 - 11.5 ft		15.4 - 15.7 ft	7 - 7.5 ft	15.8 - 16.1 ft	7 - 7.5 ft
Investigation:	92SOIL		92SOIL	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)									
LEAD, ORGANIC	N/A		N/A	N/A		.6	U	N/A	N/A	N/A
MAGNESIUM	6890		N/A	N/A		N/A		N/A	N/A	N/A
MANGANESE	196	N	N/A	N/A		N/A		N/A	N/A	N/A
MERCURY	.13	UNJ	N/A	N/A		N/A		N/A	N/A	N/A
NICKEL	42.9		N/A	N/A		N/A		N/A	N/A	N/A
POTASSIUM	2870	J	N/A	N/A		N/A		N/A	N/A	N/A
SELENIUM	.53	UNWJ	N/A	N/A		N/A		N/A	N/A	N/A
SILVER	.8	UNJ	N/A	N/A		N/A		N/A	N/A	N/A
SODIUM	2450	J	N/A	N/A		N/A		N/A	N/A	N/A
THALLIUM	.8	U	N/A	N/A		N/A		N/A	N/A	N/A
VANADIUM	52.7		N/A	N/A		N/A		N/A	N/A	N/A
ZINC	93.5		N/A	N/A		N/A		N/A	N/A	N/A
WATER QUALITY (MG/KG)									
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A		N/A		N/A	N/A	N/A
TOTAL ORGANIC CARBON	2600		14000	N/A		N/A		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB	SB	SB		SB	SB	SB
Point Name:	SB11-42		SB11-42	SB11-42	SB11-42	SB11-43		SB11-43	SB11-44
Sample Id:	SB11-42(16.0-16.5)		SB11-42(17.5-18.0)	SB11-42(18.4-18.6)	SB11-42(6.2-7.0)	SB11-43(10.5-11.0)		SB11-43(9.7-10.0)	SB11-44(12.3-12.7
Sample Date:	11-MAR-92		11-MAR-92	11-MAR-92	11-MAR-92	11-MAR-92		11-MAR-92	12-MAR-92
Sample Depth:	16 - 16.5 ft		17.5 - 18 ft	18.4 - 18.6 ft	6.2 - 7 ft	10.5 - 11 ft		9.7 - 10 ft	12.3 - 12.7 ft
Investigation:	92SOIL		92SOIL	92SOIL	92SOIL	92SOIL		92SOIL	92SOIL
METALS (MG/KG)									
LEAD, ORGANIC	.66	U	N/A	N/A	N/A	N/A		N/A	N/A
MAGNESIUM	N/A		N/A	N/A	N/A	**10700**		N/A	N/A
MANGANESE	N/A		N/A	N/A	N/A	**510**	N	N/A	N/A
MERCURY	N/A		N/A	N/A	N/A	N/A		N/A	N/A
NICKEL	N/A		N/A	N/A	N/A	**81.3**		N/A	N/A
POTASSIUM	N/A		N/A	N/A	N/A	**2540**	J	N/A	N/A
SELENIUM	N/A		N/A	N/A	N/A	.57	UNWJ	N/A	N/A
SILVER	N/A		N/A	N/A	N/A	.85	UNJ	N/A	N/A
SODIUM	N/A		N/A	N/A	N/A	**2590**	J	N/A	N/A
THALLIUM	N/A		N/A	N/A	N/A	.85	U	N/A	N/A
VANADIUM	N/A		N/A	N/A	N/A	**69.3**		N/A	N/A
ZINC	N/A		N/A	N/A	N/A	**191**		N/A	N/A
WATER QUALITY (MG/KG)									
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A		N/A	N/A
TOTAL ORGANIC CARBON	N/A		N/A	N/A	N/A	N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB11-44		SB11-44		SB11-45		SB11-45		SB11-45 (FD)		SB11-46		SB11-46
Sample Id:	SB11-44(16.8-17.2)		SB11-44(17.1-17.3)		SB11-45(22.9-23.2)		SB11-45(9.5-10.0)		SB11-45(18.5-19.5)		SB11-46(12.5-14.5)		SB11-46(16.8-17.1
Sample Date:	12-MAR-92		12-MAR-92		13-MAR-92		13-MAR-92		13-MAR-92		16-MAR-92		16-MAR-92
Sample Depth:	16.8 - 17.2 ft		17.1 - 17.3 ft		22.9 - 23.2 ft		9.5 - 10 ft		9.5 - 10 ft		12.5 - 14.5 ft		16.8 - 17.1 ft
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL
METALS (MG/KG)													
LEAD, ORGANIC	N/A		.6	U	N/A		.59	U	N/A		.6	U	N/A
MAGNESIUM	N/A		4720		N/A		3140		N/A		N/A		N/A
MANGANESE	N/A		256		N/A		225		N/A		N/A		N/A
MERCURY	N/A		.13	J	N/A		.1	UJ	N/A		N/A		N/A
NICKEL	N/A		25.8		N/A		20.9		N/A		N/A		N/A
POTASSIUM	N/A		2560	J	N/A		3520	J	N/A		N/A		N/A
SELENIUM	N/A		.46	UNWJ	N/A		.45	UNWJ	N/A		N/A		N/A
SILVER	N/A		.69	UNJ	N/A		1.1	BN	N/A		N/A		N/A
SODIUM	N/A		1400	J	N/A		407	UB	N/A		N/A		N/A
THALLIUM	N/A		.69	UW	N/A		.68	U	N/A		N/A		N/A
VANADIUM	N/A		40.1		N/A		27.8		N/A		N/A		N/A
ZINC	N/A		60.7	E	N/A		45.7	E	N/A		N/A		N/A
WATER QUALITY (MG/KG)													
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-46	SB11-46 (FD)	SB11-47	SB11-47	SB11-49	SB11-50	SB11-53
Sample Id:	SB11-46(17.5-17.7)	SB11-46(22.5-24.5)	SB11-47(12.5-13.0)	SB11-47(16.0-16.5)	SB11-49(6.8-7.2)	SB11-50(5.0-5.5)	SB11-53(10.5-11.0
Sample Date:	16-MAR-92	16-MAR-92	16-MAR-92	16-MAR-92	17-MAR-92	18-MAR-92	24-MAR-92
Sample Depth:	17.5 - 17.7 ft	12.5 - 14.5 ft	12.5 - 13 ft	16 - 16.5 ft	6.8 - 7.2 ft	5 - 5.5 ft	10.5 - 11 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	.62 U	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	**24000**	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB		SB		SB	SB	SB	SB	SB
Point Name:	SB11-53		SB11-54		SB11-54	SB11-54	SB11-54	SB11-54	SB11-94
Sample Id:	SB11-53(12.5-13.5)		SB11-54 (11.5-12.0)		SB11-54 (12.0-12.5)	SB11-54 (12.5-13.0)	SB11-54 (23.5-24.0)	SB11-54 (24.5-25.0)	SB11-94(10-11.5)
Sample Date:	24-MAR-92		14-FEB-94		14-FEB-94	14-FEB-94	14-FEB-94	14-FEB-94	12-FEB-99
Sample Depth:	12.5 - 13.5 ft		11.5 - 12 ft		12 - 12.5 ft	12.5 - 13 ft	23.5 - 24 ft	24.5 - 25 ft	10 - 11.5 ft
Investigation:	92SOIL		94DRUMLOT1		94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1	PHASEII_RI
METALS (MG/KG)									
LEAD, ORGANIC	N/A		N/A		N/A	N/A	N/A	N/A	N/A
MAGNESIUM	5690		5800		N/A	N/A	N/A	N/A	N/A
MANGANESE	372	NJ	394		N/A	N/A	N/A	N/A	N/A
MERCURY	.17		.46	UJ	N/A	N/A	N/A	N/A	N/A
NICKEL	30.7		30.9		N/A	N/A	N/A	N/A	N/A
POTASSIUM	4140	UB	2450	UJ	N/A	N/A	N/A	N/A	N/A
SELENIUM	.26	UNWJ	.68	UW	N/A	N/A	N/A	N/A	N/A
SILVER	N/A		.45	U	N/A	N/A	N/A	N/A	N/A
SODIUM	487	UB	142	U	N/A	N/A	N/A	N/A	N/A
THALLIUM	.51	UW	N/A		N/A	N/A	N/A	N/A	N/A
VANADIUM	31.5		23.5		N/A	N/A	N/A	N/A	N/A
ZINC	71.3	E	69.9	J	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)									
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A	850	580	N/A	N/A
TOTAL ORGANIC CARBON	N/A		N/A		N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB
Point Name:	SB11-94	SB11-94 (FD)	SB11-95	SB11-95	SB11-95 (FD)
Sample Id:	SB11-94(14.5-15.0)	SB11-94(1.0-2.0)	SB11-95(10-11)	SB11-95(21-22.5)	SB11-95(11.5-12.5)
Sample Date:	12-FEB-99	12-FEB-99	07-FEB-99	07-FEB-99	07-FEB-99
Sample Depth:	14.5 - 15 ft	14.5 - 15 ft	10 - 11 ft	21 - 22.5 ft	10 - 11 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)					
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)					
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A

GROUNDWATER

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR11-96		MW03-02		MW03-02		MW11-07		MW11-08		MW11-08		MW11-08	
Sample Id:	BR11-96		MW03-02(5.0)		MW03-02		MW11-07(22.6)		MW11-08(16.0)		MW11-08(22.0)		MW11-08 (12.0)	
Sample Date:	25-FEB-99		11-FEB-99		24-FEB-99		26-MAY-92		27-MAY-92		22-MAR-94		22-JUN-94	
Sample Depth:														
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		92GW		92GW		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.1	U	.1	U	.1	U	.05	U	.05	U	N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	**.19**	Z	.05	U	**.94**	Z	.05	U	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.052	U	N/A	
JP5 RANGE ORGANICS	.1	U	.1	U	**3.76**	Y	.05	U	.05	U	.052	U	N/A	
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		**.0052**		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	.1	U	.12	U	.5	U	.5	U	N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		.05	U	.05	U	.052	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		**.001**		**.001**		**.079**	Y	**.054**	J
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.1	U	.1	U	.1	U	**1.1**		**3.4**		**6.9**	J	N/A	
TPH - DIESEL F-76 (C8-C28)	.1	U	.1	U	.1	U	N/A		N/A		.052	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		.052	UJ	N/A	
XYLENE (TOTAL)	.001	U	.001	U	.001	U	.0005	U	.0005	U	.0005	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	10	U	10	U	10	U	10	U	N/A		2	U
1,1,2-TRICHLOROETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,2-DICHLOROBENZENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A	
1,2-DICHLOROETHANE	.5	U	10	U	10	U	10	U	10	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
1,3-DICHLOROBENZENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A	
1,4-DICHLOROBENZENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A	
2-BUTANONE	**5**		10	UJ	10	U	10	U	10	U	2	U	2	U
2-HEXANONE	2	UJ	10	U	10	U	10	U	10	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
ACETONE	5	UJ	10	UJ	10	UJ	10	U	10	U	2	U	5	UJ
BENZENE	.5	U	10	U	10	U	10	U	10	U	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-08		MW11-08		MW11-09		MW11-11		MW11-13		MW11-13		MW11-13	
Sample Id:	MW11-08 (11.5)		MW11-08(11.0)		MW11-09(14.0)		MW11-11(14.8)		MW11-13(18.0)		MW11-13(26)		MW11-13(15.5)	
Sample Date:	20-SEP-94		09-DEC-94		27-MAY-92		27-MAY-92		27-MAY-92		25-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		92GW		92GW		92GW		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0009		.001		.002	
DIESEL RANGE ORGANICS	N/A		N/A		.05	U	.89		1.2		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	.2	U	.05	U	N/A		N/A		N/A		.052	U	.1	UJ
JP5 RANGE ORGANICS	.2	UJ	.05	U	.05	U	.05	U	.05	U	.052	U	.1	UJ
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		.5	U	.5	U	.5	U	N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	6.4	Y	5.6	Y	.05	U	.05	U	.05	U	.052	U	.1	UJ
OTHER LIGHT TPH COMPONENTS	.6	Y	.33	Y	.001		.001		.001		.5	Y	.56	Y
TOLUENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	19	J	.5	U	2.4		4		4.4		6.8	J	15	J
TPH - DIESEL F-76 (C8-C28)	.2	U	.05	U	N/A		N/A		N/A		.052	U	.1	UJ
TPH - WEATHERED DIESEL(C8-C26)	.2	U	.05	U	N/A		N/A		N/A		.052	U	.1	UJ
XYLENE (TOTAL)	.0005	U	.0005	UJ	.0005	U	.0005	U	.001		.0005	U	.0006	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,1,2,2-TETRACHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,1,2-TRICHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,1-DICHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,1-DICHLOROETHENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
1,2-DICHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,2-DICHLOROETHENE (TOTAL)	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,2-DICHLOROPROPANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		10	U	1	J	10	U	100	U
1,4-DICHLOROBENZENE	N/A		N/A		N/A		10	U	5	J	5	J	100	U
2-BUTANONE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
2-HEXANONE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
4-METHYL-2-PENTANONE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
ACETONE	50	U	2	UJ	10	U	10	U	10	U	7	U	10	U
BENZENE	50	U	2	U	10	U	10	U	2	J	2	J	2	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13	
Sample Id:	MW11-97(25.5)		MW11-13 (14.0)		MW11-100 (24.0)		MW11-13(11.7)		MW11-97(22.0)		MW11-13		MW11-13	
Sample Date:	24-JUN-94		29-SEP-94		29-SEP-94		12-DEC-94		12-DEC-94		03-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
TPH (MG/L)														
BENZENE	N/A		.0007	J	N/A		.0006		N/A		.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.1	U	.1	U
ETHYLBENZENE	N/A		.0005	UJ	N/A		.0005	U	N/A		.0005	U	.0005	U
GASOLINE RANGE ORGANICS	N/A		.05	UJ	N/A		.05	UJ	N/A		.04	JZ	.08	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A		.05	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		N/A		N/A		.05	U	N/A		N/A		.1	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.1	U	.1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		5.7	Y	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		.47	YZ	N/A		.43	Y	N/A		N/A		N/A	
TOLUENE	N/A		.0005	UJ	N/A		.0005	U	N/A		.0005	U	.0012	
TPH - BUNKER FUEL (C10-C28)	N/A		5.5	J	N/A		.5	U	N/A		2.1	Y	3.61	Y
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		.05	U	N/A		.1	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		.05	U	N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		.0009	J	N/A		.0005	U	N/A		N/A		.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,1,2-TRICHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,1-DICHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,1-DICHLOROETHENE	N/A		.5	U	N/A		2	U	N/A		2	U	2	UJ
1,2-DICHLOROBENZENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
1,2-DICHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		.5	U	.5	U
1,2-DICHLOROETHENE (TOTAL)	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,2-DICHLOROPROPANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
1,3-DICHLOROBENZENE	50	U	10	U	10	U	10	U	10	U	1	U	.1	J
1,4-DICHLOROBENZENE	10	J	5	J	6	J	10	U	10	U	1		1	
2-BUTANONE	N/A		41	J	N/A		2		N/A		2	U	23	
2-HEXANONE	N/A		4	UJ	N/A		2	U	N/A		2	U	2	U
4-METHYL-2-PENTANONE	N/A		4	UJ	N/A		2	U	N/A		2	U	2	U
ACETONE	N/A		4	UJ	N/A		2	UJ	N/A		2	UJ	2	UJ
BENZENE	N/A		1		N/A		.6	J	N/A		.5	U	.5	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-13		MW11-13 (FD)		MW11-14		MW11-16		MW11-21		MW11-21		MW11-21	
Sample Id:	MW11-13		MW11-200		MW11-14(24.5)		MW11-16(19.0)		MW11-21(21.0)		MW11-21(22)		MW11-21(20.0)	
Sample Date:	18-JAN-99		18-JAN-99		28-MAY-92		28-MAY-92		29-MAY-92		29-MAR-94		23-JUN-94	
Sample Depth:														
Investigation:	SEMI_EVENT3		SEMI_EVENT3		92GW		92GW		92GW		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.019		.0005	U	.013	
DIESEL RANGE ORGANICS	1.4	Y	1.7	Y	.05	U	.42		4.1		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.006		.0006		.002	
GASOLINE RANGE ORGANICS	.06		.13		.05	U	.05	U	.8		.05	U	.05	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.05	U	.05	UJ
JP5 RANGE ORGANICS	N/A		N/A		.05	U	.05	U	.05	U	.05	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.003	J	.005	U	N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	.1	U	.5	U	.5	U	.5	U	N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		.05	U	.05	U	.05	U	.05	U	.05	U
OTHER LIGHT TPH COMPONENTS	N/A		N/A		.001		.001		.001		1.4	Y	1.7	Y
TOLUENE	.0015		.0013		.0005	U	.0005	U	.016		.006		.012	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		5.5		1.5		.5	U	7.4		9.6	J
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		.05	U	.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		.05	U	.05	U
XYLENE (TOTAL)	.001	J	.0008	J	.0005	U	.005		.038		.017		.033	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		10	U	50	U	10	U	10	U
1,2-DICHLOROETHANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROPROPANE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		10	U	50	U	10	U	10	U
1,4-DICHLOROBENZENE	N/A		N/A		N/A		10	U	50	U	10	U	10	U
2-BUTANONE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
2-HEXANONE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	N/A		N/A		10	U	10	U	2	U	2	U	2	U
ACETONE	N/A		N/A		10	U	10	U	2	U	4		14	J
BENZENE	N/A		N/A		10	U	10	U	7		2	J	4	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-21		MW11-21		MW11-21 (FD)		MW11-21		MW11-21		MW11-21		MW11-21	
Sample Id:	MW11-21 (17.0)		MW11-21(15.5)		MW11-98(23.0)		MW11-21		MW11-21		MW11-21		MW11-21	
Sample Date:	22-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96		08-NOV-97		07-APR-98		21-JAN-99	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)														
BENZENE	.062	J	.025		.018		.0035		.0065		.0289		.02	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		.25	U	.1	U	.1	U	1.3	
ETHYLBENZENE	.0005	UJ	.025		.025		.0021		.0012		.027		.0036	
GASOLINE RANGE ORGANICS	.05	UJ	.25	UJ	.25	UJ	.45		1	Z	2.22	Y	.97	
JP4 RANGE ORGANICS	.05	UJ	.05	U	.05	U	2	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	.05	UJ	.05	U	.05	U	.25	U	.1	U	.1	U	.1	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		.049		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		.084		.02	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		1	U	.1	U	.1	U	.1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		.0103		N/A	
OTHER HEAVY TPH COMPONENTS	3.3	J	.05	U	.05	U	.25	U	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	2.3	ZY	3	Y	2.9	YX	N/A		N/A		N/A		N/A	
TOLUENE	.035	J	.024		.041		.0052		.0071		.0385		.0201	
TPH - BUNKER FUEL (C10-C28)	.5	UJ	4.8		4.1	J	2.1	Y	3.24	Y	1.4	Y	N/A	
TPH - DIESEL F-76 (C8-C28)	.05	UJ	.05	U	.05	U	.25	U	.1	U	.1	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	.05	UJ	.05	U	.05	U	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.055	J	.076		.081		N/A		N/A		N/A		.028	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,1,2,2-TETRACHLOROETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,1,2-TRICHLOROETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,1-DICHLOROETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,1-DICHLOROETHENE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	1	UJ	20	U
							5	U						
1,2-DICHLOROETHANE	5	U	4	U	N/A		1	U	.5	U	.4	J	10	U
1,2-DICHLOROETHENE (TOTAL)	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,2-DICHLOROPROPANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	1	UJ	20	U
							5	U						
1,4-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	1	UJ	20	U
							5	U						
2-BUTANONE	5	U	4	U	N/A		5	UJ	2	U	2	U	10	UJ
2-HEXANONE	5	UJ	4	U	N/A		5	UJ	2	U	2	U	10	UJ
4-METHYL-2-PENTANONE	5	U	4	U	N/A		5	UJ	2	U	2	U	10	U
ACETONE	17	UJ	8	UJ	N/A		5.3	J	2	UJ	2	UJ	10	UJ
BENZENE	10		9		N/A		1.5		2		5		3	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.009		.009		.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	1.5		3.7		.71		.69		.05	U	.05	U	.05	U
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.003		.0005	U
GASOLINE RANGE ORGANICS	.35		.17		.28		.25		.34		.72		.09	
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	.05	U	.05	U	.05	U	.05	U	3.2		.05	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.5	U	.12	J	.5	U	.11	J	.15	J	.5	U	.07	J
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.05	U	.59		.36		.05	U	.36		.05	U
OTHER LIGHT TPH COMPONENTS	.001		.001		.001		.001		.001		.001		.001	
TOLUENE	.0005	U	.0005	U	.002		.002		.0005	U	.0005	U	.002	
TPH - BUNKER FUEL (C10-C28)	5.9		.5	U	3.8		4		6.6		4.1		8.3	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.002		.0009		.003		.002		.0008		.007		.006	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,1,2-TRICHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,1-DICHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,1-DICHLOROETHENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,2-DICHLOROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
1,2-DICHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,2-DICHLOROPROPANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
1,3-DICHLOROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
1,4-DICHLOROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2-BUTANONE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
2-HEXANONE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
4-METHYL-2-PENTANONE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
ACETONE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
BENZENE	.8	J	N/A		1	J	3		N/A		N/A		.8	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-32		MW11-37		MW11-38		MW11-40		MW11-40		MW11-40		MW11-40	
Sample Id:	MW11-32(17.0)		MW11-37(10.5)		MW11-38(11.5)		MW11-40(08.0)		MW11-40(17)		MW11-40 (07.5)		MW11-40 (7.0)	
Sample Date:	30-MAY-92		01-JUN-92		02-JUN-92		02-JUN-92		31-MAR-94		22-JUN-94		28-SEP-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW2Q94		GW3Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.002	U	.002	U	.0005	UJ
DIESEL RANGE ORGANICS	.05	U	.05	U	.05	U	**1.6**		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.002	U	.002	U	.0005	UJ
GASOLINE RANGE ORGANICS	**.14**		.05	U	.05	U	.05	U	.25	U	.25	U	.05	UJ
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		.26	U	.5	UJ	N/A	
JP5 RANGE ORGANICS	.05	U	.05	U	.05	U	.05	U	.26	U	.5	UJ	N/A	
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.5	U	.5	U	.5	U	.5	U	N/A		N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.05	U	**.1**		**.13**		.26	U	.5	UJ	N/A	
OTHER LIGHT TPH COMPONENTS	**.001**		**.001**		**.001**		**2.1**	J	**2.6**	Y	**.56**	J	**.72**	Y
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.002	U	.002	U	.0005	UJ
TPH - BUNKER FUEL (C10-C28)	**8.8**		**3**		**2.5**		.5	U	2.6	U	**60**	J	**8.2**	J
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		**18**		.5	UJ	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		.26	U	.5	UJ	N/A	
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	U	**.006**		.002	U	.002	U	.0005	UJ
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	1	J	2	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
1,4-DICHLOROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2-BUTANONE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
2-HEXANONE	2	U	2	U	2	U	2	U	2	U	2	U	**29**	J
4-METHYL-2-PENTANONE	2	U	2	U	2	U	2	U	2	U	2	U	**19**	J
ACETONE	2	U	2	U	2	U	2	U	2	UJ	5	UJ	**12**	J
BENZENE	2	U	2	U	2	U	2	U	**.1**	J	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-40		MW11-41		MW11-43		MW11-44		MW11-45		MW11-45 (FD)		MW11-46	
Sample Id:	MW11-40(07.0)		MW11-41(09.0)		MW11-43(16.5)		MW11-44(11.0)		MW11-45(11.0)		MW11-95(12.0)		MW11-46(12.5)	
Sample Date:	09-DEC-94		02-JUN-92		02-JUN-92		02-JUN-92		03-JUN-92		03-JUN-92		03-JUN-92	
Sample Depth:														
Investigation:	GW4Q94		92GW		92GW		92GW		92GW		92GW		92GW	
TPH (MG/L)														
BENZENE	.0005	UJ	.0005	U	**.002**		.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
ETHYLBENZENE	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	UJ	**.051**		**.11**		**.06**		**.35**		**.39**		**.079**	
JP4 RANGE ORGANICS	.1	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	.1	UJ	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		.5	U	.5	U	.5	U	.5	U	.5	U	.5	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.1	UJ	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
OTHER LIGHT TPH COMPONENTS	**1.5**	Y	**.001**		**.001**		**.001**		**.001**		**.001**		**.001**	
TOLUENE	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	1	UJ	**1.8**		**7.5**		**2.8**		**9.4**		**9.4**		**1.5**	
TPH - DIESEL F-76 (C8-C28)	**12**	J	N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	.1	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	UJ	**.001**	J	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	2	U	N/A		**1**	J	2	U	2	U	2	U
1,2-DICHLOROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A	
1,2-DICHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	N/A		**710**	D	**2**		**2**		**2**	
1,2-DICHLOROPROPANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A	
1,4-DICHLOROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A	
2-BUTANONE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
2-HEXANONE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
ACETONE	2	UJ	2	U	N/A		2	U	2	U	2	U	3	UJ
BENZENE	2	U	2	U	N/A		**1**	J	**1**	J	**2**		2	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.003		.0005	U	.018		.02		.022	
DIESEL RANGE ORGANICS	.05	U	.05	U	1.9		.05	U	N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.001	U	.001	U	.002	U
GASOLINE RANGE ORGANICS	.15		.05	U	.058		.059		.12	U	.12	U	.25	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	UJ
JP5 RANGE ORGANICS	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	UJ
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.5	U	.1	BJ	.5	U	.5	U	N/A		N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	UJ
OTHER LIGHT TPH COMPONENTS	.001		.001		.001		.001		1.7	Y	3.2	Y	2.5	Y
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.007		.007		.005	
TPH - BUNKER FUEL (C10-C28)	3.4		.5	U	5.9		5.4		.5	U	.5	U	7.7	J
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		1.9		1.6		.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	UJ
XYLENE (TOTAL)	.0005	U	.0005	U	.001		.0005	U	.021		.023		.021	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		2	U	10	U	2	U	N/A		N/A		2	U
1,1,2-TRICHLOROETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,1-DICHLOROETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,1-DICHLOROETHENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,2-DICHLOROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,2-DICHLOROETHENE (TOTAL)	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,2-DICHLOROPROPANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
1,3-DICHLOROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
1,4-DICHLOROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2-BUTANONE	N/A		2	U	27		2	U	26		23		4	J
2-HEXANONE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
4-METHYL-2-PENTANONE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
ACETONE	N/A		2	U	10	U	2	U	32	J	30	J	22	J
BENZENE	N/A		2	U	2	J	2	U	4		4		5	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54 (FD)		MW11-54		MW11-54		MW11-54 (FD)		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-98(23.0)		MW11-54 (13.5)		MW11-54 (13.2)		MW11-99 (24.0)		MW11-54(11.5)		MW11-99(22.0)		MW11-54	
Sample Date:	24-JUN-94		29-JUN-94		29-SEP-94		29-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
TPH (MG/L)														
BENZENE	N/A		N/A		.021	J	N/A		.018		N/A		.0089	J
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		.25	U
ETHYLBENZENE	N/A		N/A		.002	J	N/A		.006		N/A		.0029	J
GASOLINE RANGE ORGANICS	N/A		N/A		.05	UJ	N/A		.25	UJ	N/A		1.8	J
JP4 RANGE ORGANICS	2.6	J	N/A		.05	U	N/A		.05	U	N/A		2	U
JP5 RANGE ORGANICS	.05	UJ	N/A		.05	U	N/A		.05	U	N/A		.25	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	UJ	N/A		.05	U	N/A		2	Y	N/A		.25	U
OTHER LIGHT TPH COMPONENTS	N/A		N/A		1.9	YZ	N/A		2.2	Y	N/A		N/A	
TOLUENE	N/A		N/A		.007	J	N/A		.002	U	N/A		.02	J
TPH - BUNKER FUEL (C10-C28)	3.9	J	N/A		4.5	J	N/A		.5	U	N/A		5.2	Y
TPH - DIESEL F-76 (C8-C28)	.05	UJ	N/A		.05	U	N/A		.05	U	N/A		.25	U
TPH - WEATHERED DIESEL(C8-C26)	.05	UJ	N/A		.05	U	N/A		.05	U	N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		.018	J	N/A		.037		N/A		N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,1,2-TRICHLOROETHANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,1-DICHLOROETHANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,1-DICHLOROETHENE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,2-DICHLOROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
													25	U
1,2-DICHLOROETHANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,2-DICHLOROPROPANE	N/A		N/A		.5	U	N/A		2	U	N/A		25	U
1,3-DICHLOROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
													25	U
1,4-DICHLOROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
													25	U
2-BUTANONE	N/A		N/A		4	UJ	N/A		3		N/A		120	U
2-HEXANONE	N/A		N/A		4	UJ	N/A		2	U	N/A		120	U
4-METHYL-2-PENTANONE	N/A		N/A		4	UJ	N/A		2	U	N/A		120	U
ACETONE	N/A		N/A		4	UJ	N/A		2	UJ	N/A		120	UJ
BENZENE	N/A		N/A		6		N/A		2	BJ	N/A		25	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91(30.0)		MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97		01-APR-98		19-JAN-99		25-FEB-99		04-JUN-92		29-MAR-94		29-MAR-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		92GW		GW1Q94		GW1Q94	
TPH (MG/L)														
BENZENE	.0028		.0053		.0192		.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	1	U	.1	U	.92	J	.54	Y	.05	U	N/A		N/A	
ETHYLBENZENE	.0005	U	.0054		.0031		.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	1.01	Z	1.08	Y	1.21		.06	Z	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.05	U	.05	U
JP5 RANGE ORGANICS	1	U	.1	U	N/A		.1	U	.05	U	.05	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		.03		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	1	U	.1	U	.1	UJ	.1	U	.5	U	N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		.02	J	3.5	Y	3.5	Y
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		.001		.19	Y	.43	Y
TOLUENE	.0005	U	.0158		.0214		.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	19	Y	3.99	Y	N/A		.1	U	.5	U	.5	U	.5	U
TPH - DIESEL F-76 (C8-C28)	1	U	.1	U	N/A		.1	U	N/A		.05	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		.05	U	.05	U
XYLENE (TOTAL)	N/A		.014		.022		.001	U	.0005	U	.0005	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,1,2-TRICHLOROETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,1-DICHLOROETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,1-DICHLOROETHENE	10	U	10	UJ	10	U	2	U	N/A		2	U	2	U
1,2-DICHLOROBENZENE	1	U	1	U	20	U	1	U	N/A		10	U	10	U
1,2-DICHLOROETHANE	3	U	3	U	10	U	.5	U	N/A		2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,2-DICHLOROPROPANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
1,3-DICHLOROBENZENE	1	U	1	U	20	U	1	U	N/A		10	U	10	U
1,4-DICHLOROBENZENE	1	U	1	U	20	U	1	U	N/A		10	U	10	U
2-BUTANONE	10	U	10	U	10	U	2	U	N/A		3		4	
2-HEXANONE	10	U	10	U	10	U	3		N/A		2	U	2	U
4-METHYL-2-PENTANONE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
ACETONE	10	UJ	10	UJ	10	UJ	3	UJ	N/A		2	U	2	UJ
BENZENE	3	U	3	U	4	J	.5	U	N/A		.09	J	.09	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-92		MW11-92 (FD)		MW11-92		MW11-92 (FD)		MW11-92		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)		MW11-92 (12.5)		MW11-96 (22.0)		MW11-92 (12.5)		MW11-92(11.0)		MW11-96(21.5)	
Sample Date:	22-JUN-94		22-JUN-94		21-SEP-94		21-SEP-94		28-SEP-94		09-DEC-94		09-DEC-94	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	UJ	.0005	UJ	N/A		.0005	U	.0005	UJ
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	UJ	.0005	UJ	N/A		.0005	U	.0005	UJ
GASOLINE RANGE ORGANICS	.05	U	.05	U	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ
JP4 RANGE ORGANICS	.1	UJ	.1	UJ	.05	UJ	.05	UJ	N/A		.05	U	.05	U
JP5 RANGE ORGANICS	.1	UJ	.1	UJ	.05	UJ	.05	UJ	N/A		.05	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.1	UJ	.1	UJ	.05	UJ	.05	UJ	N/A		**2.9**	Y	**3**	Y
OTHER LIGHT TPH COMPONENTS	**.81**	J	**.65**	J	**.22**	Y	**.2**	Y	N/A		**.29**	Y	**.24**	Y
TOLUENE	.0005	U	.0005	U	.0005	UJ	.0005	UJ	N/A		.0005	U	.0005	UJ
TPH - BUNKER FUEL (C10-C28)	**9.4**	J	**12**		**4.4**	J	**4.5**	J	N/A		.5	U	.5	U
TPH - DIESEL F-76 (C8-C28)	.1	UJ	.1	UJ	.05	UJ	.05	UJ	N/A		.05	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	.1	UJ	.1	UJ	.05	UJ	.05	UJ	N/A		.05	U	.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	UJ	.0005	UJ	N/A		.0005	UJ	.0005	UJ
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,1,2-TRICHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,1-DICHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,1-DICHLOROETHENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,2-DICHLOROBENZENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
1,2-DICHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,2-DICHLOROPROPANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	
1,3-DICHLOROBENZENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
1,4-DICHLOROBENZENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2-BUTANONE	2	UJ	N/A		2	U	N/A		N/A		2	U	N/A	
2-HEXANONE	2	UJ	N/A		2	U	N/A		N/A		2	U	N/A	
4-METHYL-2-PENTANONE	2	UJ	N/A		2	U	N/A		N/A		2	U	N/A	
ACETONE	2	UJ	N/A		2	U	N/A		N/A		2	UJ	N/A	
BENZENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93		MW11-93	
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
TPH (MG/L)														
BENZENE	.006		.011		.002	U	.001		.004		.0071		.0119	J
DIESEL RANGE ORGANICS	.5	U	N/A		N/A		N/A		N/A		.1	U	.1	U
ETHYLBENZENE	.0005	U	.0005	U	.002	U	.0005	U	.001	U	.0005		.0039	J
GASOLINE RANGE ORGANICS	1.1		.05	U	.25	U	.05	UJ	.1	UJ	1.96	Z	1.2	Y
JP4 RANGE ORGANICS	N/A		.051	U	.1	UJ	.05	UJ	.1	UJ	N/A		N/A	
JP5 RANGE ORGANICS	41		.051	U	.1	UJ	.05	UJ	.1	UJ	.1	U	.1	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	5	U	N/A		N/A		N/A		N/A		.1	Z	.1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.5	U	4.1	Y	.1	UJ	.05	UJ	.1	UJ	N/A		N/A	
OTHER LIGHT TPH COMPONENTS	.001		1.5	Y	3.3	J	.33	YZ	1.7	Y	N/A		N/A	
TOLUENE	.0005	U	.003		.002	U	.0005	U	.001	U	.0037		.0143	J
TPH - BUNKER FUEL (C10-C28)	50		.51	U	11	J	4.5	J	16	J	6.92	Y	3.62	Y
TPH - DIESEL F-76 (C8-C28)	N/A		.051	U	.1	UJ	.05	UJ	.1	UJ	.1	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		.051	U	.1	UJ	.05	UJ	.1	UJ	N/A		N/A	
XYLENE (TOTAL)	.005		.005		.005		.0009		.004		N/A		.012	J
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	1	U	2	UJ	10	U	10	U
1,1-DICHLOROETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
1,1-DICHLOROETHENE	2	U	2	U	2	U	1	U	2	U	10	U	10	UJ
1,2-DICHLOROBENZENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
1,2-DICHLOROETHANE	2	U	2	U	2	U	1	U	2	U	3	U	3	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	1	U	2	U	10	U	10	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
1,3-DICHLOROBENZENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
1,4-DICHLOROBENZENE	1000	U	10	U	10	U	4	J	10	U	1	U	1	U
2-BUTANONE	2	U	23		2	UJ	8	UJ	2	U	10	U	10	U
2-HEXANONE	2	U	2	U	2	UJ	8	UJ	2	UJ	10	U	10	U
4-METHYL-2-PENTANONE	2	U	2	U	2	UJ	8	UJ	2	U	10	U	10	U
ACETONE	2	U	2	UJ	18	J	8	UJ	6	UJ	10	UJ	10	UJ
BENZENE	2		2	J	1	J	1		1	J	3	U	3	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		PZ		PZ		PZ		PZ		SB	
Point Name:	MW11-93		MW11-94		PZ11-01		PZ11-78		PZ11-78		PZ11-78		SB11-95	
Sample Id:	MW11-93		MW11-94		PZ11-01(30.0)		PZ11-78		PZ11-78		PZ11-78		SB11-95(5)	
Sample Date:	19-JAN-99		19-FEB-99		04-JUN-92		08-NOV-97		07-APR-98		23-JAN-99		07-FEB-99	
Sample Depth:													5 ft	
Investigation:	SEMI_EVENT3		PHASEII_RI		92GW		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI	
TPH (MG/L)														
BENZENE	.007		.0005	U	.0005	U	.021		.0027		.0005	U	.0007	
DIESEL RANGE ORGANICS	1.4		1.4	Y	.05	U	.1	U	.2	Y	.1	U	5	U
ETHYLBENZENE	.0019		.0005	U	.0005	U	.0017		.0012		.0005	U	.0012	
GASOLINE RANGE ORGANICS	.97		.72	Z	.027	J	1.54		.18	Y	.05	J	4.49	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		1.6		.05	U	.1	U	.1	U	.1	U	5	U
M,P-XYLENE	N/A		N/A		N/A		N/A		.001		N/A		N/A	
METHYL-T-BUTYL ETHER	.013		.005	U	N/A		N/A		.011		.005	U	.005	U
MOTOR OIL RANGE ORGANICS	.1	U	.5	U	.5	U	.1	U	.1	U	.2	Y	52	
O-XYLENE	N/A		N/A		N/A		N/A		.0005	U	N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		.05	U	N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		.001		N/A		N/A		N/A		N/A	
TOLUENE	.011		.0005	U	.0005	U	.0062		.0026		.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	N/A		.5	U	.66		1.3	Y	.1	U	N/A		144	
TPH - DIESEL F-76 (C8-C28)	N/A		.5	U	N/A		.1	U	.1	U	N/A		5	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.012		.001	U	.001		N/A		N/A		.001	U	.002	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,1,2,2-TETRACHLOROETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,1,2-TRICHLOROETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,1-DICHLOROETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,1-DICHLOROETHENE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,2-DICHLOROBENZENE	N/A		N/A		10	U	1	U	1	U	N/A		N/A	
1,2-DICHLOROETHANE	N/A		1000	U	2	U	.5	U	.5	U	10	U	200	U
1,2-DICHLOROETHENE (TOTAL)	N/A		1000	U	5		2	U	2	U	10	U	200	U
1,2-DICHLOROPROPANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
1,3-DICHLOROBENZENE	N/A		N/A		10	U	1	U	1	U	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		10	U	1	U	1	U	N/A		N/A	
2-BUTANONE	N/A		1000	UJ	2	U	2	U	2	U	10	U	200	U
2-HEXANONE	N/A		1000	UJ	2	U	2	U	2	U	10	U	200	U
4-METHYL-2-PENTANONE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
ACETONE	N/A		1000	UJ	2	U	2	UJ	2	UJ	10	UJ	200	UJ
BENZENE	N/A		1000	U	.4	J	12		.7		10	U	200	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR11-96		MW03-02		MW03-02		MW11-07		MW11-08		MW11-08		MW11-08	
Sample Id:	BR11-96		MW03-02(5.0)		MW03-02		MW11-07(22.6)		MW11-08(16.0)		MW11-08(22.0)		MW11-08 (12.0)	
Sample Date:	25-FEB-99		11-FEB-99		24-FEB-99		26-MAY-92		27-MAY-92		22-MAR-94		22-JUN-94	
Sample Depth:														
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		92GW		92GW		GW1Q94		GW2Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
BROMOFORM	2	U	10	U	10	U	10	U	10	U	N/A		2	U
BROMOMETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
CARBON DISULFIDE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
CARBON TETRACHLORIDE	.5	U	10	U	10	U	10	U	10	U	2	U	2	U
CHLOROBENZENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
CHLOROETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
CHLOROFORM	2	UJ	10	UJ	10	U	10	U	10	U	2	U	2	U
CHLOROMETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.5	U	10	U	10	U	10	U	10	U	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
ETHYLBENZENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
TETRACHLOROETHENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
TOLUENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.5	U	10	U	10	U	10	U	10	U	2	U	2	U
TRICHLOROETHENE	2	U	10	U	10	U	10	U	10	U	2	U	2	U
VINYL CHLORIDE	3		10	U	10	U	10	U	10	U	2	U	2	U
XYLENE (TOTAL)	1	J	10	U	10	U	10	U	10	U	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	1	UJ	1	U	8.7		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	1	UJ	1	U	1	U	N/A		N/A		N/A		N/A	
ACENAPHTHENE	5	U	5	U	5	U	N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	2	U	2	U	2	U	N/A		N/A		N/A		N/A	
ANTHRACENE	.2	UJ	.2	U	.2	U	N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	.2	U	.2	U	.1	J	N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A	
CHRYSENE	.2	U	.2	U	.1	J	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-08		MW11-08		MW11-09		MW11-11		MW11-13		MW11-13		MW11-13	
Sample Id:	MW11-08 (11.5)		MW11-08(11.0)		MW11-09(14.0)		MW11-11(14.8)		MW11-13(18.0)		MW11-13(26)		MW11-13(15.5)	
Sample Date:	20-SEP-94		09-DEC-94		27-MAY-92		27-MAY-92		27-MAY-92		25-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		92GW		92GW		92GW		GW1Q94		GW2Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
BROMOFORM	50	U	2	U	10	U	10	U	10	U	7	U	10	U
BROMOMETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
CARBON DISULFIDE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
CARBON TETRACHLORIDE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
CHLOROBENZENE	50	U	2	U	10	U	10	U	**180**		**93**		**130**	
CHLOROETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
CHLOROFORM	50	U	**.2**	J	10	U	10	U	10	U	7	U	10	U
CHLOROMETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
DIBROMOCHLOROMETHANE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
ETHYLBENZENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	50	U	2	U	10	U	10	U	10	U	**1**	J	10	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
TETRACHLOROETHENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
TOLUENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
TRICHLOROETHENE	50	U	**1**	J	10	U	10	U	10	U	7	U	10	U
VINYL CHLORIDE	50	U	2	U	10	U	10	U	10	U	7	U	10	U
XYLENE (TOTAL)	50	U	2	U	10	U	10	U	10	U	7	U	**.9**	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13	
Sample Id:	MW11-97(25.5)		MW11-13 (14.0)		MW11-100 (24.0)		MW11-13(11.7)		MW11-97(22.0)		MW11-13		MW11-13	
Sample Date:	24-JUN-94		29-SEP-94		29-SEP-94		12-DEC-94		12-DEC-94		03-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
VOA (UG/L)														
BROMODICHLOROMETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
BROMOFORM	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
BROMOMETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
CARBON DISULFIDE	N/A		.5	U	N/A		2	U	N/A		2	U	2	UJ
CARBON TETRACHLORIDE	N/A		.5	U	N/A		2	U	N/A		.5	U	.5	UJ
CHLOROBENZENE	N/A		**110**	J	N/A		**27**		N/A		**7**		**5**	
CHLOROETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
CHLOROFORM	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
CHLOROMETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		.5	U	N/A		2	U	N/A		.5	U	.5	U
DIBROMOCHLOROMETHANE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
ETHYLBENZENE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
TETRACHLOROETHENE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
TOLUENE	N/A		.5	U	N/A		**.2**	J	N/A		2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		.5	U	N/A		2	U	N/A		.5	U	.5	U
TRICHLOROETHENE	N/A		.5	U	N/A		2	U	N/A		2	U	2	U
VINYL CHLORIDE	N/A		.5	U	N/A		2	U	N/A		.5	U	.5	U
XYLENE (TOTAL)	N/A		**1**		N/A		2	U	N/A		2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13	MW11-13 (FD)	MW11-14	MW11-16	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-13	MW11-200	MW11-14(24.5)	MW11-16(19.0)	MW11-21(21.0)	MW11-21(22)	MW11-21(20.0)
Sample Date:	18-JAN-99	18-JAN-99	28-MAY-92	28-MAY-92	29-MAY-92	29-MAR-94	23-JUN-94
Sample Depth:							
Investigation:	SEMI_EVENT3	SEMI_EVENT3	92GW	92GW	92GW	GW1Q94	GW2Q94
VOA (UG/L)							
BROMODICHLOROMETHANE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
BROMOFORM	N/A	N/A	10 U	10 U	2 U	2 U	2 U
BROMOMETHANE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
CARBON DISULFIDE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
CARBON TETRACHLORIDE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
CHLOROBENZENE	N/A	N/A	5 J	5 J	2	2 U	2 U
CHLOROETHANE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
CHLOROFORM	N/A	N/A	10 U	10 U	1 J	2 U	2 U
CHLOROMETHANE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
CIS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
DIBROMOCHLOROMETHANE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
ETHYLBENZENE	N/A	N/A	10 U	10 U	6	2 J	.8 J
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
O-XYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
TETRACHLOROETHENE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
TOLUENE	N/A	N/A	10 U	10 U	13	6	11 J
TRANS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
TRICHLOROETHENE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
VINYL CHLORIDE	N/A	N/A	10 U	10 U	2 U	2 U	2 U
XYLENE (TOTAL)	N/A	N/A	10 U	3 J	35	22 B	36 J
PAH (UG/L)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-21		MW11-21		MW11-21 (FD)		MW11-21		MW11-21		MW11-21		MW11-21	
Sample Id:	MW11-21 (17.0)		MW11-21(15.5)		MW11-98(23.0)		MW11-21		MW11-21		MW11-21		MW11-21	
Sample Date:	22-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96		08-NOV-97		07-APR-98		21-JAN-99	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
VOA (UG/L)														
BROMODICHLOROMETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
BROMOFORM	5	U	4	U	N/A		1	U	2	U	2	U	10	U
BROMOMETHANE	5	U	4	U	N/A		1	UJ	2	U	2	U	10	U
CARBON DISULFIDE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
CARBON TETRACHLORIDE	5	U	4	U	N/A		1	U	.5	U	.5	U	10	U
CHLOROBENZENE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
CHLOROETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
CHLOROFORM	5	U	4	U	N/A		1	U	2	U	2	U	10	U
CHLOROMETHANE	5	U	4	U	N/A		1	U	2	U	3		10	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	5	U	4	U	N/A		1	U	.5	U	.5	U	10	U
DIBROMOCHLOROMETHANE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
ETHYLBENZENE	**2**	J	**29**		N/A		1	U	**1**	J	**21**		**1**	J
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		10	U
METHYLENE CHLORIDE	5	U	4	U	N/A		2	U	2	U	2	U	10	U
O-XYLENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
STYRENE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
TETRACHLOROETHENE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
TOLUENE	**20**		**28**		N/A		**2**		**4**		**17**		**7**	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	5	U	4	U	N/A		1	U	.5	U	.5	U	10	U
TRICHLOROETHENE	5	U	4	U	N/A		1	U	2	U	2	U	10	U
VINYL CHLORIDE	5	U	4	U	N/A		1	U	.5	U	.5	U	10	U
XYLENE (TOTAL)	**64**		**83**	BE	N/A		**3.6**		**11**		**47**		**21**	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
BROMOFORM	2	U	N/A		2	U	2	U	N/A		N/A		2	U
BROMOMETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
CARBON DISULFIDE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
CARBON TETRACHLORIDE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
CHLOROBENZENE	2	U	N/A		2	U	2	U	N/A		N/A		2	
CHLOROETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
CHLOROFORM	2	U	N/A		2		2	U	N/A		N/A		2	U
CHLOROMETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
DIBROMOCHLOROMETHANE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
ETHYLBENZENE	2	U	N/A		2	U	2	U	N/A		N/A		1	J
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
TETRACHLOROETHENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
TOLUENE	.6	J	N/A		1	J	2		N/A		N/A		2	
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
TRICHLOROETHENE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
VINYL CHLORIDE	2	U	N/A		2	U	2	U	N/A		N/A		2	U
XYLENE (TOTAL)	4		N/A		4		4		N/A		N/A		10	
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-32		MW11-37		MW11-38		MW11-40		MW11-40		MW11-40		MW11-40	
Sample Id:	MW11-32(17.0)		MW11-37(10.5)		MW11-38(11.5)		MW11-40(08.0)		MW11-40(17)		MW11-40 (07.5)		MW11-40 (7.0)	
Sample Date:	30-MAY-92		01-JUN-92		02-JUN-92		02-JUN-92		31-MAR-94		22-JUN-94		28-SEP-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW2Q94		GW3Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
BROMOFORM	2	U	2	U	2	U	2	U	2	U	2	U	2	U
BROMOMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
CARBON DISULFIDE	2	U	.6	J	2	U	2	U	2	U	2	U	2	U
CARBON TETRACHLORIDE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROBENZENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROFORM	2	U	2	U	2	U	4		6		2		1	J
CHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
ETHYLBENZENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
TOLUENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
TRICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
VINYL CHLORIDE	2	U	2	U	2	U	2	U	2	U	2	U	2	U
XYLENE (TOTAL)	2	U	2	U	2	U	7		2	U	2	U	.8	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-40		MW11-41		MW11-43		MW11-44		MW11-45		MW11-45 (FD)		MW11-46	
Sample Id:	MW11-40(07.0)		MW11-41(09.0)		MW11-43(16.5)		MW11-44(11.0)		MW11-45(11.0)		MW11-95(12.0)		MW11-46(12.5)	
Sample Date:	09-DEC-94		02-JUN-92		02-JUN-92		02-JUN-92		03-JUN-92		03-JUN-92		03-JUN-92	
Sample Depth:														
Investigation:	GW4Q94		92GW		92GW		92GW		92GW		92GW		92GW	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	J	2	U	N/A		2	U	2	U	2	U	2	U
BROMOFORM	2	U	2	U	N/A		2	U	2	U	2	U	2	U
BROMOMETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
CARBON DISULFIDE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
CARBON TETRACHLORIDE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
CHLOROBENZENE	2	U	2	U	N/A		1	J	2	U	2	U	2	U
CHLOROETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
CHLOROFORM	13		2	U	N/A		2	U	1	J	2	U	3	
CHLOROMETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
ETHYLBENZENE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	N/A		13		2	U	2	U	2	U
TOLUENE	2	U	2	U	N/A		.5	J	.7	J	.9	J	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	N/A		2	U	2	U	2	U	2	U
TRICHLOROETHENE	2	U	2	U	N/A		52	D	2	U	2	U	2	U
VINYL CHLORIDE	2	U	2	U	N/A		260	D	2	U	2	U	2	U
XYLENE (TOTAL)	2	U	2	U	N/A		2	U	1	J	2		2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	N/A		3	UB	10	U	2	U	2	U	3	U	2	U
BROMOFORM	N/A		2	U	10	U	2	U	N/A		N/A		2	U
BROMOMETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
CARBON DISULFIDE	N/A		2	U	10	U	2	U	2	U	.2	J	2	U
CARBON TETRACHLORIDE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
CHLOROBENZENE	N/A		2	U	7	J	2	U	2	U	3	U	2	U
CHLOROETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
CHLOROFORM	N/A		19	BJ	3	J	2	U	2	U	3	U	2	U
CHLOROMETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
DIBROMOCHLOROMETHANE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
ETHYLBENZENE	N/A		2	U	10	U	2	U	2	J	2	J	1	J
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
TETRACHLOROETHENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
TOLUENE	N/A		2	U	10	U	2	U	8		7		8	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
TRICHLOROETHENE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
VINYL CHLORIDE	N/A		2	U	10	U	2	U	2	U	3	U	2	U
XYLENE (TOTAL)	N/A		2	U	3	J	1	J	34	B	31	B	27	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-54 (FD)	MW11-54	MW11-54	MW11-54 (FD)	MW11-54	MW11-54 (FD)	MW11-54
Sample Id:	MW11-98(23.0)	MW11-54 (13.5)	MW11-54 (13.2)	MW11-99 (24.0)	MW11-54(11.5)	MW11-99(22.0)	MW11-54
Sample Date:	24-JUN-94	29-JUN-94	29-SEP-94	29-SEP-94	16-DEC-94	16-DEC-94	03-OCT-96
Sample Depth:							
Investigation:	GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	96SITE4RA
VOA (UG/L)							
BROMODICHLOROMETHANE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
BROMOFORM	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
BROMOMETHANE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CARBON DISULFIDE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CARBON TETRACHLORIDE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CHLOROBENZENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CHLOROETHANE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CHLOROFORM	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CHLOROMETHANE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
CIS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	25 U
CIS-1,3-DICHLOROPROPENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
DIBROMOCHLOROMETHANE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
ETHYLBENZENE	N/A	N/A	.9	N/A	8 B	N/A	25 U
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	.5 U	N/A	2 U	N/A	50 U
O-XYLENE	N/A	N/A	N/A	N/A	N/A	N/A	25 U
STYRENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
TETRACHLOROETHENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
TOLUENE	N/A	N/A	7	N/A	6	N/A	25 U
TRANS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	25 U
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
TRICHLOROETHENE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
VINYL CHLORIDE	N/A	N/A	.5 U	N/A	2 U	N/A	25 U
XYLENE (TOTAL)	N/A	N/A	22	N/A	39 B	N/A	25 U
PAH (UG/L)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91(30.0)		MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97		01-APR-98		19-JAN-99		25-FEB-99		04-JUN-92		29-MAR-94		29-MAR-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		92GW		GW1Q94		GW1Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
BROMOFORM	10	U	10	U	10	U	2	U	N/A		2	U	2	U
BROMOMETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
CARBON DISULFIDE	10	U	10	UJ	10	U	2	U	N/A		2	U	2	U
CARBON TETRACHLORIDE	3	U	3	UJ	10	U	.5	U	N/A		2	U	2	U
CHLOROBENZENE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
CHLOROETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
CHLOROFORM	10	U	10	U	10	U	2	U	N/A		2	U	2	U
CHLOROMETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	3	U	3	U	10	U	.5	U	N/A		2	U	2	U
DIBROMOCHLOROMETHANE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
ETHYLBENZENE	10	U	10	U	1	J	2	U	N/A		2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
TETRACHLOROETHENE	10	U	10	U	10	U	2	U	N/A		2	U	2	U
TOLUENE	10	U	2	J	8	J	2	U	N/A		2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	3	U	3	U	10	U	.5	U	N/A		2	U	2	U
TRICHLOROETHENE	10	U	10	U	10	U	.5	J	N/A		2	U	2	U
VINYL CHLORIDE	3	U	3	U	10	U	.5	U	N/A		2	U	2	U
XYLENE (TOTAL)	10	U	6	J	23		2	U	N/A		10	U	.2	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		5	U	N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		2	U	N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		.2	UJ	N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW
Point Name:	MW11-92		MW11-92 (FD)		MW11-92		MW11-92 (FD)		MW11-92		MW11-92		MW11-92 (FD)
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)		MW11-92 (12.5)		MW11-96 (22.0)		MW11-92 (12.5)		MW11-92(11.0)		MW11-96(21.5)
Sample Date:	22-JUN-94		22-JUN-94		21-SEP-94		21-SEP-94		28-SEP-94		09-DEC-94		09-DEC-94
Sample Depth:													
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94
VOA (UG/L)													
BROMODICHLOROMETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
BROMOFORM	2	U	N/A		2	U	N/A		N/A		2	U	N/A
BROMOMETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CARBON DISULFIDE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CARBON TETRACHLORIDE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CHLOROBENZENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CHLOROETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CHLOROFORM	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CHLOROMETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CIS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
DIBROMOCHLOROMETHANE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
ETHYLBENZENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METHYLENE CHLORIDE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
STYRENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
TETRACHLOROETHENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
TOLUENE	2	U	N/A		2	U	N/A		N/A		.1	J	N/A
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TRANS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
TRICHLOROETHENE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
VINYL CHLORIDE	2	U	N/A		2	U	N/A		N/A		2	U	N/A
XYLENE (TOTAL)	.4	J	N/A		2	U	N/A		N/A		2	U	N/A
PAH (UG/L)													
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93		MW11-93	
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
BROMOFORM	2	U	2	U	2	U	1	U	2	U	10	U	10	U
BROMOMETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
CARBON DISULFIDE	.5	J	2	U	2	U	1	U	2	U	10	U	10	UJ
CARBON TETRACHLORIDE	2	U	2	U	2	U	1	U	2	U	3	U	3	UJ
CHLOROBENZENE	2	U	2	U	2	U	51		2	U	10	U	10	U
CHLOROETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
CHLOROFORM	2	U	2	U	2	U	1	U	2	U	10	U	10	U
CHLOROMETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	1	U	2	U	3	U	3	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
ETHYLBENZENE	2	U	.6	J	.7	J	1	U	.4	J	10	U	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
TETRACHLOROETHENE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
TOLUENE	2		1	J	1	J	1	U	1	J	10	U	2	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	1	U	2	U	3	U	3	U
TRICHLOROETHENE	2	U	2	U	2	U	1	U	2	U	10	U	10	U
VINYL CHLORIDE	2	U	2	U	2	U	1	U	2	U	3	U	3	U
XYLENE (TOTAL)	10		9		10		1		4		5	J	7	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		PZ		PZ		PZ		PZ		SB	
Point Name:	MW11-93		MW11-94		PZ11-01		PZ11-78		PZ11-78		PZ11-78		SB11-95	
Sample Id:	MW11-93		MW11-94		PZ11-01(30.0)		PZ11-78		PZ11-78		PZ11-78		SB11-95(5)	
Sample Date:	19-JAN-99		19-FEB-99		04-JUN-92		08-NOV-97		07-APR-98		23-JAN-99		07-FEB-99	
Sample Depth:													5 ft	
Investigation:	SEMI_EVENT3		PHASEII_RI		92GW		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI	
VOA (UG/L)														
BROMODICHLOROMETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
BROMOFORM	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
BROMOMETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
CARBON DISULFIDE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
CARBON TETRACHLORIDE	N/A		1000	U	2	U	.5	U	.5	U	10	U	200	U
CHLOROBENZENE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
CHLOROETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
CHLOROFORM	N/A		1000	U	3		2	U	2	U	10	U	200	U
CHLOROMETHANE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		1000	U	2	U	.5	U	.5	U	10	U	200	U
DIBROMOCHLOROMETHANE	N/A		1000	U	2	U	2	U	2	U	10	UJ	200	U
ETHYLBENZENE	N/A		1000	U	2	U	2		1	J	10	U	200	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		10	U	N/A	
METHYLENE CHLORIDE	N/A		1000	U	2	U	2	U	2	U	10	UJ	200	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
TETRACHLOROETHENE	N/A		1000	U	2	U	2	U	2	U	10	U	200	U
TOLUENE	N/A		1000	U	.6	J	2		.5	J	10	U	200	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		1000	U	2	U	.5	U	.5	U	10	U	200	U
TRICHLOROETHENE	N/A		1000	U	5		.4	J	1	J	1	J	200	U
VINYL CHLORIDE	N/A		1000	U	2	U	.5	U	.5	U	10	U	200	U
XYLENE (TOTAL)	N/A		1000	U	2	U	5		2	J	10	U	200	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		2.2		N/A		N/A		N/A		N/A		82	
2-METHYLNAPHTHALENE	N/A		1	U	N/A		N/A		N/A		N/A		21	
ACENAPHTHENE	N/A		5	U	N/A		N/A		N/A		N/A		32	U
ACENAPHTHYLENE	N/A		2	U	N/A		N/A		N/A		N/A		13	U
ANTHRACENE	N/A		.2	U	N/A		N/A		N/A		N/A		1	J
BENZO(A)ANTHRACENE	N/A		.2	U	N/A		N/A		N/A		N/A		10	
BENZO(A)PYRENE	N/A		.2	U	N/A		N/A		N/A		N/A		1.3	U
BENZO(B)FLUORANTHENE	N/A		.2	U	N/A		N/A		N/A		N/A		1.3	U
BENZO(G,H,I)PERYLENE	N/A		.2	U	N/A		N/A		N/A		N/A		1.3	U
BENZO(K)FLUORANTHENE	N/A		.2	U	N/A		N/A		N/A		N/A		1.3	U
CHRYSENE	N/A		.2	U	N/A		N/A		N/A		N/A		2.9	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	BR11-96		MW03-02		MW03-02		MW11-07		MW11-08		MW11-08		MW11-08
Sample Id:	BR11-96		MW03-02(5.0)		MW03-02		MW11-07(22.6)		MW11-08(16.0)		MW11-08(22.0)		MW11-08 (12.0)
Sample Date:	25-FEB-99		11-FEB-99		24-FEB-99		26-MAY-92		27-MAY-92		22-MAR-94		22-JUN-94
Sample Depth:													
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		92GW		92GW		GW1Q94		GW2Q94
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	.5	U	.5	U	.5	U	N/A		N/A		N/A		N/A
FLUORANTHENE	.2	U	.2	U	.51		N/A		N/A		N/A		N/A
FLUORENE	1	U	1	U	2		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A
NAPHTHALENE	5	U	5	U	5	U	N/A		N/A		N/A		N/A
PHENANTHRENE	1	U	1	U	1	U	N/A		N/A		N/A		N/A
PYRENE	.2	U	.2	U	.65		N/A		N/A		N/A		N/A
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,4,5-TRICHLOROPHENOL	3	U	N/A		N/A		N/A		50	U	26	U	N/A
2,4,6-TRICHLOROPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,4-DICHLOROPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,4-DIMETHYLPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,4-DINITROPHENOL	N/A		N/A		N/A		N/A		20	U	26	U	N/A
2,4-DINITROTOLUENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2,6-DINITROTOLUENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2-CHLORONAPHTHALENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2-CHLOROPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2-METHYLNAPHTHALENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2-METHYLPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
2-NITROANILINE	3	U	N/A		N/A		N/A		50	U	26	U	N/A
2-NITROPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
3,3'-DICHLOROBENZIDINE	1	UJ	N/A		N/A		N/A		20	U	10	UJ	N/A
3-NITROANILINE	3	U	N/A		N/A		N/A		50	U	26	U	N/A
4,6-DINITRO-2-METHYLPHENOL	3	UJ	N/A		N/A		N/A		50	U	26	U	N/A
4-BROMOPHENYL-PHENYLETHER	1	U	N/A		N/A		N/A		20	U	10	U	N/A
4-CHLORO-3-METHYLPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
4-CHLOROANILINE	1	UJ	N/A		N/A		N/A		20	U	10	UJ	N/A
4-CHLOROPHENYL-PHENYLETHER	1	U	N/A		N/A		N/A		20	U	10	U	N/A
4-METHYLPHENOL	1	U	N/A		N/A		N/A		20	U	10	U	N/A
4-NITROANILINE	3	U	N/A		N/A		N/A		50	U	26	U	N/A
4-NITROPHENOL	3	U	N/A		N/A		N/A		50	U	26	U	N/A
ACENAPHTHENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
ACENAPHTHYLENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A
ANTHRACENE	1	U	N/A		N/A		N/A		20	U	10	U	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-08		MW11-08		MW11-09		MW11-11		MW11-13		MW11-13		MW11-13	
Sample Id:	MW11-08 (11.5)		MW11-08(11.0)		MW11-09(14.0)		MW11-11(14.8)		MW11-13(18.0)		MW11-13(26)		MW11-13(15.5)	
Sample Date:	20-SEP-94		09-DEC-94		27-MAY-92		27-MAY-92		27-MAY-92		25-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		92GW		92GW		92GW		GW1Q94		GW2Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		N/A		25	U	25	U	26	U	250	UJ
2,4,6-TRICHLOROPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,4-DICHLOROPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,4-DIMETHYLPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,4-DINITROPHENOL	N/A		N/A		N/A		10	U	10	U	26	U	250	U
2,4-DINITROTOLUENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2,6-DINITROTOLUENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2-CHLORONAPHTHALENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2-CHLOROPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		7	J	1	J	13		6	J
2-METHYLPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
2-NITROANILINE	N/A		N/A		N/A		25	U	25	U	26	U	250	U
2-NITROPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		N/A		10	U	10	U	10	UJ	100	U
3-NITROANILINE	N/A		N/A		N/A		25	U	25	U	26	U	250	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A		25	U	25	U	26	U	250	U
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		N/A		10	U	10	U	10	U	100	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
4-CHLOROANILINE	N/A		N/A		N/A		10	U	10	U	10	UJ	100	U
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		N/A		10	U	10	U	10	U	100	U
4-METHYLPHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
4-NITROANILINE	N/A		N/A		N/A		25	U	25	U	26	U	250	U
4-NITROPHENOL	N/A		N/A		N/A		25	U	25	U	26	U	250	UJ
ACENAPHTHENE	N/A		N/A		N/A		.9	J	3	J	3	J	7	J
ACENAPHTHYLENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
ANTHRACENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13	
Sample Id:	MW11-97(25.5)		MW11-13 (14.0)		MW11-100 (24.0)		MW11-13(11.7)		MW11-97(22.0)		MW11-13		MW11-13	
Sample Date:	24-JUN-94		29-SEP-94		29-SEP-94		12-DEC-94		12-DEC-94		03-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4,5-TRICHLOROPHENOL	120	U	25	U	25	U	25	U	25	U	3	U	3	U
2,4,6-TRICHLOROPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4-DICHLOROPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4-DIMETHYLPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4-DINITROPHENOL	120	U	25	U	25	U	25	U	25	U	N/A		3	UJ
2,4-DINITROTOLUENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2,6-DINITROTOLUENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2-CHLORONAPHTHALENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2-CHLOROPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2-METHYLNAPHTHALENE	2	J	2	J	1	J	2	J	2	J	1	U	1	U
2-METHYLPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
2-NITROANILINE	120	U	25	U	25	U	25	U	25	U	3	U	3	U
2-NITROPHENOL	50	U	10	UJ	10	UJ	10	U	10	U	1	U	1	U
3,3'-DICHLOROBENZIDINE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	UJ
3-NITROANILINE	120	UJ	25	UJ	25	UJ	25	UJ	25	UJ	3	U	3	U
4,6-DINITRO-2-METHYLPHENOL	120	U	25	U	25	U	25	U	25	U	3	J	3	U
4-BROMOPHENYL-PHENYLETHER	50	U	10	U	10	U	10	U	10	U	1	J	1	U
4-CHLORO-3-METHYLPHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
4-CHLOROANILINE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
4-CHLOROPHENYL-PHENYLETHER	50	U	10	U	10	U	10	U	10	U	1	U	1	U
4-METHYLPHENOL	50	U	10	U	10	U	.8	J	.8	J	1	U	1	U
4-NITROANILINE	120	U	25	U	25	U	25	U	25	U	3	U	3	U
4-NITROPHENOL	120	UJ	25	U	25	U	25	U	25	U	3	J	3	U
ACENAPHTHENE	6	J	3	J	3	J	2	J	2	J	.4	J	.3	J
ACENAPHTHYLENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
ANTHRACENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13	MW11-13 (FD)	MW11-14	MW11-16	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-13	MW11-200	MW11-14(24.5)	MW11-16(19.0)	MW11-21(21.0)	MW11-21(22)	MW11-21(20.0)
Sample Date:	18-JAN-99	18-JAN-99	28-MAY-92	28-MAY-92	29-MAY-92	29-MAR-94	23-JUN-94
Sample Depth:							
Investigation:	SEMI_EVENT3	SEMI_EVENT3	92GW	92GW	92GW	GW1Q94	GW2Q94
PAH (UG/L)							
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (UG/L)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	25 U	120 U	25 U	25 U
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,4-DICHLOROPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,4-DINITROPHENOL	N/A	N/A	N/A	25 U	120 U	25 U	25 U
2,4-DINITROTOLUENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2,6-DINITROTOLUENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2-CHLORONAPHTHALENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2-CHLOROPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2-METHYLNAPHTHALENE	N/A	N/A	N/A	5 J	50 U	10 U	10 U
2-METHYLPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
2-NITROANILINE	N/A	N/A	N/A	25 U	120 U	25 U	25 U
2-NITROPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	10 U	50 U	10 UJ	10 U
3-NITROANILINE	N/A	N/A	N/A	25 U	120 U	25 UJ	25 UJ
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	25 U	120 U	25 U	25 U
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	10 U	50 U	10 U	10 U
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
4-CHLOROANILINE	N/A	N/A	N/A	10 U	50 U	10 UJ	10 U
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	10 U	50 U	10 U	10 U
4-METHYLPHENOL	N/A	N/A	N/A	3 J	50 U	10 U	10 U
4-NITROANILINE	N/A	N/A	N/A	25 U	120 U	25 U	25 U
4-NITROPHENOL	N/A	N/A	N/A	25 U	120 U	25 U	25 U
ACENAPHTHENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
ACENAPHTHYLENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
ANTHRACENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-21	MW11-21	MW11-21 (FD)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-21 (17.0)	MW11-21(15.5)	MW11-98(23.0)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Date:	22-SEP-94	16-DEC-94	16-DEC-94	03-OCT-96	08-NOV-97	07-APR-98	21-JAN-99
Sample Depth:							
Investigation:	GW3Q94	GW4Q94	GW4Q94	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
PAH (UG/L)							
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (UG/L)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	20 U	3 U	3 U	100 U
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
2,4-DICHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
2,4-DINITROPHENOL	N/A	N/A	N/A	20 U	N/A	N/A	100 U
2,4-DINITROTOLUENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
2,6-DINITROTOLUENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
2-CHLORONAPHTHALENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
2-CHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
2-METHYLNAPHTHALENE	N/A	N/A	N/A	5 U	.6 J	1 UJ	40 U
2-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
2-NITROANILINE	N/A	N/A	N/A	20 U	3 U	3 UJ	100 U
2-NITROPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
3-NITROANILINE	N/A	N/A	N/A	20 U	3 U	3 UJ	100 U
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	20 U	3 U	3 U	100 U
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
4-CHLOROANILINE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
4-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	1 U	40 U
4-NITROANILINE	N/A	N/A	N/A	20 U	3 U	3 UJ	100 U
4-NITROPHENOL	N/A	N/A	N/A	20 U	3 J	3 U	100 U
ACENAPHTHENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
ACENAPHTHYLENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U
ANTHRACENE	N/A	N/A	N/A	5 U	1 U	1 UJ	40 U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2,2'-OXYBIS(1-CHLOROPROPANE)	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2,4,5-TRICHLOROPHENOL	50	U	N/A		N/A		N/A		N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	20	U	N/A		N/A		10	U	N/A		N/A		N/A	
2,4-DICHLOROPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
2,4-DINITROPHENOL	50	U	N/A		N/A		N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2,6-DINITROTOLUENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2-CHLORONAPHTHALENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
2-CHLOROPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	**26**		N/A		**22**		**22**		N/A		N/A		50	U
2-METHYLPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-NITROANILINE	50	U	N/A		25	U	N/A		N/A		N/A		120	U
2-NITROPHENOL	20	U	N/A		N/A		10	U	N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
3-NITROANILINE	50	U	N/A		N/A		25	U	N/A		N/A		120	U
4,6-DINITRO-2-METHYLPHENOL	50	U	N/A		N/A		N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	20	U	N/A		10	U	10	U	N/A		N/A		50	U
4-CHLORO-3-METHYLPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
4-CHLOROANILINE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
4-CHLOROPHENYL-PHENYLETHER	20	U	N/A		10	U	10	U	N/A		N/A		50	U
4-METHYLPHENOL	20	U	N/A		**.3**	J	N/A		N/A		N/A		N/A	
4-NITROANILINE	50	U	N/A		25	U	25	U	N/A		N/A		120	U
4-NITROPHENOL	50	U	N/A		N/A		N/A		N/A		N/A		120	U
ACENAPHTHENE	20	U	N/A		**1**	J	**2**	J	N/A		N/A		50	U
ACENAPHTHYLENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
ANTHRACENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-32		MW11-37		MW11-38		MW11-40		MW11-40		MW11-40	
Sample Id:	MW11-32(17.0)		MW11-37(10.5)		MW11-38(11.5)		MW11-40(08.0)		MW11-40(17)		MW11-40 (07.5)		MW11-40 (7.0)	
Sample Date:	30-MAY-92		01-JUN-92		02-JUN-92		02-JUN-92		31-MAR-94		22-JUN-94		28-SEP-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW2Q94		GW3Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		25	U	25	U	25	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,4-DICHLOROPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,4-DIMETHYLPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,4-DINITROPHENOL	N/A		N/A		25	U	25	U	25	U	25	UJ	25	U
2,4-DINITROTOLUENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2,6-DINITROTOLUENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2-CHLORONAPHTHALENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2-CHLOROPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2-METHYLNAPHTHALENE	N/A		N/A		3	J	6	J	10	J	19		4	J
2-METHYLPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
2-NITROANILINE	N/A		N/A		25	U	25	U	25	U	25	U	25	U
2-NITROPHENOL	N/A		N/A		10	U	10	U	10	U	10	UJ	10	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		10	U	10	U	10	U	10	UJ	10	U
3-NITROANILINE	N/A		N/A		25	U	25	U	25	U	25	UJ	25	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		25	U	25	U	25	U	25	UJ	25	U
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		10	U	10	U	10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
4-CHLOROANILINE	N/A		N/A		10	U	10	U	10	UJ	10	UJ	10	U
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		10	U	10	U	10	U	10	U	10	U
4-METHYLPHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
4-NITROANILINE	N/A		N/A		25	U	25	U	25	U	25	U	25	U
4-NITROPHENOL	N/A		N/A		25	U	25	U	25	U	25	U	25	U
ACENAPHTHENE	N/A		N/A		1	J	10	U	10	U	7	J	10	U
ACENAPHTHYLENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
ANTHRACENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-40		MW11-41		MW11-43		MW11-44		MW11-45		MW11-45 (FD)		MW11-46
Sample Id:	MW11-40(07.0)		MW11-41(09.0)		MW11-43(16.5)		MW11-44(11.0)		MW11-45(11.0)		MW11-95(12.0)		MW11-46(12.5)
Sample Date:	09-DEC-94		02-JUN-92		02-JUN-92		02-JUN-92		03-JUN-92		03-JUN-92		03-JUN-92
Sample Depth:													
Investigation:	GW4Q94		92GW		92GW		92GW		92GW		92GW		92GW
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,4,5-TRICHLOROPHENOL	25	U	N/A		50	U	N/A		120	U	120	U	N/A
2,4,6-TRICHLOROPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,4-DICHLOROPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,4-DIMETHYLPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,4-DINITROPHENOL	25	U	N/A		50	U	N/A		120	U	120	U	N/A
2,4-DINITROTOLUENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2,6-DINITROTOLUENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2-CHLORONAPHTHALENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2-CHLOROPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2-METHYLNAPHTHALENE	7	J	N/A		20	U	N/A		50	U	50	U	N/A
2-METHYLPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
2-NITROANILINE	25	U	N/A		50	U	N/A		120	U	120	U	N/A
2-NITROPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
3,3'-DICHLOROBENZIDINE	10	UJ	N/A		20	U	N/A		50	U	50	U	N/A
3-NITROANILINE	25	UJ	N/A		50	U	N/A		120	U	120	U	N/A
4,6-DINITRO-2-METHYLPHENOL	25	U	N/A		50	U	N/A		120	U	120	U	N/A
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		20	U	N/A		50	U	50	U	N/A
4-CHLORO-3-METHYLPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
4-CHLOROANILINE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		20	U	N/A		50	U	50	U	N/A
4-METHYLPHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
4-NITROANILINE	25	U	N/A		50	U	N/A		120	U	120	U	N/A
4-NITROPHENOL	25	U	N/A		50	U	N/A		120	U	120	U	N/A
ACENAPHTHENE	2	J	N/A		20	U	N/A		50	U	50	U	N/A
ACENAPHTHYLENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
ANTHRACENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	50	U	N/A		25	U	N/A		26	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
2,4-DICHLOROPHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
2,4-DIMETHYLPHENOL	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2,4-DINITROPHENOL	50	U	N/A		25	U	N/A		26	U	25	U	25	U
2,4-DINITROTOLUENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2,6-DINITROTOLUENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2-CHLORONAPHTHALENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
2-CHLOROPHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
2-METHYLNAPHTHALENE	**.9**	J	N/A		10	U	50	U	**24**		**23**		**16**	
2-METHYLPHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
2-NITROANILINE	50	U	N/A		25	U	120	U	26	U	25	U	25	U
2-NITROPHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
3-NITROANILINE	50	U	N/A		25	U	120	U	26	U	25	U	25	UJ
4,6-DINITRO-2-METHYLPHENOL	50	U	N/A		25	U	N/A		26	U	25	U	25	U
4-BROMOPHENYL-PHENYLETHER	20	U	N/A		10	U	50	U	10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	20	U	N/A		10	U	50	U	10	U	10	U	10	U
4-CHLOROANILINE	20	U	N/A		10	U	50	U	10	UJ	10	UJ	10	U
4-CHLOROPHENYL-PHENYLETHER	20	U	N/A		10	U	50	U	10	U	10	U	10	U
4-METHYLPHENOL	20	U	N/A		10	U	N/A		**3**	J	10	U	**6**	J
4-NITROANILINE	50	U	N/A		25	U	120	U	26	UJ	25	U	25	U
4-NITROPHENOL	50	U	N/A		25	U	N/A		26	U	25	U	25	UJ
ACENAPHTHENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
ACENAPHTHYLENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
ANTHRACENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54 (FD)		MW11-54		MW11-54		MW11-54 (FD)		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-98(23.0)		MW11-54 (13.5)		MW11-54 (13.2)		MW11-99 (24.0)		MW11-54(11.5)		MW11-99(22.0)		MW11-54	
Sample Date:	24-JUN-94		29-JUN-94		29-SEP-94		29-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,4,5-TRICHLOROPHENOL	25	U	N/A		25	U	25	U	25	U	25	U	20	U
2,4,6-TRICHLOROPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,4-DICHLOROPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,4-DIMETHYLPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,4-DINITROPHENOL	25	U	N/A		25	U	25	U	25	U	25	U	20	U
2,4-DINITROTOLUENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2,6-DINITROTOLUENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2-CHLORONAPHTHALENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2-CHLOROPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2-METHYLNAPHTHALENE	**19**		N/A		**12**		**9**	J	**13**		**13**		5	U
2-METHYLPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
2-NITROANILINE	25	U	N/A		25	U	25	U	25	U	25	U	20	U
2-NITROPHENOL	10	U	N/A		10	UJ	10	UJ	10	U	10	U	5	U
3,3'-DICHLOROBENZIDINE	10	U	N/A		10	U	10	U	10	UJ	10	UJ	5	U
3-NITROANILINE	25	UJ	N/A		25	UJ	25	UJ	25	UJ	25	UJ	20	U
4,6-DINITRO-2-METHYLPHENOL	25	U	N/A		25	U	25	U	25	U	25	U	20	U
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		10	U	10	U	10	U	10	U	5	U
4-CHLORO-3-METHYLPHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
4-CHLOROANILINE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		10	U	10	U	10	U	10	U	5	U
4-METHYLPHENOL	**10**		N/A		10	U	10	U	**2**	J	**2**	J	5	U
4-NITROANILINE	25	U	N/A		25	U	25	U	25	U	25	U	20	U
4-NITROPHENOL	25	UJ	N/A		25	U	25	U	25	U	25	U	20	U
ACENAPHTHENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
ACENAPHTHYLENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
ANTHRACENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91(30.0)		MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97		01-APR-98		19-JAN-99		25-FEB-99		04-JUN-92		29-MAR-94		29-MAR-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		92GW		GW1Q94		GW1Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		.5	U	N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		5	U	N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		.2	U	N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2,4,5-TRICHLOROPHENOL	3	U	3	U	100	U	3	U	N/A		25	U	26	U
2,4,6-TRICHLOROPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2,4-DICHLOROPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2,4-DIMETHYLPHENOL	1	U	.5	J	40	U	1	U	N/A		10	U	10	U
2,4-DINITROPHENOL	N/A		3	UJ	100	U	N/A		N/A		25	U	26	U
2,4-DINITROTOLUENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2,6-DINITROTOLUENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2-CHLORONAPHTHALENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2-CHLOROPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2-METHYLNAPHTHALENE	4		10		21	J	1	U	N/A		9	J	9	J
2-METHYLPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
2-NITROANILINE	3	U	3	U	100	U	3	U	N/A		25	U	26	U
2-NITROPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
3,3'-DICHLOROBENZIDINE	1	U	1	UJ	40	UJ	1	UJ	N/A		10	UJ	10	UJ
3-NITROANILINE	3	U	3	U	100	U	3	U	N/A		25	UJ	26	U
4,6-DINITRO-2-METHYLPHENOL	3	J	3	U	100	U	3	UJ	N/A		25	U	26	U
4-BROMOPHENYL-PHENYLETHER	1	U	1	U	40	U	1	U	N/A		10	U	10	UJ
4-CHLORO-3-METHYLPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
4-CHLOROANILINE	1	U	1	U	40	U	1	UJ	N/A		10	UJ	10	UJ
4-CHLOROPHENYL-PHENYLETHER	1	U	1	U	40	U	1	U	N/A		10	U	10	U
4-METHYLPHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
4-NITROANILINE	3	U	3	U	100	U	3	U	N/A		25	U	26	U
4-NITROPHENOL	3	J	3	U	100	U	3	U	N/A		25	U	26	U
ACENAPHTHENE	1	U	.8	J	40	U	1	U	N/A		1	J	3	J
ACENAPHTHYLENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
ANTHRACENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-92		MW11-92 (FD)		MW11-92		MW11-92 (FD)		MW11-92		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)		MW11-92 (12.5)		MW11-96 (22.0)		MW11-92 (12.5)		MW11-92(11.0)		MW11-96(21.5)	
Sample Date:	22-JUN-94		22-JUN-94		21-SEP-94		21-SEP-94		28-SEP-94		09-DEC-94		09-DEC-94	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,4,5-TRICHLOROPHENOL	25	U	N/A		25	U	N/A		N/A		25	U	N/A	
2,4,6-TRICHLOROPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,4-DICHLOROPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,4-DIMETHYLPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,4-DINITROPHENOL	25	UJ	N/A		25	UJ	N/A		N/A		25	U	N/A	
2,4-DINITROTOLUENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2,6-DINITROTOLUENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2-CHLORONAPHTHALENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2-CHLOROPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2-METHYLNAPHTHALENE	9	J	N/A		14		N/A		N/A		11		N/A	
2-METHYLPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
2-NITROANILINE	25	U	N/A		25	U	N/A		N/A		25	U	N/A	
2-NITROPHENOL	10	UJ	N/A		10	U	N/A		N/A		10	U	N/A	
3,3'-DICHLOROBENZIDINE	10	UJ	N/A		10	U	N/A		N/A		10	UJ	N/A	
3-NITROANILINE	25	UJ	N/A		25	UJ	N/A		N/A		25	UJ	N/A	
4,6-DINITRO-2-METHYLPHENOL	25	UJ	N/A		25	U	N/A		N/A		25	U	N/A	
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
4-CHLORO-3-METHYLPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
4-CHLOROANILINE	10	UJ	N/A		10	U	N/A		N/A		10	U	N/A	
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
4-METHYLPHENOL	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
4-NITROANILINE	25	U	N/A		25	U	N/A		N/A		25	U	N/A	
4-NITROPHENOL	25	U	N/A		25	U	N/A		N/A		25	U	N/A	
ACENAPHTHENE	2	J	N/A		2	J	N/A		N/A		1	J	N/A	
ACENAPHTHYLENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	
ANTHRACENE	10	U	N/A		10	U	N/A		N/A		10	U	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93		MW11-93	
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4,5-TRICHLOROPHENOL	1000	U	25	U	25	U	25	U	25	U	3	U	3	U
2,4,6-TRICHLOROPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4-DICHLOROPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2,4-DIMETHYLPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	.2	J
2,4-DINITROPHENOL	2500	U	25	U	25	UJ	25	U	25	U	N/A		3	UJ
2,4-DINITROTOLUENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2,6-DINITROTOLUENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2-CHLORONAPHTHALENE	2500	U	10	U	10	U	10	U	10	U	1	U	1	U
2-CHLOROPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2-METHYLNAPHTHALENE	210	J	61		67		7	J	100	D	27		8	
2-METHYLPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
2-NITROANILINE	1000	U	25	U	25	U	25	U	25	U	3	U	3	U
2-NITROPHENOL	1000	U	10	U	10	UJ	10	UJ	10	U	1	U	1	U
3,3'-DICHLOROBENZIDINE	1000	U	10	UJ	10	UJ	10	U	10	UJ	1	U	1	UJ
3-NITROANILINE	2500	U	25	U	25	UJ	25	UJ	25	UJ	3	U	3	U
4,6-DINITRO-2-METHYLPHENOL	2500	U	25	U	25	UJ	25	U	25	U	3	J	3	U
4-BROMOPHENYL-PHENYLETHER	1000	U	10	UJ	10	U	10	U	10	U	1	U	1	U
4-CHLORO-3-METHYLPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
4-CHLOROANILINE	1000	U	10	UJ	10	UJ	10	U	10	U	1	U	1	U
4-CHLOROPHENYL-PHENYLETHER	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
4-METHYLPHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	.2	J
4-NITROANILINE	2500	U	25	U	25	U	25	U	25	U	3	U	3	U
4-NITROPHENOL	2500	U	25	U	25	U	25	U	25	U	3	J	3	U
ACENAPHTHENE	1000	U	2	J	2	J	2	J	10	U	1		1	J
ACENAPHTHYLENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
ANTHRACENE	1000	U	10	U	10	U	10	U	1	J	1	U	.2	J

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW		PZ		PZ		PZ		PZ		SB	
Point Name:	MW11-93	MW11-94		PZ11-01		PZ11-78		PZ11-78		PZ11-78		SB11-95	
Sample Id:	MW11-93	MW11-94		PZ11-01(30.0)		PZ11-78		PZ11-78		PZ11-78		SB11-95(5)	
Sample Date:	19-JAN-99	19-FEB-99		04-JUN-92		08-NOV-97		07-APR-98		23-JAN-99		07-FEB-99	
Sample Depth:												5 ft	
Investigation:	SEMI_EVENT3	PHASEII_RI		92GW		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI	
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	N/A	.5	U	N/A		N/A		N/A		N/A		3.2	U
FLUORANTHENE	N/A	.2	U	N/A		N/A		N/A		N/A		1.3	UJ
FLUORENE	N/A	1	U	N/A		N/A		N/A		N/A		6.3	U
INDENO(1,2,3-CD)PYRENE	N/A	.2	U	N/A		N/A		N/A		N/A		1.3	U
NAPHTHALENE	N/A	5	U	N/A		N/A		N/A		N/A		32	U
PHENANTHRENE	N/A	1	U	N/A		N/A		N/A		N/A		10	
PYRENE	N/A	.2	U	N/A		N/A		N/A		N/A		3.3	J
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A	N/A		25	U	3	U	3	U	N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,4-DICHLOROPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,4-DIMETHYLPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,4-DINITROPHENOL	N/A	N/A		25	U	N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2,6-DINITROTOLUENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2-CHLORONAPHTHALENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2-CHLOROPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2-METHYLNAPHTHALENE	N/A	N/A		.4	UJ	1	U	1	U	N/A		N/A	
2-METHYLPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
2-NITROANILINE	N/A	N/A		25	U	3	U	3	U	N/A		N/A	
2-NITROPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
3-NITROANILINE	N/A	N/A		25	U	3	U	3	U	N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A		25	U	3	U	3	U	N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
4-CHLOROANILINE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
4-METHYLPHENOL	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
4-NITROANILINE	N/A	N/A		25	U	3	U	3	U	N/A		N/A	
4-NITROPHENOL	N/A	N/A		25	U	3	J	3	U	N/A		N/A	
ACENAPHTHENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
ACENAPHTHYLENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	
ANTHRACENE	N/A	N/A		10	U	1	U	1	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW	MW
Point Name:	BR11-96		MW03-02	MW03-02	MW11-07	MW11-08		MW11-08		MW11-08
Sample Id:	BR11-96		MW03-02(5.0)	MW03-02	MW11-07(22.6)	MW11-08(16.0)		MW11-08(22.0)		MW11-08 (12.0)
Sample Date:	25-FEB-99		11-FEB-99	24-FEB-99	26-MAY-92	27-MAY-92		22-MAR-94		22-JUN-94
Sample Depth:										
Investigation:	PHASEII_RI		PHASEII_RI	PHASEII_RI	92GW	92GW		GW1Q94		GW2Q94
SVOA (UG/L)										
BENZO(A)ANTHRACENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BENZO(A)PYRENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BENZO(B)FLUORANTHENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BENZO(G,H,I)PERYLENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BENZO(K)FLUORANTHENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BIS(2-CHLOROETHOXY)METHANE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BIS(2-CHLOROETHYL)ETHER	1	U	N/A	N/A	N/A	20	U	10	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	3	UJ	N/A	N/A	N/A	20	U	10	U	N/A
BUTYLBENZYLPHTHALATE	1	UJ	N/A	N/A	N/A	20	U	10	U	N/A
CARBAZOLE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
CHRYSENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
DI-N-BUTYLPHTHALATE	1	UJ	N/A	N/A	N/A	20	U	10	U	N/A
DI-N-OCTYLPHTHALATE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
DIBENZO(A,H)ANTHRACENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
DIBENZOFURAN	1	U	N/A	N/A	N/A	20	U	10	U	N/A
DIETHYLPHTHALATE	**12**	J	N/A	N/A	N/A	20	U	10	U	N/A
DIMETHYLPHTHALATE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
FLUORANTHENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
FLUORENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
HEXACHLOROBENZENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
HEXACHLOROBUTADIENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
HEXACHLOROCYCLOPENTADIENE	1	UJ	N/A	N/A	N/A	20	U	10	U	N/A
HEXACHLOROETHANE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
INDENO(1,2,3-CD)PYRENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
ISOPHORONE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
N-NITROSODIPHENYLAMINE (1)	1	U	N/A	N/A	N/A	20	U	10	U	N/A
NAPHTHALENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
NITROBENZENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
PENTACHLOROPHENOL	3	U	N/A	N/A	N/A	50	U	26	U	N/A
PHENANTHRENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
PHENOL	**.4**	J	N/A	N/A	N/A	20	U	10	U	N/A
PYRENE	1	U	N/A	N/A	N/A	20	U	10	U	N/A
METALS-Total (UG/L)										
ALUMINUM	N/A		N/A	N/A	**93.8**	B	**1180**		**1770**	J	N/A
ANTIMONY	N/A		N/A	N/A	23	U	23	U	31	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-08		MW11-08		MW11-09		MW11-11		MW11-13		MW11-13	
Sample Id:	MW11-08 (11.5)		MW11-08(11.0)		MW11-09(14.0)		MW11-11(14.8)		MW11-13(18.0)		MW11-13(26)		MW11-13(15.5)	
Sample Date:	20-SEP-94		09-DEC-94		27-MAY-92		27-MAY-92		27-MAY-92		25-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		92GW		92GW		92GW		GW1Q94		GW2Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	N/A		N/A		N/A		.4	J	10	U	10	U	100	U
BENZO(A)PYRENE	N/A		N/A		N/A		.3	J	10	U	10	U	100	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		N/A		10	U	10	U	10	U	100	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		N/A		.4	UJ	10	U	10	U	100	U
BUTYLBENZYLPHTHALATE	N/A		N/A		N/A		10	U	1	UJ	10	U	100	U
CARBAZOLE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
CHRYSENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		.8	UJ	10	U	10	U	100	U
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
DIBENZOFURAN	N/A		N/A		N/A		10	U	1	J	3	J	100	U
DIETHYLPHTHALATE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
DIMETHYLPHTHALATE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
FLUORANTHENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
FLUORENE	N/A		N/A		N/A		10	U	2	J	4	J	100	U
HEXACHLOROBENZENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
HEXACHLOROBUTADIENE	N/A		N/A		N/A		10	U	10	U	10	UJ	100	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
HEXACHLOROETHANE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
ISOPHORONE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		10	U	10	U	10	U	100	U
NAPHTHALENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
NITROBENZENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
PENTACHLOROPHENOL	N/A		N/A		N/A		25	U	25	U	26	U	250	UJ
PHENANTHRENE	N/A		N/A		N/A		10	U	10	U	10	U	100	U
PHENOL	N/A		N/A		N/A		10	U	10	U	10	U	100	U
PYRENE	N/A		N/A		N/A		.2	J	10	U	10	U	100	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		7440		267		89.4	B	200	U	N/A	
ANTIMONY	N/A		N/A		23	U	23	U	23	U	31	UJ	N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13 (FD)		MW11-13		MW11-13	
Sample Id:	MW11-97(25.5)		MW11-13 (14.0)		MW11-100 (24.0)		MW11-13(11.7)		MW11-97(22.0)		MW11-13		MW11-13	
Sample Date:	24-JUN-94		29-SEP-94		29-SEP-94		12-DEC-94		12-DEC-94		03-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
BENZO(A)PYRENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
BENZO(B)FLUORANTHENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
BENZO(G,H,I)PERYLENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
BENZO(K)FLUORANTHENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
BIS(2-CHLOROETHOXY)METHANE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
BIS(2-CHLOROETHYL)ETHER	50	U	10	U	10	U	10	U	10	U	1	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	50	U	10	U	10	U	10	U	16	B	.5	U	.7	UJ
BUTYLBENZYLPHTHALATE	50	U	10	U	10	U	.6	J	1	J	.3	J	1	U
CARBAZOLE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
CHRYSENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
DI-N-BUTYLPHTHALATE	50	U	10	U	10	U	10	U	10	U	.3	J	.2	UJ
DI-N-OCTYLPHTHALATE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
DIBENZO(A,H)ANTHRACENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
DIBENZOFURAN	3	J	2	J	2	J	2	J	2	J	1	U	1	U
DIETHYLPHTHALATE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
DIMETHYLPHTHALATE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
FLUORANTHENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
FLUORENE	5	J	4	J	3	J	4	J	10	U	1	U	.3	J
HEXACHLOROBENZENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
HEXACHLOROBUTADIENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
HEXACHLOROCYCLOPENTADIENE	50	U	10	U	10	U	10	U	10	U	1	J	1	UJ
HEXACHLOROETHANE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
INDENO(1,2,3-CD)PYRENE	50	U	10	U	10	U	10	UJ	10	UJ	1	U	1	U
ISOPHORONE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
N-NITROSODIPHENYLAMINE (1)	50	U	10	U	10	U	10	U	10	U	1	U	1	U
NAPHTHALENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
NITROBENZENE	50	U	10	U	10	U	10	U	10	U	1	U	1	U
PENTACHLOROPHENOL	120	UJ	25	U	25	U	25	U	25	U	3	U	3	U
PHENANTHRENE	50	U	1	J	.8	J	10	U	10	U	1	U	1	U
PHENOL	50	U	10	U	10	U	10	U	10	U	1	U	1	U
PYRENE	50	U	.6	J	10	U	10	U	10	U	1	U	.09	J
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13	MW11-13 (FD)	MW11-14	MW11-16	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-13	MW11-200	MW11-14(24.5)	MW11-16(19.0)	MW11-21(21.0)	MW11-21(22)	MW11-21(20.0)
Sample Date:	18-JAN-99	18-JAN-99	28-MAY-92	28-MAY-92	29-MAY-92	29-MAR-94	23-JUN-94
Sample Depth:							
Investigation:	SEMI_EVENT3	SEMI_EVENT3	92GW	92GW	92GW	GW1Q94	GW2Q94
SVOA (UG/L)							
BENZO(A)ANTHRACENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BENZO(A)PYRENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	10 U	50 U	10 U	10 U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	3 UJ	50 U	10 U	10 U
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
CARBAZOLE	N/A	N/A	N/A	10 U	50 U	10 UJ	10 U
CHRYSENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DIBENZOFURAN	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DIETHYLPHTHALATE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
DIMETHYLPHTHALATE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
FLUORANTHENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
FLUORENE	N/A	N/A	N/A	1 J	50 U	10 U	10 U
HEXACHLOROBENZENE	N/A	N/A	N/A	10 U	50 U	10 UJ	10 U
HEXACHLOROBUTADIENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	10 U	50 U	10 U	10 UJ
HEXACHLOROETHANE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
ISOPHORONE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	10 U	50 U	10 UJ	10 U
NAPHTHALENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
NITROBENZENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
PENTACHLOROPHENOL	N/A	N/A	N/A	25 U	120 U	25 U	25 U
PHENANTHRENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
PHENOL	N/A	N/A	N/A	10 U	50 U	10 U	10 U
PYRENE	N/A	N/A	N/A	10 U	50 U	10 U	10 U
METALS-Total (UG/L)							
ALUMINUM	N/A	N/A	66.5 B	204	277	3930	N/A
ANTIMONY	N/A	N/A	23 U	23 U	23 U	31 UJ	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-21		MW11-21		MW11-21 (FD)		MW11-21		MW11-21		MW11-21	
Sample Id:	MW11-21 (17.0)		MW11-21(15.5)		MW11-98(23.0)		MW11-21		MW11-21		MW11-21	
Sample Date:	22-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96		08-NOV-97		07-APR-98		21-JAN-99	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BENZO(A)PYRENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		N/A		5	U	1	U	1	UJ	16	U
BUTYLBENZYLPHTHALATE	N/A		N/A		N/A		5	U	.7	J	1	UJ	40	U
CARBAZOLE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
CHRYSENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		5	U	.7	J	1	UJ	40	UJ
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
DIBENZOFURAN	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
DIETHYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	UJ
DIMETHYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
FLUORENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
HEXACHLOROBENZENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
HEXACHLOROBUTADIENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		5	UJ	1	J	1	UJ	40	U
HEXACHLOROETHANE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
ISOPHORONE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
NAPHTHALENE	N/A		N/A		N/A		5	U	1	U	.4	J	40	U
NITROBENZENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
PENTACHLOROPHENOL	N/A		N/A		N/A		20	U	3	U	3	U	100	U
PHENANTHRENE	N/A		N/A		N/A		5	U	.2	J	1	UJ	40	U
PHENOL	N/A		N/A		N/A		5	U	1	U	1	U	40	U
PYRENE	N/A		N/A		N/A		5	U	1	U	1	UJ	40	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BENZO(A)PYRENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BENZO(B)FLUORANTHENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BENZO(G,H,I)PERYLENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BENZO(K)FLUORANTHENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BIS(2-CHLOROETHOXY)METHANE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BIS(2-CHLOROETHYL)ETHER	20	U	N/A		10	U	10	U	N/A		N/A		50	U
BIS(2-ETHYLHEXYL)PHTHALATE	20	U	N/A		2	J	10	U	N/A		N/A		50	U
BUTYLBENZYLPHTHALATE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
CARBAZOLE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
CHRYSENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
DI-N-BUTYLPHTHALATE	20	U	N/A		.2	J	10	U	N/A		N/A		50	U
DI-N-OCTYLPHTHALATE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
DIBENZO(A,H)ANTHRACENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
DIBENZOFURAN	20	U	N/A		10	U	10	U	N/A		N/A		50	U
DIETHYLPHTHALATE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
DIMETHYLPHTHALATE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
FLUORANTHENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
FLUORENE	20	U	N/A		3	J	3	J	N/A		N/A		50	U
HEXACHLOROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
HEXACHLOROBUTADIENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
HEXACHLOROCYCLOPENTADIENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
HEXACHLOROETHANE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
INDENO(1,2,3-CD)PYRENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
ISOPHORONE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
N-NITROSO-DI-N-PROPYLAMINE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
N-NITROSODIPHENYLAMINE (1)	20	U	N/A		10	U	10	U	N/A		N/A		50	U
NAPHTHALENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
NITROBENZENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
PENTACHLOROPHENOL	50	U	N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	20	U	N/A		2	J	2	J	N/A		N/A		50	U
PHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	20	U	N/A		10	U	10	U	N/A		N/A		50	U
METALS-Total (UG/L)														
ALUMINUM	1280		N/A		12	UJ	13.2	UJ	N/A		N/A		110	B
ANTIMONY	23	U	N/A		23	U	23	U	N/A		N/A		23	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-32		MW11-37		MW11-38		MW11-40		MW11-40		MW11-40		MW11-40	
Sample Id:	MW11-32(17.0)		MW11-37(10.5)		MW11-38(11.5)		MW11-40(08.0)		MW11-40(17)		MW11-40 (07.5)		MW11-40 (7.0)	
Sample Date:	30-MAY-92		01-JUN-92		02-JUN-92		02-JUN-92		31-MAR-94		22-JUN-94		28-SEP-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW2Q94		GW3Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		10	U	**29**		**3**	J	10	U	10	U
BUTYLBENZYLPHTHALATE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
CARBAZOLE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
CHRYSENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DI-N-BUTYLPHTHALATE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DI-N-OCTYLPHTHALATE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DIBENZOFURAN	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DIETHYLPHTHALATE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
DIMETHYLPHTHALATE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
FLUORANTHENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
FLUORENE	N/A		N/A		**.4**	J	**2**	J	10	U	**13**		**3**	J
HEXACHLOROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
HEXACHLOROBUTADIENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
HEXACHLOROETHANE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
ISOPHORONE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		10	U	10	U	10	UJ	10	UJ	10	U
NAPHTHALENE	N/A		N/A		10	U	10	U	10	U	**4**	J	10	U
NITROBENZENE	N/A		N/A		10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	N/A		N/A		25	U	25	U	25	U	25	U	25	UJ
PHENANTHRENE	N/A		N/A		10	U	**3**	J	**21**		**24**		**6**	J
PHENOL	N/A		N/A		10	U	10	U	10	U	10	U	10	U
PYRENE	N/A		N/A		10	U	**.3**	J	**6**	J	**4**	J	**1**	J
METALS-Total (UG/L)														
ALUMINUM	**13300**		**557**		**64.8**	B	**199**	B	**4760**		N/A		N/A	
ANTIMONY	23	U	23	U	23	U	23	U	31	UJ	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-40		MW11-41		MW11-43		MW11-44		MW11-45		MW11-45 (FD)		MW11-46
Sample Id:	MW11-40(07.0)		MW11-41(09.0)		MW11-43(16.5)		MW11-44(11.0)		MW11-45(11.0)		MW11-95(12.0)		MW11-46(12.5)
Sample Date:	09-DEC-94		02-JUN-92		02-JUN-92		02-JUN-92		03-JUN-92		03-JUN-92		03-JUN-92
Sample Depth:													
Investigation:	GW4Q94		92GW		92GW		92GW		92GW		92GW		92GW
SVOA (UG/L)													
BENZO(A)ANTHRACENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BENZO(A)PYRENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BENZO(B)FLUORANTHENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BENZO(G,H,I)PERYLENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BENZO(K)FLUORANTHENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BIS(2-CHLOROETHYL)ETHER	10	U	N/A		20	U	N/A		50	U	50	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	N/A		20	U	N/A		9	J	50	U	N/A
BUTYLBENZYLPHTHALATE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
CARBAZOLE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
CHRYSENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
DI-N-BUTYLPHTHALATE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
DI-N-OCTYLPHTHALATE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
DIBENZO(A,H)ANTHRACENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
DIBENZOFURAN	3	J	N/A		20	U	N/A		50	U	50	U	N/A
DIETHYLPHTHALATE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
DIMETHYLPHTHALATE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
FLUORANTHENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
FLUORENE	4	J	N/A		20	U	N/A		4	J	50	U	N/A
HEXACHLOROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
HEXACHLOROBUTADIENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
HEXACHLOROCYCLOPENTADIENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
HEXACHLOROETHANE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
INDENO(1,2,3-CD)PYRENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
ISOPHORONE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
N-NITROSODIPHENYLAMINE (1)	10	U	N/A		8	J	N/A		23	J	27	J	N/A
NAPHTHALENE	1	J	N/A		20	U	N/A		50	U	50	U	N/A
NITROBENZENE	10	U	N/A		20	U	N/A		50	U	50	U	N/A
PENTACHLOROPHENOL	25	U	N/A		50	U	N/A		120	U	120	U	N/A
PHENANTHRENE	6	J	N/A		20	U	N/A		50	U	50	U	N/A
PHENOL	10	U	N/A		20	U	N/A		50	U	50	U	N/A
PYRENE	1	J	N/A		20	U	N/A		5	J	3	J	N/A
METALS-Total (UG/L)													
ALUMINUM	N/A		N/A		1010		298		4000		3560		N/A
ANTIMONY	N/A		N/A		23	U	23	U	23	U	23	U	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BENZO(A)PYRENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	20	U	N/A		10	U	50	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	20	U	N/A		2	UJ	50	U	10	U	10	UJ	110	UJ
BUTYLBENZYLPHTHALATE	20	U	N/A		10	U	50	U	10	UJ	10	UJ	10	U
CARBAZOLE	20	U	N/A		10	U	50	U	10	UJ	10	UJ	10	U
CHRYSENE	20	U	N/A		10	U	1	J	10	U	10	U	10	U
DI-N-BUTYLPHTHALATE	20	U	N/A		10	U	50	U	10	U	.5	J	10	U
DI-N-OCTYLPHTHALATE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
DIBENZOFURAN	20	U	N/A		10	U	50	U	2	J	10	U	10	U
DIETHYLPHTHALATE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
DIMETHYLPHTHALATE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
FLUORANTHENE	20	U	N/A		10	U	.9	J	10	U	10	U	10	U
FLUORENE	2	J	N/A		10	U	50	U	3	J	3	J	10	U
HEXACHLOROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
HEXACHLOROBUTADIENE	20	U	N/A		10	U	N/A		10	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
HEXACHLOROETHANE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
ISOPHORONE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	11	J	N/A		10	U	50	U	10	UJ	10	UJ	10	U
NAPHTHALENE	20	U	N/A		10	U	N/A		10	U	10	U	10	U
NITROBENZENE	20	U	N/A		10	U	50	U	10	U	10	U	10	U
PENTACHLOROPHENOL	50	U	N/A		25	U	N/A		26	U	25	U	25	U
PHENANTHRENE	20	U	N/A		10	U	50	U	2	J	2	J	10	U
PHENOL	20	U	N/A		10	U	N/A		10	U	10	U	10	U
PYRENE	.7	J	N/A		10	U	1	J	10	U	10	UJ	10	U
METALS-Total (UG/L)														
ALUMINUM	2260		N/A		149	B	38	UJ	571	J	509	J	840	
ANTIMONY	23	U	N/A		23	U	23	U	31	U	31	U	28.6	U

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54 (FD)		MW11-54		MW11-54		MW11-54 (FD)		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-98(23.0)		MW11-54 (13.5)		MW11-54 (13.2)		MW11-99 (24.0)		MW11-54(11.5)		MW11-99(22.0)		MW11-54	
Sample Date:	24-JUN-94		29-JUN-94		29-SEP-94		29-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BENZO(A)PYRENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BENZO(B)FLUORANTHENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BENZO(G,H,I)PERYLENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BENZO(K)FLUORANTHENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BIS(2-CHLOROETHYL)ETHER	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
BUTYLBENZYLPHTHALATE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
CARBAZOLE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
CHRYSENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
DI-N-BUTYLPHTHALATE	10	U	N/A		10	U	.3	J	10	U	10	U	5	U
DI-N-OCTYLPHTHALATE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
DIBENZO(A,H)ANTHRACENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
DIBENZOFURAN	10	U	N/A		10	U	10	U	1	J	1	J	5	U
DIETHYLPHTHALATE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
DIMETHYLPHTHALATE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
FLUORANTHENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
FLUORENE	2	J	N/A		1	J	1	J	2	J	2	J	5	U
HEXACHLOROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
HEXACHLOROBUTADIENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
HEXACHLOROCYCLOPENTADIENE	10	U	N/A		10	U	10	U	10	U	10	U	5	UJ
HEXACHLOROETHANE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
INDENO(1,2,3-CD)PYRENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
ISOPHORONE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
N-NITROSODIPHENYLAMINE (1)	10	U	N/A		10	U	10	U	10	U	10	U	5	U
NAPHTHALENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
NITROBENZENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
PENTACHLOROPHENOL	25	UJ	N/A		25	U	25	U	25	U	25	U	20	U
PHENANTHRENE	1	J	N/A		.8	J	10	U	10	U	10	U	5	U
PHENOL	10	U	N/A		10	U	10	U	10	U	10	U	5	U
PYRENE	10	U	N/A		10	U	10	U	10	U	10	U	5	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		57.1	UJ	N/A		77.2	U	N/A		N/A	
ANTIMONY	N/A		N/A		28.6	U	N/A		28.6	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54		MW11-54		MW11-54		MW11-89		MW11-91(30.0)		MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97		01-APR-98		19-JAN-99		25-FEB-99		04-JUN-92		29-MAR-94		29-MAR-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		92GW		GW1Q94		GW1Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
BENZO(A)PYRENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
BENZO(B)FLUORANTHENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
BENZO(G,H,I)PERYLENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
BENZO(K)FLUORANTHENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
BIS(2-CHLOROETHYL)ETHER	1	U	1	U	40	U	1	U	N/A		10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	1	U	2	UJ	33	UJ	1	UJ	N/A		10	U	10	U
BUTYLBENZYLPHTHALATE	1	U	1	U	40	U	1	UJ	N/A		10	U	10	U
CARBAZOLE	1	U	1	U	40	U	1	U	N/A		10	UJ	10	U
CHRYSENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
DI-N-BUTYLPHTHALATE	1	U	.8	UJ	40	U	1	UJ	N/A		10	U	10	U
DI-N-OCTYLPHTHALATE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
DIBENZO(A,H)ANTHRACENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
DIBENZOFURAN	1	U	.5	J	40	U	1	U	N/A		10	U	10	U
DIETHYLPHTHALATE	1	U	.1	UJ	40	U	1	UJ	N/A		10	U	10	U
DIMETHYLPHTHALATE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
FLUORANTHENE	1	U	.05	J	40	U	1	U	N/A		10	U	10	U
FLUORENE	1	U	2		40	U	1	U	N/A		10	U	10	U
HEXACHLOROBENZENE	1	U	1	U	40	U	1	U	N/A		10	UJ	10	UJ
HEXACHLOROBUTADIENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
HEXACHLOROCYCLOPENTADIENE	1	J	1	UJ	40	U	1	UJ	N/A		10	U	10	U
HEXACHLOROETHANE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
INDENO(1,2,3-CD)PYRENE	N/A		1	UJ	40	U	1	U	N/A		10	U	10	U
ISOPHORONE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
N-NITROSODIPHENYLAMINE (1)	1	U	1	U	40	U	1	U	N/A		10	UJ	10	UJ
NAPHTHALENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
NITROBENZENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
PENTACHLOROPHENOL	3	J	3	U	100	U	3	U	N/A		25	U	26	U
PHENANTHRENE	1	U	1	U	40	U	1	U	N/A		10	U	10	U
PHENOL	1	U	1	U	40	U	1	U	N/A		10	U	10	U
PYRENE	1		.2	J	40	U	1	U	N/A		10	U	10	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		50400	J	355		338	
ANTIMONY	N/A		N/A		N/A		N/A		23	U	31	UJ	31	UJ

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW	MW		MW		MW		MW		MW
Point Name:	MW11-92		MW11-92 (FD)	MW11-92		MW11-92 (FD)		MW11-92		MW11-92		MW11-92 (FD)
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)	MW11-92 (12.5)		MW11-96 (22.0)		MW11-92 (12.5)		MW11-92(11.0)		MW11-96(21.5)
Sample Date:	22-JUN-94		22-JUN-94	21-SEP-94		21-SEP-94		28-SEP-94		09-DEC-94		09-DEC-94
Sample Depth:												
Investigation:	GW2Q94		GW2Q94	GW3Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94
SVOA (UG/L)												
BENZO(A)ANTHRACENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BENZO(A)PYRENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BENZO(B)FLUORANTHENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BENZO(G,H,I)PERYLENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BENZO(K)FLUORANTHENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BIS(2-CHLOROETHYL)ETHER	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
BUTYLBENZYLPHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
CARBAZOLE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
CHRYSENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
DI-N-BUTYLPHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
DI-N-OCTYLPHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
DIBENZO(A,H)ANTHRACENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
DIBENZOFURAN	10	U	N/A	2	J	N/A		N/A		2	J	N/A
DIETHYLPHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
DIMETHYLPHTHALATE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
FLUORANTHENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
FLUORENE	10	U	N/A	3	J	N/A		N/A		2	J	N/A
HEXACHLOROBENZENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
HEXACHLOROBUTADIENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
HEXACHLOROCYCLOPENTADIENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
HEXACHLOROETHANE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
INDENO(1,2,3-CD)PYRENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
ISOPHORONE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
N-NITROSODIPHENYLAMINE (1)	10	UJ	N/A	10	U	N/A		N/A		10	U	N/A
NAPHTHALENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
NITROBENZENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
PENTACHLOROPHENOL	25	U	N/A	25	U	N/A		N/A		25	U	N/A
PHENANTHRENE	10	U	N/A	10	U	N/A		N/A		10	U	N/A
PHENOL	10	U	N/A	10	U	N/A		N/A		10	U	N/A
PYRENE	10	UJ	N/A	1	J	N/A		N/A		10	U	N/A
METALS-Total (UG/L)												
ALUMINUM	1170		N/A	N/A		N/A		1950	J	90.5	U	N/A
ANTIMONY	28.6	U	N/A	N/A		N/A		28.6	U	28.6	U	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93		MW11-93	
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
BENZO(A)PYRENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
BENZO(B)FLUORANTHENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
BENZO(G,H,I)PERYLENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
BENZO(K)FLUORANTHENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
BIS(2-CHLOROETHOXY)METHANE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
BIS(2-CHLOROETHYL)ETHER	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	140	J	10	U	70	UJ	10	U	10	U	1	U	2	UJ
BUTYLBENZYLPHTHALATE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
CARBAZOLE	1000	U	10	UJ	10	U	10	U	10	U	1	U	1	U
CHRYSENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
DI-N-BUTYLPHTHALATE	1000	U	10	U	10	U	10	U	10	U	1	U	.3	UJ
DI-N-OCTYLPHTHALATE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
DIBENZO(A,H)ANTHRACENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
DIBENZOFURAN	2500	U	2	J	3	J	10	U	2	J	.9	J	.7	J
DIETHYLPHTHALATE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
DIMETHYLPHTHALATE	2500	U	10	U	10	U	10	U	10	U	1	U	1	U
FLUORANTHENE	1000	U	10	U	10	U	10	U	10	U	1	U	.09	J
FLUORENE	1000	U	5	J	6	J	10	U	7	J	2		2	
HEXACHLOROBENZENE	1000	U	10	UJ	10	U	10	U	10	U	1	U	1	U
HEXACHLOROBUTADIENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
HEXACHLOROCYCLOPENTADIENE	1000	U	10	U	10	U	10	U	10	U	1	J	1	UJ
HEXACHLOROETHANE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
INDENO(1,2,3-CD)PYRENE	1000	U	10	U	10	U	10	U	10	U	N/A		1	UJ
ISOPHORONE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
N-NITROSODIPHENYLAMINE (1)	580	J	10	UJ	10	UJ	10	U	10	U	1	U	1	U
NAPHTHALENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
NITROBENZENE	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
PENTACHLOROPHENOL	2500	U	25	U	25	U	25	U	25	U	3	J	3	U
PHENANTHRENE	1000	U	10	U	10	U	10	U	7	J	.8	J	.05	J
PHENOL	1000	U	10	U	10	U	10	U	10	U	1	U	1	U
PYRENE	1000	U	10	U	10	UJ	10	U	1	J	1	U	.2	J
METALS-Total (UG/L)														
ALUMINUM	320		14	U	87.4	U	120	UJ	61.5	U	N/A		N/A	
ANTIMONY	23	U	31	UJ	28.6	U	28.6	U	28.6	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	PZ		PZ		PZ		PZ		SB
Point Name:	MW11-93	MW11-94	PZ11-01		PZ11-78		PZ11-78		PZ11-78		SB11-95
Sample Id:	MW11-93	MW11-94	PZ11-01(30.0)		PZ11-78		PZ11-78		PZ11-78		SB11-95(5)
Sample Date:	19-JAN-99	19-FEB-99	04-JUN-92		08-NOV-97		07-APR-98		23-JAN-99		07-FEB-99
Sample Depth:											5 ft
Investigation:	SEMI_EVENT3	PHASEII_RI	92GW		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI
SVOA (UG/L)											
BENZO(A)ANTHRACENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BENZO(A)PYRENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BENZO(B)FLUORANTHENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BENZO(K)FLUORANTHENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	10	U	1	U	1	U	N/A		N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	3	UJ	1	U	1	U	N/A		N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	10	U	.2	J	1	U	N/A		N/A
CARBAZOLE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
CHRYSENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	10	U	.6	J	1	U	N/A		N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
DIBENZOFURAN	N/A	N/A	10	U	1	U	1	U	N/A		N/A
DIETHYLPHTHALATE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
DIMETHYLPHTHALATE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
FLUORANTHENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
FLUORENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
HEXACHLOROBENZENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
HEXACHLOROBUTADIENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	10	U	1	J	1	U	N/A		N/A
HEXACHLOROETHANE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
ISOPHORONE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	3	J	1	U	1	U	N/A		N/A
NAPHTHALENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
NITROBENZENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
PENTACHLOROPHENOL	N/A	N/A	25	U	3	U	3	U	N/A		N/A
PHENANTHRENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
PHENOL	N/A	N/A	10	U	1	U	1	U	N/A		N/A
PYRENE	N/A	N/A	10	U	1	U	1	U	N/A		N/A
METALS-Total (UG/L)											
ALUMINUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
ANTIMONY	N/A	N/A	N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW		MW		MW		MW
Point Name:	BR11-96	MW03-02	MW03-02	MW11-07		MW11-08		MW11-08		MW11-08
Sample Id:	BR11-96	MW03-02(5.0)	MW03-02	MW11-07(22.6)		MW11-08(16.0)		MW11-08(22.0)		MW11-08 (12.0)
Sample Date:	25-FEB-99	11-FEB-99	24-FEB-99	26-MAY-92		27-MAY-92		22-MAR-94		22-JUN-94
Sample Depth:										
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	92GW		92GW		GW1Q94		GW2Q94
METALS-Total (UG/L)										
ARSENIC	N/A	N/A	N/A	2	UW	2	U	2	U	N/A
BARIUM	N/A	N/A	N/A	90.3		36.3	B	64.8	B	N/A
BERYLLIUM	N/A	N/A	N/A	1	U	1	U	1	U	N/A
CADMIUM	N/A	N/A	N/A	3	U	3	U	4	U	N/A
CALCIUM	N/A	N/A	N/A	117000		13400		18100		N/A
CHROMIUM	N/A	N/A	N/A	4	UJ	4	UJ	5.1	B	N/A
COBALT	N/A	N/A	N/A	3	U	3	U	2	U	N/A
COPPER	N/A	N/A	N/A	4	UJ	4	UJ	40.4		N/A
IRON	N/A	N/A	N/A	1030		1720		2840		N/A
LEAD	N/A	N/A	N/A	1	UW	1.5	BW	1.9	B	N/A
LEAD, ORGANIC	N/A	N/A	N/A	100	U	N/A		100	U	N/A
MAGNESIUM	N/A	N/A	N/A	239000		10100		20400		N/A
MANGANESE	N/A	N/A	N/A	1350		465		473		N/A
MERCURY	N/A	N/A	N/A	.2	U	.2	U	.12	U	N/A
NICKEL	N/A	N/A	N/A	10	U	10	U	9.6	B	N/A
POTASSIUM	N/A	N/A	N/A	78200		4390	B	8660		N/A
SELENIUM	N/A	N/A	N/A	N/A		N/A		2	UJ	N/A
SILVER	N/A	N/A	N/A	3	J	3	J	N/A		N/A
SODIUM	N/A	N/A	N/A	2610000		57000		127000		N/A
THALLIUM	N/A	N/A	N/A	30	J	3	J	20	UJ	N/A
VANADIUM	N/A	N/A	N/A	2	U	2	U	3.2	J	N/A
ZINC	N/A	N/A	N/A	7.4	UJ	13.5	UJ	29.7		N/A
METALS-Diss. (UG/L)										
ALUMINUM	N/A	N/A	N/A	N/A		N/A		34.7	U	N/A
ANTIMONY	N/A	N/A	N/A	N/A		N/A		31	UJ	N/A
ARSENIC	N/A	N/A	N/A	N/A		N/A		2	U	N/A
BARIUM	N/A	N/A	N/A	N/A		N/A		50.9	B	N/A
BERYLLIUM	N/A	N/A	N/A	N/A		N/A		1	U	N/A
CADMIUM	N/A	N/A	N/A	N/A		N/A		4	U	N/A
CALCIUM	N/A	N/A	N/A	N/A		N/A		19800		N/A
CHROMIUM	N/A	N/A	N/A	N/A		N/A		3	U	N/A
COBALT	N/A	N/A	N/A	N/A		N/A		2	U	N/A
COPPER	N/A	N/A	N/A	N/A		N/A		2	U	N/A
IRON	N/A	N/A	N/A	N/A		N/A		1320		N/A
LEAD	N/A	N/A	N/A	N/A		N/A		1	UW	N/A
MAGNESIUM	N/A	N/A	N/A	N/A		N/A		20400		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW
Point Name:	MW11-08		MW11-08		MW11-09		MW11-11		MW11-13		MW11-13		MW11-13
Sample Id:	MW11-08 (11.5)		MW11-08(11.0)		MW11-09(14.0)		MW11-11(14.8)		MW11-13(18.0)		MW11-13(26)		MW11-13(15.5)
Sample Date:	20-SEP-94		09-DEC-94		27-MAY-92		27-MAY-92		27-MAY-92		25-MAR-94		24-JUN-94
Sample Depth:													
Investigation:	GW3Q94		GW4Q94		92GW		92GW		92GW		GW1Q94		GW2Q94
METALS-Total (UG/L)													
ARSENIC	N/A		N/A		2.2	B	2	U	2	U	2.7	B	N/A
BARIUM	N/A		N/A		249		415		165	B	388		N/A
BERYLLIUM	N/A		N/A		1	U	1	U	1	U	1	U	N/A
CADMIUM	N/A		N/A		3.2	B	3	U	3	U	4	U	N/A
CALCIUM	N/A		N/A		44200		82000		67700		118000		N/A
CHROMIUM	N/A		N/A		14.5	UJ	4	UJ	4	UJ	3	U	N/A
COBALT	N/A		N/A		3	U	3	U	3	U	2	U	N/A
COPPER	N/A		N/A		4	UJ	4	UJ	4	UJ	2	U	N/A
IRON	N/A		N/A		10500		7540		6010		8940		N/A
LEAD	N/A		N/A		4.8	W	1	UW	1	UW	4.3	J	N/A
LEAD, ORGANIC	N/A		N/A		100	U	100	U	N/A		N/A		N/A
MAGNESIUM	N/A		N/A		23700		54200		50300		96400		N/A
MANGANESE	N/A		N/A		1480		4330		2320		3230		N/A
MERCURY	N/A		N/A		.2	U	.2	U	.2	U	.44	J	N/A
NICKEL	N/A		N/A		14.7	B	10	U	10	U	7	U	N/A
POTASSIUM	N/A		N/A		4570	B	9370		18400		18300		N/A
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SILVER	N/A		N/A		3	J	3	J	3	J	2	U	N/A
SODIUM	N/A		N/A		57500		172000		306000		487000		N/A
THALLIUM	N/A		N/A		3	J	3	J	3	J	2	UJ	N/A
VANADIUM	N/A		N/A		13.6	B	2	U	2	U	2	U	N/A
ZINC	N/A		N/A		27	UJ	8.7	UJ	5.2	UJ	20	U	N/A
METALS-Diss. (UG/L)													
ALUMINUM	N/A		N/A		N/A		N/A		N/A		14	U	N/A
ANTIMONY	N/A		N/A		N/A		N/A		N/A		31	U	N/A
ARSENIC	N/A		N/A		N/A		N/A		N/A		2	U	N/A
BARIUM	N/A		N/A		N/A		N/A		N/A		312		N/A
BERYLLIUM	N/A		N/A		N/A		N/A		N/A		1	U	N/A
CADMIUM	N/A		N/A		N/A		N/A		N/A		5.2	UJ	N/A
CALCIUM	N/A		N/A		N/A		N/A		N/A		118000		N/A
CHROMIUM	N/A		N/A		N/A		N/A		N/A		3	U	N/A
COBALT	N/A		N/A		N/A		N/A		N/A		2	U	N/A
COPPER	N/A		N/A		N/A		N/A		N/A		2	U	N/A
IRON	N/A		N/A		N/A		N/A		N/A		2370		N/A
LEAD	N/A		N/A		N/A		N/A		N/A		1.3	J	N/A
MAGNESIUM	N/A		N/A		N/A		N/A		N/A		97100		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13 (FD)	MW11-13	MW11-13 (FD)	MW11-13	MW11-13 (FD)	MW11-13	MW11-13
Sample Id:	MW11-97(25.5)	MW11-13 (14.0)	MW11-100 (24.0)	MW11-13(11.7)	MW11-97(22.0)	MW11-13	MW11-13
Sample Date:	24-JUN-94	29-SEP-94	29-SEP-94	12-DEC-94	12-DEC-94	03-NOV-97	01-APR-98
Sample Depth:							
Investigation:	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	SEMI_EVENT1	SEMI_EVENT2
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW
Point Name:	MW11-13		MW11-13 (FD)		MW11-14		MW11-16		MW11-21		MW11-21		MW11-21
Sample Id:	MW11-13		MW11-200		MW11-14(24.5)		MW11-16(19.0)		MW11-21(21.0)		MW11-21(22)		MW11-21(20.0)
Sample Date:	18-JAN-99		18-JAN-99		28-MAY-92		28-MAY-92		29-MAY-92		29-MAR-94		23-JUN-94
Sample Depth:													
Investigation:	SEMI_EVENT3		SEMI_EVENT3		92GW		92GW		92GW		GW1Q94		GW2Q94
METALS-Total (UG/L)													
ARSENIC	N/A		N/A		2	UW	2.4	B	23.6	J	2.4	B	N/A
BARIUM	N/A		N/A		1550		27.5	B	86.2	B	120	B	N/A
BERYLLIUM	N/A		N/A		1	U	1	U	1	U	1	U	N/A
CADMIUM	N/A		N/A		3.1	B	3	U	3	U	4	U	N/A
CALCIUM	N/A		N/A		319000		17600		65800		72700		N/A
CHROMIUM	N/A		N/A		4	UJ	4	UJ	4	U	6.3	B	N/A
COBALT	N/A		N/A		3.7	B	3	U	3	U	2.5	B	N/A
COPPER	N/A		N/A		4	UJ	4	UJ	4	UJ	2	U	N/A
IRON	N/A		N/A		13800		643		15400		17800		N/A
LEAD	N/A		N/A		3.3		1.8	BW	2.6	B	5.9	S	N/A
LEAD, ORGANIC	N/A		N/A		N/A		100	U	100	U	100	U	N/A
MAGNESIUM	N/A		N/A		192000		22700		25700		26000		N/A
MANGANESE	N/A		N/A		6970		168		4550		3410		N/A
MERCURY	N/A		N/A		.2	U	.2	U	.2	J	.43	J	N/A
NICKEL	N/A		N/A		10	U	10	U	10	U	16	B	N/A
POTASSIUM	N/A		N/A		10600		15500		4790	B	5000	U	N/A
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SILVER	N/A		N/A		3	J	3	J	3	J	2	U	N/A
SODIUM	N/A		N/A		651000		413000		102000		102000		N/A
THALLIUM	N/A		N/A		30	J	3	J	3	J	2	UJ	N/A
VANADIUM	N/A		N/A		2	U	3	B	2	U	50	U	N/A
ZINC	N/A		N/A		16.6	UJ	8.3	UJ	12.8	UJ	20.3		N/A
METALS-Diss. (UG/L)													
ALUMINUM	N/A		N/A		N/A		N/A		N/A		14	U	N/A
ANTIMONY	N/A		N/A		N/A		N/A		N/A		31	U	N/A
ARSENIC	N/A		N/A		N/A		N/A		N/A		25.8		N/A
BARIUM	N/A		N/A		N/A		N/A		N/A		62.8	B	N/A
BERYLLIUM	N/A		N/A		N/A		N/A		N/A		1	U	N/A
CADMIUM	N/A		N/A		N/A		N/A		N/A		4	U	N/A
CALCIUM	N/A		N/A		N/A		N/A		N/A		66400		N/A
CHROMIUM	N/A		N/A		N/A		N/A		N/A		3	U	N/A
COBALT	N/A		N/A		N/A		N/A		N/A		2	U	N/A
COPPER	N/A		N/A		N/A		N/A		N/A		2	U	N/A
IRON	N/A		N/A		N/A		N/A		N/A		9120		N/A
LEAD	N/A		N/A		N/A		N/A		N/A		1	U	N/A
MAGNESIUM	N/A		N/A		N/A		N/A		N/A		22900		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-21	MW11-21	MW11-21 (FD)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-21 (17.0)	MW11-21(15.5)	MW11-98(23.0)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Date:	22-SEP-94	16-DEC-94	16-DEC-94	03-OCT-96	08-NOV-97	07-APR-98	21-JAN-99
Sample Depth:							
Investigation:	GW3Q94	GW4Q94	GW4Q94	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
METALS-Total (UG/L)														
ARSENIC	2	J	N/A		2	J	2.2	J	N/A		N/A		2	J
BARIUM	93.9		N/A		284		261		N/A		N/A		1630	
BERYLLIUM	1	U	N/A		1	U	1	U	N/A		N/A		1	U
CADMIUM	3	U	N/A		3	U	3	U	N/A		N/A		3	U
CALCIUM	65500		N/A		66900		61300		N/A		N/A		190000	
CHROMIUM	4	U	N/A		4	U	4	U	N/A		N/A		4	U
COBALT	3	U	N/A		3	U	3	U	N/A		N/A		3	U
COPPER	4	UJ	N/A		4	UJ	4	UJ	N/A		N/A		4	UJ
IRON	11400		N/A		15300		14000		N/A		N/A		28900	
LEAD	4.2	W	N/A		1.8	B	4.5		N/A		N/A		5.4	
LEAD, ORGANIC	N/A		N/A		100	U	100	U	N/A		N/A		N/A	
MAGNESIUM	27400		N/A		50500		46100		N/A		N/A		168000	
MANGANESE	1860		N/A		3490		3170		N/A		N/A		9520	
MERCURY	.2	U	N/A		.2	U	.2	U	N/A		N/A		.2	U
NICKEL	10	U	N/A		10	U	10	U	N/A		N/A		10	U
POTASSIUM	9030		N/A		10300		9770		N/A		N/A		4800	B
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SILVER	3	J	N/A		3	J	3	J	N/A		N/A		3	J
SODIUM	293000		N/A		264000		239000		N/A		N/A		558000	
THALLIUM	3	J	N/A		3	J	3	J	N/A		N/A		3	J
VANADIUM	3.1	B	N/A		2	U	2	U	N/A		N/A		2	U
ZINC	44.5		N/A		5.5	UJ	24.7	UJ	N/A		N/A		12.4	UJ
METALS-Diss. (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BARIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CADMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CALCIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
COBALT	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
COPPER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
IRON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
LEAD	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-32		MW11-37		MW11-38		MW11-40		MW11-40		MW11-40		MW11-40
Sample Id:	MW11-32(17.0)		MW11-37(10.5)		MW11-38(11.5)		MW11-40(08.0)		MW11-40(17)		MW11-40 (07.5)		MW11-40 (7.0)
Sample Date:	30-MAY-92		01-JUN-92		02-JUN-92		02-JUN-92		31-MAR-94		22-JUN-94		28-SEP-94
Sample Depth:													
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW2Q94		GW3Q94
METALS-Total (UG/L)													
ARSENIC	2	J	2	J	3.7	J	2	J	4	B	N/A		N/A
BARIUM	2380		165		154	B	34.9	B	79.7	B	N/A		N/A
BERYLLIUM	1	U	1	U	1	U	1	U	1	U	N/A		N/A
CADMIUM	3	U	3	U	3	U	3	U	4	U	N/A		N/A
CALCIUM	230000		42200		38400		15900		13500		N/A		N/A
CHROMIUM	36.2		4	U	4	U	4	U	3	U	N/A		N/A
COBALT	7.8	B	3	U	3	U	3	U	2	U	N/A		N/A
COPPER	16.5	UJ	4	UJ	4	UJ	4	UJ	25	U	N/A		N/A
IRON	52700		11700		18100		561		7580		N/A		N/A
LEAD	8		1.7	B	1.2	BW	1	U	9.6	S	N/A		N/A
LEAD, ORGANIC	100	U	N/A		100	U	N/A		100	U	N/A		N/A
MAGNESIUM	197000		24100		25500		4310	B	6200		N/A		N/A
MANGANESE	13200		2960		3910		59.2		249		N/A		N/A
MERCURY	.2	U	.2	U	.2	U	.2	U	.1	J	N/A		N/A
NICKEL	28.2	B	10	U	10	U	10	U	7.2	B	N/A		N/A
POTASSIUM	8360		269	UJ	874	UJ	269	UJ	5000	U	N/A		N/A
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SILVER	3.5	J	3	J	3	J	3	J	2	U	N/A		N/A
SODIUM	805000		60500		64000		14100		12100		N/A		N/A
THALLIUM	3	J	3	J	3	J	3	J	2	UJ	N/A		N/A
VANADIUM	49.7		2	U	2	U	2	U	50	U	N/A		N/A
ZINC	79.9		15.1	UJ	23.4	UJ	16.7	UJ	39.3		N/A		N/A
METALS-Diss. (UG/L)													
ALUMINUM	N/A		N/A		N/A		N/A		14	U	N/A		N/A
ANTIMONY	N/A		N/A		N/A		N/A		31	U	N/A		N/A
ARSENIC	N/A		N/A		N/A		N/A		2	U	N/A		N/A
BARIUM	N/A		N/A		N/A		N/A		33.9	B	N/A		N/A
BERYLLIUM	N/A		N/A		N/A		N/A		1	U	N/A		N/A
CADMIUM	N/A		N/A		N/A		N/A		4	U	N/A		N/A
CALCIUM	N/A		N/A		N/A		N/A		11900		N/A		N/A
CHROMIUM	N/A		N/A		N/A		N/A		3	U	N/A		N/A
COBALT	N/A		N/A		N/A		N/A		2	U	N/A		N/A
COPPER	N/A		N/A		N/A		N/A		2	U	N/A		N/A
IRON	N/A		N/A		N/A		N/A		1660		N/A		N/A
LEAD	N/A		N/A		N/A		N/A		1	U	N/A		N/A
MAGNESIUM	N/A		N/A		N/A		N/A		4810	B	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW		MW		MW		MW		MW
Point Name:	MW11-40	MW11-41	MW11-43		MW11-44		MW11-45		MW11-45 (FD)		MW11-46
Sample Id:	MW11-40(07.0)	MW11-41(09.0)	MW11-43(16.5)		MW11-44(11.0)		MW11-45(11.0)		MW11-95(12.0)		MW11-46(12.5)
Sample Date:	09-DEC-94	02-JUN-92	02-JUN-92		02-JUN-92		03-JUN-92		03-JUN-92		03-JUN-92
Sample Depth:											
Investigation:	GW4Q94	92GW	92GW		92GW		92GW		92GW		92GW
METALS-Total (UG/L)											
ARSENIC	N/A	N/A	5.8	UJ	5.7	UJ	4.2	UJ	3.8	UJ	N/A
BARIUM	N/A	N/A	266		178	BN	249		196	BN	N/A
BERYLLIUM	N/A	N/A	1	U	1	U	1	U	1	U	N/A
CADMIUM	N/A	N/A	3	U	3	U	3	U	3	U	N/A
CALCIUM	N/A	N/A	66200		81700		80700		69100		N/A
CHROMIUM	N/A	N/A	4	U	4	U	4	U	4	U	N/A
COBALT	N/A	N/A	13.9	BN	10	B	3	U	3	U	N/A
COPPER	N/A	N/A	4	UJ	4	UJ	4	UJ	4	UJ	N/A
IRON	N/A	N/A	16100		5390		17200		14200		N/A
LEAD	N/A	N/A	1.6	UJ	1	UJ	3.3	UJ	3.3	UJ	N/A
LEAD, ORGANIC	N/A	N/A	N/A		N/A		100	U	100	U	N/A
MAGNESIUM	N/A	N/A	74800		53100		50000		41700		N/A
MANGANESE	N/A	N/A	6490		7710		6710		5630		N/A
MERCURY	N/A	N/A	.2	J	.2	J	.2	J	.2	J	N/A
NICKEL	N/A	N/A	10	U	10	U	10	U	10	U	N/A
POTASSIUM	N/A	N/A	9200		1840	UJ	2620	UJ	4640	J	N/A
SELENIUM	N/A	N/A	2	J	20	J	20	UJ	20	J	N/A
SILVER	N/A	N/A	3	J	3	J	3	J	3	J	N/A
SODIUM	N/A	N/A	388000		143000		128000		103000		N/A
THALLIUM	N/A	N/A	30	J	3	J	3	J	3	UJ	N/A
VANADIUM	N/A	N/A	2.6	B	2	U	6	BN	6.3		N/A
ZINC	N/A	N/A	35.3	J	63.1	J	15.8	J	14.8	J	N/A
METALS-Diss. (UG/L)											
ALUMINUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
ANTIMONY	N/A	N/A	N/A		N/A		N/A		N/A		N/A
ARSENIC	N/A	N/A	N/A		N/A		N/A		N/A		N/A
BARIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
BERYLLIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
CADMIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
CALCIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
CHROMIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A
COBALT	N/A	N/A	N/A		N/A		N/A		N/A		N/A
COPPER	N/A	N/A	N/A		N/A		N/A		N/A		N/A
IRON	N/A	N/A	N/A		N/A		N/A		N/A		N/A
LEAD	N/A	N/A	N/A		N/A		N/A		N/A		N/A
MAGNESIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
METALS-Total (UG/L)														
ARSENIC	4.3	UJ	N/A		2.4	B	2	J	10.4	J	9.1	BW	12.6	
BARIUM	59.1	BN	N/A		69.9	B	789		39.9	B	37.3	B	67	J
BERYLLIUM	1	U	N/A		1	U	1	U	1	U	1	U	.4	UJ
CADMIUM	3	U	N/A		3	U	3	U	4	U	4	U	.6	U
CALCIUM	24200		N/A		64100		162000		55600		54000		74500	J
CHROMIUM	4	U	N/A		4	UJ	4	U	3	U	3	U	3	B
COBALT	5.2	B	N/A		3	U	3	U	2	U	2	U	2.3	U
COPPER	4	UJ	N/A		4	UJ	4	UJ	2	U	2	U	.4	U
IRON	7430		N/A		4110		16900		6730		6520		8380	J
LEAD	1.1	UJ	N/A		3.6	W	1.9	B	1	U	1	U	3.4	
LEAD, ORGANIC	N/A		100	U	100	U	N/A		100	U	100	U	N/A	
MAGNESIUM	20900		N/A		37300		126000		22400		21700		30400	J
MANGANESE	2570		N/A		1210		6510		3330		3220		4570	J
MERCURY	.2	J	N/A		.2	U	.2	U	.1	U	.1	U	.1	UJ
NICKEL	10	U	N/A		10	U	10	U	7	U	7	U	2.5	U
POTASSIUM	3520	UJ	N/A		9970		13200		7030		7000		11800	J
SELENIUM	20	J	N/A		N/A		N/A		2	U	2	BW	2.3	U
SILVER	3	J	N/A		3	J	3	J	2	U	2	U	2	U
SODIUM	58400		N/A		212000		768000		142000		137000		189000	
THALLIUM	3	J	N/A		3	J	3	J	2	UJ	2	UJ	2	U
VANADIUM	5.1	B	N/A		2	U	2	U	2	U	2	U	2.6	B
ZINC	17.9	J	N/A		2	UJ	5.9	UJ	3.9	U	4.8	U	.5	UJ
METALS-Diss. (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		30.8	U	43.1	U	197	U
ANTIMONY	N/A		N/A		N/A		N/A		31	U	31	U	28.6	U
ARSENIC	N/A		N/A		N/A		N/A		7.4	B	7.5	B	5.8	B
BARIUM	N/A		N/A		N/A		N/A		25.3	B	25.9	B	49.9	B
BERYLLIUM	N/A		N/A		N/A		N/A		1	U	1	U	.4	UJ
CADMIUM	N/A		N/A		N/A		N/A		4	U	5.5	UJ	.6	U
CALCIUM	N/A		N/A		N/A		N/A		53900		54300		69800	
CHROMIUM	N/A		N/A		N/A		N/A		3	U	3	U	2.3	U
COBALT	N/A		N/A		N/A		N/A		2	U	2	U	2.3	U
COPPER	N/A		N/A		N/A		N/A		2	U	2	U	.4	UJ
IRON	N/A		N/A		N/A		N/A		2740		3180		3150	
LEAD	N/A		N/A		N/A		N/A		1	UJ	1	UW	.8	UJ
MAGNESIUM	N/A		N/A		N/A		N/A		22100		22200		28900	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-54 (FD)	MW11-54	MW11-54		MW11-54 (FD)		MW11-54		MW11-54 (FD)		MW11-54		MW11-54	
Sample Id:	MW11-98(23.0)	MW11-54 (13.5)	MW11-54 (13.2)		MW11-99 (24.0)		MW11-54(11.5)		MW11-99(22.0)		MW11-54		MW11-54	
Sample Date:	24-JUN-94	29-JUN-94	29-SEP-94		29-SEP-94		16-DEC-94		16-DEC-94		03-OCT-96			
Sample Depth:														
Investigation:	GW2Q94	GW2Q94	GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA			
METALS-Total (UG/L)														
ARSENIC	N/A	N/A	21.1	U	N/A		5.8	U	N/A		N/A			
BARIUM	N/A	N/A	65.6	B	N/A		33.1	B	N/A		N/A			
BERYLLIUM	N/A	N/A	.4	U	N/A		.4	U	N/A		N/A			
CADMIUM	N/A	N/A	.6	U	N/A		.6	U	N/A		N/A			
CALCIUM	N/A	N/A	72400		N/A		41400		N/A		N/A			
CHROMIUM	N/A	N/A	2.3	U	N/A		2.3	U	N/A		N/A			
COBALT	N/A	N/A	2.3	U	N/A		2.3	U	N/A		N/A			
COPPER	N/A	N/A	.4	U	N/A		2.3	U	N/A		N/A			
IRON	N/A	N/A	7880	J	N/A		4690		N/A		N/A			
LEAD	N/A	N/A	2.8	UJ	N/A		1.4	B	N/A		N/A			
LEAD, ORGANIC	N/A	N/A	N/A		N/A		N/A		N/A		N/A			
MAGNESIUM	N/A	N/A	29000	J	N/A		17800		N/A		N/A			
MANGANESE	N/A	N/A	4680		N/A		1890		N/A		N/A			
MERCURY	N/A	N/A	.1	U	N/A		.1	U	N/A		N/A			
NICKEL	N/A	N/A	2.5	U	N/A		2.5	U	N/A		N/A			
POTASSIUM	N/A	N/A	11100	J	N/A		6150		N/A		N/A			
SELENIUM	N/A	N/A	28.3	*	N/A		5.1	UJ	N/A		N/A			
SILVER	N/A	N/A	2	U	N/A		2	U	N/A		N/A			
SODIUM	N/A	N/A	182000	J	N/A		96600	J	N/A		N/A			
THALLIUM	N/A	N/A	2	U	N/A		2	U	N/A		N/A			
VANADIUM	N/A	N/A	1.4	U	N/A		1.4	U	N/A		N/A			
ZINC	N/A	N/A	1.4	U	N/A		24.5	UJ	N/A		N/A			
METALS-Diss. (UG/L)														
ALUMINUM	N/A	N/A	76.9	U	N/A		40.5	U	N/A		N/A			
ANTIMONY	N/A	N/A	28.6	U	N/A		28.6	U	N/A		N/A			
ARSENIC	N/A	N/A	21.1	UJ	N/A		5.7	J	N/A		N/A			
BARIUM	N/A	N/A	66.4	B	N/A		31.3	B	N/A		N/A			
BERYLLIUM	N/A	N/A	.4	U	N/A		.4	U	N/A		N/A			
CADMIUM	N/A	N/A	.6	U	N/A		.6	U	N/A		N/A			
CALCIUM	N/A	N/A	74300	J	N/A		41500		N/A		N/A			
CHROMIUM	N/A	N/A	2.3	U	N/A		2.3	U	N/A		N/A			
COBALT	N/A	N/A	2.3	U	N/A		2.3	U	N/A		N/A			
COPPER	N/A	N/A	7.4	J	N/A		1.3	J	N/A		N/A			
IRON	N/A	N/A	7760	J	N/A		4420		N/A		N/A			
LEAD	N/A	N/A	2.7	U	N/A		2.3	J	N/A		N/A			
MAGNESIUM	N/A	N/A	30200	J	N/A		17600		N/A		N/A			

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW		MW		MW	
Point Name:	MW11-54	MW11-54	MW11-54	MW11-89	MW11-91		MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54	MW11-54	MW11-54	MW11-89	MW11-91(30.0)		MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97	01-APR-98	19-JAN-99	25-FEB-99	04-JUN-92		29-MAR-94		29-MAR-94	
Sample Depth:										
Investigation:	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	PHASEII_RI	92GW		GW1Q94		GW1Q94	
METALS-Total (UG/L)										
ARSENIC	N/A	N/A	N/A	N/A	4.1	NJ*	2.4	J	4.2	BS
BARIUM	N/A	N/A	N/A	N/A	434		258		246	
BERYLLIUM	N/A	N/A	N/A	N/A	1.6	*	1	U	1	U
CADMIUM	N/A	N/A	N/A	N/A	3	U	4	U	4	U
CALCIUM	N/A	N/A	N/A	N/A	12800		56900		54200	
CHROMIUM	N/A	N/A	N/A	N/A	53.7		3	U	3	U
COBALT	N/A	N/A	N/A	N/A	9.3		2	U	2	U
COPPER	N/A	N/A	N/A	N/A	4	U	2	U	2	U
IRON	N/A	N/A	N/A	N/A	25300	J	5980		5780	
LEAD	N/A	N/A	N/A	N/A	14.1	N*J	1.6	J	2	UJ
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A		100	U	100	U
MAGNESIUM	N/A	N/A	N/A	N/A	17700		32000		30600	
MANGANESE	N/A	N/A	N/A	N/A	301		2620		2500	
MERCURY	N/A	N/A	N/A	N/A	.62	J*	.14	J	.12	J
NICKEL	N/A	N/A	N/A	N/A	30.6		7	U	7	U
POTASSIUM	N/A	N/A	N/A	N/A	11100	J	5000	U	5000	U
SELENIUM	N/A	N/A	N/A	N/A	N/A		N/A		N/A	
SILVER	N/A	N/A	N/A	N/A	3	UNJ	2	U	2	U
SODIUM	N/A	N/A	N/A	N/A	52300	J	146000		140000	
THALLIUM	N/A	N/A	N/A	N/A	3	UNWJ	2	UJ	2	UJ
VANADIUM	N/A	N/A	N/A	N/A	77.9		2	U	2	U
ZINC	N/A	N/A	N/A	N/A	69.2		20	U	20	U
METALS-Diss. (UG/L)										
ALUMINUM	N/A	N/A	N/A	N/A	N/A		14	U	14	U
ANTIMONY	N/A	N/A	N/A	N/A	N/A		31	U	31	U
ARSENIC	N/A	N/A	N/A	N/A	N/A		2.5	B	2	B
BARIUM	N/A	N/A	N/A	N/A	N/A		201		202	
BERYLLIUM	N/A	N/A	N/A	N/A	N/A		1	U	1	U
CADMIUM	N/A	N/A	N/A	N/A	N/A		4	U	4	U
CALCIUM	N/A	N/A	N/A	N/A	N/A		52200		53000	
CHROMIUM	N/A	N/A	N/A	N/A	N/A		3	U	3	U
COBALT	N/A	N/A	N/A	N/A	N/A		2	U	2	U
COPPER	N/A	N/A	N/A	N/A	N/A		2	U	2	U
IRON	N/A	N/A	N/A	N/A	N/A		1450		1410	
LEAD	N/A	N/A	N/A	N/A	N/A		1	U	1	U
MAGNESIUM	N/A	N/A	N/A	N/A	N/A		29600		29800	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW		MW
Point Name:	MW11-92		MW11-92 (FD)	MW11-92	MW11-92 (FD)	MW11-92	MW11-92		MW11-92 (FD)
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)	MW11-92 (12.5)	MW11-96 (22.0)	MW11-92 (12.5)	MW11-92(11.0)		MW11-96(21.5)
Sample Date:	22-JUN-94		22-JUN-94	21-SEP-94	21-SEP-94	28-SEP-94	09-DEC-94		09-DEC-94
Sample Depth:									
Investigation:	GW2Q94		GW2Q94	GW3Q94	GW3Q94	GW3Q94	GW4Q94		GW4Q94
METALS-Total (UG/L)									
ARSENIC	3.1	B	N/A	N/A	N/A	10.2	UJ	3.1	U	N/A
BARIUM	365	J	N/A	N/A	N/A	299		187	B	N/A
BERYLLIUM	.4	UJ	N/A	N/A	N/A	.4	U	.4	U	N/A
CADMIUM	.6	U	N/A	N/A	N/A	.6	U	.6	U	N/A
CALCIUM	76200	J	N/A	N/A	N/A	40700		40000		N/A
CHROMIUM	4.9	B	N/A	N/A	N/A	4.7	B	2.3	U	N/A
COBALT	2.3	U	N/A	N/A	N/A	4.8	B	2.3	U	N/A
COPPER	1	U	N/A	N/A	N/A	12.2	J	2.1	B	N/A
IRON	6980	J	N/A	N/A	N/A	6210	J	3490		N/A
LEAD	3.3		N/A	N/A	N/A	12.7	J	.8	U	N/A
LEAD, ORGANIC	N/A		N/A	N/A	N/A	N/A		N/A		N/A
MAGNESIUM	45800	J	N/A	N/A	N/A	26600	J	22000		N/A
MANGANESE	3400	J	N/A	N/A	N/A	1980		1740		N/A
MERCURY	.1	UJ	N/A	N/A	N/A	.12	U	.1	U	N/A
NICKEL	3.6	B	N/A	N/A	N/A	11.9	B	2.5	U	N/A
POTASSIUM	11100	J	N/A	N/A	N/A	9770	J	5480		N/A
SELENIUM	2.3	U	N/A	N/A	N/A	22.7	U	2.3	U	N/A
SILVER	2	U	N/A	N/A	N/A	2	U	2	U	N/A
SODIUM	214000		N/A	N/A	N/A	174000	J	101000	J	N/A
THALLIUM	2	U	N/A	N/A	N/A	2	U	2	U	N/A
VANADIUM	3.5	B	N/A	N/A	N/A	7	B	1.4	U	N/A
ZINC	2.8	J	N/A	N/A	N/A	28.8		5.9	U	N/A
METALS-Diss. (UG/L)									
ALUMINUM	983	J	N/A	N/A	N/A	63.4	U	82.4	U	N/A
ANTIMONY	28.6	U	N/A	N/A	N/A	28.6	U	28.6	U	N/A
ARSENIC	3.1	U	N/A	N/A	N/A	5.3	U	3.1	U	N/A
BARIUM	356	J	N/A	N/A	N/A	216		187	J	N/A
BERYLLIUM	.4	UJ	N/A	N/A	N/A	.4	U	.4	U	N/A
CADMIUM	1.1	B	N/A	N/A	N/A	.6	U	.6	U	N/A
CALCIUM	70800	J	N/A	N/A	N/A	38400	J	41700		N/A
CHROMIUM	4.1	B	N/A	N/A	N/A	2.3	U	2.3	U	N/A
COBALT	2.3	U	N/A	N/A	N/A	2.3	U	2.3	U	N/A
COPPER	9.9	B	N/A	N/A	N/A	3.6	J	.4	U	N/A
IRON	5770	J	N/A	N/A	N/A	2670	J	3340		N/A
LEAD	3.1	UJ	N/A	N/A	N/A	1.2	U	1.1	U	N/A
MAGNESIUM	42700	J	N/A	N/A	N/A	25200	J	22900		N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	MW
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	MW11-93
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93	MW11-93
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97	01-APR-98
Sample Depth:												
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	SEMI_EVENT2
METALS-Total (UG/L)												
ARSENIC	3	J	3.3	J	5.3	B	17.3	UJ	3.1	U	N/A	N/A
BARIUM	85.6		86.9	B	77.3	J	548		68.9	B	N/A	N/A
BERYLLIUM	1	U	1	U	.4	UJ	.4	U	.4	U	N/A	N/A
CADMIUM	3	U	4	U	.6	U	.6	U	.6	U	N/A	N/A
CALCIUM	51900		61100		53300	J	86000		57500		N/A	N/A
CHROMIUM	4	U	3	U	2.3	U	2.3	U	2.3	U	N/A	N/A
COBALT	3	U	2	U	2.3	U	2.3	U	2.3	U	N/A	N/A
COPPER	4	UJ	2	U	.4	U	.4	U	1.3	U	N/A	N/A
IRON	10700		14200		11100	J	10300	J	11400		N/A	N/A
LEAD	6.1	W	3.3	J	2.6	B	4.1	UJ	1.9	B	N/A	N/A
LEAD, ORGANIC	100	U	100	U	N/A		N/A		N/A		N/A	N/A
MAGNESIUM	19200		25000		24600	J	71400	J	26600		N/A	N/A
MANGANESE	1730		1940		1940	J	2460		2000		N/A	N/A
MERCURY	.2	U	4.8	J	.1	UJ	.1	U	.1	U	N/A	N/A
NICKEL	10	U	8.6	B	2.5	U	3.1	B	3.1	B	N/A	N/A
POTASSIUM	6210		9500		15900	J	39100	J	13300		N/A	N/A
SELENIUM	N/A		N/A		2.3	U	47.2	*	3.2	U	N/A	N/A
SILVER	3	J	2	U	2	U	2	U	2	U	N/A	N/A
SODIUM	118000		185000		202000		531000	J	146000	J	N/A	N/A
THALLIUM	3	UN	2	UJ	2	U	2	U	2	U	N/A	N/A
VANADIUM	2	U	2	U	1.8	B	2.2	B	1.4	U	N/A	N/A
ZINC	26.8	UJ	20	U	.5	UJ	7.1	B	7.7	U	N/A	N/A
METALS-Diss. (UG/L)												
ALUMINUM	N/A		14	U	48.2	U	78.6	U	46.3	U	N/A	N/A
ANTIMONY	N/A		31	U	28.6	U	28.6	U	28.6	U	N/A	N/A
ARSENIC	N/A		3.8	B	4.9	B	14.8	UJ	3.1	U	N/A	N/A
BARIUM	N/A		56.9	B	65.5	J	539		63.4	B	N/A	N/A
BERYLLIUM	N/A		1	U	.4	UJ	.4	U	.4	U	N/A	N/A
CADMIUM	N/A		4	U	2	B	.6	U	.6	U	N/A	N/A
CALCIUM	N/A		57300		48600	J	86600	J	53400		N/A	N/A
CHROMIUM	N/A		3	U	2.3	U	2.3	U	2.3	U	N/A	N/A
COBALT	N/A		2	U	2.3	U	2.3	U	2.3	U	N/A	N/A
COPPER	N/A		2	U	.86	U	6.5	J	.4	U	N/A	N/A
IRON	N/A		9990		9230	J	9610	J	10100		N/A	N/A
LEAD	N/A		1.8	B	3.6	UJ	3.2	UJ	2.4	J	N/A	N/A
MAGNESIUM	N/A		23500		22500	J	74100	J	25100		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	PZ	PZ	PZ	PZ	SB
Point Name:	MW11-93	MW11-94	PZ11-01	PZ11-78	PZ11-78	PZ11-78	SB11-95
Sample Id:	MW11-93	MW11-94	PZ11-01(30.0)	PZ11-78	PZ11-78	PZ11-78	SB11-95(5)
Sample Date:	19-JAN-99	19-FEB-99	04-JUN-92	08-NOV-97	07-APR-98	23-JAN-99	07-FEB-99
Sample Depth:							5 ft
Investigation:	SEMI_EVENT3	PHASEII_RI	92GW	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	PHASEII_RI
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW		MW	
Point Name:	BR11-96	MW03-02	MW03-02	MW11-07	MW11-08	MW11-08		MW11-08	
Sample Id:	BR11-96	MW03-02(5.0)	MW03-02	MW11-07(22.6)	MW11-08(16.0)	MW11-08(22.0)		MW11-08 (12.0)	
Sample Date:	25-FEB-99	11-FEB-99	24-FEB-99	26-MAY-92	27-MAY-92	22-MAR-94		22-JUN-94	
Sample Depth:									
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	92GW	92GW	GW1Q94		GW2Q94	
METALS-Diss. (UG/L)									
MANGANESE	N/A	N/A	N/A	N/A	N/A	501		N/A	
MERCURY	N/A	N/A	N/A	N/A	N/A	.16	U	N/A	
NICKEL	N/A	N/A	N/A	N/A	N/A	7.9	B	N/A	
POTASSIUM	N/A	N/A	N/A	N/A	N/A	7810		N/A	
SELENIUM	N/A	N/A	N/A	N/A	N/A	2	U	N/A	
SILVER	N/A	N/A	N/A	N/A	N/A	2	UJ	N/A	
SODIUM	N/A	N/A	N/A	N/A	N/A	119000		N/A	
THALLIUM	N/A	N/A	N/A	N/A	N/A	2	UW	N/A	
VANADIUM	N/A	N/A	N/A	N/A	N/A	2	UJ	N/A	
ZINC	N/A	N/A	N/A	N/A	N/A	1.4	B	N/A	
WATER QUALITY (MG/L)									
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
CHLORIDE	N/A	N/A	N/A	5000	34	210		500	
FLUORIDE	N/A	N/A	N/A	1	.6	.47		.43	
NITRATE	N/A	N/A	N/A	.1 U	.05 U	.25	U	.05	U
NITRITE	N/A	N/A	N/A	.1 U	.05 U	.05	U	.05	U
ORTHOPHOSPHATE	N/A	N/A	N/A	.2 U	.2 U	.29		.39	
SULFATE	N/A	N/A	N/A	420	.3 U	14000		25	
TDS	2210	N/A	299	N/A	N/A	N/A		N/A	
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	18		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-08	MW11-08	MW11-09	MW11-11	MW11-13	MW11-13	MW11-13
Sample Id:	MW11-08 (11.5)	MW11-08(11.0)	MW11-09(14.0)	MW11-11(14.8)	MW11-13(18.0)	MW11-13(26)	MW11-13(15.5)
Sample Date:	20-SEP-94	09-DEC-94	27-MAY-92	27-MAY-92	27-MAY-92	25-MAR-94	24-JUN-94
Sample Depth:							
Investigation:	GW3Q94	GW4Q94	92GW	92GW	92GW	GW1Q94	GW2Q94
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	3190	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	.1 UJ	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	7.3 B	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	18600	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	2 U	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	486000	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	20 UJ	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	2 U	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	1 U	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	110	330	380	N/A	N/A
FLUORIDE	N/A	N/A	.5	.59	.63	N/A	N/A
NITRATE	N/A	N/A	.05 U	.05 U	.05 U	N/A	N/A
NITRITE	N/A	N/A	.05 U	.1 U	.5 U	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	.2 U	.2 U	.2 U	N/A	N/A
SULFATE	N/A	N/A	.3 U	.3 U	.3 U	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13 (FD)	MW11-13	MW11-13 (FD)	MW11-13	MW11-13 (FD)	MW11-13	MW11-13
Sample Id:	MW11-97(25.5)	MW11-13 (14.0)	MW11-100 (24.0)	MW11-13(11.7)	MW11-97(22.0)	MW11-13	MW11-13
Sample Date:	24-JUN-94	29-SEP-94	29-SEP-94	12-DEC-94	12-DEC-94	03-NOV-97	01-APR-98
Sample Depth:							
Investigation:	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	SEMI_EVENT1	SEMI_EVENT2
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	**12500**	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-13	MW11-13 (FD)	MW11-14	MW11-16	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-13	MW11-200	MW11-14(24.5)	MW11-16(19.0)	MW11-21(21.0)	MW11-21(22)	MW11-21(20.0)
Sample Date:	18-JAN-99	18-JAN-99	28-MAY-92	28-MAY-92	29-MAY-92	29-MAR-94	23-JUN-94
Sample Depth:							
Investigation:	SEMI_EVENT3	SEMI_EVENT3	92GW	92GW	92GW	GW1Q94	GW2Q94
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	3100	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	.1 U	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	7 U	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	5000 U	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	2 U	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	94400	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	2 UJ	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	50 U	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	20 U	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	25
CHLORIDE	N/A	N/A	1900	540	40	44	N/A
FLUORIDE	N/A	N/A	.52	1.2	.71	.82	N/A
NITRATE	N/A	N/A	.05 U	.05 U	.05 U	.5 U	N/A
NITRITE	N/A	N/A	.1 U	.5 U	.05 U	.1 U	N/A
ORTHOPHOSPHATE	N/A	N/A	.2 U	2.5	.2 U	.27	N/A
SULFATE	N/A	N/A	69	3.9	.3 U	.3 U	N/A
TDS	699	15200	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	25	25

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-21	MW11-21	MW11-21 (FD)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Id:	MW11-21 (17.0)	MW11-21(15.5)	MW11-98(23.0)	MW11-21	MW11-21	MW11-21	MW11-21
Sample Date:	22-SEP-94	16-DEC-94	16-DEC-94	03-OCT-96	08-NOV-97	07-APR-98	21-JAN-99
Sample Depth:							
Investigation:	GW3Q94	GW4Q94	GW4Q94	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	577	N/A	378
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-25		MW11-26		MW11-27		MW11-27 (FD)		MW11-28		MW11-30		MW11-31	
Sample Id:	MW11-25(19.0)		MW11-26(17.0)		MW11-27(13.0)		DP11-27(13.0)		MW11-28(16.0)		MW11-30(15.0)		MW11-31(14.5)	
Sample Date:	30-MAY-92		29-MAY-92		01-JUN-92		01-JUN-92		29-MAY-92		29-MAY-92		01-JUN-92	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		92GW		92GW		92GW	
METALS-Diss. (UG/L)														
MANGANESE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MERCURY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
POTASSIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SILVER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SODIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
THALLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VANADIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ZINC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLORIDE	390		N/A		370		690		N/A		N/A		1500	
FLUORIDE	.62		N/A		.93		.89		N/A		N/A		.61	
NITRATE	.05	U	N/A		.54		65		N/A		N/A		.05	U
NITRITE	.05	U	N/A		.05	U	.05	U	N/A		N/A		.5	U
ORTHOPHOSPHATE	.2	U	N/A		.2	U	.2	U	N/A		N/A		.2	U
SULFATE	17		N/A		.3	U	.3	U	N/A		N/A		16	
TDS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-32	MW11-37	MW11-38	MW11-40	MW11-40	MW11-40	MW11-40
Sample Id:	MW11-32(17.0)	MW11-37(10.5)	MW11-38(11.5)	MW11-40(08.0)	MW11-40(17)	MW11-40 (07.5)	MW11-40 (7.0)
Sample Date:	30-MAY-92	01-JUN-92	02-JUN-92	02-JUN-92	31-MAR-94	22-JUN-94	28-SEP-94
Sample Depth:							
Investigation:	92GW	92GW	92GW	92GW	GW1Q94	GW2Q94	GW3Q94
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	205	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	.1 B	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	7 U	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	5000 U	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	2 U	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	12000	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	2 UJ	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	2 U	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	6.6 B	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	23	N/A
CHLORIDE	N/A	32	31	9.7	27	10	N/A
FLUORIDE	N/A	.77	.9	.76	.42	.6	N/A
NITRATE	N/A	.05 U	.05 U	.05 U	.5 U	.05 U	N/A
NITRITE	N/A	.05 U	.05 U	.05 U	.1 U	.05 U	N/A
ORTHOPHOSPHATE	N/A	.2 U	.2 U	.2 U	.2 U	.1	N/A
SULFATE	N/A	.3 U	.3 U	13	82	8.4	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	5.6	16	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-40	MW11-41	MW11-43	MW11-44	MW11-45	MW11-45 (FD)	MW11-46
Sample Id:	MW11-40(07.0)	MW11-41(09.0)	MW11-43(16.5)	MW11-44(11.0)	MW11-45(11.0)	MW11-95(12.0)	MW11-46(12.5)
Sample Date:	09-DEC-94	02-JUN-92	02-JUN-92	02-JUN-92	03-JUN-92	03-JUN-92	03-JUN-92
Sample Depth:							
Investigation:	GW4Q94	92GW	92GW	92GW	92GW	92GW	92GW
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	540	N/A	140	120	N/A
FLUORIDE	N/A	N/A	.77	N/A	.86	.76	N/A
NITRATE	N/A	N/A	3.6	N/A	5.7	1.5	N/A
NITRITE	N/A	N/A	.05 U	N/A	.05 U	.05 U	N/A
ORTHOPHOSPHATE	N/A	N/A	.2 U	N/A	.2 U	.2 U	N/A
SULFATE	N/A	N/A	150	N/A	.3 U	.3 U	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-47		MW11-49		MW11-52		MW11-53		MW11-54		MW11-54 (FD)		MW11-54	
Sample Id:	MW11-47(15.5)		MW11-49(05.5)		MW11-52(18.0)		MW11-53(17.5)		MW11-54(23)		MW11-96(23)		MW11-54(13.0)	
Sample Date:	03-JUN-92		03-JUN-92		28-MAY-92		01-JUN-92		29-MAR-94		29-MAR-94		24-JUN-94	
Sample Depth:														
Investigation:	92GW		92GW		92GW		92GW		GW1Q94		GW1Q94		GW2Q94	
METALS-Diss. (UG/L)														
MANGANESE	N/A		N/A		N/A		N/A		3150		3210		4350	
MERCURY	N/A		N/A		N/A		N/A		.12	U	.13	U	.1	UJ
NICKEL	N/A		N/A		N/A		N/A		7.1	B	7	U	2.5	U
POTASSIUM	N/A		N/A		N/A		N/A		7970		7340		11200	
SELENIUM	N/A		N/A		N/A		N/A		2	U	2	U	2.3	U
SILVER	N/A		N/A		N/A		N/A		2	U	2	U	2	U
SODIUM	N/A		N/A		N/A		N/A		144000		144000		184000	J
THALLIUM	N/A		N/A		N/A		N/A		2	UJ	2	UW	2	U
VANADIUM	N/A		N/A		N/A		N/A		2	U	2	U	1.4	U
ZINC	N/A		N/A		N/A		N/A		6.3	U	1.8	U	.5	UJ
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLORIDE	16		N/A		240		2000		110		110		210	
FLUORIDE	.72		N/A		.43		.67		1		1.1		.72	
NITRATE	.05	U	N/A		.05	U	.05	U	.5	U	.5	U	.05	U
NITRITE	.05	U	N/A		.5	U	.05	U	.1	U	.1	U	.05	U
ORTHOPHOSPHATE	.2	U	N/A		.2	U	.2	U	.35		.35		.5	
SULFATE	2.8		N/A		.3	U	23		.3	U	.3	U	4	
TDS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		11		11		17	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-54 (FD)	MW11-54	MW11-54	MW11-54 (FD)	MW11-54	MW11-54 (FD)	MW11-54
Sample Id:	MW11-98(23.0)	MW11-54 (13.5)	MW11-54 (13.2)	MW11-99 (24.0)	MW11-54(11.5)	MW11-99(22.0)	MW11-54
Sample Date:	24-JUN-94	29-JUN-94	29-SEP-94	29-SEP-94	16-DEC-94	16-DEC-94	03-OCT-96
Sample Depth:							
Investigation:	GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	96SITE4RA
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	4750 J	N/A	1910	N/A	N/A
MERCURY	N/A	N/A	.1 U	N/A	.1 U	N/A	N/A
NICKEL	N/A	N/A	3.4 B	N/A	2.5 U	N/A	N/A
POTASSIUM	N/A	N/A	12000 J	N/A	6020	N/A	N/A
SELENIUM	N/A	N/A	28.7 J	N/A	2.3 U	N/A	N/A
SILVER	N/A	N/A	2 U	N/A	2 U	N/A	N/A
SODIUM	N/A	N/A	194000 J	N/A	95100 J	N/A	N/A
THALLIUM	N/A	N/A	2 U	N/A	2 U	N/A	N/A
VANADIUM	N/A	N/A	1.4 U	N/A	1.4 U	N/A	N/A
ZINC	N/A	N/A	5 U	N/A	21.8	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	14	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW		MW	
Point Name:	MW11-54	MW11-54	MW11-54	MW11-89	MW11-91	MW11-92		MW11-92 (FD)	
Sample Id:	MW11-54	MW11-54	MW11-54	MW11-89	MW11-91(30.0)	MW11-92(19)		MW11-95(19)	
Sample Date:	06-NOV-97	01-APR-98	19-JAN-99	25-FEB-99	04-JUN-92	29-MAR-94		29-MAR-94	
Sample Depth:									
Investigation:	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	PHASEII_RI	92GW	GW1Q94		GW1Q94	
METALS-Diss. (UG/L)									
MANGANESE	N/A	N/A	N/A	N/A	N/A	2400		2420	
MERCURY	N/A	N/A	N/A	N/A	N/A	.1	U	.1	B
NICKEL	N/A	N/A	N/A	N/A	N/A	7	U	7	U
POTASSIUM	N/A	N/A	N/A	N/A	N/A	5180	UJ	5260	
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
SILVER	N/A	N/A	N/A	N/A	N/A	2	U	2	U
SODIUM	N/A	N/A	N/A	N/A	N/A	133000		135000	
THALLIUM	N/A	N/A	N/A	N/A	N/A	2	UJ	2	UJ
VANADIUM	N/A	N/A	N/A	N/A	N/A	2	U	2	U
ZINC	N/A	N/A	N/A	N/A	N/A	1	U	20	UJ
WATER QUALITY (MG/L)									
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
CHLORIDE	N/A	N/A	N/A	N/A	N/A	160		160	
FLUORIDE	N/A	N/A	N/A	N/A	N/A	.86		.83	
NITRATE	N/A	N/A	N/A	N/A	N/A	.5	U	.5	U
NITRITE	N/A	N/A	N/A	N/A	N/A	.1	U	.1	U
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	.64		.27	
SULFATE	N/A	N/A	N/A	N/A	N/A	.3	U	.3	U
TDS	5670	N/A	668	170	N/A	N/A		N/A	
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	17		17	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW
Point Name:	MW11-92		MW11-92 (FD)	MW11-92	MW11-92 (FD)	MW11-92	MW11-92	MW11-92 (FD)
Sample Id:	MW11-92 (12.5)		MW11-96 (22.5)	MW11-92 (12.5)	MW11-96 (22.0)	MW11-92 (12.5)	MW11-92(11.0)	MW11-96(21.5)
Sample Date:	22-JUN-94		22-JUN-94	21-SEP-94	21-SEP-94	28-SEP-94	09-DEC-94	09-DEC-94
Sample Depth:								
Investigation:	GW2Q94		GW2Q94	GW3Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94
METALS-Diss. (UG/L)								
MANGANESE	3270	J	N/A	N/A	N/A	1810 J	1790	N/A
MERCURY	.1	U	N/A	N/A	N/A	.1 U	.1 U	N/A
NICKEL	5.5	B	N/A	N/A	N/A	2.5 U	2.5 U	N/A
POTASSIUM	9690	J	N/A	N/A	N/A	9700 J	5680	N/A
SELENIUM	2.3	U	N/A	N/A	N/A	21.1 UJ	2.3 U	N/A
SILVER	2	U	N/A	N/A	N/A	2 U	2 U	N/A
SODIUM	197000	J	N/A	N/A	N/A	173000 J	106000 J	N/A
THALLIUM	2	U	N/A	N/A	N/A	2 U	2 U	N/A
VANADIUM	2.9	B	N/A	N/A	N/A	1.4 U	1.4 U	N/A
ZINC	7.4	B	N/A	N/A	N/A	3.9 U	11.6 U	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	85		N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	19		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93		MW11-93	
Sample Id:	MW11-93(13.5)		MW11-93(22)		MW11-93 (16.0)		MW11-93 (18.0)		MW11-93(14.0)		MW11-93		MW11-93	
Sample Date:	30-MAY-92		30-MAR-94		23-JUN-94		30-SEP-94		18-DEC-94		06-NOV-97		01-APR-98	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2	
METALS-Diss. (UG/L)														
MANGANESE	N/A		1790		1790	J	2460	J	1890		N/A		N/A	
MERCURY	N/A		.1	U	.1	U	.1	U	.1	U	N/A		N/A	
NICKEL	N/A		7	U	2.5	U	3.9	B	2.5	U	N/A		N/A	
POTASSIUM	N/A		10200		14700	J	42100	J	12700		N/A		N/A	
SELENIUM	N/A		N/A		2.3	U	44.2	J	2.3	U	N/A		N/A	
SILVER	N/A		2	U	2	U	2	U	2	U	N/A		N/A	
SODIUM	N/A		175000		196000	J	565000	J	137000	J	N/A		N/A	
THALLIUM	N/A		2	UJ	2	U	2	U	2	U	N/A		N/A	
VANADIUM	N/A		2	U	1.4	U	1.6	B	1.4	U	N/A		N/A	
ZINC	N/A		20	U	11	B	8.5	B	1.8	U	N/A		N/A	
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		30		N/A		N/A		N/A		N/A	
CHLORIDE	100		200		N/A		N/A		N/A		N/A		N/A	
FLUORIDE	.58		.86		N/A		N/A		N/A		N/A		N/A	
NITRATE	.05	U	.5	U	N/A		N/A		N/A		N/A		N/A	
NITRITE	.5	U	.1	U	N/A		N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	.2	U	.56		N/A		N/A		N/A		N/A		N/A	
SULFATE	.3	U	.9		N/A		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		N/A		1460		N/A	
TOTAL ORGANIC CARBON	N/A		24		25		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 3 Treatment Ponds Area
Water Analytical Results

Point Type:	MW	MW	PZ	PZ	PZ	PZ	SB
Point Name:	MW11-93	MW11-94	PZ11-01	PZ11-78	PZ11-78	PZ11-78	SB11-95
Sample Id:	MW11-93	MW11-94	PZ11-01(30.0)	PZ11-78	PZ11-78	PZ11-78	SB11-95(5)
Sample Date:	19-JAN-99	19-FEB-99	04-JUN-92	08-NOV-97	07-APR-98	23-JAN-99	07-FEB-99
Sample Depth:							5 ft
Investigation:	SEMI_EVENT3	PHASEII_RI	92GW	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	PHASEII_RI
METALS-Diss. (UG/L)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	766	603	N/A	492	N/A	388	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

SOIL

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-01		SB11-02		SB11-02		SB11-03		SB11-04		SB11-06		SB11-06	
Sample Id:	SB11-01(9.0-10.0)		SB11-02(19.5-20.0)		SB11-02(28.5)		SB11-03(23.5)		SB11-04(16.5-18.5)		SB11-06(15.0-17.0)		SB11-06(20.0-21.0	
Sample Date:	21-JAN-92		21-JAN-92		22-JAN-92		22-JAN-92		22-JAN-92		23-JAN-92		23-JAN-92	
Sample Depth:	9 - 10 ft		19.5 - 20 ft		28.5 ft		23.5 ft		16.5 - 18.5 ft		15 - 17 ft		20 - 21 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.006	U	.012	U	.006	U	.006	U	.006	U	.006	U	.007	U
DIESEL RANGE ORGANICS	2.2	U	1.2	U	60	U	1.2	U	12	U	26	U	5.5	U
ETHYLBENZENE	.006	U	.012	U	.006	U	.006	U	.006	U	.006	U	.007	U
GASOLINE RANGE ORGANICS	1.1	U	2.4	U	1.2	U	1.2	U	1.2	U	1.3	U	1.4	U
JP5 RANGE ORGANICS	2.2	U	1.2	U	60	U	1.2	U	12	U	26	U	5.5	U
OTHER HEAVY TPH COMPONENTS	**2.2**	U	**47**		**2100**	X	**120**		**480**		**1300**		**170**	
OTHER LIGHT TPH COMPONENTS	**25**	X	.012	U	.006	U	.006	U	**72**		**92**		**23**	
TOLUENE	.006	U	.012	U	.006	U	.006	U	.006	U	.006	U	.007	U
TPH - BUNKER FUEL (C10-C28)	**22**	U	**140**	X	**9000**	X	12	U	**2300**	X	**5600**	X	**690**	X
XYLENE (TOTAL)	.006	U	.012	U	.006	U	.006	U	.006	U	.006	U	.007	U

SEDIMENT

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T08-100		T08-100		T08-15		T08-15		T08-15 (FD)		T08-50		T08-50	
Sample Id:	T08-100 (0.0-2.0)		T08-100 (2.0-4.0)		T08-15 (0.0-2.0)		T08-15 (2.0-4.0)		T08-115 (0.0-2.0)		T08-50 (0.0-2.0)		T08-50 (2.0-3.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.6	U	1.6	U	1.6	U	1.6	U	1.5	U	1.5	U	1.6	U
JP5 RANGE ORGANICS	1.6	U	1.6	U	1.6	U	1.6	U	1.5	U	1.5	U	1.6	U
OTHER HEAVY TPH COMPONENTS	**110**	Y	**38**	Y	**320**	Y	**80**	Y	**310**	Y	**160**	Y	**210**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	16	U	16	U	16	U	16	U	15	U	15	U	16	U
TPH - DIESEL F-76 (C8-C28)	1.6	U	1.6	U	1.6	U	1.6	U	1.5	U	1.5	U	1.6	U
TPH - WEATHERED DIESEL(C8-C26)	1.6	U	1.6	U	1.6	U	1.6	U	1.5	U	1.5	U	1.6	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
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Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-10		T09-10		T09-10		T09-10		T09-10 (FD)		T09-10 (FD)		T09-150	
Sample Id:	T09-10 (0.0-2.0)		T09-10 (1.0-1.5)		T09-10 (2.0-4.0)		T09-10 (2.5-3.0)		T09-310 (0.0-2.0)		T09-10 (1.0-1.5) DU		T09-150 (0.0-2.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		2.5 - 3 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.5	U	N/A		1.6	U	N/A		1.5	U	N/A		1.6	U
JP5 RANGE ORGANICS	1.5	U	N/A		1.6	U	N/A		1.5	U	N/A		1.6	U
OTHER HEAVY TPH COMPONENTS	**140**	Y	N/A		**29**	Y	N/A		**120**	Y	N/A		**48**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	37	U	N/A		N/A		N/A		38	U	N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	15	U	N/A		16	U	N/A		15	U	N/A		16	U
TPH - DIESEL F-76 (C8-C28)	1.5	U	N/A		1.6	U	N/A		1.5	U	N/A		1.6	U
TPH - WEATHERED DIESEL(C8-C26)	1.5	U	N/A		1.6	U	N/A		1.5	U	N/A		1.6	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,1,2-TRICHLOROETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,1-DICHLOROETHANE	N/A		.019	UJ	N/A		.014	UJ	N/A		.019	UJ	N/A	
1,1-DICHLOROETHENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,2-DICHLOROBENZENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
1,2-DICHLOROETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,2-DICHLOROPROPANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
1,3-DICHLOROBENZENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
1,4-DICHLOROBENZENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-BUTANONE	N/A		.019	U	N/A		**.006**	J	N/A		**.011**	J	N/A	
2-HEXANONE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
4-METHYL-2-PENTANONE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
ACETONE	N/A		.046	UJ	N/A		.029	UJ	N/A		.05	UJ	N/A	
BENZENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
BROMODICHLOROMETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
BROMOFORM	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
BROMOMETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
CARBON DISULFIDE	N/A		.019	U	N/A		.014	U	N/A		**.003**	J	N/A	
CARBON TETRACHLORIDE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
CHLOROBENZENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	

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IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-150		T09-265		T09-265		T09-265		T09-265		T09-50		T09-50	
Sample Id:	T09-150 (2.0-3.0)		T09-265 (0.0-1.0)		T09-265 (1.0-1.5)		T09-265 (2.5-3.5)		T09-265 (3.5-4.0)		T09-50 (0.0-2.0)		T09-50 (2.0-3.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	2 - 3 ft		0 - 1 ft		1 - 1.5 ft		2.5 - 3.5 ft		3.5 - 4 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.7	U	1.7	U	N/A		1.7	U	N/A		1.6	U	3.3	U
JP5 RANGE ORGANICS	1.7	U	1.7	U	N/A		1.7	U	N/A		1.6	U	3.3	U
OTHER HEAVY TPH COMPONENTS	**9.9**	Y	**76**	Y	N/A		**14**	Y	N/A		**81**	Y	**50**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		42	U	N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	17	U	17	U	N/A		17	U	N/A		16	U	33	U
TPH - DIESEL F-76 (C8-C28)	1.7	U	1.7	U	N/A		1.7	U	N/A		1.6	U	3.3	U
TPH - WEATHERED DIESEL(C8-C26)	1.7	U	1.7	U	N/A		1.7	U	N/A		1.6	U	3.3	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,2-DICHLOROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
1,2-DICHLOROETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
1,3-DICHLOROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
1,4-DICHLOROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-BUTANONE	N/A		N/A		**.007**	J	N/A		**.01**	J	N/A		N/A	
2-HEXANONE	N/A		N/A		.017	UJ	N/A		.016	UJ	N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		.017	UJ	N/A		.016	UJ	N/A		N/A	
ACETONE	N/A		N/A		.043	UJ	N/A		.064	UJ	N/A		N/A	
BENZENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
BROMOFORM	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
BROMOMETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
CARBON DISULFIDE	N/A		N/A		.017	U	N/A		**.008**	J	N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
CHLOROBENZENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	

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Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-10		T10-10		T10-10		T10-10		T10-10 (FD)		T10-10 (FD)		T10-100	
Sample Id:	T10-10 (0.0 - 2.0)		T10-10 (1.0 - 1.5)		T10-10 (2.0 - 4.0)		T10-10 (3.0 - 3.5)		T10-410 (0.0 - 2.0		T10-10 (1.0 - 1.5)		T10-100 (0.0-2.0)	
Sample Date:	01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		29-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.8	U	N/A		1.4	U	N/A		1.7	U	N/A		1.6	U
JP5 RANGE ORGANICS	1.8	U	N/A		1.4	U	N/A		1.7	U	N/A		1.6	U
OTHER HEAVY TPH COMPONENTS	**340**	Y	N/A		**40**	Y	N/A		**270**	Y	N/A		**510**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	**77**		N/A		N/A		N/A		**60**		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	18	U	N/A		14	U	N/A		17	U	N/A		16	U
TPH - DIESEL F-76 (C8-C28)	1.8	U	N/A		1.4	U	N/A		1.7	U	N/A		1.6	U
TPH - WEATHERED DIESEL(C8-C26)	1.8	U	N/A		1.4	U	N/A		1.7	U	N/A		1.6	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,1-DICHLOROETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,1-DICHLOROETHENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,2-DICHLOROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
1,2-DICHLOROETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,2-DICHLOROPROPANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
1,3-DICHLOROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
1,4-DICHLOROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-BUTANONE	N/A		**.036**	J	N/A		.014	UJ	N/A		**.031**	J	N/A	
2-HEXANONE	N/A		.021	UJ	N/A		.014	UJ	N/A		.021	UJ	N/A	
4-METHYL-2-PENTANONE	N/A		.021	UJ	N/A		.014	UJ	N/A		.021	UJ	N/A	
ACETONE	N/A		.19	UJ	N/A		.067	UJ	N/A		.18	UJ	N/A	
BENZENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
BROMODICHLOROMETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
BROMOFORM	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
BROMOMETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
CARBON DISULFIDE	N/A		**.008**	J	N/A		.014	U	N/A		**.007**	J	N/A	
CARBON TETRACHLORIDE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
CHLOROBENZENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-100		T10-200		T10-200		T10-400		T10-400		T10-400		T10-400	
Sample Id:	T10-100 (2.0-3.0)		T10-200 (0.0-2.0)		T10-200 (2.0-3.0)		T10-400 (0.0-2.0)		T10-400 (1.0-1.5)		T10-400 (2.0-2.5)		T10-400 (2.5-3.0)	
Sample Date:	29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94	
Sample Depth:	2 - 3 ft		0 - 2 ft		2 - 3 ft		0 - 2 ft		1 - 1.5 ft		2 - 2.5 ft		2.5 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.6	U	1.6	U	1.6	U	1.6	U	N/A		1.5	U	N/A	
JP5 RANGE ORGANICS	1.6	U	1.6	U	1.6	U	1.6	U	N/A		1.5	U	N/A	
OTHER HEAVY TPH COMPONENTS	**61**	Y	**95**	Y	**33**	Y	**86**	Y	N/A		**26**	Y	N/A	
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		40	U	N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	16	U	16	U	16	U	16	U	N/A		15	U	N/A	
TPH - DIESEL F-76 (C8-C28)	1.6	U	1.6	U	1.6	U	1.6	U	N/A		1.5	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	1.6	U	1.6	U	1.6	U	1.6	U	N/A		1.5	U	N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		.015	U	N/A		**.0008**	J
1,2-DICHLOROBENZENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
1,3-DICHLOROBENZENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
1,4-DICHLOROBENZENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		.015	UJ	N/A		**.005**	J
2-HEXANONE	N/A		N/A		N/A		N/A		.015	UJ	N/A		.016	UJ
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		.015	UJ	N/A		.016	UJ
ACETONE	N/A		N/A		N/A		N/A		.028	UJ	N/A		.022	UJ
BENZENE	N/A		N/A		N/A		N/A		**.0006**	J	N/A		.016	U
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
BROMOFORM	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
BROMOMETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
CARBON DISULFIDE	N/A		N/A		N/A		N/A		**.002**	J	N/A		.016	U
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
CHLOROBENZENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-50		T10-50		T11-10		T11-10		T11-100		T11-100		T11-200	
Sample Id:	T10-50 (0.0-2.0)		T10-50 (2.0-4.0)		T11-10 (0.0-2.0)		T11-10 (2.0 - 4.0)		T11-100 (0.0-2.0)		T11-100 (2.0-4.0)		T11-200 (0.0-2.0)	
Sample Date:	29-APR-94		29-APR-94		01-MAY-94		01-MAY-94		29-APR-94		29-APR-94		29-APR-94	
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.8	U	1.6	U	1.6	U	1.5	U	1.6	U	1.5	U	1.7	U
JP5 RANGE ORGANICS	1.8	U	1.6	U	1.6	U	1.5	U	1.6	U	1.5	U	1.7	U
OTHER HEAVY TPH COMPONENTS	**570**	Y	**76**	Y	**84**	Y	**16**	Y	**180**	Y	**21**	Y	**66**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	18	U	16	U	16	U	15	U	16	U	15	U	17	U
TPH - DIESEL F-76 (C8-C28)	1.8	U	1.6	U	1.6	U	1.5	U	1.6	U	1.5	U	1.7	U
TPH - WEATHERED DIESEL(C8-C26)	1.8	U	1.6	U	1.6	U	1.5	U	1.6	U	1.5	U	1.7	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A	
1,4-DICHLOROBENZENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T11-200		T11-400		T11-400		T11-50		T11-50		T12-10		T12-100	
Sample Id:	T11-200 (2.0-4.0)		T11-400 (0.0-2.0)		T11-400 (2.0-4.0)		T11-50 (0.0-2.0)		T11-50 (2.0-4.0)		T12-10 (0.0-1.0)		T12-100 (0.0-2.0)	
Sample Date:	29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		01-MAY-94		01-MAY-94	
Sample Depth:	2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.6	U	1.6	U	1.5	U	1.7	U	1.5	U	1.6	U	1.5	U
JP5 RANGE ORGANICS	1.6	U	1.6	U	1.5	U	1.7	U	1.5	U	1.6	U	1.5	U
OTHER HEAVY TPH COMPONENTS	**18**	Y	**58**	Y	1.5	U	**210**	Y	**18**	Y	**230**	Y	**150**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	16	U	16	U	15	U	17	U	15	U	16	U	15	U
TPH - DIESEL F-76 (C8-C28)	1.6	U	1.6	U	1.5	U	1.7	U	1.5	U	1.6	U	1.5	U
TPH - WEATHERED DIESEL(C8-C26)	1.6	U	1.6	U	1.5	U	1.7	U	1.5	U	1.6	U	1.5	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T12-100		T12-200		T12-200		T12-400		T12-400		T12-50		T12-50	
Sample Id:	T12-100 (3.0-4.0)		T12-200 (0.0-2.0)		T12-200 (2.0-3.5)		T12-400 (0.0-2.0)		T12-400 (2.0-4.0)		T12-50 (0.0-2.0)		T12-50 (2.0-3.0)	
Sample Date:	01-MAY-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94		01-MAY-94		01-MAY-94	
Sample Depth:	3 - 4 ft		0 - 2 ft		2 - 3.5 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.6	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.4	U
JP5 RANGE ORGANICS	1.6	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.4	U
OTHER HEAVY TPH COMPONENTS	**9.7**	Y	**110**	Y	**38**	Y	**65**	Y	**14**	Y	**130**	Y	**28**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	16	U	15	U	15	U	15	U	15	U	15	U	14	U
TPH - DIESEL F-76 (C8-C28)	1.6	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.4	U
TPH - WEATHERED DIESEL(C8-C26)	1.6	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.4	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-00		T13-150		T13-400		T13-400		T13-400		T13-400		T13-400 (FD)	
Sample Id:	T13-00 (1.0)		T13-150 (0.0-0.5)		T13-400 (0.0-2.0)		T13-400 (1.0-1.5)		T13-400 (2.0-4.0)		T13-400 (3.0-3.5)		T13-350 (2.0-4.0)	
Sample Date:	03-MAY-94		03-MAY-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94	
Sample Depth:	1 ft		0 - .5 ft		0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		2 - 4 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	.017	U	N/A		1.5	U	N/A		1.5	U	N/A		1.5	U
JP5 RANGE ORGANICS	.017	U	N/A		1.5	U	N/A		1.5	U	N/A		1.5	U
OTHER HEAVY TPH COMPONENTS	**3**	Y	N/A		**56**	Y	N/A		**16**	Y	N/A		**21**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		37	U	N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	.17	U	N/A		15	U	N/A		15	U	N/A		15	U
TPH - DIESEL F-76 (C8-C28)	.017	U	N/A		1.5	U	N/A		1.5	U	N/A		1.5	U
TPH - WEATHERED DIESEL(C8-C26)	.017	U	N/A		1.5	U	N/A		1.5	U	N/A		1.5	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,2-DICHLOROBENZENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
1,3-DICHLOROBENZENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
1,4-DICHLOROBENZENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
2-BUTANONE	N/A		N/A		N/A		.009	J	N/A		.015	UJ	N/A	
2-HEXANONE	N/A		N/A		N/A		.015	UJ	N/A		.015	UJ	N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		.015	UJ	N/A		.015	UJ	N/A	
ACETONE	N/A		N/A		N/A		.033	UJ	N/A		.021	UJ	N/A	
BENZENE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
BROMOFORM	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
BROMOMETHANE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
CARBON DISULFIDE	N/A		N/A		N/A		**.002**	J	N/A		.015	U	N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	
CHLOROBENZENE	N/A		N/A		N/A		.015	U	N/A		.015	U	N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-400 (FD)		T13-50		T13-50		XDL1		XDL1		XDL1		XT-11	
Sample Id:	T13-400 (3.0-3.5) D		T13-50 (0.0-2.0)		T13-50 (1.0-1.5)		XDL1(3)		XDL1(2)		XDL1(1)		XT-11(4-5)	
Sample Date:	30-APR-94		30-APR-94		30-APR-94		15-OCT-98		15-OCT-98		15-OCT-98		15-OCT-98	
Sample Depth:	3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft		1 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		18		19		5	J	16	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		16		21		8	J	17	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		50		64		29		57	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		1	J	1	U	1	U	1	U
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		28		29		10	J	31	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		73		73		35		60	
JP4 RANGE ORGANICS	N/A		1.4	U	N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		1.4	U	N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		71	Y	N/A		N/A		N/A		N/A		N/A	
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		36	U	N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		14	U	N/A		N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		1.4	U	N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.4	U	N/A		N/A		N/A		N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
1,2-DICHLOROETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
1,4-DICHLOROBENZENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
2-BUTANONE	.015	UJ	N/A		.014	UJ	N/A		N/A		N/A		N/A	
2-HEXANONE	.015	UJ	N/A		.014	UJ	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.015	UJ	N/A		.014	UJ	N/A		N/A		N/A		N/A	
ACETONE	.029	UJ	N/A		.016	UJ	N/A		N/A		N/A		N/A	
BENZENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMOFORM	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMOMETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	.001	J	N/A		.014	U	N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CHLOROBENZENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		SL		SL		SL		SL		SL	
Point Name:	XT-11		XT-11		T10-20		T10-75		T11A-10		T11A-175		T11A-75	
Sample Id:	XT-11(3)		XT-11(1-2)		T10-20(0.0-1.0)		T10-75(0.0-1.0)		T11A-10(0.0-1.0)		T11A-175(0.0-1.0)		T11A-75(0.0-1.0)	
Sample Date:	15-OCT-98		15-OCT-98		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95	
Sample Depth:	2 - 3 ft		3 - 4 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft	
Investigation:	ECO_RISK		ECO_RISK		95SED		95SED		95SED		95SED		95SED	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	3	J	1	J	N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	5	J	4	J	N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	15		9	J	N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	1	U	1	U	N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	6	J	5	J	N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	21		9	J	N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	N/A		N/A		1.6	U	1.7	U	3.2	U	1.5	U	1.6	U
JP5 RANGE ORGANICS	N/A		N/A		1.6	U	1.7	U	3.2	U	1.5	U	1.6	U
OTHER HEAVY TPH COMPONENTS	N/A		N/A		300	Y	240	Y	790	Y	41	Y	260	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		16	U	17	U	32	U	15	U	16	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		1.6	UJ	1.7	UJ	3.2	UJ	1.5	UJ	1.6	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		1.6	U	1.7	U	3.2	U	1.5	U	1.6	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
1,4-DICHLOROBENZENE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T08-100	T08-100	T08-15	T08-15	T08-15 (FD)	T08-50	T08-50
Sample Id:	T08-100 (0.0-2.0)	T08-100 (2.0-4.0)	T08-15 (0.0-2.0)	T08-15 (2.0-4.0)	T08-115 (0.0-2.0)	T08-50 (0.0-2.0)	T08-50 (2.0-3.0)
Sample Date:	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-10		T09-10		T09-10		T09-10		T09-10 (FD)		T09-10 (FD)		T09-150	
Sample Id:	T09-10 (0.0-2.0)		T09-10 (1.0-1.5)		T09-10 (2.0-4.0)		T09-10 (2.5-3.0)		T09-310 (0.0-2.0)		T09-10 (1.0-1.5) DU		T09-150 (0.0-2.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		2.5 - 3 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
VOA (MG/KG)														
CHLOROETHANE	N/A		.019	UJ	N/A		.014	UJ	N/A		.019	UJ	N/A	
CHLOROFORM	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
CHLOROMETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
CIS-1,3-DICHLOROPROPENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
DIBROMOCHLOROMETHANE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
ETHYLBENZENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
METHYLENE CHLORIDE	N/A		.01	U	N/A		.01	U	N/A		.01	UJ	N/A	
STYRENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
TETRACHLOROETHENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
TOLUENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
TRICHLOROETHENE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
VINYL CHLORIDE	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
XYLENE (TOTAL)	N/A		.019	U	N/A		.014	U	N/A		.019	U	N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,2'-OXYBIS(1-CHLOROPROPANE)	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,4,5-TRICHLOROPHENOL	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
2,4,6-TRICHLOROPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,4-DICHLOROPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,4-DIMETHYLPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,4-DINITROPHENOL	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
2,4-DINITROTOLUENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2,6-DINITROTOLUENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-CHLORONAPHTHALENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-CHLOROPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-METHYLNAPHTHALENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-METHYLPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
2-NITROANILINE	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
2-NITROPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
3,3'-DICHLOROBENZIDINE	.49	UJ	N/A		.52	UJ	N/A		.51	UJ	N/A		.54	UJ
3-NITROANILINE	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
4,6-DINITRO-2-METHYLPHENOL	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
4-BROMOPHENYL-PHENYLETHER	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
4-CHLORO-3-METHYLPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
4-CHLOROANILINE	.49	UJ	N/A		.52	UJ	N/A		.51	UJ	N/A		.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-150		T09-265		T09-265		T09-265		T09-265		T09-50		T09-50	
Sample Id:	T09-150 (2.0-3.0)		T09-265 (0.0-1.0)		T09-265 (1.0-1.5)		T09-265 (2.5-3.5)		T09-265 (3.5-4.0)		T09-50 (0.0-2.0)		T09-50 (2.0-3.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	2 - 3 ft		0 - 1 ft		1 - 1.5 ft		2.5 - 3.5 ft		3.5 - 4 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
VOA (MG/KG)														
CHLOROETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
CHLOROFORM	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
CHLOROMETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
ETHYLBENZENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
METHYLENE CHLORIDE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
STYRENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
TETRACHLOROETHENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
TOLUENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
TRICHLOROETHENE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
VINYL CHLORIDE	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		.017	U	N/A		.016	U	N/A		N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,2'-OXYBIS(1-CHLOROPROPANE)	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,4,5-TRICHLOROPHENOL	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
2,4,6-TRICHLOROPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,4-DICHLOROPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,4-DIMETHYLPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,4-DINITROPHENOL	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
2,4-DINITROTOLUENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2,6-DINITROTOLUENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-CHLORONAPHTHALENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-CHLOROPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-METHYLNAPHTHALENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-METHYLPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
2-NITROANILINE	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
2-NITROPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
3,3'-DICHLOROBENZIDINE	.56	UJ	.55	UJ	N/A		.56	UJ	N/A		.53	UJ	.54	UJ
3-NITROANILINE	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
4,6-DINITRO-2-METHYLPHENOL	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
4-BROMOPHENYL-PHENYLETHER	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
4-CHLORO-3-METHYLPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
4-CHLOROANILINE	.56	UJ	.55	UJ	N/A		.56	UJ	N/A		.53	UJ	.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-10		T10-10		T10-10		T10-10		T10-10 (FD)		T10-10 (FD)		T10-100	
Sample Id:	T10-10 (0.0 - 2.0)		T10-10 (1.0 - 1.5)		T10-10 (2.0 - 4.0)		T10-10 (3.0 - 3.5)		T10-410 (0.0 - 2.0		T10-10 (1.0 - 1.5)		T10-100 (0.0-2.0)	
Sample Date:	01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		29-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
VOA (MG/KG)														
CHLOROETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
CHLOROFORM	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
CHLOROMETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
CIS-1,3-DICHLOROPROPENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
DIBROMOCHLOROMETHANE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
ETHYLBENZENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
METHYLENE CHLORIDE	N/A		.01	U	N/A		.014	U	N/A		.01	U	N/A	
STYRENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
TETRACHLOROETHENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
TOLUENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
TRICHLOROETHENE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
VINYL CHLORIDE	N/A		.021	U	N/A		.014	U	N/A		.021	U	N/A	
XYLENE (TOTAL)	N/A		.001	J	N/A		.014	U	N/A		.021	U	N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,2'-OXYBIS(1-CHLOROPROPANE)	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,4,5-TRICHLOROPHENOL	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
2,4,6-TRICHLOROPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,4-DICHLOROPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,4-DIMETHYLPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,4-DINITROPHENOL	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
2,4-DINITROTOLUENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2,6-DINITROTOLUENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-CHLORONAPHTHALENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-CHLOROPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-METHYLNAPHTHALENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-METHYLPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
2-NITROANILINE	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
2-NITROPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
3,3'-DICHLOROBENZIDINE	.58	UJ	N/A		.48	UJ	N/A		.57	UJ	N/A		.54	UJ
3-NITROANILINE	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
4,6-DINITRO-2-METHYLPHENOL	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
4-BROMOPHENYL-PHENYLETHER	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
4-CHLORO-3-METHYLPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
4-CHLOROANILINE	.58	UJ	N/A		.48	UJ	N/A		.57	UJ	N/A		.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-100		T10-200		T10-200		T10-400		T10-400		T10-400		T10-400	
Sample Id:	T10-100 (2.0-3.0)		T10-200 (0.0-2.0)		T10-200 (2.0-3.0)		T10-400 (0.0-2.0)		T10-400 (1.0-1.5)		T10-400 (2.0-2.5)		T10-400 (2.5-3.0)	
Sample Date:	29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94	
Sample Depth:	2 - 3 ft		0 - 2 ft		2 - 3 ft		0 - 2 ft		1 - 1.5 ft		2 - 2.5 ft		2.5 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
VOA (MG/KG)														
CHLOROETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
CHLOROFORM	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
CHLOROMETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
CIS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
DIBROMOCHLOROMETHANE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
ETHYLBENZENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
METHYLENE CHLORIDE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
STYRENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
TETRACHLOROETHENE	N/A		N/A		N/A		N/A		.015	UJ	N/A		.016	U
TOLUENE	N/A		N/A		N/A		N/A		.002	J	N/A		.016	U
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
TRICHLOROETHENE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
VINYL CHLORIDE	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		.015	U	N/A		.016	U
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,4,5-TRICHLOROPHENOL	1.2	U	N/A		N/A		1.3	U	N/A		1.2	U	N/A	
2,4,6-TRICHLOROPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,4-DICHLOROPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,4-DIMETHYLPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,4-DINITROPHENOL	1.2	U	N/A		N/A		1.3	U	N/A		1.2	U	N/A	
2,4-DINITROTOLUENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2,6-DINITROTOLUENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-CHLORONAPHTHALENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-CHLOROPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-METHYLNAPHTHALENE	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-METHYLPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
2-NITROANILINE	1.2	U	N/A		N/A		1.3	U	N/A		1.2	U	N/A	
2-NITROPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
3,3'-DICHLOROBENZIDINE	.52	UJ	N/A		N/A		.52	UJ	N/A		.51	UJ	N/A	
3-NITROANILINE	1.2	U	N/A		N/A		1.3	U	N/A		1.2	U	N/A	
4,6-DINITRO-2-METHYLPHENOL	1.2	U	N/A		N/A		1.3	U	N/A		1.2	U	N/A	
4-BROMOPHENYL-PHENYLETHER	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
4-CHLORO-3-METHYLPHENOL	.52	U	N/A		N/A		.52	U	N/A		.51	U	N/A	
4-CHLOROANILINE	.52	UJ	N/A		N/A		.52	UJ	N/A		.51	UJ	N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T10-50	T10-50	T11-10	T11-10	T11-100	T11-100	T11-200
Sample Id:	T10-50 (0.0-2.0)	T10-50 (2.0-4.0)	T11-10 (0.0-2.0)	T11-10 (2.0 - 4.0)	T11-100 (0.0-2.0)	T11-100 (2.0-4.0)	T11-200 (0.0-2.0)
Sample Date:	29-APR-94	29-APR-94	01-MAY-94	01-MAY-94	29-APR-94	29-APR-94	29-APR-94
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	1.3 U	1.2 U	1.3 U	1.2 U	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,4-DICHLOROPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,4-DINITROPHENOL	N/A	N/A	1.3 U	1.2 U	1.3 U	1.2 U	N/A
2,4-DINITROTOLUENE	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2,6-DINITROTOLUENE	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2-CHLORONAPHTHALENE	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2-CHLOROPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2-METHYLNAPHTHALENE	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2-METHYLPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
2-NITROANILINE	N/A	N/A	1.3 U	1.2 U	1.3 U	1.2 U	N/A
2-NITROPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	.53 UJ	.5 UJ	.53 UJ	.5 UJ	N/A
3-NITROANILINE	N/A	N/A	1.3 U	1.2 U	1.3 U	1.2 U	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	1.3 U	1.2 U	1.3 U	1.2 U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	.53 U	.5 U	.53 U	.5 U	N/A
4-CHLOROANILINE	N/A	N/A	.53 UJ	.5 UJ	.53 UJ	.5 UJ	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T11-200		T11-400		T11-400		T11-50		T11-50		T12-10		T12-100	
Sample Id:	T11-200 (2.0-4.0)		T11-400 (0.0-2.0)		T11-400 (2.0-4.0)		T11-50 (0.0-2.0)		T11-50 (2.0-4.0)		T12-10 (0.0-1.0)		T12-100 (0.0-2.0)	
Sample Date:	29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		01-MAY-94		01-MAY-94	
Sample Depth:	2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
VOA (MG/KG)														
CHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VINYL CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,4-DICHLOROPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,4-DINITROPHENOL	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2,6-DINITROTOLUENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-CHLORONAPHTHALENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-CHLOROPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-METHYLPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
2-NITROANILINE	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
2-NITROPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		.53	UJ	.51	UJ	N/A		N/A		N/A		N/A	
3-NITROANILINE	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
4-CHLOROANILINE	N/A		.53	UJ	.51	UJ	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T12-100	T12-200	T12-200	T12-400	T12-400	T12-50	T12-50
Sample Id:	T12-100 (3.0-4.0)	T12-200 (0.0-2.0)	T12-200 (2.0-3.5)	T12-400 (0.0-2.0)	T12-400 (2.0-4.0)	T12-50 (0.0-2.0)	T12-50 (2.0-3.0)
Sample Date:	01-MAY-94	30-APR-94	30-APR-94	30-APR-94	30-APR-94	01-MAY-94	01-MAY-94
Sample Depth:	3 - 4 ft	0 - 2 ft	2 - 3.5 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T13-00	T13-150	T13-400	T13-400	T13-400	T13-400	T13-400 (FD)
Sample Id:	T13-00 (1.0)	T13-150 (0.0-0.5)	T13-400 (0.0-2.0)	T13-400 (1.0-1.5)	T13-400 (2.0-4.0)	T13-400 (3.0-3.5)	T13-350 (2.0-4.0)
Sample Date:	03-MAY-94	03-MAY-94	30-APR-94	30-APR-94	30-APR-94	30-APR-94	30-APR-94
Sample Depth:	1 ft	0 - .5 ft	0 - 2 ft	1 - 1.5 ft	2 - 4 ft	3 - 3.5 ft	2 - 4 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CHLOROETHANE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
CHLOROFORM	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
CHLOROMETHANE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
ETHYLBENZENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
STYRENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
TOLUENE	N/A	N/A	N/A	.001 J	N/A	.015 U	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
TRICHLOROETHENE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
VINYL CHLORIDE	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	.015 U	N/A	.015 U	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,4,5-TRICHLOROPHENOL	N/A	N/A	1.2 U	N/A	1.2 U	N/A	1.2 U
2,4,6-TRICHLOROPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,4-DICHLOROPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,4-DIMETHYLPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,4-DINITROPHENOL	N/A	N/A	1.2 U	N/A	1.2 U	N/A	1.2 U
2,4-DINITROTOLUENE	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2,6-DINITROTOLUENE	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2-CHLORONAPHTHALENE	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2-CHLOROPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2-METHYLNAPHTHALENE	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2-METHYLPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
2-NITROANILINE	N/A	N/A	1.2 U	N/A	1.2 U	N/A	1.2 U
2-NITROPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
3,3'-DICHLOROBENZIDINE	N/A	N/A	.49 UJ	N/A	.5 UJ	N/A	.51 UJ
3-NITROANILINE	N/A	N/A	1.2 U	N/A	1.2 U	N/A	1.2 U
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	1.2 U	N/A	1.2 U	N/A	1.2 U
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
4-CHLORO-3-METHYLPHENOL	N/A	N/A	.49 U	N/A	.5 U	N/A	.51 U
4-CHLOROANILINE	N/A	N/A	.49 UJ	N/A	.5 UJ	N/A	.51 UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-400 (FD)		T13-50		T13-50		XDL1		XDL1		XDL1		XT-11	
Sample Id:	T13-400 (3.0-3.5) D		T13-50 (0.0-2.0)		T13-50 (1.0-1.5)		XDL1(3)		XDL1(2)		XDL1(1)		XT-11(4-5)	
Sample Date:	30-APR-94		30-APR-94		30-APR-94		15-OCT-98		15-OCT-98		15-OCT-98		15-OCT-98	
Sample Depth:	3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft		1 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
VOA (MG/KG)														
CHLOROETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CHLOROFORM	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CHLOROMETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
ETHYLBENZENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
STYRENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
TOLUENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
TRICHLOROETHENE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
VINYL CHLORIDE	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.015	U	N/A		.014	U	N/A		N/A		N/A		N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
2,4,5-TRICHLOROPHENOL	N/A		1.2	U	N/A		.08	U	.08	U	.08	U	.08	U
2,4,6-TRICHLOROPHENOL	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
2,4-DICHLOROPHENOL	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
2,4-DIMETHYLPHENOL	N/A		.48	U	N/A		.05	U	.05	U	.05	U	.05	U
2,4-DINITROPHENOL	N/A		1.2	U	N/A		.09	UJ	.09	UJ	.09	UJ	.09	UJ
2,4-DINITROTOLUENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
2,6-DINITROTOLUENE	N/A		.48	U	N/A		.05	U	.05	U	.05	U	.05	U
2-CHLORONAPHTHALENE	N/A		.48	U	N/A		.05	U	.05	U	.05	U	.05	U
2-CHLOROPHENOL	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
2-METHYLNAPHTHALENE	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
2-METHYLPHENOL	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
2-NITROANILINE	N/A		1.2	U	N/A		.05	U	.05	U	.05	U	.05	U
2-NITROPHENOL	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
3,3'-DICHLOROBENZIDINE	N/A		.48	UJ	N/A		.04	U	.04	U	.04	U	.04	U
3-NITROANILINE	N/A		1.2	U	N/A		.07	U	.07	U	.07	U	.07	U
4,6-DINITRO-2-METHYLPHENOL	N/A		1.2	U	N/A		.03	UJ	.03	UJ	.03	UJ	.03	UJ
4-BROMOPHENYL-PHENYLETHER	N/A		.48	U	N/A		.03	U	.03	U	.03	U	.03	U
4-CHLORO-3-METHYLPHENOL	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
4-CHLOROANILINE	N/A		.48	UJ	N/A		.07	U	.07	U	.07	U	.07	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		SL		SL		SL		SL		SL	
Point Name:	XT-11		XT-11		T10-20		T10-75		T11A-10		T11A-175		T11A-75	
Sample Id:	XT-11(3)		XT-11(1-2)		T10-20(0.0-1.0)		T10-75(0.0-1.0)		T11A-10(0.0-1.0)		T11A-175(0.0-1.0)		T11A-75(0.0-1.0)	
Sample Date:	15-OCT-98		15-OCT-98		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95	
Sample Depth:	2 - 3 ft		3 - 4 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft	
Investigation:	ECO_RISK		ECO_RISK		95SED		95SED		95SED		95SED		95SED	
VOA (MG/KG)														
CHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VINYL CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,2'-OXYBIS(1-CHLOROPROPANE)	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,4,5-TRICHLOROPHENOL	.08	U	.08	U	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
2,4,6-TRICHLOROPHENOL	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,4-DICHLOROPHENOL	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,4-DIMETHYLPHENOL	.05	U	.05	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,4-DINITROPHENOL	.09	UJ	.09	UJ	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
2,4-DINITROTOLUENE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
2,6-DINITROTOLUENE	.05	U	.05	U	.52	U	.56	U	.53	U	.51	U	.52	U
2-CHLORONAPHTHALENE	.05	U	.05	U	.52	U	.56	U	.53	U	.51	U	.52	U
2-CHLOROPHENOL	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
2-METHYLNAPHTHALENE	.09	U	.09	U	.52	U	.56	U	.02	J	.51	U	.52	U
2-METHYLPHENOL	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
2-NITROANILINE	.05	U	.05	U	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
2-NITROPHENOL	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
3,3'-DICHLOROBENZIDINE	.04	U	.04	U	.52	UJ	.56	UJ	.53	UJ	.51	UJ	.52	UJ
3-NITROANILINE	.07	U	.07	U	1.3	UJ	1.4	UJ	1.3	UJ	1.2	UJ	1.3	UJ
4,6-DINITRO-2-METHYLPHENOL	.03	UJ	.03	UJ	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
4-BROMOPHENYL-PHENYLETHER	.03	U	.03	U	.52	U	.56	U	.53	U	.51	U	.52	U
4-CHLORO-3-METHYLPHENOL	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
4-CHLOROANILINE	.07	U	.07	U	.52	UJ	.56	UJ	.53	U	.51	UJ	.52	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T08-100	T08-100	T08-15	T08-15	T08-15 (FD)	T08-50	T08-50
Sample Id:	T08-100 (0.0-2.0)	T08-100 (2.0-4.0)	T08-15 (0.0-2.0)	T08-15 (2.0-4.0)	T08-115 (0.0-2.0)	T08-50 (0.0-2.0)	T08-50 (2.0-3.0)
Sample Date:	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZOIC ACID	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZYL ALCOHOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIMETHYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-10		T09-10		T09-10		T09-10		T09-10 (FD)		T09-10 (FD)		T09-150	
Sample Id:	T09-10 (0.0-2.0)		T09-10 (1.0-1.5)		T09-10 (2.0-4.0)		T09-10 (2.5-3.0)		T09-310 (0.0-2.0)		T09-10 (1.0-1.5) DU		T09-150 (0.0-2.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		2.5 - 3 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
4-METHYLPHENOL	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
4-NITROANILINE	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
4-NITROPHENOL	1.2	U	N/A		1.3	U	N/A		1.2	U	N/A		1.3	U
ACENAPHTHENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
ACENAPHTHYLENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.045	J	N/A		.52	U	N/A		.068	J	N/A		.045	J
BENZO(A)ANTHRACENE	.14	J	N/A		.52	U	N/A		.15	J	N/A		.14	J
BENZO(A)PYRENE	.23	J	N/A		.52	U	N/A		.26	J	N/A		.21	J
BENZO(B)FLUORANTHENE	.32	J	N/A		.52	U	N/A		.35	J	N/A		.25	J
BENZO(G,H,I)PERYLENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
BENZO(K)FLUORANTHENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
BIS(2-CHLOROETHYL)ETHER	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
BIS(2-ETHYLHEXYL)PHTHALATE	.073	J	N/A		.52	U	N/A		.15	J	N/A		.54	U
BUTYLBENZYLPHTHALATE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.033	J
CARBAZOLE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
CHRYSENE	.18	J	N/A		.52	U	N/A		.19	J	N/A		.17	J
DI-N-BUTYLPHTHALATE	.49	U	N/A		.52	U	N/A		.016	J	N/A		.54	U
DI-N-OCTYLPHTHALATE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
DIBENZO(A,H)ANTHRACENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
DIBENZOFURAN	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
DIETHYLPHTHALATE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
DIMETHYLPHTHALATE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
FLUORANTHENE	.2	J	N/A		.077	J	N/A		.25	J	N/A		.26	J
FLUORENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
HEXACHLOROBENZENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
HEXACHLOROBUTADIENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
HEXACHLOROCYCLOPENTADIENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
HEXACHLOROETHANE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
INDENO(1,2,3-CD)PYRENE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
ISOPHORONE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
N-NITROSO-DI-N-PROPYLAMINE	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	.49	U	N/A		.52	U	N/A		.51	U	N/A		.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-150		T09-265		T09-265		T09-265		T09-265		T09-50		T09-50	
Sample Id:	T09-150 (2.0-3.0)		T09-265 (0.0-1.0)		T09-265 (1.0-1.5)		T09-265 (2.5-3.5)		T09-265 (3.5-4.0)		T09-50 (0.0-2.0)		T09-50 (2.0-3.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	2 - 3 ft		0 - 1 ft		1 - 1.5 ft		2.5 - 3.5 ft		3.5 - 4 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
4-METHYLPHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
4-NITROANILINE	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
4-NITROPHENOL	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
ACENAPHTHENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
ACENAPHTHYLENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.56	U	.043	J	N/A		.56	U	N/A		.53	U	.54	U
BENZO(A)ANTHRACENE	.56	U	.13	J	N/A		.56	U	N/A		.089	J	.54	U
BENZO(A)PYRENE	.56	U	.19	J	N/A		.56	U	N/A		.53	U	.54	U
BENZO(B)FLUORANTHENE	.56	U	.13	J	N/A		.56	U	N/A		.53	U	.54	U
BENZO(G,H,I)PERYLENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
BENZO(K)FLUORANTHENE	.56	U	.14	J	N/A		.56	U	N/A		.53	U	.54	U
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
BIS(2-CHLOROETHYL)ETHER	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
BIS(2-ETHYLHEXYL)PHTHALATE	.56	U	.55	U	N/A		.56	U	N/A		.11	J	.54	U
BUTYLBENZYLPHTHALATE	.56	U	.048	J	N/A		.56	U	N/A		.057	J	.54	U
CARBAZOLE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
CHRYSENE	.56	U	.14	J	N/A		.56	U	N/A		.11	J	.54	U
DI-N-BUTYLPHTHALATE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
DI-N-OCTYLPHTHALATE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
DIBENZO(A,H)ANTHRACENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
DIBENZOFURAN	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
DIETHYLPHTHALATE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
DIMETHYLPHTHALATE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
FLUORANTHENE	.065	J	.23	J	N/A		.56	U	N/A		.18	J	.1	J
FLUORENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
HEXACHLOROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
HEXACHLOROBUTADIENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
HEXACHLOROCYCLOPENTADIENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
HEXACHLOROETHANE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
INDENO(1,2,3-CD)PYRENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
ISOPHORONE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
N-NITROSO-DI-N-PROPYLAMINE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	.56	UJ	.55	UJ	N/A		.56	UJ	N/A		.53	UJ	.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-10		T10-10		T10-10		T10-10		T10-10 (FD)		T10-10 (FD)		T10-100	
Sample Id:	T10-10 (0.0 - 2.0)		T10-10 (1.0 - 1.5)		T10-10 (2.0 - 4.0)		T10-10 (3.0 - 3.5)		T10-410 (0.0 - 2.0		T10-10 (1.0 - 1.5)		T10-100 (0.0-2.0)	
Sample Date:	01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		29-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
4-METHYLPHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
4-NITROANILINE	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
4-NITROPHENOL	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
ACENAPHTHENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
ACENAPHTHYLENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.071	J	N/A		.48	U	N/A		.086	J	N/A		.54	U
BENZO(A)ANTHRACENE	.15	J	N/A		.48	U	N/A		.22	J	N/A		.19	J
BENZO(A)PYRENE	.58	U	N/A		.48	U	N/A		.28	J	N/A		.29	J
BENZO(B)FLUORANTHENE	.16	J	N/A		.48	U	N/A		.2	J	N/A		.19	J
BENZO(G,H,I)PERYLENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
BENZO(K)FLUORANTHENE	.18	J	N/A		.48	U	N/A		.27	J	N/A		.24	J
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
BIS(2-CHLOROETHYL)ETHER	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
BIS(2-ETHYLHEXYL)PHTHALATE	.085	J	N/A		.11	J	N/A		.18	J	N/A		.54	U
BUTYLBENZYLPHTHALATE	.039	J	N/A		.48	U	N/A		.03	J	N/A		.54	U
CARBAZOLE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
CHRYSENE	.18	J	N/A		.48	U	N/A		.25	J	N/A		.2	J
DI-N-BUTYLPHTHALATE	.033	J	N/A		.037	J	N/A		.04	J	N/A		.54	U
DI-N-OCTYLPHTHALATE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
DIBENZO(A,H)ANTHRACENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
DIBENZOFURAN	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
DIETHYLPHTHALATE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
DIMETHYLPHTHALATE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
FLUORANTHENE	.29	J	N/A		.13	J	N/A		.39	J	N/A		.33	J
FLUORENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
HEXACHLOROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
HEXACHLOROBUTADIENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
HEXACHLOROCYCLOPENTADIENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
HEXACHLOROETHANE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
INDENO(1,2,3-CD)PYRENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
ISOPHORONE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
N-NITROSO-DI-N-PROPYLAMINE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	.58	UJ	N/A		.48	UJ	N/A		.57	UJ	N/A		.54	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE	HCORE	HCORE		HCORE		HCORE		HCORE
Point Name:	T10-100		T10-200	T10-200	T10-400		T10-400		T10-400		T10-400
Sample Id:	T10-100 (2.0-3.0)		T10-200 (0.0-2.0)	T10-200 (2.0-3.0)	T10-400 (0.0-2.0)		T10-400 (1.0-1.5)		T10-400 (2.0-2.5)		T10-400 (2.5-3.0)
Sample Date:	29-APR-94		29-APR-94	29-APR-94	29-APR-94		29-APR-94		29-APR-94		29-APR-94
Sample Depth:	2 - 3 ft		0 - 2 ft	2 - 3 ft	0 - 2 ft		1 - 1.5 ft		2 - 2.5 ft		2.5 - 3 ft
Investigation:	94SED1		94SED1	94SED1	94SED1		94SED1		94SED1		94SED1
SVOA (MG/KG)											
4-CHLOROPHENYL-PHENYLETHER	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
4-METHYLPHENOL	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
4-NITROANILINE	1.2	U	N/A	N/A	1.3	U	N/A		1.2	U	N/A
4-NITROPHENOL	1.2	U	N/A	N/A	1.3	U	N/A		1.2	U	N/A
ACENAPHTHENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
ACENAPHTHYLENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
ANILINE	N/A		N/A	N/A	N/A		N/A		N/A		N/A
ANTHRACENE	.036	J	N/A	N/A	.52	U	N/A		.51	U	N/A
BENZO(A)ANTHRACENE	.11	J	N/A	N/A	.076	J	N/A		.51	U	N/A
BENZO(A)PYRENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BENZO(B)FLUORANTHENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BENZO(G,H,I)PERYLENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BENZO(K)FLUORANTHENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BENZOIC ACID	N/A		N/A	N/A	N/A		N/A		N/A		N/A
BENZYL ALCOHOL	N/A		N/A	N/A	N/A		N/A		N/A		N/A
BIS(2-CHLOROETHOXY)METHANE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BIS(2-CHLOROETHYL)ETHER	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
BUTYLBENZYLPHTHALATE	.52	U	N/A	N/A	.036	J	N/A		.51	U	N/A
CARBAZOLE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
CHRYSENE	.13	J	N/A	N/A	.095	J	N/A		.51	U	N/A
DI-N-BUTYLPHTHALATE	.52	U	N/A	N/A	.03	J	N/A		.51	U	N/A
DI-N-OCTYLPHTHALATE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
DIBENZO(A,H)ANTHRACENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
DIBENZOFURAN	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
DIETHYLPHTHALATE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
DIMETHYLPHTHALATE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
FLUORANTHENE	.2	J	N/A	N/A	.15	J	N/A		.51	U	N/A
FLUORENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
HEXACHLOROBENZENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
HEXACHLOROBUTADIENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
HEXACHLOROCYCLOPENTADIENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
HEXACHLOROETHANE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
INDENO(1,2,3-CD)PYRENE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
ISOPHORONE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	.52	U	N/A	N/A	.52	U	N/A		.51	U	N/A
N-NITROSODIMETHYLAMINE	N/A		N/A	N/A	N/A		N/A		N/A		N/A
N-NITROSODIPHENYLAMINE (1)	.52	UJ	N/A	N/A	.52	UJ	N/A		.51	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE
Point Name:	T10-50		T10-50		T11-10		T11-10		T11-100		T11-100		T11-200
Sample Id:	T10-50 (0.0-2.0)		T10-50 (2.0-4.0)		T11-10 (0.0-2.0)		T11-10 (2.0 - 4.0)		T11-100 (0.0-2.0)		T11-100 (2.0-4.0)		T11-200 (0.0-2.0)
Sample Date:	29-APR-94		29-APR-94		01-MAY-94		01-MAY-94		29-APR-94		29-APR-94		29-APR-94
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1
SVOA (MG/KG)													
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
4-METHYLPHENOL	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
4-NITROANILINE	N/A		N/A		1.3	U	1.2	U	1.3	U	1.2	U	N/A
4-NITROPHENOL	N/A		N/A		1.3	U	1.2	U	1.3	U	1.2	U	N/A
ACENAPHTHENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
ACENAPHTHYLENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ANTHRACENE	N/A		N/A		.094	J	.5	U	.11	J	.5	U	N/A
BENZO(A)ANTHRACENE	N/A		N/A		.22	J	.5	U	.23	J	.5	U	N/A
BENZO(A)PYRENE	N/A		N/A		.36	J	.5	U	.3	J	.5	U	N/A
BENZO(B)FLUORANTHENE	N/A		N/A		.21	J	.5	U	.2	J	.5	U	N/A
BENZO(G,H,I)PERYLENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
BENZO(K)FLUORANTHENE	N/A		N/A		.34	J	.5	U	.25	J	.5	U	N/A
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		.097	J	.5	U	.53	U	.16	J	N/A
BUTYLBENZYLPHTHALATE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
CARBAZOLE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
CHRYSENE	N/A		N/A		.26	J	.5	U	.25	J	.5	U	N/A
DI-N-BUTYLPHTHALATE	N/A		N/A		.036	J	.5	U	.53	U	.5	U	N/A
DI-N-OCTYLPHTHALATE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
DIBENZOFURAN	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
DIETHYLPHTHALATE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
DIMETHYLPHTHALATE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
FLUORANTHENE	N/A		N/A		.42	J	.078	J	.43	J	.1	J	N/A
FLUORENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
HEXACHLOROBENZENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
HEXACHLOROBUTADIENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
HEXACHLOROETHANE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
ISOPHORONE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		.53	UJ	.5	UJ	.53	UJ	.5	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T11-200		T11-400		T11-400		T11-50		T11-50		T12-10		T12-100	
Sample Id:	T11-200 (2.0-4.0)		T11-400 (0.0-2.0)		T11-400 (2.0-4.0)		T11-50 (0.0-2.0)		T11-50 (2.0-4.0)		T12-10 (0.0-1.0)		T12-100 (0.0-2.0)	
Sample Date:	29-APR-94		29-APR-94		29-APR-94		29-APR-94		29-APR-94		01-MAY-94		01-MAY-94	
Sample Depth:	2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
4-METHYLPHENOL	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
4-NITROANILINE	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
4-NITROPHENOL	N/A		1.3	U	1.2	U	N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		**.042**	J	.51	U	N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		**.13**	J	.51	U	N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		**.18**	J	.51	U	N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		**.25**	J	.51	U	N/A		N/A		N/A		N/A	
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHYL)ETHER	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		**.099**	J	**.15**	J	N/A		N/A		N/A		N/A	
BUTYLBENZYLPHTHALATE	N/A		**.03**	J	.51	U	N/A		N/A		N/A		N/A	
CARBAZOLE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
CHRYSENE	N/A		**.15**	J	.51	U	N/A		N/A		N/A		N/A	
DI-N-BUTYLPHTHALATE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
DI-N-OCTYLPHTHALATE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
DIBENZOFURAN	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
DIETHYLPHTHALATE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
DIMETHYLPHTHALATE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		**.22**	J	.51	U	N/A		N/A		N/A		N/A	
FLUORENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
HEXACHLOROBENZENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
HEXACHLOROBUTADIENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
HEXACHLOROETHANE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
ISOPHORONE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A		.53	U	.51	U	N/A		N/A		N/A		N/A	
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		**.085**	J	.51	UJ	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T12-100	T12-200	T12-200	T12-400	T12-400	T12-50	T12-50
Sample Id:	T12-100 (3.0-4.0)	T12-200 (0.0-2.0)	T12-200 (2.0-3.5)	T12-400 (0.0-2.0)	T12-400 (2.0-4.0)	T12-50 (0.0-2.0)	T12-50 (2.0-3.0)
Sample Date:	01-MAY-94	30-APR-94	30-APR-94	30-APR-94	30-APR-94	01-MAY-94	01-MAY-94
Sample Depth:	3 - 4 ft	0 - 2 ft	2 - 3.5 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZOIC ACID	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZYL ALCOHOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIMETHYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-00		T13-150		T13-400		T13-400		T13-400		T13-400 (FD)	
Sample Id:	T13-00 (1.0)		T13-150 (0.0-0.5)		T13-400 (0.0-2.0)		T13-400 (1.0-1.5)		T13-400 (2.0-4.0)		T13-400 (3.0-3.5)		T13-350 (2.0-4.0)	
Sample Date:	03-MAY-94		03-MAY-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94	
Sample Depth:	1 ft		0 - .5 ft		0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		2 - 4 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
4-METHYLPHENOL	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
4-NITROANILINE	N/A		N/A		1.2	U	N/A		1.2	U	N/A		1.2	U
4-NITROPHENOL	N/A		N/A		1.2	U	N/A		1.2	U	N/A		1.2	U
ACENAPHTHENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
ACENAPHTHYLENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		.041	J	N/A		.5	U	N/A		.51	U
BENZO(A)ANTHRACENE	N/A		N/A		.11	J	N/A		.5	U	N/A		.51	U
BENZO(A)PYRENE	N/A		N/A		.16	J	N/A		.5	U	N/A		.51	U
BENZO(B)FLUORANTHENE	N/A		N/A		.21	J	N/A		.5	U	N/A		.51	U
BENZO(G,H,I)PERYLENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
BENZO(K)FLUORANTHENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		.11	J	N/A		.15	J	N/A		.51	U
BUTYLBENZYLPHTHALATE	N/A		N/A		.039	J	N/A		.5	U	N/A		.51	U
CARBAZOLE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
CHRYSENE	N/A		N/A		.13	J	N/A		.5	U	N/A		.51	U
DI-N-BUTYLPHTHALATE	N/A		N/A		.029	J	N/A		.5	U	N/A		.51	U
DI-N-OCTYLPHTHALATE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
DIBENZOFURAN	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
DIETHYLPHTHALATE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
DIMETHYLPHTHALATE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
FLUORANTHENE	N/A		N/A		.2	J	N/A		.07	J	N/A		.073	J
FLUORENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
HEXACHLOROBENZENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
HEXACHLOROBUTADIENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
HEXACHLOROETHANE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
ISOPHORONE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		.49	UJ	N/A		.5	UJ	N/A		.51	UJ

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-400 (FD)		T13-50		T13-50		XDL1		XDL1		XDL1		XT-11	
Sample Id:	T13-400 (3.0-3.5) D		T13-50 (0.0-2.0)		T13-50 (1.0-1.5)		XDL1(3)		XDL1(2)		XDL1(1)		XT-11(4-5)	
Sample Date:	30-APR-94		30-APR-94		30-APR-94		15-OCT-98		15-OCT-98		15-OCT-98		15-OCT-98	
Sample Depth:	3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft		1 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
4-METHYLPHENOL	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
4-NITROANILINE	N/A		1.2	U	N/A		.05	U	.05	U	.05	U	.05	U
4-NITROPHENOL	N/A		1.2	U	N/A		.08	U	.08	U	.08	U	.08	U
ACENAPHTHENE	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
ACENAPHTHYLENE	N/A		.48	U	N/A		.05	U	.05	U	.05	U	.05	J
ANILINE	N/A		N/A		N/A		.08	U	.08	U	.08	U	.08	U
ANTHRACENE	N/A		.073	J	N/A		.2	J	.06	J	.06	J	.2	J
BENZO(A)ANTHRACENE	N/A		.2	J	N/A		.3		.2	J	.1	J	.4	
BENZO(A)PYRENE	N/A		.27	J	N/A		.5		.5		.3	J	.7	
BENZO(B)FLUORANTHENE	N/A		.17	J	N/A		.4		.4		.2	J	.4	
BENZO(G,H,I)PERYLENE	N/A		.48	U	N/A		.3	J	.3	J	.2	J	.4	
BENZO(K)FLUORANTHENE	N/A		.23	J	N/A		.3		.3		.2	J	.4	
BENZOIC ACID	N/A		N/A		N/A		.3	UJ	.3	UJ	.3	UJ	.3	UJ
BENZYL ALCOHOL	N/A		N/A		N/A		.1	U	.1	U	.1	U	.1	U
BIS(2-CHLOROETHOXY)METHANE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
BIS(2-CHLOROETHYL)ETHER	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		.23	J	N/A		.1	U	.1	U	.1	U	.1	U
BUTYLBENZYLPHTHALATE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
CARBAZOLE	N/A		.48	U	N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		.22	J	N/A		.4		.3	J	.2	J	.4	
DI-N-BUTYLPHTHALATE	N/A		.023	J	N/A		.07	U	.07	U	.07	U	.07	U
DI-N-OCTYLPHTHALATE	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
DIBENZO(A,H)ANTHRACENE	N/A		.48	U	N/A		.06	J	.05	J	.03	J	.07	J
DIBENZOFURAN	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
DIETHYLPHTHALATE	N/A		.48	U	N/A		.1	U	.1	U	.1	U	.1	U
DIMETHYLPHTHALATE	N/A		.48	U	N/A		.1	U	.1	U	.1	U	.1	U
FLUORANTHENE	N/A		.37	J	N/A		.6		.4		.2	J	.8	
FLUORENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
HEXACHLOROBENZENE	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
HEXACHLOROBUTADIENE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
HEXACHLOROCYCLOPENTADIENE	N/A		.48	U	N/A		.07	UJ	.07	UJ	.07	UJ	.07	UJ
HEXACHLOROETHANE	N/A		.48	U	N/A		.07	U	.07	U	.07	U	.07	U
INDENO(1,2,3-CD)PYRENE	N/A		.48	U	N/A		.3	J	.3	J	.2	J	.4	
ISOPHORONE	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		.06	U	.06	U	.06	U	.06	U
N-NITROSODIPHENYLAMINE (1)	N/A		.48	UJ	N/A		.09	U	.09	U	.09	U	.09	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		SL		SL		SL		SL		SL	
Point Name:	XT-11		XT-11		T10-20		T10-75		T11A-10		T11A-175		T11A-75	
Sample Id:	XT-11(3)		XT-11(1-2)		T10-20(0.0-1.0)		T10-75(0.0-1.0)		T11A-10(0.0-1.0)		T11A-175(0.0-1.0)		T11A-75(0.0-1.0)	
Sample Date:	15-OCT-98		15-OCT-98		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95	
Sample Depth:	2 - 3 ft		3 - 4 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft	
Investigation:	ECO_RISK		ECO_RISK		95SED		95SED		95SED		95SED		95SED	
SVOA (MG/KG)														
4-CHLOROPHENYL-PHENYLETHER	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U
4-METHYLPHENOL	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U
4-NITROANILINE	.05	U	.05	U	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
4-NITROPHENOL	.08	U	.08	U	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
ACENAPHTHENE	.06	U	.06	U	.1	J	.028	J	.53	U	.089	J	.52	U
ACENAPHTHYLENE	.05	U	.05	U	.058	J	.034	J	.053	J	.51	U	.021	J
ANILINE	.08	U	.08	U	N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.1	J	.05	U	.2	J	.14	J	.072	J	.099	J	.1	J
BENZO(A)ANTHRACENE	.3	J	.1	J	.47	J	.36	J	.25	J	.15	J	.21	J
BENZO(A)PYRENE	.6		.2	J	.64		.55	J	.45	J	.19	J	.31	J
BENZO(B)FLUORANTHENE	.3		.1	J	.57		.46	J	.34	J	.14	J	.23	J
BENZO(G,H,I)PERYLENE	.4		.2	J	.52	U	.56	U	.53	U	.51	U	.52	U
BENZO(K)FLUORANTHENE	.3		.1	J	.39	J	.35	J	.32	J	.13	J	.17	J
BENZOIC ACID	.3	UJ	.3	UJ	N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	.1	U	.1	U	N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
BIS(2-CHLOROETHYL)ETHER	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
BIS(2-ETHYLHEXYL)PHTHALATE	.1	U	.1	U	.12	J	.093	J	.12	J	.08	J	.076	J
BUTYLBENZYLPHTHALATE	.07	U	.07	U	.023	J	.026	J	.04	J	.51	U	.52	U
CARBAZOLE	N/A		N/A		.52	U	.56	U	.53	U	.51	U	.52	U
CHRYSENE	.3		.2	J	.6		.42	J	.27	J	.16	J	.24	J
DI-N-BUTYLPHTHALATE	.07	U	.07	U	.028	J	.024	J	.091	J	.51	U	.046	J
DI-N-OCTYLPHTHALATE	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
DIBENZO(A,H)ANTHRACENE	.06	J	.03	U	.52	U	.56	U	.53	U	.51	U	.52	U
DIBENZOFURAN	.09	U	.09	U	.031	J	.56	U	.53	U	.51	U	.52	U
DIETHYLPHTHALATE	.1	U	.1	U	.52	U	.56	U	.53	U	.51	U	.52	U
DIMETHYLPHTHALATE	.1	U	.1	U	.52	U	.56	U	.53	U	.51	U	.52	U
FLUORANTHENE	.6		.2	J	.83		.65		.36	J	.26	J	.33	J
FLUORENE	.07	U	.07	U	.093	J	.047	J	.53	U	.081	J	.52	U
HEXACHLOROBENZENE	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
HEXACHLOROBUTADIENE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
HEXACHLOROCYCLOPENTADIENE	.07	UJ	.07	UJ	.52	U	.56	U	.53	U	.51	U	.52	U
HEXACHLOROETHANE	.07	U	.07	U	.52	U	.56	U	.53	U	.51	U	.52	U
INDENO(1,2,3-CD)PYRENE	.4		.1	J	.52	U	.56	U	.53	U	.51	U	.52	U
ISOPHORONE	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U
N-NITROSO-DI-N-PROPYLAMINE	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
N-NITROSODIMETHYLAMINE	.06	U	.06	U	N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T08-100	T08-100	T08-15	T08-15	T08-15 (FD)	T08-50	T08-50
Sample Id:	T08-100 (0.0-2.0)	T08-100 (2.0-4.0)	T08-15 (0.0-2.0)	T08-15 (2.0-4.0)	T08-115 (0.0-2.0)	T08-50 (0.0-2.0)	T08-50 (2.0-3.0)
Sample Date:	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94	28-APR-94
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE	HCORE		HCORE		HCORE	HCORE		HCORE	
Point Name:	T09-10		T09-10	T09-10		T09-10		T09-10 (FD)	T09-10 (FD)		T09-150	
Sample Id:	T09-10 (0.0-2.0)		T09-10 (1.0-1.5)	T09-10 (2.0-4.0)		T09-10 (2.5-3.0)		T09-310 (0.0-2.0)	T09-10 (1.0-1.5) DU		T09-150 (0.0-2.0)	
Sample Date:	28-APR-94		28-APR-94	28-APR-94		28-APR-94		28-APR-94	28-APR-94		28-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft	2 - 4 ft		2.5 - 3 ft		0 - 2 ft	1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1	94SED1		94SED1		94SED1	94SED1		94SED1	
SVOA (MG/KG)												
NAPHTHALENE	.49	U	N/A	.52	U	N/A		.51	U	N/A	.54	U
NITROBENZENE	.49	U	N/A	.52	U	N/A		.51	U	N/A	.54	U
PENTACHLOROPHENOL	1.2	U	N/A	1.3	U	N/A		1.2	U	N/A	1.3	U
PHENANTHRENE	.11	J	N/A	.52	U	N/A		.14	J	N/A	.14	J
PHENOL	.49	U	N/A	.52	U	N/A		.51	U	N/A	.54	U
PYRENE	.3	J	N/A	.1	J	N/A		.4	J	N/A	.36	J
METALS (MG/KG)												
ALUMINUM	16600		N/A	21200		N/A		14500		N/A	N/A	
ANTIMONY	9.2	UJ	N/A	9.8	UJ	N/A		9.5	UJ	N/A	N/A	
ARSENIC	13		N/A	10.9	J	N/A		14.8		N/A	N/A	
BARIUM	59.4		N/A	48.4	J	N/A		47	J	N/A	N/A	
BERYLLIUM	.59	J	N/A	.56	J	N/A		.45	J	N/A	N/A	
CADMIUM	1.6	*	N/A	1.3	U*	N/A		1.2	U*	N/A	N/A	
CALCIUM	5520		N/A	7210		N/A		4100		N/A	N/A	
CHROMIUM	52.5	J	N/A	65.6	J	N/A		45.3	J	N/A	N/A	
COBALT	13.4	J	N/A	13.2	J	N/A		12.6	J	N/A	N/A	
COPPER	33.9		N/A	28.5		N/A		30		N/A	N/A	
IRON	30100		N/A	30600		N/A		27400		N/A	N/A	
LEAD	22.9		N/A	10.4	S	N/A		44.3		N/A	N/A	
LEAD, ORGANIC	.75	U	N/A	N/A		N/A		.77	U	N/A	N/A	
MAGNESIUM	8510	J	N/A	9590	J	N/A		7950	J	N/A	N/A	
MANGANESE	295		N/A	268		N/A		263		N/A	N/A	
MERCURY	.34	UJ	N/A	.19	UJ	N/A		.32	UJ	N/A	N/A	
NICKEL	54.3	J	N/A	64.4	J	N/A		51.1	J	N/A	N/A	
POTASSIUM	3830		N/A	3710		N/A		3640		N/A	N/A	
SELENIUM	.69	UJ	N/A	.63	UJ	N/A		.61	UJ	N/A	N/A	
SILVER	.59	U	N/A	.63	U	N/A		.61	U	N/A	N/A	
SODIUM	6030		N/A	5600		N/A		8000		N/A	N/A	
THALLIUM	.59	UJ	N/A	.63	UJ	N/A		.61	UJ	N/A	N/A	
VANADIUM	53.2		N/A	62.1		N/A		47.9		N/A	N/A	
ZINC	145	J	N/A	65.3	J	N/A		140	J	N/A	N/A	
WATER QUALITY (MG/KG)												
TOTAL ORGANIC CARBON	11000		N/A	8400		N/A		7400		N/A	N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T09-150		T09-265		T09-265		T09-265		T09-265		T09-50		T09-50	
Sample Id:	T09-150 (2.0-3.0)		T09-265 (0.0-1.0)		T09-265 (1.0-1.5)		T09-265 (2.5-3.5)		T09-265 (3.5-4.0)		T09-50 (0.0-2.0)		T09-50 (2.0-3.0)	
Sample Date:	28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94		28-APR-94	
Sample Depth:	2 - 3 ft		0 - 1 ft		1 - 1.5 ft		2.5 - 3.5 ft		3.5 - 4 ft		0 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
NAPHTHALENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
NITROBENZENE	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
PENTACHLOROPHENOL	1.4	U	1.3	U	N/A		1.4	U	N/A		1.3	U	1.3	U
PHENANTHRENE	.56	U	.12	J	N/A		.56	U	N/A		.098	J	.54	U
PHENOL	.56	U	.55	U	N/A		.56	U	N/A		.53	U	.54	U
PYRENE	.084	J	.32	J	N/A		.066	J	N/A		.25	J	.13	J
METALS (MG/KG)														
ALUMINUM	N/A		22900		N/A		21500		N/A		N/A		N/A	
ANTIMONY	N/A		10.4	UJ	N/A		10.5	UJ	N/A		N/A		N/A	
ARSENIC	N/A		14	J	N/A		11.9	J	N/A		N/A		N/A	
BARIUM	N/A		58.4	B	N/A		42.4	B	N/A		N/A		N/A	
BERYLLIUM	N/A		.4	B	N/A		.41	B	N/A		N/A		N/A	
CADMIUM	N/A		1.3	UJ	N/A		1.6	UJ	N/A		N/A		N/A	
CALCIUM	N/A		4230		N/A		5250		N/A		N/A		N/A	
CHROMIUM	N/A		74.7		N/A		76.5		N/A		N/A		N/A	
COBALT	N/A		14.4	B	N/A		14.7	B	N/A		N/A		N/A	
COPPER	N/A		40.1		N/A		30.8		N/A		N/A		N/A	
IRON	N/A		31000		N/A		34400		N/A		N/A		N/A	
LEAD	N/A		25.6	J	N/A		9.7	J	N/A		N/A		N/A	
LEAD, ORGANIC	N/A		.84	U	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		10000		N/A		11400		N/A		N/A		N/A	
MANGANESE	N/A		268		N/A		288		N/A		N/A		N/A	
MERCURY	N/A		.19		N/A		.08	UJ	N/A		N/A		N/A	
NICKEL	N/A		73		N/A		72.8		N/A		N/A		N/A	
POTASSIUM	N/A		3630		N/A		3790		N/A		N/A		N/A	
SELENIUM	N/A		.67	UJ	N/A		.68	UJ	N/A		N/A		N/A	
SILVER	N/A		.67	U	N/A		.68	U	N/A		N/A		N/A	
SODIUM	N/A		6730		N/A		7680		N/A		N/A		N/A	
THALLIUM	N/A		.67	UJ	N/A		6.8	UJ	N/A		N/A		N/A	
VANADIUM	N/A		67.9		N/A		66.6		N/A		N/A		N/A	
ZINC	N/A		99.1		N/A		67		N/A		N/A		N/A	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	N/A		2300		N/A		5600		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T10-10		T10-10		T10-10		T10-10		T10-410 (FD)		T10-10 (FD)		T10-100	
Sample Id:	T10-10 (0.0 - 2.0)		T10-10 (1.0 - 1.5)		T10-10 (2.0 - 4.0)		T10-10 (3.0 - 3.5)		T10-410 (0.0 - 2.0		T10-10 (1.0 - 1.5)		T10-100 (0.0-2.0)	
Sample Date:	01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		01-MAY-94		29-APR-94	
Sample Depth:	0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
NAPHTHALENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
NITROBENZENE	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
PENTACHLOROPHENOL	1.4	U	N/A		1.2	U	N/A		1.4	U	N/A		1.3	U
PHENANTHRENE	.15	J	N/A		.061	J	N/A		.2	J	N/A		.2	J
PHENOL	.58	U	N/A		.48	U	N/A		.57	U	N/A		.54	U
PYRENE	.47	J	N/A		.16	J	N/A		.58		N/A		.45	J
METALS (MG/KG)														
ALUMINUM	22200		N/A		14200		N/A		20800		N/A		N/A	
ANTIMONY	10.9	UJ	N/A		9	UJ	N/A		10.7	UJ	N/A		N/A	
ARSENIC	11		N/A		8.1		N/A		10.8		N/A		N/A	
BARIUM	86.4		N/A		58.4		N/A		73.9		N/A		N/A	
BERYLLIUM	.64	B	N/A		.43	B	N/A		.54	B	N/A		N/A	
CADMIUM	2		N/A		1.5		N/A		1.4	U	N/A		N/A	
CALCIUM	5030		N/A		3920		N/A		5100		N/A		N/A	
CHROMIUM	71.2		N/A		45.4		N/A		62.1		N/A		N/A	
COBALT	14.4	B	N/A		11.8	B	N/A		12.3	B	N/A		N/A	
COPPER	48.2		N/A		25.4		N/A		40.7		N/A		N/A	
IRON	34600		N/A		24300		N/A		29500		N/A		N/A	
LEAD	29.6	*	N/A		11.3	*	N/A		24.1	*	N/A		N/A	
LEAD, ORGANIC	.88	U	N/A		N/A		N/A		.86	U	N/A		N/A	
MAGNESIUM	10500		N/A		7410		N/A		8850		N/A		N/A	
MANGANESE	384		N/A		261		N/A		321		N/A		N/A	
MERCURY	.12	J	N/A		.07	UJ	N/A		.14	J	N/A		N/A	
NICKEL	69.5		N/A		46.6		N/A		53.8		N/A		N/A	
POTASSIUM	4010		N/A		2670		N/A		3490		N/A		N/A	
SELENIUM	.86	J	N/A		.71	J	N/A		.99	J	N/A		N/A	
SILVER	.7	U	N/A		.58	U	N/A		.69	U	N/A		N/A	
SODIUM	4260		N/A		2430		N/A		4110		N/A		N/A	
THALLIUM	.7	UJ	N/A		.58	UJ	N/A		.69	UJ	N/A		N/A	
VANADIUM	67.5		N/A		46.9		N/A		59.1		N/A		N/A	
ZINC	118		N/A		60.4		N/A		97.2		N/A		N/A	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	18000		N/A		8600		N/A		17000		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T10-100		T10-200	T10-200	T10-400	T10-400	T10-400	T10-400
Sample Id:	T10-100 (2.0-3.0)		T10-200 (0.0-2.0)	T10-200 (2.0-3.0)	T10-400 (0.0-2.0)	T10-400 (1.0-1.5)	T10-400 (2.0-2.5)	T10-400 (2.5-3.0)
Sample Date:	29-APR-94		29-APR-94	29-APR-94	29-APR-94	29-APR-94	29-APR-94	29-APR-94
Sample Depth:	2 - 3 ft		0 - 2 ft	2 - 3 ft	0 - 2 ft	1 - 1.5 ft	2 - 2.5 ft	2.5 - 3 ft
Investigation:	94SED1		94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)								
NAPHTHALENE	.52	U	N/A	N/A	.52	U	N/A	.51	U	N/A
NITROBENZENE	.52	U	N/A	N/A	.52	U	N/A	.51	U	N/A
PENTACHLOROPHENOL	1.2	U	N/A	N/A	1.3	U	N/A	1.2	U	N/A
PHENANTHRENE	.12	J	N/A	N/A	.094	J	N/A	.51	U	N/A
PHENOL	.52	U	N/A	N/A	.52	U	N/A	.51	U	N/A
PYRENE	.27	J	N/A	N/A	.2	J	N/A	.032	J	N/A
METALS (MG/KG)								
ALUMINUM	N/A		N/A	N/A	14900		N/A	16200		N/A
ANTIMONY	N/A		N/A	N/A	10	UJ	N/A	9.5	UJ	N/A
ARSENIC	N/A		N/A	N/A	9.3	N	N/A	9	NS	N/A
BARIUM	N/A		N/A	N/A	38.8	B	N/A	31.5	B	N/A
BERYLLIUM	N/A		N/A	N/A	.42	B	N/A	.31	U	N/A
CADMIUM	N/A		N/A	N/A	1.7		N/A	1.8		N/A
CALCIUM	N/A		N/A	N/A	5100		N/A	5230		N/A
CHROMIUM	N/A		N/A	N/A	54.1		N/A	59.4		N/A
COBALT	N/A		N/A	N/A	12.4	B	N/A	13	B	N/A
COPPER	N/A		N/A	N/A	27.5		N/A	20.6		N/A
IRON	N/A		N/A	N/A	26100		N/A	27800		N/A
LEAD	N/A		N/A	N/A	15.4	J	N/A	6.4	J	N/A
LEAD, ORGANIC	N/A		N/A	N/A	.79	U	N/A	N/A		N/A
MAGNESIUM	N/A		N/A	N/A	8970		N/A	10000		N/A
MANGANESE	N/A		N/A	N/A	238		N/A	243		N/A
MERCURY	N/A		N/A	N/A	.3		N/A	.12	UB	N/A
NICKEL	N/A		N/A	N/A	55.3		N/A	60.6		N/A
POTASSIUM	N/A		N/A	N/A	2390		N/A	2750		N/A
SELENIUM	N/A		N/A	N/A	.64	UJ	N/A	6.1	UJ	N/A
SILVER	N/A		N/A	N/A	.64	U	N/A	.61	U	N/A
SODIUM	N/A		N/A	N/A	6670		N/A	5590		N/A
THALLIUM	N/A		N/A	N/A	.64	UJ	N/A	.61	UJ	N/A
VANADIUM	N/A		N/A	N/A	49		N/A	48.6		N/A
ZINC	N/A		N/A	N/A	71.3		N/A	53.6		N/A
WATER QUALITY (MG/KG)								
TOTAL ORGANIC CARBON	N/A		N/A	N/A	N/A		N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE
Point Name:	T10-50		T10-50		T11-10		T11-10		T11-100		T11-100		T11-200
Sample Id:	T10-50 (0.0-2.0)		T10-50 (2.0-4.0)		T11-10 (0.0-2.0)		T11-10 (2.0 - 4.0)		T11-100 (0.0-2.0)		T11-100 (2.0-4.0)		T11-200 (0.0-2.0)
Sample Date:	29-APR-94		29-APR-94		01-MAY-94		01-MAY-94		29-APR-94		29-APR-94		29-APR-94
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1
SVOA (MG/KG)													
NAPHTHALENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
NITROBENZENE	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
PENTACHLOROPHENOL	N/A		N/A		1.3	U	1.2	U	1.3	U	1.2	U	N/A
PHENANTHRENE	N/A		N/A		.23	J	.047	J	.29	J	.056	J	N/A
PHENOL	N/A		N/A		.53	U	.5	U	.53	U	.5	U	N/A
PYRENE	N/A		N/A		.59		.094	J	.59		.13	J	N/A
METALS (MG/KG)													
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ARSENIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BARIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BERYLLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CADMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CALCIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CHROMIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
COBALT	N/A		N/A		N/A		N/A		N/A		N/A		N/A
COPPER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
IRON	N/A		N/A		N/A		N/A		N/A		N/A		N/A
LEAD	N/A		N/A		N/A		N/A		N/A		N/A		N/A
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MANGANESE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MERCURY	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NICKEL	N/A		N/A		N/A		N/A		N/A		N/A		N/A
POTASSIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SILVER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SODIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
THALLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
VANADIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ZINC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
WATER QUALITY (MG/KG)													
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T11-200	T11-400	T11-400	T11-50	T11-50	T12-10	T12-100
Sample Id:	T11-200 (2.0-4.0)	T11-400 (0.0-2.0)	T11-400 (2.0-4.0)	T11-50 (0.0-2.0)	T11-50 (2.0-4.0)	T12-10 (0.0-1.0)	T12-100 (0.0-2.0)
Sample Date:	29-APR-94	29-APR-94	29-APR-94	29-APR-94	29-APR-94	01-MAY-94	01-MAY-94
Sample Depth:	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	0 - 2 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
NAPHTHALENE	N/A	.53 U	.51 U	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	.53 U	.51 U	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	1.3 U	1.2 U	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	.1 J	.51 U	N/A	N/A	N/A	N/A
PHENOL	N/A	.53 U	.51 U	N/A	N/A	N/A	N/A
PYRENE	N/A	.28 J	.51 U	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T12-100	T12-200	T12-200	T12-400	T12-400	T12-50	T12-50
Sample Id:	T12-100 (3.0-4.0)	T12-200 (0.0-2.0)	T12-200 (2.0-3.5)	T12-400 (0.0-2.0)	T12-400 (2.0-4.0)	T12-50 (0.0-2.0)	T12-50 (2.0-3.0)
Sample Date:	01-MAY-94	30-APR-94	30-APR-94	30-APR-94	30-APR-94	01-MAY-94	01-MAY-94
Sample Depth:	3 - 4 ft	0 - 2 ft	2 - 3.5 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-00		T13-150		T13-400		T13-400		T13-400		T13-400 (FD)	
Sample Id:	T13-00 (1.0)		T13-150 (0.0-0.5)		T13-400 (0.0-2.0)		T13-400 (1.0-1.5)		T13-400 (2.0-4.0)		T13-350 (2.0-4.0)	
Sample Date:	03-MAY-94		03-MAY-94		30-APR-94		30-APR-94		30-APR-94		30-APR-94	
Sample Depth:	1 ft		0 - .5 ft		0 - 2 ft		1 - 1.5 ft		2 - 4 ft		3 - 3.5 ft		2 - 4 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
NAPHTHALENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
NITROBENZENE	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
PENTACHLOROPHENOL	N/A		N/A		1.2	U	N/A		1.2	U	N/A		1.2	U
PHENANTHRENE	N/A		N/A		.12	J	N/A		.5	U	N/A		.51	U
PHENOL	N/A		N/A		.49	U	N/A		.5	U	N/A		.51	U
PYRENE	N/A		N/A		.25	J	N/A		.093	J	N/A		.094	J
METALS (MG/KG)														
ALUMINUM	N/A		N/A		18400		N/A		18600		N/A		15000	
ANTIMONY	N/A		N/A		9.3	UJ	N/A		9.4	UJ	N/A		9.5	UJ
ARSENIC	N/A		N/A		7.8		N/A		8		N/A		7.9	
BARIUM	N/A		N/A		57.7	B	N/A		40.8	B	N/A		34.8	B
BERYLLIUM	N/A		N/A		.4	B	N/A		.38	B	N/A		.37	B
CADMIUM	N/A		N/A		1.7		N/A		1.2	U	N/A		1.2	U
CALCIUM	N/A		N/A		3810		N/A		3770		N/A		10900	
CHROMIUM	N/A		N/A		59.7		N/A		57.5		N/A		49.9	
COBALT	N/A		N/A		13.8	B	N/A		12	B	N/A		11.8	B
COPPER	N/A		N/A		31.2		N/A		22.9		N/A		20.6	
IRON	N/A		N/A		27600		N/A		26800		N/A		24800	
LEAD	N/A		N/A		18.6	J	N/A		8.8	J	N/A		9.4	J
LEAD, ORGANIC	N/A		N/A		.75	U	N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		N/A		8660		N/A		9000		N/A		8370	
MANGANESE	N/A		N/A		232		N/A		219		N/A		202	
MERCURY	N/A		N/A		.13	J	N/A		.08	UJ	N/A		.08	UJ
NICKEL	N/A		N/A		57.5		N/A		55		N/A		49.1	
POTASSIUM	N/A		N/A		2960	J	N/A		2740	J	N/A		2630	J
SELENIUM	N/A		N/A		.6	J	N/A		.61	UJ	N/A		.61	UJ
SILVER	N/A		N/A		.6	U	N/A		.61	U	N/A		.61	U
SODIUM	N/A		N/A		5890		N/A		5800		N/A		5520	
THALLIUM	N/A		N/A		.6	UW	N/A		.61	UW	N/A		.61	UW
VANADIUM	N/A		N/A		56.9		N/A		53.8		N/A		46.4	
ZINC	N/A		N/A		80.4		N/A		54.3		N/A		51.3	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	N/A		9300		8100		N/A		5000		N/A		9200	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T13-400 (FD)		T13-50		T13-50		XDL1		XDL1		XDL1		XT-11	
Sample Id:	T13-400 (3.0-3.5) D		T13-50 (0.0-2.0)		T13-50 (1.0-1.5)		XDL1(3)		XDL1(2)		XDL1(1)		XT-11(4-5)	
Sample Date:	30-APR-94		30-APR-94		30-APR-94		15-OCT-98		15-OCT-98		15-OCT-98		15-OCT-98	
Sample Depth:	3 - 3.5 ft		0 - 2 ft		1 - 1.5 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft		1 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
NAPHTHALENE	N/A		.48	U	N/A		.06	U	.06	U	.06	U	.06	U
NITROBENZENE	N/A		.48	U	N/A		.08	U	.08	U	.08	U	.08	U
PENTACHLOROPHENOL	N/A		1.2	U	N/A		.05	UJ	.05	UJ	.05	UJ	.05	UJ
PHENANTHRENE	N/A		.22	J	N/A		.4		.2	J	.2	J	.5	
PHENOL	N/A		.48	U	N/A		.09	U	.09	U	.09	U	.09	U
PYRENE	N/A		.44	J	N/A		.7		.5		.3		.9	
METALS (MG/KG)														
ALUMINUM	N/A		13500		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		9	UJ	N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A		7.2		N/A		N/A		N/A		N/A		N/A	
BARIUM	N/A		47.5	B	N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	N/A		.33	B	N/A		N/A		N/A		N/A		N/A	
CADMIUM	N/A		1.3	B	N/A		N/A		N/A		N/A		N/A	
CALCIUM	N/A		4890		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A		39.5		N/A		N/A		N/A		N/A		N/A	
COBALT	N/A		9.3	B	N/A		N/A		N/A		N/A		N/A	
COPPER	N/A		24		N/A		N/A		N/A		N/A		N/A	
IRON	N/A		20400		N/A		N/A		N/A		N/A		N/A	
LEAD	N/A		19	J	N/A		N/A		N/A		N/A		N/A	
LEAD, ORGANIC	N/A		.72	U	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		6090		N/A		N/A		N/A		N/A		N/A	
MANGANESE	N/A		168		N/A		N/A		N/A		N/A		N/A	
MERCURY	N/A		.07	UJ	N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		40.1		N/A		N/A		N/A		N/A		N/A	
POTASSIUM	N/A		2620	J	N/A		N/A		N/A		N/A		N/A	
SELENIUM	N/A		.58	UJ	N/A		N/A		N/A		N/A		N/A	
SILVER	N/A		.58	U	N/A		N/A		N/A		N/A		N/A	
SODIUM	N/A		4440		N/A		N/A		N/A		N/A		N/A	
THALLIUM	N/A		.58	U	N/A		N/A		N/A		N/A		N/A	
VANADIUM	N/A		39.2		N/A		N/A		N/A		N/A		N/A	
ZINC	N/A		59		N/A		N/A		N/A		N/A		N/A	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	N/A		2400		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		SL		SL		SL		SL		SL	
Point Name:	XT-11		XT-11		T10-20		T10-75		T11A-10		T11A-175		T11A-75	
Sample Id:	XT-11(3)		XT-11(1-2)		T10-20(0.0-1.0)		T10-75(0.0-1.0)		T11A-10(0.0-1.0)		T11A-175(0.0-1.0)		T11A-75(0.0-1.0)	
Sample Date:	15-OCT-98		15-OCT-98		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95		16-JAN-95	
Sample Depth:	2 - 3 ft		3 - 4 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft		0 - 1 ft	
Investigation:	ECO_RISK		ECO_RISK		95SED		95SED		95SED		95SED		95SED	
SVOA (MG/KG)														
NAPHTHALENE	.06	U	.06	U	.52	U	.56	U	.53	U	.51	U	.52	U
NITROBENZENE	.08	U	.08	U	.52	U	.56	U	.53	U	.51	U	.52	U
PENTACHLOROPHENOL	.05	UJ	.05	UJ	1.3	U	1.4	U	1.3	U	1.2	U	1.3	U
PHENANTHRENE	.3		.1	J	.66		.45	J	.28	J	.41	J	.28	J
PHENOL	.09	U	.09	U	.52	U	.56	U	.53	U	.51	U	.52	U
PYRENE	.8		.3	J	1.3		.95		.64		.42	J	.47	J
METALS (MG/KG)														
ALUMINUM	N/A		N/A		14900		20600		19100		19100		15500	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A		N/A		9.7		14.3		14.4		10.5		9	
BARIUM	N/A		N/A		76.2		72		67.6		67		62.4	B
BERYLLIUM	N/A		N/A		.13	U	.13	U	.13	U	.12	U	.13	U
CADMIUM	N/A		N/A		.58	B	.3	B	.55	B	.35	B	.28	B
CALCIUM	N/A		N/A		3570		4150		3950		3860		2930	
CHROMIUM	N/A		N/A		52.7		73.8		72.2		64.2		53.4	
COBALT	N/A		N/A		20.2		19.3		17.3		18.1		15.1	B
COPPER	N/A		N/A		36.4		48.9		47.5		35.1		30.6	
IRON	N/A		N/A		20500		27200		25400		24500		20200	
LEAD	N/A		N/A		24.9		33.5		57.1		26.3		22.7	
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		N/A		7920		10900		9450		9480		8180	
MANGANESE	N/A		N/A		282		298		278		279		232	
MERCURY	N/A		N/A		.37	J	.34	J	.34	J	.26	J	.24	J
NICKEL	N/A		N/A		56.5		78.8		71.2		67.1		57	
POTASSIUM	N/A		N/A		3840	J	4620	J	4430	J	3860	J	3340	J
SELENIUM	N/A		N/A		.95	U	2.2	UJ	1.5	U	1.6	UJ	1.6	UJ
SILVER	N/A		N/A		.63	U	.67	U	.65	U	.61	U	.64	U
SODIUM	N/A		N/A		2740		7070		6090		6000		5650	
THALLIUM	N/A		N/A		.63	U	.67	U	.65	U	.61	U	.64	U
VANADIUM	N/A		N/A		50.1		68.7		61.4		60.2		50.7	
ZINC	N/A		N/A		105		134		164		111		104	
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

GROUNDWATER

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02	
Sample Id:	MW11-02(26.0)		MW11-02(26.0)		MW11-02 (20.0)		MW11-02(17.0)		MW11-02 (22.0)		MW11-02 (16.7)		MW11-02(22.0)	
Sample Date:	26-MAY-92		23-MAR-94		21-JUN-94		23-JUN-94		20-SEP-94		28-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	UJ
DIESEL RANGE ORGANICS	.05	U	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	UJ
GASOLINE RANGE ORGANICS	.05	U	.05	U	.05	U	N/A		.05	UJ	N/A		.05	UJ
JP4 RANGE ORGANICS	N/A		.052	U	.05	U	N/A		.05	UJ	N/A		.05	U
JP5 RANGE ORGANICS	.05	U	.052	U	.05	U	N/A		.05	UJ	N/A		.05	U
MOTOR OIL RANGE ORGANICS	.1	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.052	U	.18	J	N/A		.05	UJ	N/A		.05	U
OTHER LIGHT TPH COMPONENTS	.001		.05	U	.05	U	N/A		.05	U	N/A		.05	UJ
TOLUENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	UJ
TPH - BUNKER FUEL (C10-C28)	.5	U	.52	UJ	.5	U	N/A		.5	UJ	N/A		.5	U
TPH - DIESEL F-76 (C8-C28)	N/A		.052	U	.05	UJ	N/A		.05	UJ	N/A		.05	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		.052	UJ	.05	U	N/A		.05	UJ	N/A		.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	UJ
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,1,2,2-TETRACHLOROETHANE	10	U	N/A		2	U	N/A		2	U	N/A		2	U
1,1,2-TRICHLOROETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,1-DICHLOROETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,1-DICHLOROETHENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,2-DICHLOROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
1,2-DICHLOROETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,2-DICHLOROETHENE (TOTAL)	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,2-DICHLOROPROPANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
1,3-DICHLOROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
1,4-DICHLOROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-BUTANONE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
2-HEXANONE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
4-METHYL-2-PENTANONE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
ACETONE	10	U	2	U	5	UJ	N/A		2	U	N/A		2	UJ
BENZENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
BROMODICHLOROMETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
BROMOFORM	10	U	N/A		2	U	N/A		2	U	N/A		2	U
BROMOMETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
CARBON DISULFIDE	10	U	2	U	2	U	N/A		2	U	N/A		.2	J
CARBON TETRACHLORIDE	10	U	2	U	2	U	N/A		2	U	N/A		2	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-05		MW11-05		MW11-05		MW11-05 (FD)		MW11-05		MW11-05 (FD)		MW11-05	
Sample Id:	MW11-05(22.4)		MW11-05(22.0)		MW11-05 (14.5)		MW11-95 (24.5)		MW11-05 (14.3)		MW11-95 (24.0)		MW11-05(14.0)	
Sample Date:	26-MAY-92		22-MAR-94		21-JUN-94		21-JUN-94		20-SEP-94		20-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U
DIESEL RANGE ORGANICS	.05	U	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U
GASOLINE RANGE ORGANICS	.05	U	.05	U	.05	U	N/A		.05	UJ	N/A		.05	UJ
JP4 RANGE ORGANICS	N/A		.056	U	.05	U	N/A		.05	UJ	N/A		.05	U
JP5 RANGE ORGANICS	.05	U	.056	U	.05	U	N/A		.05	UJ	N/A		.05	U
MOTOR OIL RANGE ORGANICS	.11	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.056	U	.33	J	N/A		.05	UJ	N/A		.05	U
OTHER LIGHT TPH COMPONENTS	.001		.05	U	.05	U	N/A		.05	U	N/A		.05	U
TOLUENE	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	U	.56	UJ	.5	U	N/A		.5	UJ	N/A		.5	U
TPH - DIESEL F-76 (C8-C28)	N/A		.056	U	.05	UJ	N/A		.05	UJ	N/A		.05	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		.056	UJ	.05	U	N/A		.05	UJ	N/A		.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	10	U	N/A		2	U	2	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	10	U	.2	J	.4	J	.3	J	2	U	2	U	2	U
1,2-DICHLOROBENZENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	4	J	4		5		5		5		6		3	
1,2-DICHLOROPROPANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
2-HEXANONE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
ACETONE	10	U	2	U	3	UJ	3	UJ	2	U	2	U	2	UJ
BENZENE	10	U	2	U	.2	J	2	U	2	U	2	U	2	U
BROMODICHLOROMETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
BROMOFORM	10	U	N/A		2	U	2	U	2	U	2	U	2	U
BROMOMETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
CARBON DISULFIDE	1	J	2	U	.2	J	2	U	.1	J	.1	J	.2	J
CARBON TETRACHLORIDE	10	U	2	U	2	U	2	U	2	U	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW	
Point Name:	MW11-05 (FD)		MW11-05		MW11-05	
Sample Id:	MW11-95(24.0)		MW11-05		MW11-05	
Sample Date:	08-DEC-94		09-APR-98		18-JAN-99	
Sample Depth:						
Investigation:	GW4Q94		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)						
BENZENE	N/A		N/A		N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A	
JP4 RANGE ORGANICS	N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A	
VOA (UG/L)						
1,1,1-TRICHLOROETHANE	2	U	2	U	10	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	10	U
1,1,2-TRICHLOROETHANE	2	U	2	U	10	U
1,1-DICHLOROETHANE	2	U	2	U	10	U
1,1-DICHLOROETHENE	2	U	2	U	10	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A	
1,2-DICHLOROETHANE	2	U	.5	U	10	U
1,2-DICHLOROETHENE (TOTAL)	3		3		2	J
1,2-DICHLOROPROPANE	2	U	2	U	10	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A	
2-BUTANONE	2	U	2	U	10	U
2-HEXANONE	2	U	2	U	10	U
4-METHYL-2-PENTANONE	2	U	2	U	10	U
ACETONE	2	UJ	2	UJ	10	UJ
BENZENE	2	U	.5	U	10	U
BROMODICHLOROMETHANE	2	U	2	U	10	U
BROMOFORM	2	U	2	U	10	U
BROMOMETHANE	2	U	2	U	10	U
CARBON DISULFIDE	.2	J	2	U	10	U
CARBON TETRACHLORIDE	2	U	.5	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02	
Sample Id:	MW11-02(26.0)		MW11-02(26.0)		MW11-02 (20.0)		MW11-02(17.0)		MW11-02 (22.0)		MW11-02 (16.7)		MW11-02(22.0)	
Sample Date:	26-MAY-92		23-MAR-94		21-JUN-94		23-JUN-94		20-SEP-94		28-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
VOA (UG/L)														
CHLOROBENZENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
CHLOROETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
CHLOROFORM	10	U	2	U	2	U	N/A		2	U	N/A		2	U
CHLOROMETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
CIS-1,3-DICHLOROPROPENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
DIBROMOCHLOROMETHANE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
ETHYLBENZENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
METHYLENE CHLORIDE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
STYRENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
TETRACHLOROETHENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
TOLUENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
TRANS-1,3-DICHLOROPROPENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
TRICHLOROETHENE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
VINYL CHLORIDE	10	U	2	U	2	U	N/A		2	U	N/A		2	U
XYLENE (TOTAL)	10	U	2	U	2	U	N/A		2	U	N/A		2	U
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,4,5-TRICHLOROPHENOL	N/A		26	U	25	U	N/A		25	U	N/A		25	U
2,4,6-TRICHLOROPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,4-DICHLOROPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,4-DIMETHYLPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,4-DINITROPHENOL	N/A		26	U	25	UJ	N/A		25	UJ	N/A		25	U
2,4-DINITROTOLUENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2,6-DINITROTOLUENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-CHLORONAPHTHALENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-CHLOROPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-METHYLNAPHTHALENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-METHYLPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
2-NITROANILINE	N/A		26	U	25	U	N/A		25	U	N/A		25	U
2-NITROPHENOL	N/A		11	U	10	UJ	N/A		10	U	N/A		10	U
3,3'-DICHLOROBENZIDINE	N/A		11	UJ	10	UJ	N/A		10	U	N/A		10	UJ
3-NITROANILINE	N/A		26	U	25	UJ	N/A		25	UJ	N/A		25	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		26	U	25	UJ	N/A		25	U	N/A		25	U
4-BROMOPHENYL-PHENYLETHER	N/A		11	U	10	U	N/A		10	U	N/A		10	U
4-CHLORO-3-METHYLPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-05		MW11-05		MW11-05		MW11-05 (FD)		MW11-05		MW11-05 (FD)		MW11-05	
Sample Id:	MW11-05(22.4)		MW11-05(22.0)		MW11-05 (14.5)		MW11-95 (24.5)		MW11-05 (14.3)		MW11-95 (24.0)		MW11-05(14.0)	
Sample Date:	26-MAY-92		22-MAR-94		21-JUN-94		21-JUN-94		20-SEP-94		20-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
VOA (UG/L)														
CHLOROBENZENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROFORM	10	U	2	U	2	U	2	U	2	U	2	U	2	U
CHLOROMETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
CIS-1,3-DICHLOROPROPENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
ETHYLBENZENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
METHYLENE CHLORIDE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
STYRENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
TETRACHLOROETHENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
TOLUENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
TRICHLOROETHENE	10	U	2		2		2		3		3		2	UJ
VINYL CHLORIDE	10	U	2	U	2	U	2	U	2	U	2	U	2	U
XYLENE (TOTAL)	10	U	2	U	.3	J	2	U	2	U	2	U	2	U
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		25	U	N/A		N/A		N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,4-DICHLOROPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,4-DINITROPHENOL	N/A		25	U	N/A		N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2,6-DINITROTOLUENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-CHLORONAPHTHALENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-CHLOROPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-METHYLPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
2-NITROANILINE	N/A		25	U	N/A		N/A		N/A		N/A		N/A	
2-NITROPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		10	UJ	N/A		N/A		N/A		N/A		N/A	
3-NITROANILINE	N/A		25	U	N/A		N/A		N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		25	U	N/A		N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		10	U	N/A		N/A		N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		10	U	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW	
Point Name:	MW11-05 (FD)		MW11-05		MW11-05	
Sample Id:	MW11-95(24.0)		MW11-05		MW11-05	
Sample Date:	08-DEC-94		09-APR-98		18-JAN-99	
Sample Depth:						
Investigation:	GW4Q94		SEMI_EVENT2		SEMI_EVENT3	
VOA (UG/L)						
CHLOROBENZENE	2	U	2	U	10	U
CHLOROETHANE	2	U	2	U	10	U
CHLOROFORM	2	U	2	U	10	U
CHLOROMETHANE	2	U	2	U	10	U
CIS-1,3-DICHLOROPROPENE	2	U	.5	U	10	U
DIBROMOCHLOROMETHANE	2	U	2	U	10	U
ETHYLBENZENE	2	U	2	U	10	U
METHYLENE CHLORIDE	2	U	.5	UJ	10	UJ
STYRENE	2	U	2	U	10	U
TETRACHLOROETHENE	2	U	2	U	10	U
TOLUENE	2	U	2	U	10	U
TRANS-1,3-DICHLOROPROPENE	2	U	.5	U	10	U
TRICHLOROETHENE	2	UJ	2	J	1	J
VINYL CHLORIDE	2	U	.5	U	10	U
XYLENE (TOTAL)	2	U	2	U	10	U
SVOA (UG/L)						
1,2,4-TRICHLOROBENZENE	N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		N/A		N/A	
2,4-DICHLOROPHENOL	N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		N/A		N/A	
2,4-DINITROPHENOL	N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		N/A		N/A	
2,6-DINITROTOLUENE	N/A		N/A		N/A	
2-CHLORONAPHTHALENE	N/A		N/A		N/A	
2-CHLOROPHENOL	N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A	
2-METHYLPHENOL	N/A		N/A		N/A	
2-NITROANILINE	N/A		N/A		N/A	
2-NITROPHENOL	N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		N/A		N/A	
3-NITROANILINE	N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02	
Sample Id:	MW11-02(26.0)		MW11-02(26.0)		MW11-02 (20.0)		MW11-02(17.0)		MW11-02 (22.0)		MW11-02 (16.7)		MW11-02(22.0)	
Sample Date:	26-MAY-92		23-MAR-94		21-JUN-94		23-JUN-94		20-SEP-94		28-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
SVOA (UG/L)														
4-CHLOROANILINE	N/A		11	UJ	10	UJ	N/A		10	U	N/A		10	U
4-CHLOROPHENYL-PHENYLETHER	N/A		11	U	10	U	N/A		10	U	N/A		10	U
4-METHYLPHENOL	N/A		11	U	10	U	N/A		10	U	N/A		10	U
4-NITROANILINE	N/A		26	U	25	U	N/A		25	U	N/A		25	U
4-NITROPHENOL	N/A		26	U	25	U	N/A		25	U	N/A		25	U
ACENAPHTHENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
ACENAPHTHYLENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
ANTHRACENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BENZO(A)ANTHRACENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BENZO(A)PYRENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BENZO(B)FLUORANTHENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BENZO(G,H,I)PERYLENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BENZO(K)FLUORANTHENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BIS(2-CHLOROETHYL)ETHER	N/A		11	U	10	U	N/A		10	U	N/A		10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		30	UJ	10	U	N/A		2	J	N/A		10	U
BUTYLBENZYLPHTHALATE	N/A		11	U	10	U	N/A		.7	J	N/A		.6	J
CARBAZOLE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
CHRYSENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
DI-N-BUTYLPHTHALATE	N/A		11	U	10	U	N/A		10	U	N/A		.8	J
DI-N-OCTYLPHTHALATE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
DIBENZO(A,H)ANTHRACENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
DIBENZOFURAN	N/A		11	U	10	U	N/A		10	U	N/A		10	U
DIETHYLPHTHALATE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
DIMETHYLPHTHALATE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
FLUORANTHENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
FLUORENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
HEXACHLOROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
HEXACHLOROBUTADIENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
HEXACHLOROCYCLOPENTADIENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
HEXACHLOROETHANE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
INDENO(1,2,3-CD)PYRENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
ISOPHORONE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
N-NITROSODIPHENYLAMINE (1)	N/A		11	U	10	UJ	N/A		10	U	N/A		10	U
NAPHTHALENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
NITROBENZENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
PENTACHLOROPHENOL	N/A		26	U	25	U	N/A		25	U	N/A		25	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-05	MW11-05	MW11-05	MW11-05 (FD)	MW11-05	MW11-05 (FD)	MW11-05
Sample Id:	MW11-05(22.4)	MW11-05(22.0)	MW11-05 (14.5)	MW11-95 (24.5)	MW11-05 (14.3)	MW11-95 (24.0)	MW11-05(14.0)
Sample Date:	26-MAY-92	22-MAR-94	21-JUN-94	21-JUN-94	20-SEP-94	20-SEP-94	08-DEC-94
Sample Depth:							
Investigation:	92GW	GW1Q94	GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94
SVOA (UG/L)							
4-CHLOROANILINE	N/A	10 UJ	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	10 U	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	10 U	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	25 U	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	25 U	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	10 U	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	10 U	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	25 U	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW
Point Name:	MW11-05 (FD)	MW11-05	MW11-05
Sample Id:	MW11-95(24.0)	MW11-05	MW11-05
Sample Date:	08-DEC-94	09-APR-98	18-JAN-99
Sample Depth:			
Investigation:	GW4Q94	SEMI_EVENT2	SEMI_EVENT3
SVOA (UG/L)			
4-CHLOROANILINE	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02	
Sample Id:	MW11-02(26.0)		MW11-02(26.0)		MW11-02 (20.0)		MW11-02(17.0)		MW11-02 (22.0)		MW11-02 (16.7)		MW11-02(22.0)	
Sample Date:	26-MAY-92		23-MAR-94		21-JUN-94		23-JUN-94		20-SEP-94		28-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
SVOA (UG/L)														
PHENANTHRENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
PHENOL	N/A		11	U	10	U	N/A		10	U	N/A		1	J
PYRENE	N/A		11	U	10	U	N/A		10	U	N/A		10	U
METALS-Total (UG/L)														
ALUMINUM	1210		4360	J	3080	J	N/A		11300	J	512	J	17300	
ANTIMONY	23	U	31	UJ	28.6	U	N/A		28.6	U	28.6	U	28.6	U
ARSENIC	2.5	B	2	U	3.1	U	N/A		6	U	5.7	U	5.4	B
BARIUM	61.6	B	118	B	79.4	BN	N/A		158	B	95.1	B	227	
BERYLLIUM	1	U	1	U	.4	U	N/A		.4	U	.4	U	.4	U
CADMIUM	3	U	4	U	.6	U	N/A		.6	U	.6	U	.6	U
CALCIUM	11700		10300		9290		N/A		10900		8700		10300	
CHROMIUM	4	UJ	11.2		12		N/A		28.7		2.3	U	44	
COBALT	3	U	3.8	B	2.3	U	N/A		5.7	B	2.3	U	12.6	B
COPPER	4	UJ	2	U	3.3	U	N/A		13.6	B	.4	U	18.3	B
IRON	1040		3510		1910	N	N/A		8150		402	J	14500	
LEAD	1.1	BW	2	B	1.8	UJ	N/A		2.9	U	.8	J	7.6	J
LEAD, ORGANIC	100	U	100	U	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	17400		18300		17200		N/A		21400		16500	J	21000	
MANGANESE	332		216		123		N/A		233		108		569	
MERCURY	.2	U	.17	U	.1	U	N/A		.18	J	.1	U	.22	UJ
NICKEL	10	U	12.6	B	9.6	B	N/A		18.6	B	3.6	B	33.4	B
POTASSIUM	1690	B	2270	U	1620	B	N/A		3950	B	566	J	4540	B
SELENIUM	N/A		2	UJ	2.3	U	N/A		2.3	U	14.4	UJ	2.3	U
SILVER	3	J	N/A		2	U	N/A		2	U	2	U	2	U
SODIUM	181000		186000		182000	J	N/A		217000	J	199000	J	126000	J
THALLIUM	3	J	20	UJ	2	U	N/A		3.6	U	2	U	2	U
VANADIUM	2	U	5.7	J	6.3	B	N/A		22.3	B	1.4	U	35.1	B
ZINC	16.8	UJ	9.9	U	7.2	B	N/A		62.9	UJ	1.4	U	59.1	UJ
METALS-Diss. (UG/L)														
ALUMINUM	N/A		35.1	U	2150	J	N/A		51.2	U	65.5	U	53.3	U
ANTIMONY	N/A		31	UJ	28.6	U	N/A		28.6	U	28.6	U	28.6	U
ARSENIC	N/A		2	UW	3.1	U	N/A		4.9	U	5.8	U	3.1	U
BARIUM	N/A		62.9	B	76.2	J	N/A		66.3	B	92.7	B	32.2	J
BERYLLIUM	N/A		1	U	.4	UJ	N/A		.4	U	.4	U	.4	U
CADMIUM	N/A		4	U	.6	U	N/A		.6	U	.6	U	.6	U

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW	MW	MW	MW	MW
Point Name:	MW11-05		MW11-05		MW11-05	MW11-05 (FD)	MW11-05	MW11-05 (FD)	MW11-05
Sample Id:	MW11-05(22.4)		MW11-05(22.0)		MW11-05 (14.5)	MW11-95 (24.5)	MW11-05 (14.3)	MW11-95 (24.0)	MW11-05(14.0)
Sample Date:	26-MAY-92		22-MAR-94		21-JUN-94	21-JUN-94	20-SEP-94	20-SEP-94	08-DEC-94
Sample Depth:									
Investigation:	92GW		GW1Q94		GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94
SVOA (UG/L)									
PHENANTHRENE	N/A		10	U	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A		10	U	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A		10	U	N/A	N/A	N/A	N/A	N/A
METALS-Total (UG/L)									
ALUMINUM	**70.3**	B	**1660**	J	N/A	N/A	N/A	N/A	N/A
ANTIMONY	23	U	31	UJ	N/A	N/A	N/A	N/A	N/A
ARSENIC	2	U	2.3	U	N/A	N/A	N/A	N/A	N/A
BARIUM	**31.7**	B	**57.2**	B	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	1	U	1	U	N/A	N/A	N/A	N/A	N/A
CADMIUM	3	U	4	U	N/A	N/A	N/A	N/A	N/A
CALCIUM	**5170**		**6610**		N/A	N/A	N/A	N/A	N/A
CHROMIUM	4	UJ	**9.5**	B	N/A	N/A	N/A	N/A	N/A
COBALT	3	U	**3.9**	B	N/A	N/A	N/A	N/A	N/A
COPPER	4	UJ	2	U	N/A	N/A	N/A	N/A	N/A
IRON	**496**		**4320**		N/A	N/A	N/A	N/A	N/A
LEAD	1	UW	**1.2**	BW	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	100	U	N/A		N/A	N/A	N/A	N/A	N/A
MAGNESIUM	**8240**		**13000**		N/A	N/A	N/A	N/A	N/A
MANGANESE	**350**		**408**		N/A	N/A	N/A	N/A	N/A
MERCURY	.2	U	.14	U	N/A	N/A	N/A	N/A	N/A
NICKEL	10	U	**19.8**	B	N/A	N/A	N/A	N/A	N/A
POTASSIUM	**2010**	B	2920	U	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A		2	UJ	N/A	N/A	N/A	N/A	N/A
SILVER	**3**	J	N/A		N/A	N/A	N/A	N/A	N/A
SODIUM	**74900**		**92500**		N/A	N/A	N/A	N/A	N/A
THALLIUM	**3**	J	20	UJ	N/A	N/A	N/A	N/A	N/A
VANADIUM	2	U	**2.1**	J	N/A	N/A	N/A	N/A	N/A
ZINC	8.9	UJ	8.6	U	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)									
ALUMINUM	N/A		36	U	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A		31	UJ	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A		3.8	U	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A		**36.8**	B	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A		1	U	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A		4	U	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW
Point Name:	MW11-05 (FD)	MW11-05	MW11-05
Sample Id:	MW11-95(24.0)	MW11-05	MW11-05
Sample Date:	08-DEC-94	09-APR-98	18-JAN-99
Sample Depth:			
Investigation:	GW4Q94	SEMI_EVENT2	SEMI_EVENT3
SVOA (UG/L)			
PHENANTHRENE	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A
METALS-Total (UG/L)			
ALUMINUM	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A
COBALT	N/A	N/A	N/A
COPPER	N/A	N/A	N/A
IRON	N/A	N/A	N/A
LEAD	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A
SILVER	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A
ZINC	N/A	N/A	N/A
METALS-Diss. (UG/L)			
ALUMINUM	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-02		MW11-02		MW11-02		MW11-02		MW11-02		MW11-02	
Sample Id:	MW11-02(26.0)		MW11-02(26.0)		MW11-02 (20.0)		MW11-02(17.0)		MW11-02 (22.0)		MW11-02 (16.7)		MW11-02(22.0)	
Sample Date:	26-MAY-92		23-MAR-94		21-JUN-94		23-JUN-94		20-SEP-94		28-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
METALS-Diss. (UG/L)														
CALCIUM	N/A		11500		9590	J	N/A		9950		8830	J	8590	
CHROMIUM	N/A		3	U	10.4		N/A		4.4	U	2.3	U	2.3	U
COBALT	N/A		2	U	2.3	U	N/A		2.3	U	2.3	U	2.3	U
COPPER	N/A		2	U	3.5	U	N/A		2.8	U	7.8	J	.4	U
IRON	N/A		14.1	B	1690	J	N/A		146	UJ	65.6	J	136	UJ
LEAD	N/A		1.5	B	1.8	B	N/A		.8	U	.8	U	.8	U
MAGNESIUM	N/A		18000		17700	J	N/A		18600		17100	J	15400	
MANGANESE	N/A		106		131	J	N/A		116		89.3	J	126	
MERCURY	N/A		.14	U	.1	U	N/A		.1	U	.1	U	.11	U
NICKEL	N/A		9.2	B	9.5	B	N/A		4.6	B	3.9	B	4.5	B
POTASSIUM	N/A		2170	B	1390	J	N/A		850	B	458	J	773	B
SELENIUM	N/A		2	US	2.3	U	N/A		2.3	U	15.5	J	2.3	U
SILVER	N/A		2	UJ	2	U	N/A		2	U	2	U	2	U
SODIUM	N/A		192000		189000	J	N/A		217000	J	216000	J	118000	J
THALLIUM	N/A		2	UW	2	U	N/A		2	U	2	U	2	U
VANADIUM	N/A		2	UJ	5	B	N/A		1.4	B	1.4	U	1.4	U
ZINC	N/A		13	B	8	B	N/A		13.3	U	2.8	U	5.1	U
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		26		N/A		N/A		N/A	
CHLORIDE	200		250		N/A		N/A		N/A		N/A		N/A	
FLUORIDE	.73		.84		N/A		N/A		N/A		N/A		N/A	
NITRATE	.4		.05		N/A		N/A		N/A		N/A		N/A	
NITRITE	.1	U	.05	U	N/A		N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	.2	U	.29		N/A		N/A		N/A		N/A		N/A	
SULFATE	19		23		N/A		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		1.5		2.7		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-05		MW11-05		MW11-05		MW11-05 (FD)		MW11-05		MW11-05 (FD)		MW11-05	
Sample Id:	MW11-05(22.4)		MW11-05(22.0)		MW11-05 (14.5)		MW11-95 (24.5)		MW11-05 (14.3)		MW11-95 (24.0)		MW11-05(14.0)	
Sample Date:	26-MAY-92		22-MAR-94		21-JUN-94		21-JUN-94		20-SEP-94		20-SEP-94		08-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
METALS-Diss. (UG/L)														
CALCIUM	N/A		6520		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A		3	U	N/A		N/A		N/A		N/A		N/A	
COBALT	N/A		4.4	B	N/A		N/A		N/A		N/A		N/A	
COPPER	N/A		2	U	N/A		N/A		N/A		N/A		N/A	
IRON	N/A		386		N/A		N/A		N/A		N/A		N/A	
LEAD	N/A		1	U	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		12200		N/A		N/A		N/A		N/A		N/A	
MANGANESE	N/A		383		N/A		N/A		N/A		N/A		N/A	
MERCURY	N/A		.14	U	N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		9.9	B	N/A		N/A		N/A		N/A		N/A	
POTASSIUM	N/A		2520	U	N/A		N/A		N/A		N/A		N/A	
SELENIUM	N/A		2	US	N/A		N/A		N/A		N/A		N/A	
SILVER	N/A		2	UJ	N/A		N/A		N/A		N/A		N/A	
SODIUM	N/A		89500		N/A		N/A		N/A		N/A		N/A	
THALLIUM	N/A		2	UW	N/A		N/A		N/A		N/A		N/A	
VANADIUM	N/A		2	UJ	N/A		N/A		N/A		N/A		N/A	
ZINC	N/A		2.6	B	N/A		N/A		N/A		N/A		N/A	
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLORIDE	100		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORIDE	.14		N/A		N/A		N/A		N/A		N/A		N/A	
NITRATE	.05	U	N/A		N/A		N/A		N/A		N/A		N/A	
NITRITE	.05	U	N/A		N/A		N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
SULFATE	20		N/A		N/A		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 North Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW
Point Name:	MW11-05 (FD)	MW11-05	MW11-05
Sample Id:	MW11-95(24.0)	MW11-05	MW11-05
Sample Date:	08-DEC-94	09-APR-98	18-JAN-99
Sample Depth:			
Investigation:	GW4Q94	SEMI_EVENT2	SEMI_EVENT3
METALS-Diss. (UG/L)			
CALCIUM	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A
COBALT	N/A	N/A	N/A
COPPER	N/A	N/A	N/A
IRON	N/A	N/A	N/A
LEAD	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A
SILVER	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A
ZINC	N/A	N/A	N/A
WATER QUALITY (MG/L)			
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A
TDS	N/A	N/A	200
TOTAL ORGANIC CARBON	N/A	N/A	N/A

SOIL

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR11-90		BR11-90		SB10-01		SB10-02		SB10-02		SB10-03		SB10-03	
Sample Id:	BR4-1(14-15)		BR4-1(22.5-23.5)		SB10-01 (12.5-13.0)		SB10-02 (6.5-8.0)		SB10-02 (9.5-10.3)		SB10-03 (12.0-12.5)		SB10-03 (15.5-17.0)	
Sample Date:	06-FEB-99		06-FEB-99		09-FEB-94		01-FEB-94		01-FEB-94		01-FEB-94		01-FEB-94	
Sample Depth:	14 - 15 ft		22.5 - 23.5 ft		12.5 - 13 ft		6.5 - 8 ft		9.5 - 10.3 ft		12 - 12.5 ft		15.5 - 17 ft	
Investigation:	PHASEII_RI		PHASEII_RI		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
TPH (MG/KG)														
BENZENE	5.6	U	.028	U	.021	UJ	.22	U	.22	U	.23	U	.12	U
DIESEL RANGE ORGANICS	56	U	**46**		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	**3.9**	J	**.018**	J	.021	UJ	.22	U	.22	U	**.28**		.12	U
GASOLINE RANGE ORGANICS	**1000**	J	**5**	J	4.3	UJ	45	U	43	U	46	U	23	U
JP4 RANGE ORGANICS	N/A		N/A		5.3	U	11	UJ	22	U	23	UJ	5.8	U
JP5 RANGE ORGANICS	56	U	11	U	5.3	U	11	U	22	U	23	U	5.8	U
METHYL-T-BUTYL ETHER	28	U	.14	U	N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	**150**		**51**		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		**1400**	J	11	U	22	U	23	U	5.8	U
OTHER LIGHT TPH COMPONENTS	N/A		N/A		**64**	J	**550**	Y	**830**	Y	**860**	Y	**190**	Y
TOLUENE	5.6	U	.028	U	.021	UJ	.22	U	.22	U	.23	U	.12	U
TPH - BUNKER FUEL (C10-C28)	56	U	11	U	53	U	110	U	220	U	230	U	58	U
TPH - DIESEL F-76 (C8-C28)	**760**		11	U	5.3	UJ	11	U	22	U	23	U	5.8	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		5.3	U	**2900**		**4700**		**6900**		**1800**	
XYLENE (TOTAL)	**6.5**	J	**.031**	J	.021	UJ	.22	U	.22	U	**1**		.12	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	.11	U	.011	U	N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		1.4	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.11	UJ	.011	UJ	.011	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		1.4	U	N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		1.4	U	N/A		N/A		N/A		N/A	
2-BUTANONE	.11	UJ	.011	U	.011	U	N/A		N/A		N/A		N/A	
2-HEXANONE	**1.3**	J	.011	UJ	.011	U	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
ACETONE	.11	UJ	**.15**	J	.022	UJ	N/A		N/A		N/A		N/A	
BENZENE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	
BROMOFORM	.11	U	.011	U	.011	UJ	N/A		N/A		N/A		N/A	
BROMOMETHANE	.11	UJ	.011	UJ	.011	U	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	.11	U	.011	U	.011	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-03		SB10-17		SB10-18		SB11-17		SB11-17		SB11-17		SB11-19	
Sample Id:	SB10-03 (9.9-11.0)		SB10-17(19.5-20.0)		SB10-18(18.5-19.0)		SB11-17(17.5)		SB11-17(23.5-24.0)		SB11-17(9.0-9.5)		SB11-19(1.5-2.0)	
Sample Date:	01-FEB-94		10-FEB-99		10-FEB-99		04-FEB-92		04-FEB-92		04-FEB-92		04-FEB-92	
Sample Depth:	9.9 - 11 ft		19.5 - 20 ft		18.5 - 19 ft		17.5 ft		23.5 - 24 ft		9 - 9.5 ft		1.5 - 2 ft	
Investigation:	94SHORELN_S		PHASEII_RI		PHASEII_RI		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.23	U	6.1	U	.029	U	.006	U	.006	U	.047	U	.006	U
DIESEL RANGE ORGANICS	N/A		**1300**		**1000**		1.2	U	1.1	U	1.2	U	1.1	U
ETHYLBENZENE	.23	U	6.1	U	.029	U	.006	U	.006	U	.047	U	.006	U
GASOLINE RANGE ORGANICS	46	U	**4600**		**31**		1.2	U	1.1	U	9.3	U	1.1	U
JP4 RANGE ORGANICS	23	U	N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	23	U	**2600**		**1100**		1.2	U	1.1	U	1.2	U	1.1	U
METHYL-T-BUTYL ETHER	N/A		18	U	.087	U	N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		**2100**		**2000**		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**2700**	X	N/A		N/A		1.2	U	1.1	U	1.2	U	**340**	X
OTHER LIGHT TPH COMPONENTS	**680**	Y	N/A		N/A		.006	U	.006	U	**410**		.006	U
TOLUENE	.23	U	6.1	U	.029	U	.006	U	.006	U	.047	U	**.013**	X
TPH - BUNKER FUEL (C10-C28)	230	U	610	U	580	U	12	U	11	U	12	U	11	U
TPH - DIESEL F-76 (C8-C28)	23	UJ	610	U	580	U	N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	23	U	N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.23	U	12	U	.058	U	.006	U	.006	U	.047	U	**.015**	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		.12	UJ	.012	UJ	N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		.12	UJ	.012	UJ	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
ACETONE	N/A		.12	UJ	.037	UJ	N/A		N/A		N/A		N/A	
BENZENE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
BROMOFORM	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		.12	UJ	.012	UJ	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		.12	U	.012	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-19		SB11-20		SB11-20		SB11-20		SB11-20		SB11-20		SB11-22	
Sample Id:	SB11-19(12.0-12.5)		SB11-20(13.5)		SB11-20(15.0-16.0)		SB11-20(16.0-17.0)		SB11-20(19.6-20.3)		SB11-20(29.5-30.0)		SB11-22(14.0-14.5)	
Sample Date:	05-FEB-92		05-FEB-92		05-FEB-92		05-FEB-92		05-FEB-92		05-FEB-92		06-FEB-92	
Sample Depth:	12 - 12.5 ft		13.5 ft		15 - 16 ft		16 - 17 ft		19.6 - 20.3 ft		29.5 - 30 ft		14 - 14.5 ft	
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL		92SOIL	
TPH (MG/KG)														
BENZENE	.11	U	.005	U	.12	U	N/A		.006	U	.007	U	.012	U
DIESEL RANGE ORGANICS	**1900**	X	1.1	U	12	U	N/A		1.1	U	1.4	U	12	U
ETHYLBENZENE	.11	U	.005	U	.12	U	N/A		.006	U	.007	U	.012	U
GASOLINE RANGE ORGANICS	22	U	1.1	U	25	U	N/A		**11**	X	1.4	U	2.3	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	**610**	X	1.1	U	**30**	X	N/A		1.1	U	1.4	U	**2200**	X
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**760**	X	1.1	U	12	U	N/A		1.1	U	1.4	U	12	U
OTHER LIGHT TPH COMPONENTS	**2300**		**87**		**1000**		N/A		.006	U	.007	U	**490**	
TOLUENE	.11	U	**.05**	X	.12	U	N/A		**.037**	X	**.12**	X	.012	U
TPH - BUNKER FUEL (C10-C28)	220	U	**45**	X	**2700**	X	N/A		**17**	X	14	U	**120**	X
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	**19**		**.69**	X	**15**	X	N/A		**.11**	X	.007	U	**.84**	X
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB11-22		SB11-22		SB11-23		SB11-23		SB11-55		SB11-55		SB11-55
Sample Id:	SB11-22(16.7-17.8)		SB11-22(22.3-22.7)		SB11-23(14.0)		SB11-23(16.5-16.8)		SB11-55 (13.0-13.5)		SB11-55 (19.0-20.0)		SB11-55 (24.0-24.5)
Sample Date:	06-FEB-92		06-FEB-92		07-FEB-92		07-FEB-92		14-FEB-94		14-FEB-94		14-FEB-94
Sample Depth:	16.7 - 17.8 ft		22.3 - 22.7 ft		14 ft		16.5 - 16.8 ft		13 - 13.5 ft		19 - 20 ft		24 - 24.5 ft
Investigation:	92SOIL		92SOIL		92SOIL		92SOIL		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1
TPH (MG/KG)													
BENZENE	.013	U	.007	U	.006	U	.006	U	.12	U	.006	U	N/A
DIESEL RANGE ORGANICS	**15000**	X	**38**	X	2.4	U	2.6	U	N/A		N/A		N/A
ETHYLBENZENE	.013	U	.007	U	.006	U	.006	U	.12	U	.006	U	N/A
GASOLINE RANGE ORGANICS	2.6	U	1.4	U	1.2	U	1.3	U	24	U	1.1	U	N/A
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		24	U	1.1	U	N/A
JP5 RANGE ORGANICS	**2900**	X	1.4	U	**470**	X	**700**	X	24	UJ	1.1	U	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A
OTHER HEAVY TPH COMPONENTS	64	U	1.4	U	2.4	U	2.6	U	24	U	1.1	U	N/A
OTHER LIGHT TPH COMPONENTS	**250**		.007	U	**100**		**310**		**420**	Y	**4.1**	Y	N/A
TOLUENE	.013	U	**.052**		.006	U	.006	U	.12	U	.006	U	N/A
TPH - BUNKER FUEL (C10-C28)	640	U	**58**	X	24	U	26	U	**6500**		**76**		N/A
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		24	U	1.1	UJ	N/A
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		24	U	1.1	U	N/A
XYLENE (TOTAL)	**.53**		**.01**		**.057**		**.6**		.12	U	.006	U	N/A
VOA (MG/KG)													
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-55		SB11-55		SB11-55		SB11-55		SB11-55 (FD)		SB11-55 (FD)		SB11-56	
Sample Id:	SB11-55 (24.5-24.8)		SB11-55 (24.5-26.0)		SB11-55 (36.0-36.3)		SB11-55 (36.3-36.8)		SB11-55 (29.0-30.0)		SB11-55 (34.5-36.0)		SB11-56 (11.5-12.0)	
Sample Date:	14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		11-FEB-94	
Sample Depth:	24.5 - 24.8 ft		24.5 - 26 ft		36 - 36.3 ft		36.3 - 36.8 ft		19 - 20 ft		24.5 - 26 ft		11.5 - 12 ft	
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1	
TPH (MG/KG)														
BENZENE	N/A		.007	U	N/A		.007	U	.006	U	.007	U	.024	UJ
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		.007	U	N/A		.007	U	.006	U	.007	U	.024	UJ
GASOLINE RANGE ORGANICS	N/A		1.4	U	N/A		1.4	U	1.1	U	1.4	U	4.9	UJ
JP4 RANGE ORGANICS	N/A		1.4	U	N/A		1.4	U	1.1	U	1.4	U	4.9	U
JP5 RANGE ORGANICS	N/A		1.4	U	N/A		1.4	U	1.1	U	1.4	U	4.9	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		1.4	U	N/A		1.4	U	1.1	U	1.4	U	**33**	J
OTHER LIGHT TPH COMPONENTS	N/A		1.4	U	N/A		1.4	U	**3.4**	Y	1.4	U	**79**	J
TOLUENE	N/A		.007	U	N/A		.007	U	.006	U	.007	U	.024	UJ
TPH - BUNKER FUEL (C10-C28)	N/A		14	U	N/A		14	U	**62**		14	U	**670**	
TPH - DIESEL F-76 (C8-C28)	N/A		1.4	UJ	N/A		1.4	UJ	1.1	UJ	1.4	UJ	4.9	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.4	U	N/A		1.4	U	1.1	U	1.4	U	4.9	U
XYLENE (TOTAL)	N/A		.007	U	N/A		.007	U	.006	U	.007	U	.024	UJ
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A	
1,2-DICHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A	
1,4-DICHLOROBENZENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A	
2-BUTANONE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
2-HEXANONE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
ACETONE	.039	UJ	N/A		.028	UJ	N/A		N/A		N/A		N/A	
BENZENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMOFORM	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
BROMOMETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	**.001**	J	N/A		**.001**	J	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-56		SB11-57		SB11-57		SB11-58		SB11-80		SB11-82		SB11-82	
Sample Id:	SB11-56 (23.0-23.5)		SB11-57 (14.5-15.0)		SB11-57 (26.5-27)		SB11-58 (14.5-15.0)		SB11-80(16-17)		SB11-82(11-12)		SB11-82(14-15)	
Sample Date:	11-FEB-94		10-FEB-94		10-FEB-94		10-FEB-94		05-FEB-99		05-FEB-99		05-FEB-99	
Sample Depth:	23 - 23.5 ft		14.5 - 15 ft		26.5 - 27 ft		14.5 - 15 ft		16 - 17 ft		11 - 12 ft		14 - 15 ft	
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)														
BENZENE	.007	U	.23	U	.007	U	.24	U	.0051	U	.0053	U	.0053	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		10	U	11	U	11	U
ETHYLBENZENE	.007	U	.23	U	.007	U	.24	U	.0051	U	.0053	U	.0053	U
GASOLINE RANGE ORGANICS	1.4	U	46	U	1.4	U	48	U	1	U	1.1	U	1.1	U
JP4 RANGE ORGANICS	1.4	U	23	U	1.4	U	12	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	1.4	U	23	U	1.4	U	12	U	10	U	11	U	11	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		.026	U	.027	U	.027	U
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		10	U	**8**	J	11	U
OTHER HEAVY TPH COMPONENTS	**67**	J	23	U	**11**	J	**2600**	J	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	1.4	U	**640**	J	1.4	U	**480**	J	N/A		N/A		N/A	
TOLUENE	.007	U	.23	U	.007	U	.24	U	.0051	U	.0053	U	.0053	U
TPH - BUNKER FUEL (C10-C28)	14	U	**6100**		14	U	120	U	N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	1.4	UJ	23	UJ	1.4	UJ	12	UJ	N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	1.4	U	23	U	1.4	U	12	U	N/A		N/A		N/A	
XYLENE (TOTAL)	.007	U	**3.5**	J	.007	U	**.67**		.01	U	.011	U	.011	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		.01	U	.011	U	.011	U
1,1,2-TRICHLOROETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,1-DICHLOROETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,1-DICHLOROETHENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,2-DICHLOROBENZENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,2-DICHLOROETHENE (TOTAL)	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,2-DICHLOROPROPANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
1,3-DICHLOROBENZENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2-BUTANONE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
2-HEXANONE	.014	U	.057	U	.014	U	N/A		.01	UJ	.011	UJ	.011	UJ
4-METHYL-2-PENTANONE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
ACETONE	.014	U	.057	U	.021	UJ	N/A		.01	UJ	.011	UJ	.016	UJ
BENZENE	**.001**	J	**.057**	U	.014	U	N/A		.01	U	.011	U	.011	U
BROMODICHLOROMETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
BROMOFORM	.014	U	.057	UJ	.014	UJ	N/A		.01	U	.011	U	.011	U
BROMOMETHANE	.014	U	.057	U	.014	U	N/A		.01	UJ	.011	UJ	.011	UJ
CARBON DISULFIDE	**.0008**	J	**.001**	J	.014	U	N/A		.01	U	.011	U	.011	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB	
Point Name:	SB11-83		SB11-83		SB11-85		SB11-86	
Sample Id:	SB11-83(11.5-12.5)		SB11-83(7-8)		SB11-85(13.5-14.0)		SB11-86(14.5-15.0)	
Sample Date:	05-FEB-99		05-FEB-99		11-FEB-99		11-FEB-99	
Sample Depth:	11.5 - 12.5 ft		7 - 8 ft		13.5 - 14 ft		14.5 - 15 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)								
BENZENE	.0056	U	.0055	U	12	U	12	U
DIESEL RANGE ORGANICS	11	U	11	U	580	U	600	U
ETHYLBENZENE	.0056	U	.0055	U	12	U	12	U
GASOLINE RANGE ORGANICS	1.1	U	1.1	U	**8500**	Z	**9900**	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	11	U	11	U	**9600**	Y	**9300**	Y
METHYL-T-BUTYL ETHER	.028	U	.028	U	58	U	60	U
MOTOR OIL RANGE ORGANICS	11	U	11	U	**770**		**570**	J
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A	
TOLUENE	.0056	U	.0055	U	12	U	12	U
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		580	U	600	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		580	U	600	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.011	UJ	.011	U	23	U	24	U
VOA (MG/KG)								
1,1,1-TRICHLOROETHANE	.011	U	.011	U	.12	U	.12	U
1,1,2,2-TETRACHLOROETHANE	.011	U	.011	U	.12	U	.12	U
1,1,2-TRICHLOROETHANE	.011	U	.011	U	.12	U	.12	U
1,1-DICHLOROETHANE	.011	U	.011	U	.12	U	.12	U
1,1-DICHLOROETHENE	.011	U	.011	U	.12	U	.12	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.011	U	.011	U	.12	U	.12	U
1,2-DICHLOROETHENE (TOTAL)	.011	U	.011	U	.12	U	.12	U
1,2-DICHLOROPROPANE	.011	U	.011	U	.12	U	.12	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A	
2-BUTANONE	.011	U	.011	U	.12	UJ	.12	UJ
2-HEXANONE	.011	U	.011	U	.12	U	.12	U
4-METHYL-2-PENTANONE	.011	U	.011	U	.12	U	.12	U
ACETONE	.018	UJ	.014	UJ	.27	UJ	**.88**	J
BENZENE	.011	U	.011	U	.12	U	.12	U
BROMODICHLOROMETHANE	.011	U	.011	U	.12	U	.12	U
BROMOFORM	.011	U	.011	U	.12	U	.12	U
BROMOMETHANE	.011	UJ	.011	UJ	.12	U	.12	U
CARBON DISULFIDE	.011	U	.011	U	.12	U	.12	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB	SB	SB	SB
Point Name:	BR11-90		BR11-90		SB10-01		SB10-02	SB10-02	SB10-03	SB10-03
Sample Id:	BR4-1(14-15)		BR4-1(22.5-23.5)		SB10-01 (12.5-13.0)		SB10-02 (6.5-8.0)	SB10-02 (9.5-10.3)	SB10-03 (12.0-12.5)	SB10-03 (15.5-17.0)
Sample Date:	06-FEB-99		06-FEB-99		09-FEB-94		01-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94
Sample Depth:	14 - 15 ft		22.5 - 23.5 ft		12.5 - 13 ft		6.5 - 8 ft	9.5 - 10.3 ft	12 - 12.5 ft	15.5 - 17 ft
Investigation:	PHASEII_RI		PHASEII_RI		94SHORELN_S		94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
VOA (MG/KG)										
CARBON TETRACHLORIDE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
CHLOROBENZENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
CHLOROETHANE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
CHLOROFORM	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
CHLOROMETHANE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
ETHYLBENZENE	**.071**	J	.011	U	.011	U	N/A	N/A	N/A	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	.11	UJ	.011	UJ	.011	U	N/A	N/A	N/A	N/A
STYRENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
TOLUENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
TRICHLOROETHENE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
VINYL CHLORIDE	.11	U	.011	U	.011	U	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	**.57**	J	.011	U	.011	U	N/A	N/A	N/A	N/A
PAH (MG/KG)										
1-METHYLNAPHTHALENE	.56	U	.056	U	N/A		N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	.56	U	.056	U	N/A		N/A	N/A	N/A	N/A
ACENAPHTHENE	.56	U	.056	U	N/A		N/A	N/A	N/A	N/A
ACENAPHTHYLENE	**.37**		.022	U	N/A		N/A	N/A	N/A	N/A
ANTHRACENE	**.02**		.0022	U	N/A		N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	**.074**		**.0063**		N/A		N/A	N/A	N/A	N/A
BENZO(A)PYRENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
CHRYSENE	**.096**		**.005**		N/A		N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	.056	U	.0056	U	N/A		N/A	N/A	N/A	N/A
FLUORANTHENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
FLUORENE	**.052**		.0022	U	N/A		N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A
NAPHTHALENE	**.44**	J	.056	U	N/A		N/A	N/A	N/A	N/A
PHENANTHRENE	**.16**		.0022	U	N/A		N/A	N/A	N/A	N/A
PYRENE	.023	U	.0022	U	N/A		N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB		SB		SB		SB		SB		SB
Point Name:	SB10-03	SB10-17		SB10-18		SB11-17		SB11-17		SB11-17		SB11-19
Sample Id:	SB10-03 (9.9-11.0)	SB10-17(19.5-20.0)		SB10-18(18.5-19.0)		SB11-17(17.5)		SB11-17(23.5-24.0)		SB11-17(9.0-9.5)		SB11-19(1.5-2.0)
Sample Date:	01-FEB-94	10-FEB-99		10-FEB-99		04-FEB-92		04-FEB-92		04-FEB-92		04-FEB-92
Sample Depth:	9.9 - 11 ft	19.5 - 20 ft		18.5 - 19 ft		17.5 ft		23.5 - 24 ft		9 - 9.5 ft		1.5 - 2 ft
Investigation:	94SHORELN_S	PHASEII_RI		PHASEII_RI		92SOIL		92SOIL		92SOIL		92SOIL
VOA (MG/KG)												
CARBON TETRACHLORIDE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
CHLOROBENZENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
CHLOROETHANE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
CHLOROFORM	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
CHLOROMETHANE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
CIS-1,3-DICHLOROPROPENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
DIBROMOCHLOROMETHANE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
ETHYLBENZENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
METHYL-T-BUTYL ETHER	N/A	N/A		N/A		N/A		N/A		N/A		N/A
METHYLENE CHLORIDE	N/A	.12	UJ	.012	UJ	N/A		N/A		N/A		N/A
STYRENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
TETRACHLOROETHENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
TOLUENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
TRANS-1,3-DICHLOROPROPENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
TRICHLOROETHENE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
VINYL CHLORIDE	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
XYLENE (TOTAL)	N/A	.12	U	.012	U	N/A		N/A		N/A		N/A
PAH (MG/KG)												
1-METHYLNAPHTHALENE	N/A	**4.7**		2.9	U	N/A		N/A		N/A		N/A
2-METHYLNAPHTHALENE	N/A	3	U	2.9	U	N/A		N/A		N/A		N/A
ACENAPHTHENE	N/A	3	U	2.9	U	N/A		N/A		N/A		N/A
ACENAPHTHYLENE	N/A	1.2	U	1.2	U	N/A		N/A		N/A		N/A
ANTHRACENE	N/A	**.25**		.12	U	N/A		N/A		N/A		N/A
BENZO(A)ANTHRACENE	N/A	**1.9**		.12	U	N/A		N/A		N/A		N/A
BENZO(A)PYRENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
BENZO(B)FLUORANTHENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
BENZO(G,H,I)PERYLENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
BENZO(K)FLUORANTHENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
CHRYSENE	N/A	**.65**		.12	U	N/A		N/A		N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A	.3	U	.29	U	N/A		N/A		N/A		N/A
FLUORANTHENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
FLUORENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A
NAPHTHALENE	N/A	3	U	2.9	U	N/A		N/A		N/A		N/A
PHENANTHRENE	N/A	**.91**		.12	U	N/A		N/A		N/A		N/A
PYRENE	N/A	.12	U	.12	U	N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-19	SB11-20	SB11-20	SB11-20	SB11-20	SB11-20	SB11-22
Sample Id:	SB11-19(12.0-12.5)	SB11-20(13.5)	SB11-20(15.0-16.0)	SB11-20(16.0-17.0)	SB11-20(19.6-20.3)	SB11-20(29.5-30.0)	SB11-22(14.0-14.5)
Sample Date:	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	06-FEB-92
Sample Depth:	12 - 12.5 ft	13.5 ft	15 - 16 ft	16 - 17 ft	19.6 - 20.3 ft	29.5 - 30 ft	14 - 14.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-22	SB11-22	SB11-23	SB11-23	SB11-55	SB11-55	SB11-55
Sample Id:	SB11-22(16.7-17.8)	SB11-22(22.3-22.7)	SB11-23(14.0)	SB11-23(16.5-16.8)	SB11-55 (13.0-13.5)	SB11-55 (19.0-20.0)	SB11-55 (24.0-24.5)
Sample Date:	06-FEB-92	06-FEB-92	07-FEB-92	07-FEB-92	14-FEB-94	14-FEB-94	14-FEB-94
Sample Depth:	16.7 - 17.8 ft	22.3 - 22.7 ft	14 ft	16.5 - 16.8 ft	13 - 13.5 ft	19 - 20 ft	24 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB11-55		SB11-55		SB11-55		SB11-55		SB11-55 (FD)		SB11-55 (FD)		SB11-56
Sample Id:	SB11-55 (24.5-24.8)		SB11-55 (24.5-26.0)		SB11-55 (36.0-36.3)		SB11-55 (36.3-36.8)		SB11-55 (29.0-30.0)		SB11-55 (34.5-36.0)		SB11-56 (11.5-12.0)
Sample Date:	14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		11-FEB-94
Sample Depth:	24.5 - 24.8 ft		24.5 - 26 ft		36 - 36.3 ft		36.3 - 36.8 ft		19 - 20 ft		24.5 - 26 ft		11.5 - 12 ft
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1
VOA (MG/KG)													
CARBON TETRACHLORIDE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
CHLOROBENZENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
CHLOROETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
CHLOROFORM	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
CHLOROMETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
CIS-1,3-DICHLOROPROPENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
DIBROMOCHLOROMETHANE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
ETHYLBENZENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METHYLENE CHLORIDE	**.029**	B	N/A		.014	U	N/A		N/A		N/A		N/A
STYRENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
TETRACHLOROETHENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
TOLUENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
TRANS-1,3-DICHLOROPROPENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
TRICHLOROETHENE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
VINYL CHLORIDE	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
XYLENE (TOTAL)	.014	U	N/A		.014	U	N/A		N/A		N/A		N/A
PAH (MG/KG)													
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-56		SB11-57		SB11-57		SB11-58		SB11-80		SB11-82		SB11-82	
Sample Id:	SB11-56 (23.0-23.5)		SB11-57 (14.5-15.0)		SB11-57 (26.5-27)		SB11-58 (14.5-15.0)		SB11-80(16-17)		SB11-82(11-12)		SB11-82(14-15)	
Sample Date:	11-FEB-94		10-FEB-94		10-FEB-94		10-FEB-94		05-FEB-99		05-FEB-99		05-FEB-99	
Sample Depth:	23 - 23.5 ft		14.5 - 15 ft		26.5 - 27 ft		14.5 - 15 ft		16 - 17 ft		11 - 12 ft		14 - 15 ft	
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
CHLOROBENZENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
CHLOROETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
CHLOROFORM	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
CHLOROMETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
CIS-1,3-DICHLOROPROPENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
DIBROMOCHLOROMETHANE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
ETHYLBENZENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		.01	U	.011	U	.011	U
METHYLENE CHLORIDE	.014	U	.057	U	.014	U	N/A		.01	UJ	.011	UJ	.011	U
STYRENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
TETRACHLOROETHENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
TOLUENE	**.003**	J	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
TRANS-1,3-DICHLOROPROPENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
TRICHLOROETHENE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
VINYL CHLORIDE	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
XYLENE (TOTAL)	.014	U	.057	U	.014	U	N/A		.01	U	.011	U	.011	U
PAH (MG/KG)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		.051	U	.053	U	.053	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		.051	U	.053	U	.053	U
ACENAPHTHENE	N/A		N/A		N/A		N/A		.051	U	.053	U	.053	U
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		.02	U	.021	U	.021	U
ANTHRACENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
CHRYSENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		.0051	U	.0053	U	.0053	U
FLUORANTHENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
FLUORENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
NAPHTHALENE	N/A		N/A		N/A		N/A		.051	U	.053	U	.053	U
PHENANTHRENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U
PYRENE	N/A		N/A		N/A		N/A		.002	U	.0021	U	.0021	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB	
Point Name:	SB11-83		SB11-83		SB11-85		SB11-86	
Sample Id:	SB11-83(11.5-12.5)		SB11-83(7-8)		SB11-85(13.5-14.0)		SB11-86(14.5-15.0)	
Sample Date:	05-FEB-99		05-FEB-99		11-FEB-99		11-FEB-99	
Sample Depth:	11.5 - 12.5 ft		7 - 8 ft		13.5 - 14 ft		14.5 - 15 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)								
CARBON TETRACHLORIDE	.011	U	.011	U	.12	U	.12	U
CHLOROBENZENE	.011	U	.011	U	.12	U	.12	U
CHLOROETHANE	.011	U	.011	U	.12	U	.12	U
CHLOROFORM	.011	U	.011	U	.12	U	.12	U
CHLOROMETHANE	.011	U	.011	U	.12	U	.12	U
CIS-1,3-DICHLOROPROPENE	.011	U	.011	U	.12	U	.12	U
DIBROMOCHLOROMETHANE	.011	U	.011	U	.12	U	.12	U
ETHYLBENZENE	.011	U	.011	U	**.038**	J	.12	U
METHYL-T-BUTYL ETHER	.011	U	.011	U	N/A		N/A	
METHYLENE CHLORIDE	.011	UJ	.011	U	.12	U	.12	U
STYRENE	.011	U	.011	U	.12	U	.12	U
TETRACHLOROETHENE	.011	U	.011	U	.12	U	.12	U
TOLUENE	.011	U	.011	U	.12	U	.12	U
TRANS-1,3-DICHLOROPROPENE	.011	U	.011	U	.12	U	.12	U
TRICHLOROETHENE	.011	U	.011	U	.12	U	.12	U
VINYL CHLORIDE	.011	U	.011	U	.12	U	.12	U
XYLENE (TOTAL)	.011	U	.011	U	.12	U	.12	U
PAH (MG/KG)								
1-METHYLNAPHTHALENE	.056	U	.055	U	**6.9**	J	**1.6**	J
2-METHYLNAPHTHALENE	.056	U	.055	U	**5.3**	J	**.79**	J
ACENAPHTHENE	.056	U	.055	U	.58	U	.6	U
ACENAPHTHYLENE	.022	U	.022	U	.23	U	.24	U
ANTHRACENE	.0022	U	.0022	U	**.11**	J	.024	U
BENZO(A)ANTHRACENE	.0022	U	.0022	U	**1.12**	J	.024	U
BENZO(A)PYRENE	.0022	U	.0022	U	.023	U	.024	U
BENZO(B)FLUORANTHENE	.0022	U	.0022	U	**.05**	J	.024	U
BENZO(G,H,I)PERYLENE	.0022	U	.0022	U	.023	U	.024	U
BENZO(K)FLUORANTHENE	.0022	U	.0022	U	**.667**	J	.024	U
CHRYSENE	.0022	U	.0022	U	**.2**	J	.024	U
DIBENZO(A,H)ANTHRACENE	.0056	U	.0055	U	**.58**	J	.06	U
FLUORANTHENE	.0022	U	.0022	U	**.3**	J	**.41**	J
FLUORENE	.0022	U	.0022	U	**.15**	J	.024	U
INDENO(1,2,3-CD)PYRENE	.0022	U	.0022	U	.023	U	.024	U
NAPHTHALENE	.056	U	.055	U	**.88**	J	.6	U
PHENANTHRENE	.0022	U	.0022	U	**.41**	J	**.1**	J
PYRENE	.0022	U	.0022	U	**.36**	J	.024	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB		SB	SB	SB	SB
Point Name:	BR11-90	BR11-90	SB10-01		SB10-02	SB10-02	SB10-03	SB10-03
Sample Id:	BR4-1(14-15)	BR4-1(22.5-23.5)	SB10-01 (12.5-13.0)		SB10-02 (6.5-8.0)	SB10-02 (9.5-10.3)	SB10-03 (12.0-12.5)	SB10-03 (15.5-17.0)
Sample Date:	06-FEB-99	06-FEB-99	09-FEB-94		01-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94
Sample Depth:	14 - 15 ft	22.5 - 23.5 ft	12.5 - 13 ft		6.5 - 8 ft	9.5 - 10.3 ft	12 - 12.5 ft	15.5 - 17 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S		94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	1.4	UJ	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	1.4	UJ	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	3.4	U	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	1.4	U	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB10-03	SB10-17	SB10-18	SB11-17	SB11-17	SB11-17	SB11-19
Sample Id:	SB10-03 (9.9-11.0)	SB10-17(19.5-20.0)	SB10-18(18.5-19.0)	SB11-17(17.5)	SB11-17(23.5-24.0)	SB11-17(9.0-9.5)	SB11-19(1.5-2.0)
Sample Date:	01-FEB-94	10-FEB-99	10-FEB-99	04-FEB-92	04-FEB-92	04-FEB-92	04-FEB-92
Sample Depth:	9.9 - 11 ft	19.5 - 20 ft	18.5 - 19 ft	17.5 ft	23.5 - 24 ft	9 - 9.5 ft	1.5 - 2 ft
Investigation:	94SHORELN_S	PHASEII_RI	PHASEII_RI	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-19	SB11-20	SB11-20	SB11-20	SB11-20	SB11-20	SB11-22
Sample Id:	SB11-19(12.0-12.5)	SB11-20(13.5)	SB11-20(15.0-16.0)	SB11-20(16.0-17.0)	SB11-20(19.6-20.3)	SB11-20(29.5-30.0)	SB11-22(14.0-14.5)
Sample Date:	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	06-FEB-92
Sample Depth:	12 - 12.5 ft	13.5 ft	15 - 16 ft	16 - 17 ft	19.6 - 20.3 ft	29.5 - 30 ft	14 - 14.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-22	SB11-22	SB11-23	SB11-23	SB11-55	SB11-55	SB11-55
Sample Id:	SB11-22(16.7-17.8)	SB11-22(22.3-22.7)	SB11-23(14.0)	SB11-23(16.5-16.8)	SB11-55 (13.0-13.5)	SB11-55 (19.0-20.0)	SB11-55 (24.0-24.5)
Sample Date:	06-FEB-92	06-FEB-92	07-FEB-92	07-FEB-92	14-FEB-94	14-FEB-94	14-FEB-94
Sample Depth:	16.7 - 17.8 ft	22.3 - 22.7 ft	14 ft	16.5 - 16.8 ft	13 - 13.5 ft	19 - 20 ft	24 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB			SB			SB			SB			SB			SB			SB
Point Name:	SB11-55			SB11-55			SB11-55			SB11-55			SB11-55 (FD)			SB11-55 (FD)			SB11-56
Sample Id:	SB11-55 (24.5-24.8)			SB11-55 (24.5-26.0)			SB11-55 (36.0-36.3)			SB11-55 (36.3-36.8)			SB11-55 (29.0-30.0)			SB11-55 (34.5-36.0)			SB11-56 (11.5-12.0)
Sample Date:	14-FEB-94			14-FEB-94			14-FEB-94			14-FEB-94			14-FEB-94			14-FEB-94			11-FEB-94
Sample Depth:	24.5 - 24.8 ft			24.5 - 26 ft			36 - 36.3 ft			36.3 - 36.8 ft			19 - 20 ft			24.5 - 26 ft			11.5 - 12 ft
Investigation:	94DRUMLOT1			94DRUMLOT1			94DRUMLOT1			94DRUMLOT1			94DRUMLOT1			94DRUMLOT1			94DRUMLOT1
SVOA (MG/KG)																			
1,2,4-TRICHLOROBENZENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,4,5-TRICHLOROPHENOL	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
2,4,6-TRICHLOROPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,4-DICHLOROPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,4-DIMETHYLPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,4-DINITROPHENOL	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
2,4-DINITROTOLUENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2,6-DINITROTOLUENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2-CHLORONAPHTHALENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2-CHLOROPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2-METHYLNAPHTHALENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2-METHYLPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
2-NITROANILINE	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
2-NITROPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
3,3'-DICHLOROBENZIDINE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
3-NITROANILINE	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
4-CHLORO-3-METHYLPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
4-CHLOROANILINE	N/A	.46	UJ	N/A	.46	UJ	N/A	.46	UJ	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
4-METHYLPHENOL	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
4-NITROANILINE	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
4-NITROPHENOL	N/A	1.1	U	N/A	1.1	U	N/A	1.1	U	N/A
ACENAPHTHENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
ACENAPHTHYLENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
ANTHRACENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BENZO(A)ANTHRACENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BENZO(A)PYRENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BENZO(B)FLUORANTHENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BENZO(G,H,I)PERYLENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BENZO(K)FLUORANTHENE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	.46	U	N/A	.46	U	N/A	.46	U	N/A
BUTYLBENZYLPHTHALATE	N/A	.015	J	N/A	.46	U	N/A	.46	U	N/A
CARBAZOLE	N/A	.46	UJ	N/A	.46	UJ	N/A	.46	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB11-56		SB11-57		SB11-57		SB11-58		SB11-80		SB11-82		SB11-82	
Sample Id:	SB11-56 (23.0-23.5)		SB11-57 (14.5-15.0)		SB11-57 (26.5-27)		SB11-58 (14.5-15.0)		SB11-80(16-17)		SB11-82(11-12)		SB11-82(14-15)	
Sample Date:	11-FEB-94		10-FEB-94		10-FEB-94		10-FEB-94		05-FEB-99		05-FEB-99		05-FEB-99	
Sample Depth:	23 - 23.5 ft		14.5 - 15 ft		26.5 - 27 ft		14.5 - 15 ft		16 - 17 ft		11 - 12 ft		14 - 15 ft	
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2,4-DICHLOROPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	.45	UJ	.76	UJ	.47	UJ	N/A		N/A		N/A		N/A	
2,4-DINITROPHENOL	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2,6-DINITROTOLUENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2-CHLORONAPHTHALENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2-CHLOROPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	.45	U	**4.6**		.47	U	N/A		N/A		N/A		N/A	
2-METHYLPHENOL	.45	UJ	.76	UJ	.47	UJ	N/A		N/A		N/A		N/A	
2-NITROANILINE	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
2-NITROPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
3-NITROANILINE	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
4-CHLOROANILINE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
4-METHYLPHENOL	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
4-NITROANILINE	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
4-NITROPHENOL	1.1	U	1.8	U	1.1	U	N/A		N/A		N/A		N/A	
ACENAPHTHENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
ANTHRACENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	.45	U	**.068**	J	**.064**	J	N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHYL)ETHER	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BIS(2-ETHYLHEXYL)PHTHALATE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	
BUTYLBENZYLPHTHALATE	.45	U	.76	U	**.016**	J	N/A		N/A		N/A		N/A	
CARBAZOLE	.45	U	.76	U	.47	U	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB
Point Name:	SB11-83	SB11-83	SB11-85	SB11-86
Sample Id:	SB11-83(11.5-12.5)	SB11-83(7-8)	SB11-85(13.5-14.0)	SB11-86(14.5-15.0)
Sample Date:	05-FEB-99	05-FEB-99	11-FEB-99	11-FEB-99
Sample Depth:	11.5 - 12.5 ft	7 - 8 ft	13.5 - 14 ft	14.5 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)				
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A
CARBAZOLE	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR11-90	BR11-90	SB10-01	SB10-02	SB10-02	SB10-03	SB10-03
Sample Id:	BR4-1(14-15)	BR4-1(22.5-23.5)	SB10-01 (12.5-13.0)	SB10-02 (6.5-8.0)	SB10-02 (9.5-10.3)	SB10-03 (12.0-12.5)	SB10-03 (15.5-17.0)
Sample Date:	06-FEB-99	06-FEB-99	09-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94
Sample Depth:	14 - 15 ft	22.5 - 23.5 ft	12.5 - 13 ft	6.5 - 8 ft	9.5 - 10.3 ft	12 - 12.5 ft	15.5 - 17 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	.26 J	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	3.4 U	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	1.4 U	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB		SB
Point Name:	SB10-03	SB10-17	SB10-18	SB11-17	SB11-17	SB11-17		SB11-19
Sample Id:	SB10-03 (9.9-11.0)	SB10-17(19.5-20.0)	SB10-18(18.5-19.0)	SB11-17(17.5)	SB11-17(23.5-24.0)	SB11-17(9.0-9.5)		SB11-19(1.5-2.0)
Sample Date:	01-FEB-94	10-FEB-99	10-FEB-99	04-FEB-92	04-FEB-92	04-FEB-92		04-FEB-92
Sample Depth:	9.9 - 11 ft	19.5 - 20 ft	18.5 - 19 ft	17.5 ft	23.5 - 24 ft	9 - 9.5 ft		1.5 - 2 ft
Investigation:	94SHORELN_S	PHASEII_RI	PHASEII_RI	92SOIL	92SOIL	92SOIL		92SOIL
SVOA (MG/KG)								
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A		N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A		N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A		N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
METALS (MG/KG)								
ALUMINUM	N/A	N/A	N/A	N/A	N/A	**13700**		N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	**9.2**	NJ	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	**5.5**		N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	**96.2**		N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	**.72**	*	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	.69	U	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	**6220**		N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	**21.4**		N/A
COBALT	N/A	N/A	N/A	N/A	N/A	**8.5**		N/A
COPPER	N/A	N/A	N/A	N/A	N/A	**34.9**		N/A
IRON	N/A	N/A	N/A	N/A	N/A	**22600**		N/A
LEAD	N/A	N/A	N/A	N/A	N/A	**59.7**	**	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-19	SB11-20	SB11-20	SB11-20	SB11-20	SB11-20	SB11-22
Sample Id:	SB11-19(12.0-12.5)	SB11-20(13.5)	SB11-20(15.0-16.0)	SB11-20(16.0-17.0)	SB11-20(19.6-20.3)	SB11-20(29.5-30.0)	SB11-22(14.0-14.5)
Sample Date:	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	06-FEB-92
Sample Depth:	12 - 12.5 ft	13.5 ft	15 - 16 ft	16 - 17 ft	19.6 - 20.3 ft	29.5 - 30 ft	14 - 14.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	**11800**	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	5.4 UJ	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	**1.4**	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	**76.9** J	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	.78 UBJ	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	.71 U	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	**7650**	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	**13.3**	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	**9.6**	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	16.2 UBJ	N/A	N/A	N/A	N/A
IRON	N/A	N/A	**13900**	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	**12.7** NW*J	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-22	SB11-22	SB11-23	SB11-23	SB11-55	SB11-55	SB11-55
Sample Id:	SB11-22(16.7-17.8)	SB11-22(22.3-22.7)	SB11-23(14.0)	SB11-23(16.5-16.8)	SB11-55 (13.0-13.5)	SB11-55 (19.0-20.0)	SB11-55 (24.0-24.5)
Sample Date:	06-FEB-92	06-FEB-92	07-FEB-92	07-FEB-92	14-FEB-94	14-FEB-94	14-FEB-94
Sample Depth:	16.7 - 17.8 ft	22.3 - 22.7 ft	14 ft	16.5 - 16.8 ft	13 - 13.5 ft	19 - 20 ft	24 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1
SVOA (MG/KG)							
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB
Point Name:	SB11-55		SB11-55		SB11-55		SB11-55		SB11-55 (FD)		SB11-55 (FD)		SB11-56
Sample Id:	SB11-55 (24.5-24.8)		SB11-55 (24.5-26.0)		SB11-55 (36.0-36.3)		SB11-55 (36.3-36.8)		SB11-55 (29.0-30.0)		SB11-55 (34.5-36.0)		SB11-56 (11.5-12.0)
Sample Date:	14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		11-FEB-94
Sample Depth:	24.5 - 24.8 ft		24.5 - 26 ft		36 - 36.3 ft		36.3 - 36.8 ft		19 - 20 ft		24.5 - 26 ft		11.5 - 12 ft
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1
SVOA (MG/KG)													
CHRYSENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DI-N-BUTYLPHTHALATE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DI-N-OCTYLPHTHALATE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DIBENZO(A,H)ANTHRACENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DIBENZOFURAN	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DIETHYLPHTHALATE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
DIMETHYLPHTHALATE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
FLUORANTHENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
FLUORENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
HEXACHLOROBENZENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
HEXACHLOROBUTADIENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
HEXACHLOROETHANE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
INDENO(1,2,3-CD)PYRENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
ISOPHORONE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
N-NITROSODIPHENYLAMINE (1)	N/A		.46	UJ	N/A		.46	UJ	N/A		.46	UJ	N/A
NAPHTHALENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
NITROBENZENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
PENTACHLOROPHENOL	N/A		1.1	U	N/A		1.1	U	N/A		1.1	U	N/A
PHENANTHRENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
PHENOL	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
PYRENE	N/A		.46	U	N/A		.46	U	N/A		.46	U	N/A
METALS (MG/KG)													
ALUMINUM	N/A		**16300**		N/A		**17800**		N/A		**17400**		N/A
ANTIMONY	N/A		8.7	UJ	N/A		8.7	UJ	N/A		8.7	UJ	N/A
ARSENIC	N/A		**11.1**		N/A		**8.2**		N/A		**8.7**	S	N/A
BARIUM	N/A		**35**	B	N/A		**33**	B	N/A		**34.6**	B	N/A
BERYLLIUM	N/A		**.49**	B	N/A		**.45**	B	N/A		**.51**	B	N/A
CADMIUM	N/A		**1.2**	B	N/A		1.1	U	N/A		1.1	U	N/A
CALCIUM	N/A		**6140**		N/A		**5910**		N/A		**4340**		N/A
CHROMIUM	N/A		**57.7**		N/A		**60.2**		N/A		**57.1**		N/A
COBALT	N/A		10.4	U	N/A		12.5	U	N/A		10.2	U	N/A
COPPER	N/A		**21.6**		N/A		**30.3**		N/A		**22.1**		N/A
IRON	N/A		**27900**		N/A		**30000**		N/A		**28200**		N/A
LEAD	N/A		**7.1**		N/A		**7.2**	S	N/A		**6**		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB	SB	SB	SB
Point Name:	SB11-56		SB11-57		SB11-57		SB11-58	SB11-80	SB11-82	SB11-82
Sample Id:	SB11-56 (23.0-23.5)		SB11-57 (14.5-15.0)		SB11-57 (26.5-27)		SB11-58 (14.5-15.0)	SB11-80(16-17)	SB11-82(11-12)	SB11-82(14-15)
Sample Date:	11-FEB-94		10-FEB-94		10-FEB-94		10-FEB-94	05-FEB-99	05-FEB-99	05-FEB-99
Sample Depth:	23 - 23.5 ft		14.5 - 15 ft		26.5 - 27 ft		14.5 - 15 ft	16 - 17 ft	11 - 12 ft	14 - 15 ft
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)										
CHRYSENE	.45	U	**.078**	J	**.062**	J	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
DIBENZOFURAN	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
FLUORANTHENE	**.033**	J	**.29**	J	**.092**	J	N/A	N/A	N/A	N/A
FLUORENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
ISOPHORONE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
NAPHTHALENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
NITROBENZENE	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	1.1	U	1.8	U	1.1	U	N/A	N/A	N/A	N/A
PHENANTHRENE	.45	U	**1.1**		.47	U	N/A	N/A	N/A	N/A
PHENOL	.45	U	.76	U	.47	U	N/A	N/A	N/A	N/A
PYRENE	**.07**	J	**.21**	J	**.14**	J	N/A	N/A	N/A	N/A
METALS (MG/KG)										
ALUMINUM	**22000**		**15600**		**22400**		N/A	N/A	N/A	N/A
ANTIMONY	8.5	UJ	7.1	UJ	8.8	UJ	N/A	N/A	N/A	N/A
ARSENIC	**14.5**	J	1.6	UJ	**6.9**	J	N/A	N/A	N/A	N/A
BARIUM	**61.5**		**90.6**		**52.1**	B	N/A	N/A	N/A	N/A
BERYLLIUM	**.61**	B	**.83**	B	**.58**	B	N/A	N/A	N/A	N/A
CADMIUM	1.1	U	.92	U	1.1	U	N/A	N/A	N/A	N/A
CALCIUM	**6390**		**6640**		**3640**		N/A	N/A	N/A	N/A
CHROMIUM	**54.7**		**13.1**		**67**		N/A	N/A	N/A	N/A
COBALT	**9.4**	B	**7.3**	B	**10.8**	B	N/A	N/A	N/A	N/A
COPPER	**29**		**7**		**35.6**		N/A	N/A	N/A	N/A
IRON	**26000**		**10500**		**29400**		N/A	N/A	N/A	N/A
LEAD	**14.5**	J	**11.4**	J	**12.4**	J	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB
Point Name:	SB11-83	SB11-83	SB11-85	SB11-86
Sample Id:	SB11-83(11.5-12.5)	SB11-83(7-8)	SB11-85(13.5-14.0)	SB11-86(14.5-15.0)
Sample Date:	05-FEB-99	05-FEB-99	11-FEB-99	11-FEB-99
Sample Depth:	11.5 - 12.5 ft	7 - 8 ft	13.5 - 14 ft	14.5 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
SVOA (MG/KG)				
CHRYSENE	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A
ISOPHORONE	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A
NITROBENZENE	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A
PHENOL	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A
METALS (MG/KG)				
ALUMINUM	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR11-90	BR11-90	SB10-01	SB10-02	SB10-02	SB10-03	SB10-03
Sample Id:	BR4-1(14-15)	BR4-1(22.5-23.5)	SB10-01 (12.5-13.0)	SB10-02 (6.5-8.0)	SB10-02 (9.5-10.3)	SB10-03 (12.0-12.5)	SB10-03 (15.5-17.0)
Sample Date:	06-FEB-99	06-FEB-99	09-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94	01-FEB-94
Sample Depth:	14 - 15 ft	22.5 - 23.5 ft	12.5 - 13 ft	6.5 - 8 ft	9.5 - 10.3 ft	12 - 12.5 ft	15.5 - 17 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
METALS (MG/KG)							
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB10-03	SB10-17	SB10-18	SB11-17	SB11-17	SB11-17	SB11-19
Sample Id:	SB10-03 (9.9-11.0)	SB10-17(19.5-20.0)	SB10-18(18.5-19.0)	SB11-17(17.5)	SB11-17(23.5-24.0)	SB11-17(9.0-9.5)	SB11-19(1.5-2.0)
Sample Date:	01-FEB-94	10-FEB-99	10-FEB-99	04-FEB-92	04-FEB-92	04-FEB-92	04-FEB-92
Sample Depth:	9.9 - 11 ft	19.5 - 20 ft	18.5 - 19 ft	17.5 ft	23.5 - 24 ft	9 - 9.5 ft	1.5 - 2 ft
Investigation:	94SHORELN_S	PHASEII_RI	PHASEII_RI	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	.57 U
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	**6060**	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	**303** N	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	**28.6**	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	**3510** J	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	.46 UNWJ	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	.69 UNJ	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	**2520** J	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	.69 UW	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	**31**	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	**122**	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-19	SB11-20	SB11-20	SB11-20	SB11-20	SB11-20	SB11-22
Sample Id:	SB11-19(12.0-12.5)	SB11-20(13.5)	SB11-20(15.0-16.0)	SB11-20(16.0-17.0)	SB11-20(19.6-20.3)	SB11-20(29.5-30.0)	SB11-22(14.0-14.5)
Sample Date:	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	05-FEB-92	06-FEB-92
Sample Depth:	12 - 12.5 ft	13.5 ft	15 - 16 ft	16 - 17 ft	19.6 - 20.3 ft	29.5 - 30 ft	14 - 14.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL	92SOIL
METALS (MG/KG)							
LEAD, ORGANIC	N/A	.55 U	**.62**	.59 U	N/A	N/A	.58 U
MAGNESIUM	N/A	N/A	**3190**	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	**236**	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	**.15** J	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	**20.1**	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	**3010** J	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	**.66** J	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	**.71** J	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	319 UBJ	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	.71 UW	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	**23.1**	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	**45.6** EJ	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	SB11-22	SB11-22	SB11-23	SB11-23	SB11-55	SB11-55	SB11-55
Sample Id:	SB11-22(16.7-17.8)	SB11-22(22.3-22.7)	SB11-23(14.0)	SB11-23(16.5-16.8)	SB11-55 (13.0-13.5)	SB11-55 (19.0-20.0)	SB11-55 (24.0-24.5)
Sample Date:	06-FEB-92	06-FEB-92	07-FEB-92	07-FEB-92	14-FEB-94	14-FEB-94	14-FEB-94
Sample Depth:	16.7 - 17.8 ft	22.3 - 22.7 ft	14 ft	16.5 - 16.8 ft	13 - 13.5 ft	19 - 20 ft	24 - 24.5 ft
Investigation:	92SOIL	92SOIL	92SOIL	92SOIL	94DRUMLOT1	94DRUMLOT1	94DRUMLOT1
METALS (MG/KG)							
LEAD, ORGANIC	.64 U	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	**400**

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB11-55		SB11-55		SB11-55		SB11-55		SB11-55 (FD)		SB11-55 (FD)		SB11-56
Sample Id:	SB11-55 (24.5-24.8)		SB11-55 (24.5-26.0)		SB11-55 (36.0-36.3)		SB11-55 (36.3-36.8)		SB11-55 (29.0-30.0)		SB11-55 (34.5-36.0)		SB11-56 (11.5-12.0)
Sample Date:	14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		14-FEB-94		11-FEB-94
Sample Depth:	24.5 - 24.8 ft		24.5 - 26 ft		36 - 36.3 ft		36.3 - 36.8 ft		19 - 20 ft		24.5 - 26 ft		11.5 - 12 ft
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1
METALS (MG/KG)													
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	N/A		**10400**		N/A		**11900**		N/A		**10100**		N/A
MANGANESE	N/A		**256**		N/A		**303**		N/A		**242**		N/A
MERCURY	N/A		.14	UN*	N/A		.31	UJ	N/A		.14	UJ	N/A
NICKEL	N/A		**63.7**		N/A		**72.7**		N/A		**60.8**		N/A
POTASSIUM	N/A		3340	UJ	N/A		3280	UJ	N/A		3310	UJ	N/A
SELENIUM	N/A		.85	UW	N/A		1.5	UJ	N/A		1.2	U	N/A
SILVER	N/A		.56	U	N/A		.56	U	N/A		.56	U	N/A
SODIUM	N/A		**3700**		N/A		**4170**		N/A		**3950**		N/A
THALLIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
VANADIUM	N/A		**47.8**		N/A		**55.6**		N/A		**49.6**		N/A
ZINC	N/A		**58.2**	J	N/A		**65**	J	N/A		**55.9**	J	N/A
WATER QUALITY (MG/KG)													
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB11-56		SB11-57		SB11-57		SB11-58		SB11-80		SB11-82		SB11-82
Sample Id:	SB11-56 (23.0-23.5)		SB11-57 (14.5-15.0)		SB11-57 (26.5-27)		SB11-58 (14.5-15.0)		SB11-80(16-17)		SB11-82(11-12)		SB11-82(14-15)
Sample Date:	11-FEB-94		10-FEB-94		10-FEB-94		10-FEB-94		05-FEB-99		05-FEB-99		05-FEB-99
Sample Depth:	23 - 23.5 ft		14.5 - 15 ft		26.5 - 27 ft		14.5 - 15 ft		16 - 17 ft		11 - 12 ft		14 - 15 ft
Investigation:	94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		94DRUMLOT1		PHASEII_RI		PHASEII_RI		PHASEII_RI
METALS (MG/KG)													
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	**7610**		**2300**		**8450**		N/A		N/A		N/A		N/A
MANGANESE	**296**		**173**		**290**		N/A		N/A		N/A		N/A
MERCURY	**2.1**		1.1	U	**1.9**		N/A		N/A		N/A		N/A
NICKEL	**53.3**		**18**		**60.8**		N/A		N/A		N/A		N/A
POTASSIUM	**3770**		**3700**		**3100**		N/A		N/A		N/A		N/A
SELENIUM	.82	UJ	.69	UJ	.85	UJ	N/A		N/A		N/A		N/A
SILVER	.55	U	.46	U	.57	U	N/A		N/A		N/A		N/A
SODIUM	**4130**	E	**367**	BE	**4020**	E	N/A		N/A		N/A		N/A
THALLIUM	.82	UW	.69	UW	.85	UW	N/A		N/A		N/A		N/A
VANADIUM	**59.1**		**20.3**		**68.2**		N/A		N/A		N/A		N/A
ZINC	**67.4**	J	**27.8**	J	**65.1**	J	N/A		N/A		N/A		N/A
WATER QUALITY (MG/KG)													
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Soil Analytical Results

Point Type:	SB	SB	SB	SB
Point Name:	SB11-83	SB11-83	SB11-85	SB11-86
Sample Id:	SB11-83(11.5-12.5)	SB11-83(7-8)	SB11-85(13.5-14.0)	SB11-86(14.5-15.0)
Sample Date:	05-FEB-99	05-FEB-99	11-FEB-99	11-FEB-99
Sample Depth:	11.5 - 12.5 ft	7 - 8 ft	13.5 - 14 ft	14.5 - 15 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)				
LEAD, ORGANIC	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)				
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A

SEDIMENT

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Sediment Analytical Results

Point Type:	EXCV		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	SS11-01		T06-10		T06-10		T06-125		T06-125		T06-50		T06-50	
Sample Id:	SS11-01(02.5)		T06-10 (0.0-2.0)		T06-10 (2.0-4.0)		T06-125 (0.0-2.0)		T06-125 (2.0-4.0)		T06-50 (0.0-2.0)		T06-50 (2.0-4.0)	
Sample Date:	04-JUN-92		26-APR-94		26-APR-94		26-APR-94		26-APR-94		26-APR-94		26-APR-94	
Sample Depth:	2.5 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft	
Investigation:	92SED		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
BENZENE	.006	U	N/A		N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	1.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.006	U	N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	**2.2**		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	N/A		1.7	U	1.5	U	1.4	U	1.5	U	1.5	U	1.5	U
JP5 RANGE ORGANICS	1.2	U	1.7	U	1.5	U	1.4	U	1.5	U	1.5	U	1.5	U
MOTOR OIL RANGE ORGANICS	**7.9**	J	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	1.2	U	**55**	Y	1.5	U	**41**	Y	**12**	Y	**42**	Y	1.5	U
OTHER LIGHT TPH COMPONENTS	**.006**		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.006	U	N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	12	U	17	U	15	U	14	U	15	U	15	U	15	U
TPH - DIESEL F-76 (C8-C28)	N/A		1.7	U	1.5	U	1.4	U	1.5	U	1.5	U	1.5	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.7	U	1.5	U	1.4	U	1.5	U	1.5	U	1.5	U
XYLENE (TOTAL)	.006	U	N/A		N/A		N/A		N/A		N/A		N/A	
METALS (MG/KG)														
ALUMINUM	**22500**		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	5.5	UNJ	N/A		N/A		N/A		N/A		N/A		N/A	
ARSENIC	1.9	U	N/A		N/A		N/A		N/A		N/A		N/A	
BARIUM	**106**		N/A		N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	**1.2**	*	N/A		N/A		N/A		N/A		N/A		N/A	
CADMIUM	.72	U	N/A		N/A		N/A		N/A		N/A		N/A	
CALCIUM	**11600**		N/A		N/A		N/A		N/A		N/A		N/A	
CHROMIUM	**26.5**		N/A		N/A		N/A		N/A		N/A		N/A	
COBALT	**15.8**		N/A		N/A		N/A		N/A		N/A		N/A	
COPPER	**20.1**		N/A		N/A		N/A		N/A		N/A		N/A	
IRON	**20200**		N/A		N/A		N/A		N/A		N/A		N/A	
LEAD	**18.7**	*	N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	**6210**		N/A		N/A		N/A		N/A		N/A		N/A	
MANGANESE	**353**	N	N/A		N/A		N/A		N/A		N/A		N/A	
MERCURY	.12	UNJ	N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	**29.6**		N/A		N/A		N/A		N/A		N/A		N/A	
POTASSIUM	**4950**	J	N/A		N/A		N/A		N/A		N/A		N/A	
SELENIUM	.48	UNWJ	N/A		N/A		N/A		N/A		N/A		N/A	
SILVER	.72	UNJ	N/A		N/A		N/A		N/A		N/A		N/A	
SODIUM	**2250**	J	N/A		N/A		N/A		N/A		N/A		N/A	
THALLIUM	.72	U	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Sediment Analytical Results

Point Type:	EXCV	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	SS11-01	T06-10	T06-10	T06-125	T06-125	T06-50	T06-50
Sample Id:	SS11-01(02.5)	T06-10 (0.0-2.0)	T06-10 (2.0-4.0)	T06-125 (0.0-2.0)	T06-125 (2.0-4.0)	T06-50 (0.0-2.0)	T06-50 (2.0-4.0)
Sample Date:	04-JUN-92	26-APR-94	26-APR-94	26-APR-94	26-APR-94	26-APR-94	26-APR-94
Sample Depth:	2.5 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft
Investigation:	92SED	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
METALS (MG/KG)							
VANADIUM	**39.6**	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	**62.7**	N/A	N/A	N/A	N/A	N/A	N/A

GROUNDWATER

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR11-90		MW10-02		MW10-03		MW10-03		MW10-03		MW10-17		MW10-18	
Sample Id:	BR11-90		MW10-02(9)		MW10-03(19.0)		MW10-03 (18.0)		MW10-03(19.0)		MW10-17		MW10-18	
Sample Date:	07-MAR-99		29-MAR-94		27-JUN-94		28-SEP-94		21-DEC-94		23-FEB-99		23-FEB-99	
Sample Depth:														
Investigation:	PHASEII_RI		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI		PHASEII_RI	
TPH (MG/L)														
BENZENE	.0004	J	.0005	U	.005	U	.004	J	.0007		.0005	U	.0005	U
DIESEL RANGE ORGANICS	.22	Y	N/A		N/A		N/A		N/A		3.57	Y	.1	U
ETHYLBENZENE	.0011	J	.0005	U	.005	U	.009	J	.001		.0005	U	.0074	
GASOLINE RANGE ORGANICS	.13		.05	U	.5	U	.05	UJ	.05	UJ	.51	Z	2.48	Z
JP4 RANGE ORGANICS	N/A		.05	U	.5	UJ	.05	UJ	.05	U	N/A		N/A	
JP5 RANGE ORGANICS	.1	U	.05	U	84	J	.05	UJ	.05	U	.1	U	4.23	Y
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	N/A		N/A		N/A		N/A		.12	U	.12	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		.05	U	9.1	J	4.9	J	.05	U	N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		.31	Y	7.6	Y	1.8	Y	.46	Y	N/A		N/A	
TOLUENE	.0003	J	.0005	U	.005	U	.0007	J	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.1	U	.5	U	5	UJ	.5	UJ	.5	U	.1	U	.1	U
TPH - DIESEL F-76 (C8-C28)	.1	U	.05	U	.5	UJ	.05	UJ	6		.1	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		.05	U	.5	UJ	.05	UJ	.05	U	N/A		N/A	
XYLENE (TOTAL)	.0024	J	.0005	U	.023		.028	J	.005		.001	U	.014	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,1,2-TRICHLOROETHANE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,1-DICHLOROETHANE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,1-DICHLOROETHENE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,2-DICHLOROBENZENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	.5	U	N/A		N/A		N/A		N/A		50	U	50	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,2-DICHLOROPROPANE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
1,3-DICHLOROBENZENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	2	UJ	N/A		N/A		N/A		N/A		50	U	50	U
2-HEXANONE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
4-METHYL-2-PENTANONE	2	U	N/A		N/A		N/A		N/A		50	U	50	U
ACETONE	2	UJ	N/A		N/A		N/A		N/A		50	UJ	50	UJ
BENZENE	.5	U	N/A		N/A		N/A		N/A		50	U	50	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
TPH (MG/L)														
BENZENE	.023		.073		.009		.011		.003	J	.003	J	.01	
DIESEL RANGE ORGANICS	.05	U	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.005		.013		.002	U	.005	U	.001	J	.0005	UJ	.002	
GASOLINE RANGE ORGANICS	.05	U	.25	U	.25	U	.5	U	.05	UJ	.05	UJ	.1	UJ
JP4 RANGE ORGANICS	N/A		.27		2.4	J	2.6	J	3	J	2.2	J	.05	UJ
JP5 RANGE ORGANICS	.05	U	.052	U	.05	UJ	.05	UJ	N/A		N/A		.05	UJ
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.5	U	N/A		N/A		N/A		N/A		N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.24		.052	U	.05	UJ	.05	UJ	2.5	J	2	J	3.9	J
OTHER LIGHT TPH COMPONENTS	.001		7.7	Y	2.6	Y	7.3	Y	.73	Z	.5	Z	1.3	Y
TOLUENE	.005		.014		.006		.005	U	.0005	UJ	.001	J	.001	U
TPH - BUNKER FUEL (C10-C28)	.6		2.4	J	6.9	J	3.9	J	N/A		N/A		10	J
TPH - DIESEL F-76 (C8-C28)	N/A		.052	U	.05	UJ	.05	UJ	N/A		N/A		.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		.052	UJ	.05	UJ	.05	UJ	N/A		N/A		.05	UJ
XYLENE (TOTAL)	.012		.042		.007		.037		.006	J	.002	J	.004	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,1,2,2-TETRACHLOROETHANE	10	U	N/A		10	U	N/A		5	UJ	N/A		2	U
1,1,2-TRICHLOROETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,1-DICHLOROETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,1-DICHLOROETHENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,2-DICHLOROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
1,2-DICHLOROETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,2-DICHLOROETHENE (TOTAL)	10	U	.5	J	10	U	N/A		5	UJ	N/A		2	U
1,2-DICHLOROPROPANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
1,3-DICHLOROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
1,4-DICHLOROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2-BUTANONE	10	U	3	U	10	U	N/A		5	UJ	N/A		3	J
2-HEXANONE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
4-METHYL-2-PENTANONE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
ACETONE	10	UJ	3	U	10	U	N/A		6	UJ	N/A		7	UJ
BENZENE	16		53		8	J	N/A		11	J	N/A		8	J

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19		MW11-20	
Sample Id:	MW11-19		MW11-19		MW11-250		MW11-19		MW11-250		MW11-19		MW11-20 (15.5)	
Sample Date:	04-OCT-96		07-NOV-97		07-NOV-97		08-APR-98		08-APR-98		22-JAN-99		22-SEP-94	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		SEMI_EVENT3		GW3Q94	
TPH (MG/L)														
BENZENE	.018	J	.0059		.0044		.0282		.0166		.014		.0005	UJ
DIESEL RANGE ORGANICS	3.7	Y	.74	Z	.54	Z	.1	U	.1	U	.96	Y	N/A	
ETHYLBENZENE	.0075	J	.0005		.0005		.0043		.0026		.003		.0005	UJ
GASOLINE RANGE ORGANICS	1.8	J	.37	Z	.37	Z	1.04	Y	.31	Y	.67		.05	UJ
JP4 RANGE ORGANICS	2	U	N/A		N/A		N/A		N/A		N/A		.05	UJ
JP5 RANGE ORGANICS	.25	U	N/A		N/A		.1	U	.1	U	.1	U	.05	UJ
M,P-XYLENE	N/A		N/A		N/A		.013		.0094		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		.018		.003	J	.004	J	N/A	
MOTOR OIL RANGE ORGANICS	1	U	.1	Z	.1	Z	.1	U	.1	U	.1	U	N/A	
O-XYLENE	N/A		N/A		N/A		.0032		.0032		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.25	U	N/A		N/A		N/A		N/A		N/A		.6	J
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		.16	Z
TOLUENE	.001	U	.0025		.0005	U	.0175		.0061		.0104		.0005	UJ
TPH - BUNKER FUEL (C10-C28)	2	U	.1	U	.1	U	1.2	Y	1.4	Y	N/A		.5	UJ
TPH - DIESEL F-76 (C8-C28)	.25	U	.1	U	.1	U	.1	U	.1	U	N/A		.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		.05	UJ
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		.011		.0005	UJ
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
1,1,2,2-TETRACHLOROETHANE	25	U	10	U	10	U	2	U	.6	J	10	U	2	U
1,1,2-TRICHLOROETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
1,1-DICHLOROETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
1,1-DICHLOROETHENE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
1,2-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A	
	25	U												
1,2-DICHLOROETHANE	25	U	3	U	3	U	.5	U	.6		10	U	2	U
1,2-DICHLOROETHENE (TOTAL)	25	U	10	U	10	U	.5	J	.5	J	10	U	.3	J
1,2-DICHLOROPROPANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
1,3-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A	
	25	U												
1,4-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A	
	25	U												
2-BUTANONE	120	UJ	10	U	10	U	2	U	2	U	10	U	2	U
2-HEXANONE	120	UJ	10	U	10	U	2	U	2	U	10	U	2	UJ
4-METHYL-2-PENTANONE	120	UJ	10	U	10	U	2	U	2	U	10	U	2	U
ACETONE	120	UJ	10	J	10	J	2	UJ	2	UJ	10	UJ	2	UJ
BENZENE	13	J	4		3	J	22		19		6	J	2	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22	
Sample Id:	MW11-20(14.0)		MW11-20 (14.0)		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22(18.5)	
Sample Date:	16-DEC-94		02-MAY-95		03-OCT-96		07-NOV-97		03-APR-98		22-JAN-99		29-MAY-92	
Sample Depth:														
Investigation:	GW4Q94		BIOPAD		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		92GW	
TPH (MG/L)														
BENZENE	.002		.008		.001	U	.0005	U	.0032		.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		1.2	Y	.1	U	.47	Z	.67		3.1	
ETHYLBENZENE	.0005	U	.001		.00025	J	.0005	U	.0026		.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	UJ	.05	UJ	.05	U	.05	U	.46	Y	.22		.05	U
JP4 RANGE ORGANICS	.05	U	.05	UJ	2	U	N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	.05	U	.05	UJ	.25	U	N/A		.1	U	.1	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		.012		.008		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		1	U	.32	Z	.1	U	.1	U	.5	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.84	J	.25	U	N/A		N/A		N/A		.05	U
OTHER LIGHT TPH COMPONENTS	.21	Y	.5	YX	N/A		N/A		N/A		N/A		.001	
TOLUENE	.0005	U	.0005	U	.0012		.0005	U	.0066		.0014		.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	U	.5	UJ	2	U	.1	U	.1	U	N/A		6	
TPH - DIESEL F-76 (C8-C28)	.05	U	.05	UJ	.25	U	.1	U	.1	U	N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	.05	U	.05	UJ	N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.0005	U	.004	UJ	N/A		N/A		.0045		.001	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
1,1,2-TRICHLOROETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
1,1-DICHLOROETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
1,1-DICHLOROETHENE	2	U	N/A		1	U	2	U	2	UJ	10	U	10	U
1,2-DICHLOROBENZENE	N/A		10	U	1	U	1	U	1	U	5	U	N/A	
					5	U								
1,2-DICHLOROETHANE	2	U	N/A		1	U	.5	U	.5	U	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		1	U	.4	J	2	U	10	U	10	U
1,2-DICHLOROPROPANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
1,3-DICHLOROBENZENE	N/A		10	U	1	U	1	U	1	U	5	U	N/A	
					5	U								
1,4-DICHLOROBENZENE	N/A		10	U	1	U	1	U	1	U	5	U	N/A	
					5	U								
2-BUTANONE	2	U	N/A		5	U	2	U	2	U	10	U	10	U
2-HEXANONE	2	U	N/A		5	UJ	2	U	2	UJ	10	U	10	U
4-METHYL-2-PENTANONE	2	U	N/A		5	UJ	2	U	1	J	10	U	10	U
ACETONE	4	UJ	N/A		5	UJ	2	UJ	2	UJ	10	UJ	10	U
BENZENE	2	U	N/A		1	U	.5	U	.6		10	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-22		MW11-22		MW11-23		MW11-23		MW11-23		MW11-55		MW11-55	
Sample Id:	MW11-22(WATER)		MW11-22 (12.5)		MW11-23(18.5)		MW11-23 (19.0)		MW11-23		MW11-55(23.0)		MW11-55(13.0)	
Sample Date:	22-JUL-92		02-MAY-95		29-MAY-92		02-MAY-95		03-OCT-96		23-MAR-94		28-JUN-94	
Sample Depth:														
Investigation:	92GW		BIOPAD		92GW		BIOPAD		96SITE4RA		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.001	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	**1800**		N/A		**1.1**		N/A		.25	U	N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.001	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.0005	U	.05	UJ	.05	U	.05	UJ	.096	U	.05	U	.05	U
JP4 RANGE ORGANICS	N/A		.05	U	N/A		.05	U	2	U	.052	U	.05	UJ
JP5 RANGE ORGANICS	**2100**		.05	UJ	.05	U	.05	UJ	.25	U	.052	U	.05	UJ
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	400	U	N/A		.5	U	N/A		1	U	N/A		N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		**.57**	Y	.05	U	**.38**	Y	.25	U	.052	U	**.89**	J
OTHER LIGHT TPH COMPONENTS	N/A		**.17**	YX	**.001**		**.14**	YX	N/A		**.27**	Y	**.082**	Y
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	**.00021**	J	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	40	U	**1.8**		**2.3**		.5	U	2	U	**1.1**	J	.5	UJ
TPH - DIESEL F-76 (C8-C28)	N/A		.05	U	N/A		.05	U	.25	U	.052	U	.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		.05	UJ	N/A		**.53**	J	N/A		.052	UJ	.05	UJ
XYLENE (TOTAL)	**.048**		.0005	UJ	.0005	U	.0005	UJ	N/A		.0005	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		10	U	N/A		1	U	N/A		2	U
1,1,2-TRICHLOROETHANE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,1-DICHLOROETHANE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,1-DICHLOROETHENE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,2-DICHLOROBENZENE	N/A		10	U	10	U	11	U	1	U	10	U	10	U
									5	U				
1,2-DICHLOROETHANE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		10	U	N/A		1	U	**.2**	J	2	U
1,2-DICHLOROPROPANE	N/A		N/A		10	U	N/A		1	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		10	U	10	U	11	U	1	U	10	U	10	U
									5	U				
1,4-DICHLOROBENZENE	N/A		10	U	10	U	11	U	1	U	10	U	10	U
									5	U				
2-BUTANONE	N/A		N/A		10	U	N/A		5	U	2	U	2	U
2-HEXANONE	N/A		N/A		10	U	N/A		5	U	2	U	2	U
4-METHYL-2-PENTANONE	N/A		N/A		10	U	N/A		5	U	2	U	2	U
ACETONE	N/A		N/A		10	U	N/A		5	UJ	2	U	2	U
BENZENE	N/A		N/A		10	U	N/A		1	U	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-56	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-55		MW11-56(22)	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98		30-MAR-94	
Sample Depth:														
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
TPH (MG/L)														
BENZENE	.0005	UJ	N/A		.004		.00027	J	.0005	U	.0015		.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		.89	Y	.2	Z	.3	Y	N/A	
ETHYLBENZENE	.0005	UJ	N/A		.0005	U	.00053	J	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	UJ	N/A		.05	UJ	.075		.05	U	.23	Y	.05	U
JP4 RANGE ORGANICS	.05	U	N/A		.05	U	2	U	N/A		N/A		.052	U
JP5 RANGE ORGANICS	.05	UJ	N/A		.05	U	.25	U	.1	U	.1	U	.052	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		.001	U	N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		.006		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		1	U	.27	Z	.1	U	N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		.0005	U	N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	N/A		.78	Y	.25	U	N/A		N/A		.052	U
OTHER LIGHT TPH COMPONENTS	.05	U	N/A		.33	Y	N/A		N/A		N/A		.16	Y
TOLUENE	.0005	UJ	N/A		.0005	U	.0055		.0005	U	.0037		.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	UJ	N/A		.5	U	2	U	.1	U	.1	U	.52	U
TPH - DIESEL F-76 (C8-C28)	.05	U	N/A		.05	U	.25	U	.1	U	.1	U	.052	U
TPH - WEATHERED DIESEL(C8-C26)	.05	U	N/A		.05	U	N/A		N/A		N/A		.052	U
XYLENE (TOTAL)	.0005	UJ	N/A		.0005		N/A		N/A		N/A		.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	N/A		2	UJ	1	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	10	U	N/A		10	U	1	U	1	U	N/A		10	U
							5	U						
1,2-DICHLOROETHANE	2	U	N/A		2	U	1	U	.5	U	.5	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		.4	J	1	U	2	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	10	U	N/A		10	U	1	U	1	U	N/A		10	U
							5	U						
1,4-DICHLOROBENZENE	10	U	N/A		10	U	1	U	1	U	N/A		10	U
							5	U						
2-BUTANONE	2	UJ	N/A		2	U	5	U	2	U	2	U	2	U
2-HEXANONE	2	UJ	N/A		2	U	5	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	N/A		2	U	11	B	2	U	2	U	2	U
ACETONE	2	UJ	N/A		3	UJ	5	UJ	2	UJ	2	UJ	2	UJ
BENZENE	2	U	N/A		.3	J	1	U	.5	U	.5	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-57	
Sample Id:	MW11-56 (11.0)		MW11-56 (11.0)		MW11-56(10.0)		MW11-56		MW11-56		MW11-56		MW11-57(23)	
Sample Date:	28-JUN-94		23-SEP-94		17-DEC-94		04-OCT-96		07-NOV-97		07-APR-98		28-MAR-94	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.001	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		.25	U	.1	U	.1	Y	N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.001	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	U	.05	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	.05	U	.05	U	.05	U	2	U	N/A		N/A		.05	U
JP5 RANGE ORGANICS	.05	U	.05	UJ	.05	U	.25	U	N/A		.1	U	.05	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		1	U	.28	Z	.1	U	N/A	
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.36	Y	.05	U	.05	U	.25	U	N/A		N/A		.05	U
OTHER LIGHT TPH COMPONENTS	.05	U	.05	U	.05	U	N/A		N/A		N/A		.91	Y
TOLUENE	.0005	U	.0005	U	.0005	U	.00043	J	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	UJ	.5	UJ	.5	U	2	U	.1	U	.1	U	5.5	
TPH - DIESEL F-76 (C8-C28)	.05	U	.05	U	.05	U	.25	U	.1	U	.1	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	.05	UJ	.05	U	.05	U	N/A		N/A		N/A		.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	U	N/A		N/A		.001	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	N/A		10	U
							5	U						
1,2-DICHLOROETHANE	2	U	2	UJ	2	U	1	U	.5	U	.5	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	UJ	2	U	1	U	2	U	2	U	8	
1,2-DICHLOROPROPANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	N/A		10	U
							5	U						
1,4-DICHLOROBENZENE	N/A		N/A		N/A		1	U	1	U	N/A		10	U
							5	U						
2-BUTANONE	2	U	2	UJ	2	U	5	U	2	U	2	U	2	U
2-HEXANONE	2	U	2	UJ	2	U	5	U	2	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	2	UJ	2	U	.93	BJ	2	U	2	U	2	U
ACETONE	2	U	2	UJ	2	UJ	5	UJ	2	UJ	2	UJ	13	
BENZENE	2	U	2	UJ	.08	J	1	U	.5	U	.5	U	.7	J

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57	
Sample Id:	MW11-57(14.0)		MW11-100(24.0)		MW11-57 (13.5)		MW11-97 (24.0)		MW11-57(13.1)		MW11-94(20.0)		MW11-57	
Sample Date:	30-JUN-94		30-JUN-94		24-SEP-94		24-SEP-94		20-DEC-94		20-DEC-94		02-OCT-96	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
TPH (MG/L)														
BENZENE	.002	U	N/A		.0005	U	N/A		.005		N/A		.0011	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		.25	U
ETHYLBENZENE	.002	U	N/A		.0005	U	N/A		.001	U	N/A		.0019	
GASOLINE RANGE ORGANICS	.25	U	N/A		.05	UJ	N/A		.1	UJ	N/A		.17	
JP4 RANGE ORGANICS	.25	U	N/A		N/A		N/A		.05	U	N/A		2	U
JP5 RANGE ORGANICS	.25	U	N/A		N/A		N/A		.05	U	N/A		.25	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.25	U	N/A		N/A		N/A		.05	U	N/A		.25	U
OTHER LIGHT TPH COMPONENTS	.64	J	N/A		2	YZ	N/A		2.4	Y	N/A		N/A	
TOLUENE	.002	U	N/A		.0005	U	N/A		.001	U	N/A		.0023	
TPH - BUNKER FUEL (C10-C28)	28	J	N/A		6.6	J	N/A		9		N/A		2.3	Y
TPH - DIESEL F-76 (C8-C28)	.25	U	N/A		N/A		N/A		.05	U	N/A		.25	U
TPH - WEATHERED DIESEL(C8-C26)	.25	U	N/A		N/A		N/A		.05	U	N/A		N/A	
XYLENE (TOTAL)	.002	U	N/A		.0005	U	N/A		.012		N/A		N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
1,1,2,2-TETRACHLOROETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
1,1,2-TRICHLOROETHANE	2	U	5	U	2	U	2	U	2	UJ	2	UJ	1	U
1,1-DICHLOROETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
1,1-DICHLOROETHENE	2	U	5	U	2	U	2	U	.1	J	2	U	1	U
1,2-DICHLOROBENZENE	10	U	N/A		10	U	N/A		10	U	N/A		.55	J
													5	U
1,2-DICHLOROETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
1,2-DICHLOROETHENE (TOTAL)	1	J	1	J	.6	J	.6	J	11	J	10	J	1.1	
1,2-DICHLOROPROPANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
1,3-DICHLOROBENZENE	10	U	N/A		10	U	N/A		10	U	N/A		.52	J
													5	U
1,4-DICHLOROBENZENE	10	U	N/A		10	U	N/A		10	U	N/A		.51	J
													5	U
2-BUTANONE	2	U	5	U	2	U	2	U	2	U	2	U	5	U
2-HEXANONE	2	U	5	U	2	UJ	2	UJ	2	UJ	2	UJ	5	UJ
4-METHYL-2-PENTANONE	2	U	5	U	2	U	2	U	2	U	2	U	5	UJ
ACETONE	2	UJ	5	U	3	UJ	5	UJ	4	UJ	5	UJ	5	UJ
BENZENE	.5	J	.5	J	.1	J	.1	J	1	J	1	J	.54	J

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Id:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Date:	05-NOV-97		06-APR-98		22-JAN-99		24-FEB-99		26-FEB-99		09-MAR-99		04-MAR-99	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/L)														
BENZENE	.0005	U	.0008		.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.1	U	.6	Y	.75	Y	.1	U	1.3	Y	.1	U	.05	J
ETHYLBENZENE	.0005	U	.0005	U	.0017		.0005	U	.0005	U	.0005	UJ	.0005	U
GASOLINE RANGE ORGANICS	.05	U	.21	Y	.38		.37	Z	.23	Z	.48	Z	.05	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U	.1	UJ
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		.005	U	.005	U	N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	.1	U	.1	U	.1	U	.1	U	.12	U	.12	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.0005	U	.003		.0012		.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	1.2	Y	.1	U	N/A		.1	U	.1	U	.1	U	.1	U
TPH - DIESEL F-76 (C8-C28)	.1	U	.1	U	N/A		.1	U	.1	U	.1	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		.001	J	.001	U	.001	U	.001	U	.001	UJ	.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,1-DICHLOROETHENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	1	U	1	U	5	U	1	U	1	UJ	1	U	1	U
1,2-DICHLOROETHANE	.5	U	.5	U	10	U	.5	U	.5	U	.5	U	.5	U
1,2-DICHLOROETHENE (TOTAL)	.6	J	2		10	U	2	J	2	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	1	U	1	U	5	U	1	U	1	UJ	1	U	1	U
1,4-DICHLOROBENZENE	1	U	1	U	5	U	1	U	1	UJ	1	U	1	U
2-BUTANONE	2	U	2	U	10	U	2	U	.5	J	2	UJ	2	U
2-HEXANONE	2	U	2	U	10	U	2	UJ	2	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
ACETONE	2	J	2	UJ	10	UJ	2	UJ	2	UJ	2	UJ	2	UJ
BENZENE	.5	U	.6		10	U	.5	U	.5	U	.5	U	.5	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		PZ		PZ		PZ		PZ	
Point Name:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71	
Sample Id:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71	
Sample Date:	19-FEB-99		19-FEB-99		25-FEB-99		05-OCT-96		08-NOV-97		03-APR-98		21-JAN-99	
Sample Depth:														
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0025	U	.0012	J	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.6	Y	3.8	Y	2.52	Y	.8	Y	.2		.1	U	.1	U
ETHYLBENZENE	.0032		.0005	U	.065		.0024		.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.66	Z	.34	Z	2.8	Y	.52		.03	JZ	.05	U	.05	UJ
JP4 RANGE ORGANICS	N/A		N/A		N/A		2	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	.8		.5	U	.1	U	.25	U	.1	U	.1	U	.1	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.005	U	.005	U	N/A		N/A		N/A		.005	U	.005	U
MOTOR OIL RANGE ORGANICS	.5	U	.5	U	.1	U	1	U	.2	Z	.1	U	.1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		.25	U	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.0005	U	.0005	U	.0025	U	.001	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	U	.5	U	.1	U	2	U	.1	U	.1	U	N/A	
TPH - DIESEL F-76 (C8-C28)	.5	U	.5	U	.1	U	.25	U	.1	U	.1	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.001	U	.001	U	.084		N/A		N/A		.001	U	.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,1,2,2-TETRACHLOROETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,1,2-TRICHLOROETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,1-DICHLOROETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,1-DICHLOROETHENE	10	U	10	U	10	U	2	U	2	U	2	UJ	N/A	
1,2-DICHLOROBENZENE	N/A		N/A		8	U	2	U	1	U	N/A		N/A	
							5	U						
1,2-DICHLOROETHANE	10	U	10	U	3	U	2	U	.5	U	.5	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,2-DICHLOROPROPANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A	
1,3-DICHLOROBENZENE	N/A		N/A		8	U	2	U	1	U	N/A		N/A	
							5	U						
1,4-DICHLOROBENZENE	N/A		N/A		8	U	2	U	1	U	N/A		N/A	
							5	U						
2-BUTANONE	10	UJ	10	UJ	10	U	10	UJ	2	U	2	U	N/A	
2-HEXANONE	10	UJ	10	UJ	10	UJ	10	UJ	2	U	2	UJ	N/A	
4-METHYL-2-PENTANONE	10	U	10	U	10	U	10	UJ	2	U	2	U	N/A	
ACETONE	10	UJ	10	UJ	10	UJ	10	UJ	2	UJ	2	UJ	N/A	
BENZENE	10	U	10	U	3	U	2	U	.5	U	.5	U	N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74		PZ11-75	
Sample Id:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74		PZ11-75	
Sample Date:	04-OCT-96		08-NOV-97		07-APR-98		02-OCT-96		07-APR-98		21-JAN-99		03-APR-09	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		96SITE4RA		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT2	
TPH (MG/L)														
BENZENE	.001	U	.0005	U	.0005	U	.001	U	.0005	U	.0005	U	N/A	
DIESEL RANGE ORGANICS	.25	U	.1	U	**.24**	Y	.25	U	**.2**	Y	.1	U	N/A	
ETHYLBENZENE	**.00019**	J	.0005	U	.0005	U	.001	U	.0005	U	.0005	U	N/A	
GASOLINE RANGE ORGANICS	**.076**		.05	U	.05	U	.05	U	.05	U	.05	U	N/A	
JP4 RANGE ORGANICS	2	U	N/A		N/A		2	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	.25	U	.1	U	.1	U	.25	U	.1	U	.1	U	N/A	
M,P-XYLENE	N/A		N/A		.001	U	N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		.005	U	N/A		N/A		.005	U	N/A	
MOTOR OIL RANGE ORGANICS	1	U	**.46**	Z	.1	U	1	U	.1	U	.1	U	N/A	
O-XYLENE	N/A		N/A		.0005	U	N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.25	U	N/A		N/A		**.7**	Z	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	**.004**		.0005	U	.0005	U	**.00017**	J	.0005	U	.0005	U	N/A	
TPH - BUNKER FUEL (C10-C28)	2	U	.1	U	.1	U	2	U	.1	U	N/A		**6.2**	Y
TPH - DIESEL F-76 (C8-C28)	.25	U	.1	U	.1	U	.25	U	.1	U	N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		.001	U	.001	U	N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,1,2-TRICHLOROETHANE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,1-DICHLOROETHANE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,1-DICHLOROETHENE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,2-DICHLOROBENZENE	1	U	1	U	1	U	1	U	N/A		N/A		N/A	
	5	U					5	U						
1,2-DICHLOROETHANE	1	U	.5	U	.5	U	1	U	.5	U	N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,2-DICHLOROPROPANE	1	U	2	U	2	U	1	U	2	U	N/A		N/A	
1,3-DICHLOROBENZENE	1	U	1	U	1	U	1	U	N/A		N/A		N/A	
	5	U					5	U						
1,4-DICHLOROBENZENE	1	U	1	U	1	U	1	U	N/A		N/A		N/A	
	5	U					5	U						
2-BUTANONE	5	U	2	U	2	U	5	U	2	U	N/A		N/A	
2-HEXANONE	5	U	2	U	2	U	5	UJ	2	U	N/A		N/A	
4-METHYL-2-PENTANONE	**18**	B	2	U	2	U	5	UJ	2	U	N/A		N/A	
ACETONE	5	UJ	2	UJ	2	UJ	5	UJ	2	UJ	N/A		N/A	
BENZENE	1	U	.5	U	.5	U	1	U	.5	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-75		PZ11-75		PZ11-75 (FD)		PZ11-75		PZ11-75 (FD)		PZ11-76		PZ11-76	
Sample Id:	PZ11-75		PZ11-75		MW11-200		PZ11-75		MW11-200		PZ11-76		PZ11-76	
Sample Date:	02-OCT-96		05-NOV-97		05-NOV-97		03-APR-98		03-APR-98		02-OCT-96		31-OCT-97	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		96SITE4RA		SEMI_EVENT1	
TPH (MG/L)														
BENZENE	.0042	J	.0005	U	.0005		.0016		.0014		.001	U	.0005	U
DIESEL RANGE ORGANICS	1	U	.5	U	1	U	.1	U	.1	U	10	Y	.1	U
ETHYLBENZENE	.0093	J	.0005	J	.0006		.0017		.0032		.00027	J	.0005	U
GASOLINE RANGE ORGANICS	3	J	.23	Y	.27	Y	.45		.59	Y	.15		.05	U
JP4 RANGE ORGANICS	8	U	N/A		N/A		N/A		N/A		2	U	N/A	
JP5 RANGE ORGANICS	1	U	.5	U	1	U	.1	U	.1	U	.25	U	.1	U
M,P-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		.003	J	.00158	J	N/A		N/A	
MOTOR OIL RANGE ORGANICS	4	U	.5	U	.1	U	.1	U	.5	U	1	U	.1	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	1	U	N/A		N/A		N/A		N/A		.25	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.0095	J	.0005	U	.0005	U	.0049		.0053		.004		.0005	U
TPH - BUNKER FUEL (C10-C28)	28	Y	17.5	Y	18	Y	N/A		5.32	Y	2	U	1.9	Y
TPH - DIESEL F-76 (C8-C28)	1	U	.5	U	1	U	.1	U	.1	U	.25	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		.0022		.0037		N/A		N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
1,1,2-TRICHLOROETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
1,1-DICHLOROETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
1,1-DICHLOROETHENE	10	U	10	U	10	U	10	U	2	UJ	1	U	2	U
1,2-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	1	U	1	U
	10	U									5	U		
1,2-DICHLOROETHANE	10	U	3	U	3	U	3	U	.5	U	1	U	.5	U
1,2-DICHLOROETHENE (TOTAL)	10	U	3	J	3	J	10	U	10		1	U	2	U
1,2-DICHLOROPROPANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
1,3-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	1	U	1	U
	10	U									5	U		
1,4-DICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	1	U	1	U
	10	U									5	U		
2-BUTANONE	50	UJ	10	U	10	U	11	UJ	2	U	5	U	2	U
2-HEXANONE	50	UJ	10	U	10	U	10	U	2	UJ	5	UJ	2	U
4-METHYL-2-PENTANONE	50	UJ	10	U	10	U	10	U	2	U	5	UJ	2	U
ACETONE	50	UJ	10	UJ	10	UJ	23	UJ	2	UJ	5	UJ	2	UJ
BENZENE	10	U	3	U	3	U	3	U	.7		1	U	.5	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		SB		SB	
Point Name:	PZ11-76		BR11-90		SB11-87	
Sample Id:	PZ11-76		BR4-1(14)		WB11-87(12.0)	
Sample Date:	06-APR-98		06-FEB-99		12-FEB-99	
Sample Depth:			14 ft		12 ft	
Investigation:	SEMI_EVENT2		PHASEII_RI		PHASEII_RI	
TPH (MG/L)						
BENZENE	.0005	U	**.211**		.0005	U
DIESEL RANGE ORGANICS	.5	U	.1	U	1	U
ETHYLBENZENE	.0005	U	**.063**		.0005	U
GASOLINE RANGE ORGANICS	**.13**	Y	**7**		**.09**	Z
JP4 RANGE ORGANICS	N/A		N/A		N/A	
JP5 RANGE ORGANICS	**13.8**	Z	.1	U	1	U
M,P-XYLENE	N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.005	U	.05	U	.005	U
MOTOR OIL RANGE ORGANICS	.5	U	**2.96**		**14**	
O-XYLENE	N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A	
TOLUENE	**.0012**		**.11**		.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	U	**2.53**		1	U
TPH - DIESEL F-76 (C8-C28)	.5	U	.1	U	1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A	
XYLENE (TOTAL)	.001	U	**.271**		.001	U
VOA (UG/L)						
1,1,1-TRICHLOROETHANE	10	U	500	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	U	500	U	10	U
1,1,2-TRICHLOROETHANE	10	U	500	U	10	U
1,1-DICHLOROETHANE	10	U	500	U	10	U
1,1-DICHLOROETHENE	10	U	500	U	10	U
1,2-DICHLOROBENZENE	1	U	N/A		N/A	
1,2-DICHLOROETHANE	3	U	500	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	U	500	U	10	U
1,2-DICHLOROPROPANE	10	U	500	U	10	U
1,3-DICHLOROBENZENE	1	U	N/A		N/A	
1,4-DICHLOROBENZENE	1	U	N/A		N/A	
2-BUTANONE	**13**		500	U	10	UJ
2-HEXANONE	10	U	500	U	10	U
4-METHYL-2-PENTANONE	10	U	500	U	10	U
ACETONE	25	UJ	500	UJ	13	UJ
BENZENE	3	U	**55**	J	10	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW		MW	
Point Name:	BR11-90		MW10-02	MW10-03	MW10-03	MW10-03	MW10-17		MW10-18
Sample Id:	BR11-90		MW10-02(9)	MW10-03(19.0)	MW10-03 (18.0)	MW10-03(19.0)	MW10-17		MW10-18
Sample Date:	07-MAR-99		29-MAR-94	27-JUN-94	28-SEP-94	21-DEC-94	23-FEB-99		23-FEB-99
Sample Depth:									
Investigation:	PHASEII_RI		GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI		PHASEII_RI
VOA (UG/L)									
BROMODICHLOROMETHANE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
BROMOFORM	2	U	N/A	N/A	N/A	N/A	50	U	50	U
BROMOMETHANE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CARBON DISULFIDE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CARBON TETRACHLORIDE	.5	U	N/A	N/A	N/A	N/A	50	U	50	U
CHLOROBENZENE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CHLOROETHANE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CHLOROFORM	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CHLOROMETHANE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
CIS-1,2-DICHLOROETHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.5	U	N/A	N/A	N/A	N/A	50	U	50	U
DIBROMOCHLOROMETHANE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
ETHYLBENZENE	2	U	N/A	N/A	N/A	N/A	50	U	4	J
METHYL-T-BUTYL ETHER	N/A		N/A	N/A	N/A	N/A	N/A		N/A	
METHYLENE CHLORIDE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
O-XYLENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A	
STYRENE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
TETRACHLOROETHENE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
TOLUENE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A	N/A	N/A	N/A	N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.5	U	N/A	N/A	N/A	N/A	50	U	50	U
TRICHLOROETHENE	2	U	N/A	N/A	N/A	N/A	50	U	50	U
VINYL CHLORIDE	.5	U	N/A	N/A	N/A	N/A	50	U	50	U
XYLENE (TOTAL)	2	U	N/A	N/A	N/A	N/A	50	U	10	J
PAH (UG/L)									
1-METHYLNAPHTHALENE	1	U	N/A	N/A	N/A	N/A	1	U	8	
2-METHYLNAPHTHALENE	1	U	N/A	N/A	N/A	N/A	1	U	1	U
ACENAPHTHENE	5	U	N/A	N/A	N/A	N/A	5	U	5	U
ACENAPHTHYLENE	2	U	N/A	N/A	N/A	N/A	2	U	2	U
ANTHRACENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
BENZO(A)ANTHRACENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
BENZO(A)PYRENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
BENZO(B)FLUORANTHENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
BENZO(G,H,I)PERYLENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
BENZO(K)FLUORANTHENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
CHRYSENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
BROMOFORM	10	U	N/A		10	U	N/A		5	UJ	N/A		2	U
BROMOMETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CARBON DISULFIDE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CARBON TETRACHLORIDE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CHLOROBENZENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CHLOROETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CHLOROFORM	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
CHLOROMETHANE	10	U	3	UJ	10	U	N/A		5	UJ	N/A		2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
DIBROMOCHLOROMETHANE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
ETHYLBENZENE	2	J	10		2	J	N/A		1	J	N/A		2	J
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
TETRACHLOROETHENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
TOLUENE	2	J	8		10	U	N/A		2	UJ	N/A		1	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
TRICHLOROETHENE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
VINYL CHLORIDE	10	U	3	U	10	U	N/A		5	UJ	N/A		2	U
XYLENE (TOTAL)	6	J	31		8	J	N/A		7	J	N/A		6	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19		MW11-20	
Sample Id:	MW11-19		MW11-19		MW11-250		MW11-19		MW11-250		MW11-19		MW11-20 (15.5)	
Sample Date:	04-OCT-96		07-NOV-97		07-NOV-97		08-APR-98		08-APR-98		22-JAN-99		22-SEP-94	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		SEMI_EVENT3		GW3Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
BROMOFORM	25	U	10	U	10	U	2	U	2	U	10	U	2	U
BROMOMETHANE	25	UJ	10	U	10	U	2	U	2	U	10	U	2	U
CARBON DISULFIDE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
CARBON TETRACHLORIDE	25	U	3	U	3	U	.5	U	.5	U	10	U	2	U
CHLOROBENZENE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
CHLOROETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
CHLOROFORM	25	U	10	U	10	U	2	U	2	U	10	U	2	U
CHLOROMETHANE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
CIS-1,2-DICHLOROETHENE	25	U	N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	25	U	3	U	3	U	.5	U	.5	U	10	U	2	U
DIBROMOCHLOROMETHANE	25	U	10	U	10	U	2	U	2	U	10	UJ	2	U
ETHYLBENZENE	25	U	10	U	10	U	**3**		**3**		**.3**	J	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		10	U	N/A	
METHYLENE CHLORIDE	50	U	10	U	10	U	2	U	2	U	10	UJ	2	U
O-XYLENE	25	U	N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
TETRACHLOROETHENE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
TOLUENE	25	U	10	U	10	U	**4**		**3**		**1**	J	2	U
TRANS-1,2-DICHLOROETHENE	25	U	N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	25	U	3	U	3	U	.5	U	.5	U	10	U	2	U
TRICHLOROETHENE	25	U	10	U	10	U	2	U	2	U	10	U	2	U
VINYL CHLORIDE	25	U	3	U	3	U	.5	U	.5	U	10	U	2	U
XYLENE (TOTAL)	25	U	**3**	J	**2**	J	**12**		**12**		**3**	J	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22	
Sample Id:	MW11-20(14.0)		MW11-20 (14.0)		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22(18.5)	
Sample Date:	16-DEC-94		02-MAY-95		03-OCT-96		07-NOV-97		03-APR-98		22-JAN-99		29-MAY-92	
Sample Depth:														
Investigation:	GW4Q94		BIOPAD		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		92GW	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
BROMOFORM	2	U	N/A		1	U	2	U	2	U	10	U	10	U
BROMOMETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
CARBON DISULFIDE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
CARBON TETRACHLORIDE	2	U	N/A		1	U	.5	U	.5	UJ	10	U	10	U
CHLOROBENZENE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
CHLOROETHANE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
CHLOROFORM	2	U	N/A		1	U	2	U	2	U	10	U	10	U
CHLOROMETHANE	2	U	N/A		1	U	2	U	.6	J	10	U	10	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		1	U	N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	N/A		1	U	.5	U	.5	U	10	U	10	U
DIBROMOCHLOROMETHANE	2	U	N/A		1	U	2	U	2	U	10	UJ	10	U
ETHYLBENZENE	2	U	N/A		1	U	2	U	2	J	10	U	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		10	U	N/A	
METHYLENE CHLORIDE	2	U	N/A		2	U	2	U	2	U	10	UJ	10	U
O-XYLENE	N/A		N/A		1	U	N/A		N/A		N/A		N/A	
STYRENE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
TETRACHLOROETHENE	2	U	N/A		1	U	2	U	2	U	10	U	10	U
TOLUENE	.2	J	N/A		1	U	2	U	2		10	U	10	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		1	U	N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	N/A		1	U	.5	U	.5	U	10	U	10	U
TRICHLOROETHENE	6	B	N/A		1	U	2	U	2	J	10	U	10	U
VINYL CHLORIDE	2	U	N/A		1	U	.5	U	.5	U	10	U	10	U
XYLENE (TOTAL)	2	U	N/A		1	U	2	U	3		10	U	10	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-22	MW11-22	MW11-23	MW11-23	MW11-23	MW11-55	MW11-55
Sample Id:	MW11-22(WATER)	MW11-22 (12.5)	MW11-23(18.5)	MW11-23 (19.0)	MW11-23	MW11-55(23.0)	MW11-55(13.0)
Sample Date:	22-JUL-92	02-MAY-95	29-MAY-92	02-MAY-95	03-OCT-96	23-MAR-94	28-JUN-94
Sample Depth:							
Investigation:	92GW	BIOPAD	92GW	BIOPAD	96SITE4RA	GW1Q94	GW2Q94
VOA (UG/L)							
BROMODICHLOROMETHANE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
BROMOFORM	N/A	N/A	10 U	N/A	1 U	N/A	2 U
BROMOMETHANE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CARBON DISULFIDE	N/A	N/A	10 U	N/A	1 U	.05 J	.2 J
CARBON TETRACHLORIDE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CHLOROBENZENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CHLOROETHANE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CHLOROFORM	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CHLOROMETHANE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
CIS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	1 U	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
DIBROMOCHLOROMETHANE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
ETHYLBENZENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
METHYL-T-BUTYL ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	10 U	N/A	2 U	2 U	2 U
O-XYLENE	N/A	N/A	N/A	N/A	1 U	N/A	N/A
STYRENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
TETRACHLOROETHENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
TOLUENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
TRANS-1,2-DICHLOROETHENE	N/A	N/A	N/A	N/A	1 U	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
TRICHLOROETHENE	N/A	N/A	10 U	N/A	1 U	2 U	2 U
VINYL CHLORIDE	N/A	N/A	10 U	N/A	.61 J	2 U	2 U
XYLENE (TOTAL)	N/A	N/A	10 U	N/A	1 U	2 U	2 U
PAH (UG/L)							
1-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-56	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-55		MW11-56(22)	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98		30-MAR-94	
Sample Depth:														
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	N/A		2	U	1.2		2	U	2	U	2	U
BROMOFORM	2	U	N/A		2	U	3.3		2	U	2	U	2	U
BROMOMETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
CARBON DISULFIDE	.3	J	N/A		2	UJ	2.7		2	U	2	U	2	U
CARBON TETRACHLORIDE	2	U	N/A		1	J	17		.5	U	.5	U	2	U
CHLOROBENZENE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
CHLOROETHANE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
CHLOROFORM	2	U	N/A		1	J	9.9		.3	J	2	U	2	U
CHLOROMETHANE	2	U	N/A		2	UJ	1	U	2	U	.4	J	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	1	U	.5	U	.5	U	2	U
DIBROMOCHLOROMETHANE	2	U	N/A		2	U	1.4		2	U	2	U	2	U
ETHYLBENZENE	2	U	N/A		.4	J	1	U	2	U	.4	J	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	UJ	N/A		2	UJ	2	U	2	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
STYRENE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	N/A		2	U	1.9		2	U	2	U	2	U
TOLUENE	2	U	N/A		.3	J	1	U	2	U	2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	N/A		2	U	1	U	.5	U	.5	U	2	U
TRICHLOROETHENE	2	U	N/A		2	U	1	U	2	U	2	U	2	U
VINYL CHLORIDE	2	U	N/A		2	U	1	U	.5	U	.5	U	2	U
XYLENE (TOTAL)	2	U	N/A		2	U	1	U	2	U	.5	J	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-57	
Sample Id:	MW11-56 (11.0)		MW11-56 (11.0)		MW11-56(10.0)		MW11-56		MW11-56		MW11-56		MW11-57(23)	
Sample Date:	28-JUN-94		23-SEP-94		17-DEC-94		04-OCT-96		07-NOV-97		07-APR-98		28-MAR-94	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
BROMOFORM	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
BROMOMETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
CARBON DISULFIDE	2	U	2	UJ	2	U	1.1		2	U	.4	J	2	U
CARBON TETRACHLORIDE	2	U	2	UJ	2	U	1	U	.5	U	.5	U	2	U
CHLOROBENZENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
CHLOROETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
CHLOROFORM	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
CHLOROMETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	2	U	2	UJ	2	U	1	U	.5	U	.5	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
ETHYLBENZENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	UJ	2	U	2	U	1	J	2	U	2	U
O-XYLENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
STYRENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
TOLUENE	2	U	2	UJ	2	U	1	U	2	U	2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		1	U	N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	2	U	2	UJ	2	U	1	U	.5	U	.5	U	2	U
TRICHLOROETHENE	2	U	2	UJ	.6	J	1	U	.5	J	2	U	2	U
VINYL CHLORIDE	2	U	2	UJ	2	U	1	U	.5	U	.5	U	11	
XYLENE (TOTAL)	2	U	2	UJ	2	U	1	U	.4	J	2	U	10	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57	
Sample Id:	MW11-57(14.0)		MW11-100(24.0)		MW11-57 (13.5)		MW11-97 (24.0)		MW11-57(13.1)		MW11-94(20.0)		MW11-57	
Sample Date:	30-JUN-94		30-JUN-94		24-SEP-94		24-SEP-94		20-DEC-94		20-DEC-94		02-OCT-96	
Sample Depth:														
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
BROMOFORM	2	U	5	U	2	U	2	U	2	U	2	U	1	U
BROMOMETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CARBON DISULFIDE	2	U	5	U	2	U	.2	J	2	U	2	U	.51	J
CARBON TETRACHLORIDE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CHLOROBENZENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CHLOROETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CHLOROFORM	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CHLOROMETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		1	
CIS-1,3-DICHLOROPROPENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
DIBROMOCHLOROMETHANE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
ETHYLBENZENE	2	U	5	U	2	U	2	U	2	U	.3	J	1	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	5	U	2	U	2	U	2	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
STYRENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
TETRACHLOROETHENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
TOLUENE	2	U	5	U	2	U	2	U	2	U	2	U	.55	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
TRANS-1,3-DICHLOROPROPENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
TRICHLOROETHENE	2	U	5	U	2	U	2	U	2	U	2	U	1	U
VINYL CHLORIDE	8		7		2	U	2	U	19	J	16	J	.71	J
XYLENE (TOTAL)	2	U	5	U	2	U	2	U	.4	J	.4	J	.91	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Id:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Date:	05-NOV-97		06-APR-98		22-JAN-99		24-FEB-99		26-FEB-99		09-MAR-99		04-MAR-99	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (UG/L)														
BROMODICHLOROMETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
BROMOFORM	2	U	2	U	10	U	2	U	2	U	2	U	2	U
BROMOMETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
CARBON DISULFIDE	2	U	2	U	.9	J	2	U	2	U	2	U	2	U
CARBON TETRACHLORIDE	.5	U	.5	U	10	U	.5	U	.5	U	.5	U	.5	U
CHLOROBENZENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
CHLOROETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
CHLOROFORM	2	U	2	U	10	U	2	U	2	U	2	U	2	U
CHLOROMETHANE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.5	U	.5	U	10	U	.5	U	.5	U	.5	U	.5	U
DIBROMOCHLOROMETHANE	2	U	2	U	10	UJ	2	U	2	U	2	U	2	U
ETHYLBENZENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		10	U	N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	10	UJ	2	U	2	U	2	U	2	U
O-XYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
TOLUENE	2	U	2	U	10	U	2	U	2	U	2	U	2	U
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.5	U	.5	U	10	U	.5	U	.5	U	.5	U	.5	U
TRICHLOROETHENE	2	U	2	U	10	U	1	J	2	U	2	U	2	U
VINYL CHLORIDE	.5	U	4		10	U	2		.5	U	.5	U	.5	U
XYLENE (TOTAL)	2	U	2	U	10	U	2	U	2	U	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	1	UJ	1	U	1	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		1	UJ	1	UJ	1	U	1	U
ACENAPHTHENE	N/A		N/A		N/A		5	U	5	U	5	U	5	UJ
ACENAPHTHYLENE	N/A		N/A		N/A		2	U	2	U	2	U	2	U
ANTHRACENE	N/A		N/A		N/A		.2	UJ	.2	UJ	.2	U	.2	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
BENZO(A)PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	UJ
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
CHRYSENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		PZ		PZ		PZ		PZ
Point Name:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71
Sample Id:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71
Sample Date:	19-FEB-99		19-FEB-99		25-FEB-99		05-OCT-96		08-NOV-97		03-APR-98		21-JAN-99
Sample Depth:													
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3
VOA (UG/L)													
BROMODICHLOROMETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
BROMOFORM	10	U	10	U	10	U	2	U	2	U	2	U	N/A
BROMOMETHANE	10	U	10	U	10	U	2	UJ	2	U	2	U	N/A
CARBON DISULFIDE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
CARBON TETRACHLORIDE	10	U	10	U	3	U	2	U	.5	U	.5	UJ	N/A
CHLOROBENZENE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
CHLOROETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
CHLOROFORM	.5	J	10	U	10	U	2	U	2	U	2	U	N/A
CHLOROMETHANE	10	U	10	U	4	J	2	U	2	U	2	U	N/A
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A		2	U	N/A		N/A		N/A
CIS-1,3-DICHLOROPROPENE	10	U	10	U	3	U	2	U	.5	U	.5	U	N/A
DIBROMOCHLOROMETHANE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
ETHYLBENZENE	2	J	.6	J	56		2	U	2	U	2	U	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METHYLENE CHLORIDE	10	U	10	U	10	U	4	U	2	U	2	U	N/A
O-XYLENE	N/A		N/A		N/A		2	U	N/A		N/A		N/A
STYRENE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
TETRACHLOROETHENE	10	U	10	U	10	U	2	U	2	U	2	U	N/A
TOLUENE	10	U	10	U	4	J	2	U	2	U	2	U	N/A
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A		2	U	N/A		N/A		N/A
TRANS-1,3-DICHLOROPROPENE	10	U	10	U	3	U	2	U	.5	U	.5	U	N/A
TRICHLOROETHENE	.9	J	.5	J	10	U	2	U	2	U	2	U	N/A
VINYL CHLORIDE	10	U	10	U	3	U	2	U	.5	U	.5	U	N/A
XYLENE (TOTAL)	.7	J	10	U	73		2	U	.5	J	2	U	N/A
PAH (UG/L)													
1-METHYLNAPHTHALENE	1	U	1	U	17	J	N/A		N/A		N/A		N/A
2-METHYLNAPHTHALENE	1	U	1	U	13	J	N/A		N/A		N/A		N/A
ACENAPHTHENE	5	U	5	U	5	U	N/A		N/A		N/A		N/A
ACENAPHTHYLENE	2	U	2	U	2	U	N/A		N/A		N/A		N/A
ANTHRACENE	.2	U	.2	U	.2	UJ	N/A		N/A		N/A		N/A
BENZO(A)ANTHRACENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A
BENZO(A)PYRENE	.2	U	.2	U	.1	J	N/A		N/A		N/A		N/A
BENZO(B)FLUORANTHENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A
BENZO(G,H,I)PERYLENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A
BENZO(K)FLUORANTHENE	.2	U	.2	U	.1	J	N/A		N/A		N/A		N/A
CHRYSENE	.2	U	.2	U	.3		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ	PZ
Point Name:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74	PZ11-75
Sample Id:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74	PZ11-75
Sample Date:	04-OCT-96		08-NOV-97		07-APR-98		02-OCT-96		07-APR-98		21-JAN-99	03-APR-09
Sample Depth:												
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		96SITE4RA		SEMI_EVENT2		SEMI_EVENT3	SEMI_EVENT2
VOA (UG/L)												
BROMODICHLOROMETHANE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
BROMOFORM	1	U	2	U	2	U	1	U	2	U	N/A	N/A
BROMOMETHANE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CARBON DISULFIDE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CARBON TETRACHLORIDE	1	U	.5	U	.5	U	1	U	.5	U	N/A	N/A
CHLOROBENZENE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CHLOROETHANE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CHLOROFORM	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CHLOROMETHANE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
CIS-1,2-DICHLOROETHENE	1	U	N/A		N/A		1	U	N/A		N/A	N/A
CIS-1,3-DICHLOROPROPENE	1	U	.5	U	.5	U	1	U	.5	U	N/A	N/A
DIBROMOCHLOROMETHANE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
ETHYLBENZENE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A	N/A
METHYLENE CHLORIDE	2	U	2	U	2	U	2	U	2	U	N/A	N/A
O-XYLENE	1	U	N/A		N/A		1	U	N/A		N/A	N/A
STYRENE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
TETRACHLOROETHENE	1	U	2	U	.3	J	1	U	2	U	N/A	N/A
TOLUENE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
TRANS-1,2-DICHLOROETHENE	1	U	N/A		N/A		1	U	N/A		N/A	N/A
TRANS-1,3-DICHLOROPROPENE	1	U	.5	U	.5	U	1	U	.5	U	N/A	N/A
TRICHLOROETHENE	1	U	2	U	2	U	1	U	2	U	N/A	N/A
VINYL CHLORIDE	1	U	.5	U	.5	U	1	U	.5	U	N/A	N/A
XYLENE (TOTAL)	1	U	2	U	2	U	1	U	2	U	N/A	N/A
PAH (UG/L)												
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-75		PZ11-75		PZ11-75 (FD)		PZ11-75		PZ11-75 (FD)		PZ11-76		PZ11-76	
Sample Id:	PZ11-75		PZ11-75		MW11-200		PZ11-75		MW11-200		PZ11-76		PZ11-76	
Sample Date:	02-OCT-96		05-NOV-97		05-NOV-97		03-APR-98		03-APR-98		02-OCT-96		31-OCT-97	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		96SITE4RA		SEMI_EVENT1	
VOA (UG/L)														
BROMODICHLOROMETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
BROMOFORM	10	U	10	U	10	U	10	U	2	U	1	U	2	U
BROMOMETHANE	10	UJ	10	U	10	U	10	U	2	U	1	U	2	U
CARBON DISULFIDE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
CARBON TETRACHLORIDE	10	U	3	U	3	U	3	U	.5	UJ	1	U	.5	U
CHLOROBENZENE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
CHLOROETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
CHLOROFORM	10	U	10	U	10	U	10	U	2	U	1	U	2	U
CHLOROMETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
CIS-1,2-DICHLOROETHENE	10	U	N/A		N/A		N/A		N/A		1	U	N/A	
CIS-1,3-DICHLOROPROPENE	10	U	3	U	3	U	3	U	.5	U	1	U	.5	U
DIBROMOCHLOROMETHANE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
ETHYLBENZENE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	20	U	10	U	10	U	3	UJ	2	U	2	U	2	U
O-XYLENE	10	U	N/A		N/A		N/A		N/A		1	U	N/A	
STYRENE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
TETRACHLOROETHENE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
TOLUENE	10	U	10	U	10	U	2	J	2	U	2		2	U
TRANS-1,2-DICHLOROETHENE	10	U	N/A		N/A		N/A		N/A		1	U	N/A	
TRANS-1,3-DICHLOROPROPENE	10	U	3	U	3	U	3	U	.5	U	1	U	.5	U
TRICHLOROETHENE	10	U	10	U	10	U	10	U	2	U	1	U	2	U
VINYL CHLORIDE	10	U	3	U	3	U	3	U	5		1	U	.5	U
XYLENE (TOTAL)	10	U	10	U	10	U	2	J	.3	J	1	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		SB		SB	
Point Name:	PZ11-76		BR11-90		SB11-87	
Sample Id:	PZ11-76		BR4-1(14)		WB11-87(12.0)	
Sample Date:	06-APR-98		06-FEB-99		12-FEB-99	
Sample Depth:			14 ft		12 ft	
Investigation:	SEMI_EVENT2		PHASEII_RI		PHASEII_RI	
VOA (UG/L)						
BROMODICHLOROMETHANE	10	U	500	U	10	U
BROMOFORM	10	U	500	U	10	U
BROMOMETHANE	10	U	500	U	10	U
CARBON DISULFIDE	10	U	500	U	10	U
CARBON TETRACHLORIDE	3	U	500	U	10	U
CHLOROBENZENE	10	U	500	U	10	U
CHLOROETHANE	10	U	500	U	10	U
CHLOROFORM	10	U	500	U	10	U
CHLOROMETHANE	10	U	500	U	**.4**	J
CIS-1,2-DICHLOROETHENE	N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	3	U	500	U	10	U
DIBROMOCHLOROMETHANE	10	U	500	U	10	U
ETHYLBENZENE	10	U	**41**	J	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A	
METHYLENE CHLORIDE	2	UJ	500	U	10	UJ
O-XYLENE	N/A		N/A		N/A	
STYRENE	10	U	500	U	10	U
TETRACHLOROETHENE	10	U	500	U	10	U
TOLUENE	10	U	**30**	J	**.3**	J
TRANS-1,2-DICHLOROETHENE	N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	3	U	500	U	10	U
TRICHLOROETHENE	10	U	500	U	10	U
VINYL CHLORIDE	3	U	500	U	10	U
XYLENE (TOTAL)	10	U	**210**	J	10	U
PAH (UG/L)						
1-METHYLNAPHTHALENE	N/A		1.4	U	5	U
2-METHYLNAPHTHALENE	N/A		1.4	U	5	U
ACENAPHTHENE	N/A		7.2	U	25	U
ACENAPHTHYLENE	N/A		2.9	U	10	U
ANTHRACENE	N/A		.29	UJ	1	U
BENZO(A)ANTHRACENE	N/A		.29	U	1	U
BENZO(A)PYRENE	N/A		.29	U	1	U
BENZO(B)FLUORANTHENE	N/A		.29	U	1	U
BENZO(G,H,I)PERYLENE	N/A		.29	U	1	U
BENZO(K)FLUORANTHENE	N/A		.29	U	1	U
CHRYSENE	N/A		.29	U	1	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW	
Point Name:	BR11-90		MW10-02	MW10-03	MW10-03	MW10-03	MW10-17	MW10-18	
Sample Id:	BR11-90		MW10-02(9)	MW10-03(19.0)	MW10-03 (18.0)	MW10-03(19.0)	MW10-17	MW10-18	
Sample Date:	07-MAR-99		29-MAR-94	27-JUN-94	28-SEP-94	21-DEC-94	23-FEB-99	23-FEB-99	
Sample Depth:									
Investigation:	PHASEII_RI		GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI	PHASEII_RI	
PAH (UG/L)									
DIBENZO(A,H)ANTHRACENE	.5	U	N/A	N/A	N/A	N/A	.5	U	.5	U
FLUORANTHENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	
FLUORENE	1	U	N/A	N/A	N/A	N/A	1	U	.5	J
INDENO(1,2,3-CD)PYRENE	.2	U	N/A	N/A	N/A	N/A	.2	U	.2	U
NAPHTHALENE	5	U	N/A	N/A	N/A	N/A	5	U	5	U
PHENANTHRENE	1	U	N/A	N/A	N/A	N/A	1	U	1	U
PYRENE	.2	U	N/A	N/A	N/A	N/A	.3		.61	
SVOA (UG/L)									
1,2,4-TRICHLOROBENZENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,4,5-TRICHLOROPHENOL	3	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,4,6-TRICHLOROPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,4-DICHLOROPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,4-DIMETHYLPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,4-DINITROPHENOL	3	UJ	N/A	N/A	N/A	N/A	N/A		N/A	
2,4-DINITROTOLUENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2,6-DINITROTOLUENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-CHLORONAPHTHALENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-CHLOROPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-METHYLNAPHTHALENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-METHYLPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-NITROANILINE	3	U	N/A	N/A	N/A	N/A	N/A		N/A	
2-NITROPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
3,3'-DICHLOROBENZIDINE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
3-NITROANILINE	3	U	N/A	N/A	N/A	N/A	N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	3	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-CHLORO-3-METHYLPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-CHLOROANILINE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-METHYLPHENOL	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-NITROANILINE	3	U	N/A	N/A	N/A	N/A	N/A		N/A	
4-NITROPHENOL	3	UJ	N/A	N/A	N/A	N/A	N/A		N/A	
ACENAPHTHENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
ACENAPHTHYLENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	
ANTHRACENE	1	U	N/A	N/A	N/A	N/A	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2,4,5-TRICHLOROPHENOL	N/A		26	U	120	U	N/A		25	U	N/A		25	U
2,4,6-TRICHLOROPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
2,4-DICHLOROPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
2,4-DIMETHYLPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
2,4-DINITROPHENOL	N/A		26	U	120	U	N/A		25	U	N/A		25	U
2,4-DINITROTOLUENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2,6-DINITROTOLUENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2-CHLORONAPHTHALENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
2-CHLOROPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
2-METHYLNAPHTHALENE	.4	J	1	J	50	U	N/A		10	U	N/A		10	U
2-METHYLPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
2-NITROANILINE	25	U	26	U	120	U	N/A		25	U	N/A		25	U
2-NITROPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
3,3'-DICHLOROBENZIDINE	10	U	10	UJ	50	U	N/A		10	U	N/A		10	UJ
3-NITROANILINE	25	U	26	U	120	UJ	N/A		25	UJ	N/A		25	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		26	U	120	U	N/A		25	U	N/A		25	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	50	U	N/A		10	U	N/A		10	U
4-CHLORO-3-METHYLPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
4-CHLOROANILINE	10	U	10	UJ	50	U	N/A		10	U	N/A		10	U
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	50	U	N/A		10	U	N/A		10	U
4-METHYLPHENOL	N/A		10	U	50	U	N/A		10	U	N/A		12	
4-NITROANILINE	25	U	26	U	120	U	N/A		25	U	N/A		25	U
4-NITROPHENOL	N/A		26	U	120	UJ	N/A		25	U	N/A		25	U
ACENAPHTHENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
ACENAPHTHYLENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
ANTHRACENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19		MW11-20
Sample Id:	MW11-19		MW11-19		MW11-250		MW11-19		MW11-250		MW11-19		MW11-20 (15.5)
Sample Date:	04-OCT-96		07-NOV-97		07-NOV-97		08-APR-98		08-APR-98		22-JAN-99		22-SEP-94
Sample Depth:													
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		SEMI_EVENT3		GW3Q94
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,4,5-TRICHLOROPHENOL	20	U	3	U	3	U	3	U	3	U	N/A		N/A
2,4,6-TRICHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,4-DICHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,4-DIMETHYLPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,4-DINITROPHENOL	20	U	N/A		N/A		N/A		N/A		N/A		N/A
2,4-DINITROTOLUENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2,6-DINITROTOLUENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2-CHLORONAPHTHALENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2-CHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2-METHYLNAPHTHALENE	5	U	1	U	1	U	1	U	.7	J	N/A		N/A
2-METHYLPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
2-NITROANILINE	20	U	3	U	3	U	3	U	3	U	N/A		N/A
2-NITROPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
3,3'-DICHLOROBENZIDINE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
3-NITROANILINE	20	U	3	U	3	U	3	U	3	U	N/A		N/A
4,6-DINITRO-2-METHYLPHENOL	20	U	3	U	3	U	3	U	3	U	N/A		N/A
4-BROMOPHENYL-PHENYLETHER	5	U	1	U	1	U	1	U	1	U	N/A		N/A
4-CHLORO-3-METHYLPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
4-CHLOROANILINE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
4-CHLOROPHENYL-PHENYLETHER	5	U	1	U	1	U	1	U	1	U	N/A		N/A
4-METHYLPHENOL	5	U	1	U	1	U	1	U	1	U	N/A		N/A
4-NITROANILINE	20	U	3	U	3	U	3	U	3	U	N/A		N/A
4-NITROPHENOL	20	U	3	U	3	U	3	U	3	U	N/A		N/A
ACENAPHTHENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
ACENAPHTHYLENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A
ANTHRACENE	5	U	1	U	1	U	1	U	1	U	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22
Sample Id:	MW11-20(14.0)		MW11-20 (14.0)		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22(18.5)
Sample Date:	16-DEC-94		02-MAY-95		03-OCT-96		07-NOV-97		03-APR-98		22-JAN-99		29-MAY-92
Sample Depth:													
Investigation:	GW4Q94		BIOPAD		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		92GW
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2,4,5-TRICHLOROPHENOL	N/A	25	U	20	U	3	U	3	U	25	U	N/A
2,4,6-TRICHLOROPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2,4-DICHLOROPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2,4-DIMETHYLPHENOL	N/A	10	UJ	5	U	1	U	.07	J	10	U	N/A
2,4-DINITROPHENOL	N/A	25	U	20	U	N/A		3	UJ	25	U	N/A
2,4-DINITROTOLUENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2,6-DINITROTOLUENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2-CHLORONAPHTHALENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2-CHLOROPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2-METHYLNAPHTHALENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
2-METHYLPHENOL	N/A	10	U	5	U	1	U	1	U	10	UJ	N/A
2-NITROANILINE	N/A	25	U	20	U	3	U	3	U	25	U	N/A
2-NITROPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
3,3'-DICHLOROBENZIDINE	N/A	10	U	5	U	1	U	1	UJ	10	UJ	N/A
3-NITROANILINE	N/A	25	UJ	20	U	3	U	3	U	25	U	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	25	U	20	U	3	U	3	U	25	U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	10	U	5	U	1	U	1	U	10	U	N/A
4-CHLORO-3-METHYLPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
4-CHLOROANILINE	N/A	10	UJ	5	U	1	U	1	U	10	UJ	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	10	U	5	U	1	U	1	U	10	U	N/A
4-METHYLPHENOL	N/A	10	U	5	U	1	U	1	U	10	U	N/A
4-NITROANILINE	N/A	25	U	20	U	3	U	3	U	25	U	N/A
4-NITROPHENOL	N/A	25	UJ	20	U	3	U	3	U	25	U	N/A
ACENAPHTHENE	N/A	10	U	5	U	1	U	.07	J	10	U	N/A
ACENAPHTHYLENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A
ANTHRACENE	N/A	10	U	5	U	1	U	1	U	10	U	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-22		MW11-22		MW11-23		MW11-23		MW11-23		MW11-55	
Sample Id:	MW11-22(WATER)		MW11-22 (12.5)		MW11-23(18.5)		MW11-23 (19.0)		MW11-23		MW11-55(23.0)		MW11-55(13.0)	
Sample Date:	22-JUL-92		02-MAY-95		29-MAY-92		02-MAY-95		03-OCT-96		23-MAR-94		28-JUN-94	
Sample Depth:														
Investigation:	92GW		BIOPAD		92GW		BIOPAD		96SITE4RA		GW1Q94		GW2Q94	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	N/A		25	U	25	U	29	U	20	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2,4-DICHLOROPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2,4-DIMETHYLPHENOL	N/A		10	UJ	10	U	11	UJ	5	U	10	U	10	U
2,4-DINITROPHENOL	N/A		25	U	25	U	29	U	20	U	25	U	25	U
2,4-DINITROTOLUENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2,6-DINITROTOLUENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2-CHLORONAPHTHALENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2-CHLOROPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2-METHYLNAPHTHALENE	N/A		.4	J	3	J	11	U	5	U	10	U	10	U
2-METHYLPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
2-NITROANILINE	N/A		25	U	25	U	29	U	20	U	25	U	25	U
2-NITROPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	N/A		10	U	10	U	11	U	5	U	10	UJ	10	U
3-NITROANILINE	N/A		25	UJ	25	U	29	UJ	20	U	25	U	25	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		25	U	25	U	29	U	20	U	25	U	25	U
4-BROMOPHENYL-PHENYLETHER	N/A		10	U	10	U	11	U	5	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
4-CHLOROANILINE	N/A		10	UJ	10	U	11	UJ	5	U	10	UJ	10	U
4-CHLOROPHENYL-PHENYLETHER	N/A		10	U	10	U	11	U	5	U	10	U	10	U
4-METHYLPHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
4-NITROANILINE	N/A		25	U	25	U	29	U	20	U	25	U	25	U
4-NITROPHENOL	N/A		25	UJ	25	U	29	UJ	20	U	25	U	25	UJ
ACENAPHTHENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
ACENAPHTHYLENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
ANTHRACENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-55	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-55	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98	
Sample Depth:												
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2	
PAH (UG/L)												
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)												
1,2,4-TRICHLOROBENZENE	10	U	N/A		10	U	5	U	1	U	N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		10	U	5	U	1	U	N/A	
2,4,5-TRICHLOROPHENOL	25	U	N/A		25	U	20	U	3	U	N/A	
2,4,6-TRICHLOROPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
2,4-DICHLOROPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
2,4-DIMETHYLPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
2,4-DINITROPHENOL	25	U	N/A		25	U	20	U	N/A		N/A	
2,4-DINITROTOLUENE	10	U	N/A		10	U	5	U	1	U	N/A	
2,6-DINITROTOLUENE	10	U	N/A		10	U	5	U	1	U	N/A	
2-CHLORONAPHTHALENE	10	U	N/A		10	U	5	U	1	U	N/A	
2-CHLOROPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
2-METHYLNAPHTHALENE	10	U	N/A		10	U	5	U	1	U	N/A	
2-METHYLPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
2-NITROANILINE	25	U	N/A		25	U	20	U	3	U	N/A	
2-NITROPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
3,3'-DICHLOROBENZIDINE	10	U	N/A		10	UJ	5	U	1	U	N/A	
3-NITROANILINE	25	UJ	N/A		25	UJ	20	U	3	U	N/A	
4,6-DINITRO-2-METHYLPHENOL	25	U	N/A		25	U	20	U	3	U	N/A	
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		10	U	5	U	1	U	N/A	
4-CHLORO-3-METHYLPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
4-CHLOROANILINE	10	U	N/A		10	U	5	U	1	U	N/A	
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		10	U	5	U	1	U	N/A	
4-METHYLPHENOL	10	U	N/A		10	U	5	U	1	U	N/A	
4-NITROANILINE	25	U	N/A		25	U	20	U	3	U	N/A	
4-NITROPHENOL	25	U	N/A		25	U	20	U	3	J	N/A	
ACENAPHTHENE	10	U	N/A		10	U	5	U	1	U	N/A	
ACENAPHTHYLENE	10	U	N/A		10	U	5	U	1	U	N/A	
ANTHRACENE	10	U	N/A		10	U	5	U	1	U	N/A	

Point Type:	MW		MW	
Point Name:	MW11-56			
Sample Id:	MW11-56(22)			
Sample Date:	30-MAR-94			
Sample Depth:				
Investigation:	GW1Q94			
PAH (UG/L)				
DIBENZO(A,H)ANTHRACENE	N/A			
FLUORANTHENE	N/A			
FLUORENE	N/A			
INDENO(1,2,3-CD)PYRENE	N/A			
NAPHTHALENE	N/A			
PHENANTHRENE	N/A			
PYRENE	N/A			
SVOA (UG/L)				
1,2,4-TRICHLOROBENZENE	10	U		
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U		
2,4,5-TRICHLOROPHENOL	25	U		
2,4,6-TRICHLOROPHENOL	10	U		
2,4-DICHLOROPHENOL	10	U		
2,4-DIMETHYLPHENOL	10	U		
2,4-DINITROPHENOL	25	U		
2,4-DINITROTOLUENE	10	U		
2,6-DINITROTOLUENE	10	U		
2-CHLORONAPHTHALENE	10	U		
2-CHLOROPHENOL	10	U		
2-METHYLNAPHTHALENE	10	U		
2-METHYLPHENOL	10	U		
2-NITROANILINE	25	U		
2-NITROPHENOL	10	U		
3,3'-DICHLOROBENZIDINE	10	UJ		
3-NITROANILINE	25	U		
4,6-DINITRO-2-METHYLPHENOL	25	U		
4-BROMOPHENYL-PHENYLETHER	10	UJ		
4-CHLORO-3-METHYLPHENOL	10	U		
4-CHLOROANILINE	10	UJ		
4-CHLOROPHENYL-PHENYLETHER	10	U		
4-METHYLPHENOL	10	U		
4-NITROANILINE	25	U		
4-NITROPHENOL	25	U		
ACENAPHTHENE	10	U		
ACENAPHTHYLENE	10	U		
ANTHRACENE	10	U		

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-56	MW11-56	MW11-56	MW11-56	MW11-56	MW11-56	MW11-57
Sample Id:	MW11-56 (11.0)	MW11-56 (11.0)	MW11-56(10.0)	MW11-56	MW11-56	MW11-56	MW11-57(23)
Sample Date:	28-JUN-94	23-SEP-94	17-DEC-94	04-OCT-96	07-NOV-97	07-APR-98	28-MAR-94
Sample Depth:							
Investigation:	GW2Q94	GW3Q94	GW4Q94	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	GW1Q94
PAH (UG/L)							
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (UG/L)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	20 U	3 U	N/A	26 U
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,4-DICHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,4-DINITROPHENOL	N/A	N/A	N/A	20 U	N/A	N/A	26 U
2,4-DINITROTOLUENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2,6-DINITROTOLUENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2-CHLORONAPHTHALENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2-CHLOROPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2-METHYLNAPHTHALENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
2-NITROANILINE	N/A	N/A	N/A	20 U	3 U	N/A	26 U
2-NITROPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	5 U	1 U	N/A	10 UJ
3-NITROANILINE	N/A	N/A	N/A	20 U	3 U	N/A	26 UJ
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	20 U	3 U	N/A	26 U
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	5 U	1 U	N/A	10 U
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
4-CHLOROANILINE	N/A	N/A	N/A	5 U	1 U	N/A	10 UJ
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	5 U	1 U	N/A	10 U
4-METHYLPHENOL	N/A	N/A	N/A	5 U	1 U	N/A	10 U
4-NITROANILINE	N/A	N/A	N/A	20 U	3 U	N/A	26 U
4-NITROPHENOL	N/A	N/A	N/A	20 U	3 U	N/A	26 U
ACENAPHTHENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
ACENAPHTHYLENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U
ANTHRACENE	N/A	N/A	N/A	5 U	1 U	N/A	10 U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57
Sample Id:	MW11-57(14.0)		MW11-100(24.0)		MW11-57 (13.5)		MW11-97 (24.0)		MW11-57(13.1)		MW11-94(20.0)		MW11-57
Sample Date:	30-JUN-94		30-JUN-94		24-SEP-94		24-SEP-94		20-DEC-94		20-DEC-94		02-OCT-96
Sample Depth:													
Investigation:	GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA
PAH (UG/L)													
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,4,5-TRICHLOROPHENOL	25	U	N/A		25	U	N/A		25	U	N/A		20	U
2,4,6-TRICHLOROPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,4-DICHLOROPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,4-DIMETHYLPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,4-DINITROPHENOL	25	U	N/A		25	U	N/A		25	U	N/A		20	U
2,4-DINITROTOLUENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2,6-DINITROTOLUENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2-CHLORONAPHTHALENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2-CHLOROPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2-METHYLNAPHTHALENE	10	U	N/A		10	U	N/A		.8	J	N/A		5	U
2-METHYLPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
2-NITROANILINE	25	U	N/A		25	U	N/A		25	U	N/A		20	U
2-NITROPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
3,3'-DICHLOROBENZIDINE	10	U	N/A		10	U	N/A		10	UJ	N/A		5	U
3-NITROANILINE	25	UJ	N/A		25	UJ	N/A		25	UJ	N/A		20	U
4,6-DINITRO-2-METHYLPHENOL	25	U	N/A		25	U	N/A		25	U	N/A		20	U
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		10	U	N/A		10	U	N/A		5	U
4-CHLORO-3-METHYLPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
4-CHLOROANILINE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		10	U	N/A		10	U	N/A		5	U
4-METHYLPHENOL	10	U	N/A		10	U	N/A		10	U	N/A		5	U
4-NITROANILINE	25	U	N/A		25	U	N/A		25	U	N/A		20	U
4-NITROPHENOL	25	U	N/A		25	U	N/A		25	U	N/A		20	U
ACENAPHTHENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
ACENAPHTHYLENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U
ANTHRACENE	10	U	N/A		10	U	N/A		10	U	N/A		5	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Id:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Date:	05-NOV-97		06-APR-98		22-JAN-99		24-FEB-99		26-FEB-99		09-MAR-99		04-MAR-99	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		.5	U	.5	U	.5	U	.5	U
FLUORANTHENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
FLUORENE	N/A		N/A		N/A		1	U	1	U	1	U	1	UJ
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	U
NAPHTHALENE	N/A		N/A		N/A		5	U	5	U	5	U	5	U
PHENANTHRENE	N/A		N/A		N/A		1	U	1	U	1	U	1	U
PYRENE	N/A		N/A		N/A		.2	U	.2	U	.2	U	.2	UJ
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
2,4,5-TRICHLOROPHENOL	3	U	3	U	25	U	3	U	3	U	3	U	3	U
2,4,6-TRICHLOROPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
2,4-DICHLOROPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
2,4-DIMETHYLPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
2,4-DINITROPHENOL	N/A		3	UJ	25	U	3	UJ	3	UJ	3	UJ	3	U
2,4-DINITROTOLUENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
2,6-DINITROTOLUENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
2-CHLORONAPHTHALENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
2-CHLOROPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
2-METHYLNAPHTHALENE	1	U	.7	J	10	U	1	U	1	UJ	1	U	1	U
2-METHYLPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
2-NITROANILINE	3	U	3	U	25	U	3	U	3	UJ	3	U	3	U
2-NITROPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
3,3'-DICHLOROBENZIDINE	1	U	1	UJ	10	UJ	1	U	1	UJ	1	U	1	UJ
3-NITROANILINE	3	U	3	U	25	U	3	U	3	UJ	3	U	3	UJ
4,6-DINITRO-2-METHYLPHENOL	3	J	3	U	25	U	3	U	3	U	3	U	3	U
4-BROMOPHENYL-PHENYLETHER	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
4-CHLORO-3-METHYLPHENOL	1	U	1	U	10	UJ	1	U	1	U	1	U	1	U
4-CHLOROANILINE	1	U	1	U	10	U	1	UJ	1	UJ	1	U	1	UJ
4-CHLOROPHENYL-PHENYLETHER	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
4-METHYLPHENOL	1	U	1	U	10	U	1	U	1	U	1	U	1	U
4-NITROANILINE	3	U	3	U	25	UJ	3	U	.2	J	3	U	3	U
4-NITROPHENOL	3	J	3	U	25	UJ	3	U	3	U	3	UJ	3	U
ACENAPHTHENE	1	U	.3	J	10	U	1	U	1	UJ	1	U	1	U
ACENAPHTHYLENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
ANTHRACENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		PZ		PZ		PZ		PZ	
Point Name:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71	
Sample Id:	MW11-85		MW11-86		MW11-88		PZ11-71		PZ11-71		PZ11-71		PZ11-71	
Sample Date:	19-FEB-99		19-FEB-99		25-FEB-99		05-OCT-96		08-NOV-97		03-APR-98		21-JAN-99	
Sample Depth:														
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	.5	U	.5	U	.5		N/A		N/A		N/A		N/A	
FLUORANTHENE	.2	U	.2	U	2.4		N/A		N/A		N/A		N/A	
FLUORENE	1	U	1	U	3		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	.2	U	.2	U	.2	U	N/A		N/A		N/A		N/A	
NAPHTHALENE	5	U	5	U	4	J	N/A		N/A		N/A		N/A	
PHENANTHRENE	1	U	1	U	2		N/A		N/A		N/A		N/A	
PYRENE	.2	U	.2	U	3.7		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		N/A		20	U	20	U	3	U	N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,4-DICHLOROPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,4-DINITROPHENOL	N/A		N/A		N/A		20	U	N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2,6-DINITROTOLUENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2-CHLORONAPHTHALENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2-CHLOROPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		7	J	5	U	1	U	N/A		N/A	
2-METHYLPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
2-NITROANILINE	N/A		N/A		20	U	20	U	3	U	N/A		N/A	
2-NITROPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		N/A		8	UJ	5	U	1	U	N/A		N/A	
3-NITROANILINE	N/A		N/A		20	U	20	U	3	U	N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		20	UJ	20	U	3	U	N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
4-CHLOROANILINE	N/A		N/A		8	UJ	5	U	1	U	N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
4-METHYLPHENOL	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
4-NITROANILINE	N/A		N/A		20	U	20	U	3	U	N/A		N/A	
4-NITROPHENOL	N/A		N/A		20	U	20	U	3	J	N/A		N/A	
ACENAPHTHENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	
ANTHRACENE	N/A		N/A		8	U	5	U	1	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74		PZ11-75	
Sample Id:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74		PZ11-74		PZ11-75	
Sample Date:	04-OCT-96		08-NOV-97		07-APR-98		02-OCT-96		07-APR-98		21-JAN-99		03-APR-09	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		96SITE4RA		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT2	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,4,5-TRICHLOROPHENOL	20	U	3	U	3	U	20	U	N/A		N/A		N/A	
2,4,6-TRICHLOROPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,4-DICHLOROPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,4-DIMETHYLPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,4-DINITROPHENOL	20	U	N/A		N/A		20	U	N/A		N/A		N/A	
2,4-DINITROTOLUENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2,6-DINITROTOLUENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2-CHLORONAPHTHALENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2-CHLOROPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2-METHYLNAPHTHALENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2-METHYLPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
2-NITROANILINE	20	U	3	U	3	U	20	U	N/A		N/A		N/A	
2-NITROPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
3,3'-DICHLOROBENZIDINE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
3-NITROANILINE	20	U	3	U	3	U	20	U	N/A		N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	20	U	3	U	3	U	20	U	N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
4-CHLORO-3-METHYLPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
4-CHLOROANILINE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
4-METHYLPHENOL	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
4-NITROANILINE	20	U	3	U	3	U	20	U	N/A		N/A		N/A	
4-NITROPHENOL	20	U	3	J	3	U	20	U	N/A		N/A		N/A	
ACENAPHTHENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
ACENAPHTHYLENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	
ANTHRACENE	5	U	1	U	1	U	5	U	N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-75		PZ11-75		PZ11-75 (FD)		PZ11-75		PZ11-75 (FD)		PZ11-76		PZ11-76	
Sample Id:	PZ11-75		PZ11-75		MW11-200		PZ11-75		MW11-200		PZ11-76		PZ11-76	
Sample Date:	02-OCT-96		05-NOV-97		05-NOV-97		03-APR-98		03-APR-98		02-OCT-96		31-OCT-97	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		96SITE4RA		SEMI_EVENT1	
PAH (UG/L)														
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,4,5-TRICHLOROPHENOL	20	U	3	U	3	U	3	U	3	U	20	U	3	U
2,4,6-TRICHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,4-DICHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,4-DIMETHYLPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,4-DINITROPHENOL	20	U	N/A		N/A		3	UJ	3	UJ	20	U	N/A	
2,4-DINITROTOLUENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2,6-DINITROTOLUENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2-CHLORONAPHTHALENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2-CHLOROPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2-METHYLNAPHTHALENE	5	U	1	U	1	U	1	U	3		5	U	1	U
2-METHYLPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
2-NITROANILINE	20	U	3	U	3	U	3	U	3	U	20	U	3	U
2-NITROPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
3,3'-DICHLOROBENZIDINE	5	U	1	U	1	U	1	U	1	UJ	5	U	1	U
3-NITROANILINE	20	U	3	U	3	U	3	U	3	U	20	U	3	U
4,6-DINITRO-2-METHYLPHENOL	20	U	3	J	3	J	3	U	3	U	20	U	3	J
4-BROMOPHENYL-PHENYLETHER	5	U	1	U	1	U	1	U	1	U	5	U	1	U
4-CHLORO-3-METHYLPHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
4-CHLOROANILINE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
4-CHLOROPHENYL-PHENYLETHER	5	U	1	U	1	U	1	U	1	U	5	U	1	U
4-METHYLPHENOL	5	U	1	U	1	U	.08	J	1	U	5	U	1	U
4-NITROANILINE	20	U	3	U	3	U	3	U	3	U	20	U	3	U
4-NITROPHENOL	20	U	3	J	3	J	3	U	3	U	20	U	3	J
ACENAPHTHENE	5	U	1	U	1	U	.1	J	1	U	5	U	1	U
ACENAPHTHYLENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
ANTHRACENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		SB		SB	
Point Name:	PZ11-76		BR11-90		SB11-87	
Sample Id:	PZ11-76		BR4-1(14)		WB11-87(12.0)	
Sample Date:	06-APR-98		06-FEB-99		12-FEB-99	
Sample Depth:			14 ft		12 ft	
Investigation:	SEMI_EVENT2		PHASEII_RI		PHASEII_RI	
PAH (UG/L)						
DIBENZO(A,H)ANTHRACENE	N/A		.72	U	2.5	U
FLUORANTHENE	N/A		.29	UJ	1	U
FLUORENE	N/A		1.4	U	5	U
INDENO(1,2,3-CD)PYRENE	N/A		.29	U	1	U
NAPHTHALENE	N/A		10		25	U
PHENANTHRENE	N/A		1.4	U	5	U
PYRENE	N/A		.29	UJ	1	U
SVOA (UG/L)						
1,2,4-TRICHLOROBENZENE	1	U	N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	N/A		N/A	
2,4,5-TRICHLOROPHENOL	3	U	N/A		N/A	
2,4,6-TRICHLOROPHENOL	1	U	N/A		N/A	
2,4-DICHLOROPHENOL	1	U	N/A		N/A	
2,4-DIMETHYLPHENOL	1	U	N/A		N/A	
2,4-DINITROPHENOL	3	UJ	N/A		N/A	
2,4-DINITROTOLUENE	1	U	N/A		N/A	
2,6-DINITROTOLUENE	1	U	N/A		N/A	
2-CHLORONAPHTHALENE	1	U	N/A		N/A	
2-CHLOROPHENOL	1	U	N/A		N/A	
2-METHYLNAPHTHALENE	1	U	N/A		N/A	
2-METHYLPHENOL	1	U	N/A		N/A	
2-NITROANILINE	3	U	N/A		N/A	
2-NITROPHENOL	1	U	N/A		N/A	
3,3'-DICHLOROBENZIDINE	1	UJ	N/A		N/A	
3-NITROANILINE	3	U	N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	3	U	N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	1	U	N/A		N/A	
4-CHLORO-3-METHYLPHENOL	1	U	N/A		N/A	
4-CHLOROANILINE	1	U	N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	1	U	N/A		N/A	
4-METHYLPHENOL	1	U	N/A		N/A	
4-NITROANILINE	3	U	N/A		N/A	
4-NITROPHENOL	3	U	N/A		N/A	
ACENAPHTHENE	1	U	N/A		N/A	
ACENAPHTHYLENE	1	U	N/A		N/A	
ANTHRACENE	1	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW
Point Name:	BR11-90		MW10-02	MW10-03	MW10-03	MW10-03	MW10-17	MW10-18
Sample Id:	BR11-90		MW10-02(9)	MW10-03(19.0)	MW10-03 (18.0)	MW10-03(19.0)	MW10-17	MW10-18
Sample Date:	07-MAR-99		29-MAR-94	27-JUN-94	28-SEP-94	21-DEC-94	23-FEB-99	23-FEB-99
Sample Depth:								
Investigation:	PHASEII_RI		GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI	PHASEII_RI
SVOA (UG/L)								
BENZO(A)ANTHRACENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	1	U	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
CARBAZOLE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZOFURAN	1	U	N/A	N/A	N/A	N/A	N/A	N/A
DIETHYLPHTHALATE	1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
DIMETHYLPHTHALATE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBENZENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROBUTADIENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
HEXACHLOROETHANE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
ISOPHORONE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	1	U	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
NITROBENZENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
PENTACHLOROPHENOL	3	U	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
PHENOL	1	U	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	1	U	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Total (UG/L)								
ALUMINUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
BENZO(A)PYRENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
BENZO(B)FLUORANTHENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
BENZO(G,H,I)PERYLENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
BENZO(K)FLUORANTHENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	50	U	N/A		10	U	N/A		10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
BUTYLBENZYLPHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
CARBAZOLE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
CHRYSENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
DI-N-BUTYLPHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
DI-N-OCTYLPHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
DIBENZO(A,H)ANTHRACENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
DIBENZOFURAN	10	U	10	U	50	U	N/A		10	U	N/A		10	U
DIETHYLPHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
DIMETHYLPHTHALATE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
FLUORANTHENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
FLUORENE	10	U	10	U	50	U	N/A		.9	J	N/A		10	U
HEXACHLOROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
HEXACHLOROBUTADIENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
HEXACHLOROETHANE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
INDENO(1,2,3-CD)PYRENE	10	U	10	U	50	U	N/A		10	U	N/A		10	UJ
ISOPHORONE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
N-NITROSODIPHENYLAMINE (1)	10	U	10	U	50	U	N/A		10	U	N/A		10	U
NAPHTHALENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
NITROBENZENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
PENTACHLOROPHENOL	N/A		26	U	120	UJ	N/A		25	UJ	N/A		25	U
PHENANTHRENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
PHENOL	N/A		10	U	50	U	N/A		10	U	N/A		10	U
PYRENE	10	U	10	U	50	U	N/A		10	U	N/A		10	U
METALS-Total (UG/L)														
ALUMINUM	425		1960	J	23900		N/A		19900		N/A		39500	
ANTIMONY	23	U	31	U	28.6	U	N/A		28.6	U	N/A		28.6	U

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	MW
Point Name:	MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	MW11-20
Sample Id:	MW11-19		MW11-19		MW11-250		MW11-19		MW11-250		MW11-19	MW11-20 (15.5)
Sample Date:	04-OCT-96		07-NOV-97		07-NOV-97		08-APR-98		08-APR-98		22-JAN-99	22-SEP-94
Sample Depth:												
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		SEMI_EVENT3	GW3Q94
SVOA (UG/L)												
BENZO(A)ANTHRACENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BENZO(A)PYRENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BENZO(B)FLUORANTHENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BENZO(G,H,I)PERYLENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BENZO(K)FLUORANTHENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	5	U	1	U	1	U	1	U	1	U	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	1	U	1	U	.2	UJ	1	U	N/A	N/A
BUTYLBENZYLPHTHALATE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
CARBAZOLE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
CHRYSENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
DI-N-BUTYLPHTHALATE	5	U	.5	J	.4	J	.2	UJ	.4	UJ	N/A	N/A
DI-N-OCTYLPHTHALATE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
DIBENZO(A,H)ANTHRACENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
DIBENZOFURAN	5	U	1	U	1	U	1	U	1	U	N/A	N/A
DIETHYLPHTHALATE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
DIMETHYLPHTHALATE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
FLUORANTHENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
FLUORENE	5	U	.3	J	.3	J	.3	J	.3	J	N/A	N/A
HEXACHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
HEXACHLOROBUTADIENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	5	UJ	1	J	1	J	1	U	1	U	N/A	N/A
HEXACHLOROETHANE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
INDENO(1,2,3-CD)PYRENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
ISOPHORONE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	5	U	1	U	1	U	1	U	1	U	N/A	N/A
NAPHTHALENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
NITROBENZENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
PENTACHLOROPHENOL	20	U	3	U	3	U	3	U	3	U	N/A	N/A
PHENANTHRENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
PHENOL	5	U	1	U	1	U	1	U	1	U	N/A	N/A
PYRENE	5	U	1	U	1	U	1	U	1	U	N/A	N/A
METALS-Total (UG/L)												
ALUMINUM	N/A		N/A		N/A		820		N/A		N/A	N/A
ANTIMONY	N/A		N/A		N/A		1.2	U	N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22
Sample Id:	MW11-20(14.0)		MW11-20 (14.0)		MW11-20		MW11-20		MW11-20		MW11-20		MW11-22(18.5)
Sample Date:	16-DEC-94		02-MAY-95		03-OCT-96		07-NOV-97		03-APR-98		22-JAN-99		29-MAY-92
Sample Depth:													
Investigation:	GW4Q94		BIOPAD		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		92GW
SVOA (UG/L)													
BENZO(A)ANTHRACENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BENZO(A)PYRENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BENZO(B)FLUORANTHENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BENZO(G,H,I)PERYLENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BENZO(K)FLUORANTHENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BIS(2-CHLOROETHYL)ETHER	N/A		10	U	5	U	1	U	1	U	10	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		.9	J	5	U	1	U	.6	UJ	4	U	N/A
BUTYLBENZYLPHTHALATE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
CARBAZOLE	N/A		10	UJ	5	U	1	U	1	U	10	UJ	N/A
CHRYSENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
DI-N-BUTYLPHTHALATE	N/A		10	U	5	U	.5	J	.4	UJ	10	U	N/A
DI-N-OCTYLPHTHALATE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
DIBENZO(A,H)ANTHRACENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
DIBENZOFURAN	N/A		10	U	5	U	1	U	1	U	10	U	N/A
DIETHYLPHTHALATE	N/A		10	U	5	U	1	U	.08	UJ	10	U	N/A
DIMETHYLPHTHALATE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
FLUORANTHENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
FLUORENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
HEXACHLOROBENZENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
HEXACHLOROBUTADIENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
HEXACHLOROCYCLOPENTADIENE	N/A		10	U	5	UJ	1	J	1	UJ	10	U	N/A
HEXACHLOROETHANE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
INDENO(1,2,3-CD)PYRENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
ISOPHORONE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
N-NITROSODIPHENYLAMINE (1)	N/A		10	U	5	U	1	U	1	U	10	U	N/A
NAPHTHALENE	N/A		10	U	5	U	1	U	.08	J	10	U	N/A
NITROBENZENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
PENTACHLOROPHENOL	N/A		25	U	20	U	3	U	3	U	25	U	N/A
PHENANTHRENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
PHENOL	N/A		10	U	5	U	1	U	1	U	10	U	N/A
PYRENE	N/A		10	U	5	U	1	U	1	U	10	U	N/A
METALS-Total (UG/L)													
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-22		MW11-22		MW11-23		MW11-23		MW11-23		MW11-55		MW11-55	
Sample Id:	MW11-22(WATER)		MW11-22 (12.5)		MW11-23(18.5)		MW11-23 (19.0)		MW11-23		MW11-55(23.0)		MW11-55(13.0)	
Sample Date:	22-JUL-92		02-MAY-95		29-MAY-92		02-MAY-95		03-OCT-96		23-MAR-94		28-JUN-94	
Sample Depth:														
Investigation:	92GW		BIOPAD		92GW		BIOPAD		96SITE4RA		GW1Q94		GW2Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BENZO(A)PYRENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BENZO(B)FLUORANTHENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BENZO(G,H,I)PERYLENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BENZO(K)FLUORANTHENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
BUTYLBENZYLPHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
CARBAZOLE	N/A		10	UJ	10	U	11	UJ	5	U	10	U	10	U
CHRYSENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DI-N-BUTYLPHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DI-N-OCTYLPHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DIBENZOFURAN	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DIETHYLPHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
DIMETHYLPHTHALATE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
FLUORANTHENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
FLUORENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
HEXACHLOROBENZENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
HEXACHLOROBUTADIENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	N/A		10	U	10	U	11	U	5	UJ	10	U	10	U
HEXACHLOROETHANE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
ISOPHORONE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	N/A		10	U	10	U	11	U	5	U	10	U	10	U
NAPHTHALENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
NITROBENZENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
PENTACHLOROPHENOL	N/A		25	U	25	U	29	U	20	U	25	U	25	UJ
PHENANTHRENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
PHENOL	N/A		10	U	10	U	11	U	5	U	10	U	10	U
PYRENE	N/A		10	U	10	U	11	U	5	U	10	U	10	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		85.9	B	N/A		N/A		6370	J	N/A	
ANTIMONY	N/A		N/A		23	U	N/A		N/A		31	UJ	N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-56	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-55		MW11-56(22)	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98		30-MAR-94	
Sample Depth:														
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BENZO(A)PYRENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BENZO(B)FLUORANTHENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BENZO(G,H,I)PERYLENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BENZO(K)FLUORANTHENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BIS(2-CHLOROETHYL)ETHER	10	U	N/A		10	U	5	U	1	U	N/A		10	U
BIS(2-ETHYLHEXYL)PHTHALATE	12		N/A		10	U	5	U	1	U	N/A		10	U
BUTYLBENZYLPHTHALATE	2	J	N/A		10	U	5	U	1	U	N/A		10	U
CARBAZOLE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
CHRYSENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
DI-N-BUTYLPHTHALATE	10	U	N/A		10	U	5	U	.3	J	N/A		10	U
DI-N-OCTYLPHTHALATE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
DIBENZO(A,H)ANTHRACENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
DIBENZOFURAN	10	U	N/A		10	U	5	U	1	U	N/A		10	U
DIETHYLPHTHALATE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
DIMETHYLPHTHALATE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
FLUORANTHENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
FLUORENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
HEXACHLOROBENZENE	10	U	N/A		10	U	5	U	1	U	N/A		10	UJ
HEXACHLOROBUTADIENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
HEXACHLOROCYCLOPENTADIENE	10	U	N/A		10	U	5	UJ	1	J	N/A		10	U
HEXACHLOROETHANE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
INDENO(1,2,3-CD)PYRENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
ISOPHORONE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
N-NITROSODIPHENYLAMINE (1)	10	U	N/A		10	U	5	U	1	U	N/A		10	UJ
NAPHTHALENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
NITROBENZENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
PENTACHLOROPHENOL	25	U	N/A		25	U	20	U	3	U	N/A		25	U
PHENANTHRENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
PHENOL	10	U	N/A		10	U	5	U	1	U	N/A		10	U
PYRENE	10	U	N/A		10	U	5	U	1	U	N/A		10	U
METALS-Total (UG/L)														
ALUMINUM	N/A		274	UJ	7510		N/A		N/A		13200		7900	
ANTIMONY	N/A		28.6	U	28.6	U	N/A		N/A		2.7	J	31	UJ

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-57	
Sample Id:	MW11-56 (11.0)		MW11-56 (11.0)		MW11-56(10.0)		MW11-56		MW11-56		MW11-57(23)	
Sample Date:	28-JUN-94		23-SEP-94		17-DEC-94		04-OCT-96		07-NOV-97		07-APR-98		28-MAR-94	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BENZO(A)PYRENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
BUTYLBENZYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
CARBAZOLE	N/A		N/A		N/A		5	U	1	U	N/A		10	UJ
CHRYSENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		5	U	.3	J	N/A		10	U
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
DIBENZOFURAN	N/A		N/A		N/A		5	U	1	U	N/A		10	U
DIETHYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
DIMETHYLPHTHALATE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
FLUORANTHENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
FLUORENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
HEXACHLOROBENZENE	N/A		N/A		N/A		5	U	1	U	N/A		10	UJ
HEXACHLOROBUTADIENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		5	UJ	1	J	N/A		10	U
HEXACHLOROETHANE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
ISOPHORONE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		5	U	1	U	N/A		10	UJ
NAPHTHALENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
NITROBENZENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
PENTACHLOROPHENOL	N/A		N/A		N/A		20	U	3	U	N/A		26	U
PHENANTHRENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
PHENOL	N/A		N/A		N/A		5	U	1	U	N/A		10	U
PYRENE	N/A		N/A		N/A		5	U	1	U	N/A		10	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		14900	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		31	UJ

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57 (FD)	MW11-57		MW11-57 (FD)		MW11-57		MW11-57 (FD)		MW11-57	
Sample Id:	MW11-57(14.0)		MW11-100(24.0)	MW11-57 (13.5)		MW11-97 (24.0)		MW11-57(13.1)		MW11-94(20.0)		MW11-57	
Sample Date:	30-JUN-94		30-JUN-94	24-SEP-94		24-SEP-94		20-DEC-94		20-DEC-94		02-OCT-96	
Sample Depth:													
Investigation:	GW2Q94		GW2Q94	GW3Q94		GW3Q94		GW4Q94		GW4Q94		96SITE4RA	
SVOA (UG/L)													
BENZO(A)ANTHRACENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BENZO(A)PYRENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BENZO(B)FLUORANTHENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BENZO(G,H,I)PERYLENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BENZO(K)FLUORANTHENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BIS(2-CHLOROETHYL)ETHER	10	U	N/A	10	U	N/A		10	U	N/A		5	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	N/A	10	U	N/A		26		N/A		5	U
BUTYLBENZYLPHTHALATE	10	U	N/A	10	U	N/A		2	J	N/A		5	U
CARBAZOLE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
CHRYSENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DI-N-BUTYLPHTHALATE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DI-N-OCTYLPHTHALATE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DIBENZO(A,H)ANTHRACENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DIBENZOFURAN	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DIETHYLPHTHALATE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
DIMETHYLPHTHALATE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
FLUORANTHENE	1	J	N/A	.7	J	N/A		10	U	N/A		5	U
FLUORENE	2	J	N/A	1	J	N/A		2	J	N/A		5	U
HEXACHLOROBENZENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
HEXACHLOROBUTADIENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
HEXACHLOROCYCLOPENTADIENE	10	U	N/A	10	U	N/A		10	U	N/A		5	UJ
HEXACHLOROETHANE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
INDENO(1,2,3-CD)PYRENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
ISOPHORONE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
N-NITROSODIPHENYLAMINE (1)	10	U	N/A	10	U	N/A		10	U	N/A		5	U
NAPHTHALENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
NITROBENZENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
PENTACHLOROPHENOL	25	U	N/A	25	UJ	N/A		25	U	N/A		20	U
PHENANTHRENE	10	U	N/A	10	U	N/A		10	U	N/A		5	U
PHENOL	10	U	N/A	10	U	N/A		10	U	N/A		5	U
PYRENE	10	U	N/A	.6	J	N/A		10	U	N/A		5	U
METALS-Total (UG/L)													
ALUMINUM	50500		N/A	N/A		N/A		N/A		N/A		N/A	
ANTIMONY	28.6	U	N/A	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Id:	MW11-57		MW11-57		MW11-57		MW11-80		MW11-81		MW11-82		MW11-83	
Sample Date:	05-NOV-97		06-APR-98		22-JAN-99		24-FEB-99		26-FEB-99		09-MAR-99		04-MAR-99	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BENZO(A)PYRENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BENZO(B)FLUORANTHENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BENZO(G,H,I)PERYLENE	1	U	1	U	10	U	1	UJ	1	UJ	1	U	1	U
BENZO(K)FLUORANTHENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BIS(2-CHLOROETHOXY)METHANE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BIS(2-CHLOROETHYL)ETHER	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	1	U	.7	UJ	4	UJ	6	UJ	1	UJ	3	UJ	1	UJ
BUTYLBENZYLPHTHALATE	1	U	.2	UJ	10	U	1	U	1	UJ	1	UJ	1	U
CARBAZOLE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
CHRYSENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
DI-N-BUTYLPHTHALATE	.3	J	.5	UJ	10	U	1	UJ	1	UJ	1	UJ	1	UJ
DI-N-OCTYLPHTHALATE	1	U	1	U	10	U	1	U	1	UJ	1	UJ	1	UJ
DIBENZO(A,H)ANTHRACENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
DIBENZOFURAN	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
DIETHYLPHTHALATE	1	U	.07	UJ	10	U	2	UJ	1	UJ	1	UJ	1	UJ
DIMETHYLPHTHALATE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
FLUORANTHENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
FLUORENE	1	U	.5	J	1	J	1	U	1	UJ	1	U	1	U
HEXACHLOROBENZENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
HEXACHLOROBUTADIENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
HEXACHLOROCYCLOPENTADIENE	1	J	1	U	10	U	1	U	1	UJ	1	UJ	1	UJ
HEXACHLOROETHANE	1	U	1	U	10	UJ	1	U	1	UJ	1	U	1	U
INDENO(1,2,3-CD)PYRENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
ISOPHORONE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
N-NITROSODIPHENYLAMINE (1)	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
NAPHTHALENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
NITROBENZENE	1	U	1	U	10	U	1	U	1	UJ	1	U	1	U
PENTACHLOROPHENOL	3	J	3	UJ	25	UJ	3	U	3	U	3	U	3	U
PHENANTHRENE	1	U	.1	J	10	U	1	U	1	UJ	1	U	1	U
PHENOL	1	U	1	U	10	U	.2	J	1	U	1	U	1	U
PYRENE	1	U	.06	J	10	U	1	U	1	UJ	1	U	1	U
METALS-Total (UG/L)														
ALUMINUM	N/A		138	J	N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		1.2	U	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW		PZ		PZ		PZ	PZ
Point Name:	MW11-85	MW11-86	MW11-88		PZ11-71		PZ11-71		PZ11-71	PZ11-71
Sample Id:	MW11-85	MW11-86	MW11-88		PZ11-71		PZ11-71		PZ11-71	PZ11-71
Sample Date:	19-FEB-99	19-FEB-99	25-FEB-99		05-OCT-96		08-NOV-97		03-APR-98	21-JAN-99
Sample Depth:										
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2	SEMI_EVENT3
SVOA (UG/L)										
BENZO(A)ANTHRACENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	8	U	5	U	1	U	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	8	UJ	5	U	1	U	N/A	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
CARBAZOLE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
CHRYSENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	8	U	5	U	.5	J	N/A	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
DIBENZOFURAN	N/A	N/A	8	U	5	U	1	U	N/A	N/A
DIETHYLPHTHALATE	N/A	N/A	8	UJ	5	U	1	U	N/A	N/A
DIMETHYLPHTHALATE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
FLUORANTHENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
FLUORENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
HEXACHLOROBENZENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
HEXACHLOROBUTADIENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	8	UJ	5	UJ	1	J	N/A	N/A
HEXACHLOROETHANE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
ISOPHORONE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	8	U	5	U	1	U	N/A	N/A
NAPHTHALENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
NITROBENZENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
PENTACHLOROPHENOL	N/A	N/A	20	U	20	U	3	U	N/A	N/A
PHENANTHRENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
PHENOL	N/A	N/A	8	U	5	U	1	U	N/A	N/A
PYRENE	N/A	N/A	8	U	5	U	1	U	N/A	N/A
METALS-Total (UG/L)										
ALUMINUM	N/A	N/A	N/A		N/A		N/A		N/A	N/A
ANTIMONY	N/A	N/A	N/A		N/A		N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ	PZ	PZ
Point Name:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74	PZ11-74	PZ11-75
Sample Id:	PZ11-72		PZ11-72		PZ11-72		PZ11-74		PZ11-74	PZ11-74	PZ11-75
Sample Date:	04-OCT-96		08-NOV-97		07-APR-98		02-OCT-96		07-APR-98	21-JAN-99	03-APR-09
Sample Depth:											
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		96SITE4RA		SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT2
SVOA (UG/L)											
BENZO(A)ANTHRACENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BENZO(A)PYRENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	5	U	1	U	1	U	5	U	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	1	U	.3	UJ	5	U	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
CARBAZOLE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
CHRYSENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	5	U	.6	J	.3	UJ	5	U	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
DIBENZOFURAN	5	U	1	U	1	U	5	U	N/A	N/A	N/A
DIETHYLPHTHALATE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
DIMETHYLPHTHALATE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
FLUORANTHENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
FLUORENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
HEXACHLOROBENZENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
HEXACHLOROBUTADIENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	5	UJ	1	J	1	U	5	UJ	N/A	N/A	N/A
HEXACHLOROETHANE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
ISOPHORONE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	5	U	1	U	1	U	5	U	N/A	N/A	N/A
NAPHTHALENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
NITROBENZENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
PENTACHLOROPHENOL	20	U	3	U	3	U	20	U	N/A	N/A	N/A
PHENANTHRENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
PHENOL	5	U	1	U	1	U	5	U	N/A	N/A	N/A
PYRENE	5	U	1	U	1	U	5	U	N/A	N/A	N/A
METALS-Total (UG/L)											
ALUMINUM	N/A		N/A		39500		N/A		N/A	N/A	N/A
ANTIMONY	N/A		N/A		5.4	J	N/A		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		PZ		PZ		PZ		PZ		PZ		PZ	
Point Name:	PZ11-75		PZ11-75		PZ11-75 (FD)		PZ11-75		PZ11-75 (FD)		PZ11-76		PZ11-76	
Sample Id:	PZ11-75		PZ11-75		MW11-200		PZ11-75		MW11-200		PZ11-76		PZ11-76	
Sample Date:	02-OCT-96		05-NOV-97		05-NOV-97		03-APR-98		03-APR-98		02-OCT-96		31-OCT-97	
Sample Depth:														
Investigation:	96SITE4RA		SEMI_EVENT1		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT2		96SITE4RA		SEMI_EVENT1	
SVOA (UG/L)														
BENZO(A)ANTHRACENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
BENZO(A)PYRENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
BENZO(B)FLUORANTHENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
BENZO(G,H,I)PERYLENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
BENZO(K)FLUORANTHENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
BIS(2-CHLOROETHOXY)METHANE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
BIS(2-CHLOROETHYL)ETHER	5	U	1	U	1	U	1	U	1	U	5	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	5	U	1	U	1	U	.6	UJ	.7	UJ	5	U	1	U
BUTYLBENZYLPHTHALATE	5	U	1	U	1	U	.2	UJ	1	U	5	U	1	U
CARBAZOLE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
CHRYSENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
DI-N-BUTYLPHTHALATE	5	U	.8	J	.6	J	.4	UJ	.2	UJ	5	U	1	U
DI-N-OCTYLPHTHALATE	5	U	N/A		N/A		.08	J	1	UJ	5	U	1	U
DIBENZO(A,H)ANTHRACENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
DIBENZOFURAN	5	U	1	U	1	U	1	U	1	U	5	U	1	U
DIETHYLPHTHALATE	5	U	1	U	1	U	.07	UJ	1	U	5	U	1	U
DIMETHYLPHTHALATE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
FLUORANTHENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
FLUORENE	7		1	U	1	U	1	U	1	U	5	U	1	U
HEXACHLOROBENZENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
HEXACHLOROBUTADIENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
HEXACHLOROCYCLOPENTADIENE	5	UJ	1	J	1	J	1	U	1	UJ	5	UJ	1	J
HEXACHLOROETHANE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
INDENO(1,2,3-CD)PYRENE	5	U	N/A		N/A		1	UJ	1	UJ	5	U	1	U
ISOPHORONE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
N-NITROSODIPHENYLAMINE (1)	5	U	1	U	1	U	1	U	1	U	5	U	1	U
NAPHTHALENE	5	U	1	U	1	U	.09	J	1	U	5	U	1	U
NITROBENZENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
PENTACHLOROPHENOL	20	U	3	J	3	J	3	UJ	3	U	20	U	3	U
PHENANTHRENE	5	U	1	U	1	U	1	U	1	U	5	U	1	U
PHENOL	5	U	1	U	1	U	1	U	1	U	5	U	1	U
PYRENE	5	U	1	J	1		1	U	1	U	5	U	1	U
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ		SB	SB
Point Name:	PZ11-76		BR11-90	SB11-87
Sample Id:	PZ11-76		BR4-1(14)	WB11-87(12.0)
Sample Date:	06-APR-98		06-FEB-99	12-FEB-99
Sample Depth:			14 ft	12 ft
Investigation:	SEMI_EVENT2		PHASEII_RI	PHASEII_RI
SVOA (UG/L)				
BENZO(A)ANTHRACENE	1	U	N/A	N/A
BENZO(A)PYRENE	1	U	N/A	N/A
BENZO(B)FLUORANTHENE	1	U	N/A	N/A
BENZO(G,H,I)PERYLENE	1	U	N/A	N/A
BENZO(K)FLUORANTHENE	1	U	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	1	U	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	1	U	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	1	UJ	N/A	N/A
BUTYLBENZYLPHTHALATE	1	U	N/A	N/A
CARBAZOLE	1	U	N/A	N/A
CHRYSENE	1	U	N/A	N/A
DI-N-BUTYLPHTHALATE	.3	UJ	N/A	N/A
DI-N-OCTYLPHTHALATE	1	U	N/A	N/A
DIBENZO(A,H)ANTHRACENE	1	U	N/A	N/A
DIBENZOFURAN	1	U	N/A	N/A
DIETHYLPHTHALATE	1	U	N/A	N/A
DIMETHYLPHTHALATE	1	U	N/A	N/A
FLUORANTHENE	.2	J	N/A	N/A
FLUORENE	1	U	N/A	N/A
HEXACHLOROBENZENE	1	U	N/A	N/A
HEXACHLOROBUTADIENE	1	U	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	1	U	N/A	N/A
HEXACHLOROETHANE	1	U	N/A	N/A
INDENO(1,2,3-CD)PYRENE	1	U	N/A	N/A
ISOPHORONE	1	U	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	1	U	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	1	U	N/A	N/A
NAPHTHALENE	1	U	N/A	N/A
NITROBENZENE	1	U	N/A	N/A
PENTACHLOROPHENOL	3	UJ	N/A	N/A
PHENANTHRENE	1	U	N/A	N/A
PHENOL	1	U	N/A	N/A
PYRENE	.3	J	N/A	N/A
METALS-Total (UG/L)				
ALUMINUM	N/A		N/A	N/A
ANTIMONY	N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	BR11-90	MW10-02	MW10-03	MW10-03	MW10-03	MW10-17	MW10-18
Sample Id:	BR11-90	MW10-02(9)	MW10-03(19.0)	MW10-03 (18.0)	MW10-03(19.0)	MW10-17	MW10-18
Sample Date:	07-MAR-99	29-MAR-94	27-JUN-94	28-SEP-94	21-DEC-94	23-FEB-99	23-FEB-99
Sample Depth:							
Investigation:	PHASEII_RI	GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI	PHASEII_RI
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
METALS-Total (UG/L)														
ARSENIC	2	U	2.1	U	14.2		N/A		19	UJ	N/A		24.1	
BARIUM	109	B	112	B	365	J	N/A		375		N/A		518	
BERYLLIUM	1	U	1	U	.86	J	N/A		.4	U	N/A		.57	B
CADMIUM	3	U	4	U	.6	U	N/A		.6	U	N/A		.6	U
CALCIUM	32900		36600		50800	J	N/A		68200		N/A		45500	
CHROMIUM	4	UJ	6.1	B	52.3		N/A		39.9		N/A		68.5	
COBALT	3	U	2	U	21.6	B	N/A		16.5	B	N/A		27.7	B
COPPER	4	UJ	2	U	35.9		N/A		26.4	J	N/A		52	
IRON	1440		4220		27500	J	N/A		21700	J	N/A		36300	
LEAD	1	BW	5.3		64.6		N/A		48.4		N/A		89.1	
LEAD, ORGANIC	100	U	100	U	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	25600		28600		42100	J	N/A		55500		N/A		33500	
MANGANESE	1430		1220		2010	J	N/A		2200		N/A		2100	
MERCURY	.2	U	.14	U	.1	UJ	N/A		.36		N/A		.33	UJ
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	10	U	17.7	B	64.1		N/A		47.6		N/A		81	
POTASSIUM	10600		12900		28200	J	N/A		37100	J	N/A		25100	
SELENIUM	N/A		2	UJ	2.3	U	N/A		2.3	U	N/A		2.3	U
SILVER	3	J	N/A		2	U	N/A		2	U	N/A		2	U
SODIUM	328000		370000		466000		N/A		641000	J	N/A		282000	J
THALLIUM	3	J	20	UJ	2	U	N/A		2	U	N/A		2	U
VANADIUM	2	U	2.6	J	64.9		N/A		50.2		N/A		88.1	
ZINC	12.6	UJ	5.6	U	87.9		N/A		72	J	N/A		127	
METALS-Diss. (UG/L)														
ALUMINUM	N/A		25.6	U	1120	J	N/A		112	U	N/A		77.3	U
ANTIMONY	N/A		31	UJ	28.6	U	N/A		28.6	U	N/A		28.6	U
ARSENIC	N/A		2	UW	3.1	U	N/A		7.4	U	N/A		5.8	J
BARIUM	N/A		101	B	158	B	N/A		204		N/A		134	B
BERYLLIUM	N/A		1	U	.4	UJ	N/A		.4	U	N/A		.4	U
CADMIUM	N/A		4	U	.6	U	N/A		.6	U	N/A		.6	U
CALCIUM	N/A		39100		40600		N/A		61600		N/A		35400	
CHROMIUM	N/A		3	U	2.6	B	N/A		2.3	U	N/A		2.3	U
COBALT	N/A		2	U	2.3	U	N/A		2.3	U	N/A		2.3	U
COPPER	N/A		2	U	.4	UJ	N/A		.4	U	N/A		1.9	J
IRON	N/A		1640		2140	J	N/A		1840	J	N/A		1250	
LEAD	N/A		1.9	B	2.3	J-Z	N/A		.8	U	N/A		3	J

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW		MW	MW	MW
Point Name:	MW11-19	MW11-19	MW11-19 (FD)	MW11-19		MW11-19 (FD)	MW11-19	MW11-20
Sample Id:	MW11-19	MW11-19	MW11-250	MW11-19		MW11-250	MW11-19	MW11-20 (15.5)
Sample Date:	04-OCT-96	07-NOV-97	07-NOV-97	08-APR-98		08-APR-98	22-JAN-99	22-SEP-94
Sample Depth:								
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT1	SEMI_EVENT2		SEMI_EVENT2	SEMI_EVENT3	GW3Q94
METALS-Total (UG/L)								
ARSENIC	N/A	N/A	N/A	9.3	J	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	97.5	J	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	.11	U	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	.25	UJ	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	38600		N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	1.6	J	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	1.5	UJ	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	4.7	UJ	N/A	N/A	N/A
IRON	N/A	N/A	N/A	13400		N/A	N/A	N/A
LEAD	N/A	N/A	N/A	7.9		N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A		N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	18500		N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	1170		N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	.095	U	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	1.2	UJ	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	2.3	UJ	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	5400		N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	1.9	UN	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	.19	U	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	120000		N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	1.8	UJ	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	2.5	J	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	11	UJ	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	N/A	N/A	15.4	J	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	1.2	U	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	3.3	J	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	59.1	J	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	.11	U	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	.18	U	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	31700		N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	.57	U	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	.67	U	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	2.8	UJ	N/A	N/A	N/A
IRON	N/A	N/A	N/A	2560		N/A	N/A	N/A
LEAD	N/A	N/A	N/A	1.2	J	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-20	MW11-20	MW11-20	MW11-20	MW11-20	MW11-20	MW11-22
Sample Id:	MW11-20(14.0)	MW11-20 (14.0)	MW11-20	MW11-20	MW11-20	MW11-20	MW11-22(18.5)
Sample Date:	16-DEC-94	02-MAY-95	03-OCT-96	07-NOV-97	03-APR-98	22-JAN-99	29-MAY-92
Sample Depth:							
Investigation:	GW4Q94	BIOPAD	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	92GW
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW		MW	MW		MW	MW	
Point Name:	MW11-22	MW11-22	MW11-23		MW11-23	MW11-23		MW11-55	MW11-55	
Sample Id:	MW11-22(WATER)	MW11-22 (12.5)	MW11-23(18.5)		MW11-23 (19.0)	MW11-23		MW11-55(23.0)	MW11-55(13.0)	
Sample Date:	22-JUL-92	02-MAY-95	29-MAY-92		02-MAY-95	03-OCT-96		23-MAR-94	28-JUN-94	
Sample Depth:										
Investigation:	92GW	BIOPAD	92GW		BIOPAD	96SITE4RA		GW1Q94	GW2Q94	
METALS-Total (UG/L)										
ARSENIC	N/A	N/A	14.3		N/A	N/A		8.2	U	N/A
BARIUM	N/A	N/A	201		N/A	N/A		58.4	B	N/A
BERYLLIUM	N/A	N/A	1	U	N/A	N/A		1	U	N/A
CADMIUM	N/A	N/A	3	U	N/A	N/A		4	U	N/A
CALCIUM	N/A	N/A	81800		N/A	N/A		20800		N/A
CHROMIUM	N/A	N/A	4	UJ	N/A	N/A		10.3		N/A
COBALT	N/A	N/A	3	U	N/A	N/A		3.6	B	N/A
COPPER	N/A	N/A	4	UJ	N/A	N/A		3.1	B	N/A
IRON	N/A	N/A	16300		N/A	N/A		8270		N/A
LEAD	N/A	N/A	1	UW	N/A	N/A		10.7	S	N/A
LEAD, ORGANIC	N/A	N/A	100	U	N/A	N/A		100	U	N/A
MAGNESIUM	N/A	N/A	17400		N/A	N/A		28600		N/A
MANGANESE	N/A	N/A	4040		N/A	N/A		583		N/A
MERCURY	N/A	N/A	.2	U	N/A	N/A		.13	U	N/A
MOLYBDENUM	N/A	N/A	N/A		N/A	N/A		N/A		N/A
NICKEL	N/A	N/A	10	U	N/A	N/A		18.8	B	N/A
POTASSIUM	N/A	N/A	1990	B	N/A	N/A		16900		N/A
SELENIUM	N/A	N/A	N/A		N/A	N/A		21.8	J	N/A
SILVER	N/A	N/A	3	J	N/A	N/A		N/A		N/A
SODIUM	N/A	N/A	47100		N/A	N/A		355000		N/A
THALLIUM	N/A	N/A	3	J	N/A	N/A		20	UJ	N/A
VANADIUM	N/A	N/A	2	U	N/A	N/A		12.9	J	N/A
ZINC	N/A	N/A	10.9	UJ	N/A	N/A		27		N/A
METALS-Diss. (UG/L)										
ALUMINUM	N/A	N/A	N/A		N/A	N/A		400		N/A
ANTIMONY	N/A	N/A	N/A		N/A	N/A		31	UJ	N/A
ARSENIC	N/A	N/A	N/A		N/A	N/A		6.7	U	N/A
BARIUM	N/A	N/A	N/A		N/A	N/A		26.9	B	N/A
BERYLLIUM	N/A	N/A	N/A		N/A	N/A		1	U	N/A
CADMIUM	N/A	N/A	N/A		N/A	N/A		4	U	N/A
CALCIUM	N/A	N/A	N/A		N/A	N/A		20600		N/A
CHROMIUM	N/A	N/A	N/A		N/A	N/A		3	U	N/A
COBALT	N/A	N/A	N/A		N/A	N/A		2	U	N/A
COPPER	N/A	N/A	N/A		N/A	N/A		8.9	B	N/A
IRON	N/A	N/A	N/A		N/A	N/A		525		N/A
LEAD	N/A	N/A	N/A		N/A	N/A		1.9	BW	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-56	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-56(22)	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98		30-MAR-94	
Sample Depth:														
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
METALS-Total (UG/L)														
ARSENIC	N/A		11.3	UJ	11	UJ	N/A		N/A		11.1	J	20	U
BARIUM	N/A		71.4	B	55.1	B	N/A		N/A		68.1	J	146	B
BERYLLIUM	N/A		.4	U	.4	U	N/A		N/A		.22	U	1	U
CADMIUM	N/A		.6	U	.6	U	N/A		N/A		.36	U	4	U
CALCIUM	N/A		88000		12400		N/A		N/A		30100		121000	
CHROMIUM	N/A		2.3	U	19.1		N/A		N/A		21.9		5.1	B
COBALT	N/A		2.3	U	6.9	B	N/A		N/A		6.7	J	8.8	B
COPPER	N/A		.4	U	20.5	B	N/A		N/A		39.1		25	U
IRON	N/A		2320	J	7320		N/A		N/A		15200		10200	
LEAD	N/A		150	J	14.2		N/A		N/A		22.2		11.3	U
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		172000	J	27400		N/A		N/A		72600		334000	
MANGANESE	N/A		1690		256		N/A		N/A		530		992	
MERCURY	N/A		.1	U	.1	U	N/A		N/A		.48		3	J
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		3.5	UJ	N/A	
NICKEL	N/A		2.5	U	19.5	B	N/A		N/A		21.8	J	15.7	B
POTASSIUM	N/A		90700	J	32800		N/A		N/A		45900		131000	
SELENIUM	N/A		15.7	UJ	2.3	U	N/A		N/A		3.8	UN	28.8	J
SILVER	N/A		2	U	2	U	N/A		N/A		.38	U	2	U
SODIUM	N/A		1930000	J	562000	J	N/A		N/A		763000		3640000	
THALLIUM	N/A		2	U	2	U	N/A		N/A		2.8	U	20	UJ
VANADIUM	N/A		1.4	U	25	B	N/A		N/A		29.5	J	17.1	J
ZINC	N/A		1.9	U	36.2	UJ	N/A		N/A		94.6		32.4	
METALS-Diss. (UG/L)														
ALUMINUM	N/A		58.2	U	80.9	U	N/A		N/A		513		14	U
ANTIMONY	N/A		28.6	U	28.6	U	N/A		N/A		2.4	U	31	U
ARSENIC	N/A		7.7	U	6.6	J	N/A		N/A		3.5	J	2	UJ
BARIUM	N/A		63.4	B	7.5	B	N/A		N/A		28.2	J	53.4	B
BERYLLIUM	N/A		.4	U	.4	U	N/A		N/A		.22	U	1	U
CADMIUM	N/A		.6	U	.6	U	N/A		N/A		.36	U	4	U
CALCIUM	N/A		77300	J	11000		N/A		N/A		29100		113000	
CHROMIUM	N/A		2.3	U	2.3	U	N/A		N/A		1.9	J	3	U
COBALT	N/A		2.3	U	2.3	U	N/A		N/A		1.3	U	2	U
COPPER	N/A		.4	U	1.2	J	N/A		N/A		10.2	UJ	25	U
IRON	N/A		1620	J	207		N/A		N/A		359		80.7	B
LEAD	N/A		8	U	.8	U	N/A		N/A		2.5	J	4.6	J

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW	
Point Name:	MW11-56	MW11-56	MW11-56	MW11-56	MW11-56	MW11-56	MW11-57	
Sample Id:	MW11-56 (11.0)	MW11-56 (11.0)	MW11-56(10.0)	MW11-56	MW11-56	MW11-56	MW11-57(23)	
Sample Date:	28-JUN-94	23-SEP-94	17-DEC-94	04-OCT-96	07-NOV-97	07-APR-98	28-MAR-94	
Sample Depth:								
Investigation:	GW2Q94	GW3Q94	GW4Q94	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	GW1Q94	
METALS-Total (UG/L)								
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	2	UJ
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	326	
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	1	U
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	4	U
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	82600	
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	12.9	
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	6.9	B
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	25	U
IRON	N/A	N/A	N/A	N/A	N/A	N/A	16000	
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	23.5	
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	100	U
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	74000	
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	3780	
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	.44	J
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	14.8	B
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	17900	
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	2	U
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	650000	
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	20	UJ
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	26.9	J
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	42.9	
METALS-Diss. (UG/L)								
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	14	U
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	31	U
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	2	U
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	207	
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	1	U
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	4	U
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	83800	
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	3	U
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	2	U
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	2	U
IRON	N/A	N/A	N/A	N/A	N/A	N/A	1550	
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	1	UJ

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW
Point Name:	MW11-57		MW11-57 (FD)	MW11-57	MW11-57 (FD)	MW11-57	MW11-57 (FD)	MW11-57
Sample Id:	MW11-57(14.0)		MW11-100(24.0)	MW11-57 (13.5)	MW11-97 (24.0)	MW11-57(13.1)	MW11-94(20.0)	MW11-57
Sample Date:	30-JUN-94		30-JUN-94	24-SEP-94	24-SEP-94	20-DEC-94	20-DEC-94	02-OCT-96
Sample Depth:								
Investigation:	GW2Q94		GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	96SITE4RA
METALS-Total (UG/L)								
ARSENIC	19.6		N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	684		N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	2.7	J	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	10.7		N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	74000		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	77.9		N/A	N/A	N/A	N/A	N/A	N/A
COBALT	33.8	B	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	84		N/A	N/A	N/A	N/A	N/A	N/A
IRON	44200		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	148		N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	64500		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	3430		N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.67	J	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	81.2		N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	44500	J	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	2.3	U	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	2	U	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	650000	J	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	116		N/A	N/A	N/A	N/A	N/A	N/A
ZINC	195	J	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	50.9	U	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	28.6	U	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	3.1	U	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	212		N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	.4	UJ	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	.6	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	59700		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	2.3	U	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	2.3	U	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	.61	U	N/A	N/A	N/A	N/A	N/A	N/A
IRON	1280		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	.8	UJ	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW		MW	MW	MW	MW	MW
Point Name:	MW11-57	MW11-57		MW11-57	MW11-80	MW11-81	MW11-82	MW11-83
Sample Id:	MW11-57	MW11-57		MW11-57	MW11-80	MW11-81	MW11-82	MW11-83
Sample Date:	05-NOV-97	06-APR-98		22-JAN-99	24-FEB-99	26-FEB-99	09-MAR-99	04-MAR-99
Sample Depth:								
Investigation:	SEMI_EVENT1	SEMI_EVENT2		SEMI_EVENT3	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS-Total (UG/L)								
ARSENIC	N/A	4.2	J	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	124	J	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	.11	U	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	.18	U	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	47100		N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	.69	UJ	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	.67	U	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	4.5	UJ	N/A	N/A	N/A	N/A	N/A
IRON	N/A	1910		N/A	N/A	N/A	N/A	N/A
LEAD	N/A	1.1	J	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A		N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	34500		N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	2090		N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	.095	U	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	1.1	UJ	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	2.2	UJ	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	9780	J	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	2.6	J	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	.19	U	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	225000		N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	2.1	UJ	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	1.6	UJ	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	12.5	UJ	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	6	U	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	1.2	U	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	1.2	U	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	108	J	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	.11	U	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	.21	UJ	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	46600		N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	.57	U	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	.67	U	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	10.8	UJ	N/A	N/A	N/A	N/A	N/A
IRON	N/A	67.3	J	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	.8	U	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	PZ	PZ	PZ	PZ
Point Name:	MW11-85	MW11-86	MW11-88	PZ11-71	PZ11-71	PZ11-71	PZ11-71
Sample Id:	MW11-85	MW11-86	MW11-88	PZ11-71	PZ11-71	PZ11-71	PZ11-71
Sample Date:	19-FEB-99	19-FEB-99	25-FEB-99	05-OCT-96	08-NOV-97	03-APR-98	21-JAN-99
Sample Depth:							
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	PZ	PZ		PZ	PZ	PZ	PZ
Point Name:	PZ11-72	PZ11-72	PZ11-72		PZ11-74	PZ11-74	PZ11-74	PZ11-75
Sample Id:	PZ11-72	PZ11-72	PZ11-72		PZ11-74	PZ11-74	PZ11-74	PZ11-75
Sample Date:	04-OCT-96	08-NOV-97	07-APR-98		02-OCT-96	07-APR-98	21-JAN-99	03-APR-09
Sample Depth:								
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2		96SITE4RA	SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT2
METALS-Total (UG/L)								
ARSENIC	N/A	N/A	19.7	J	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	206	J	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	.31	UJ	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	.36	U	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	23000		N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	76.3		N/A	N/A	N/A	N/A
COBALT	N/A	N/A	53.1	J	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	90.4		N/A	N/A	N/A	N/A
IRON	N/A	N/A	51300		N/A	N/A	N/A	N/A
LEAD	N/A	N/A	90.8		N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A		N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	64200		N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	3240		N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	1.6		N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	3.4	UJ	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	98.2		N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	47800		N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	3.8	UN	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	.38	U	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	774000		N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	2.8	U	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	95.8	J	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	191		N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	N/A	168	J	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	2.4	UJ	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	3.7	J	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	29.5	J	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	.22	U	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	.36	U	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	16300		N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	1.1	U	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	1.3	U	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	9.5	UJ	N/A	N/A	N/A	N/A
IRON	N/A	N/A	7.6	UJ	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	1.6	U	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	PZ	PZ	PZ	PZ	PZ	PZ
Point Name:	PZ11-75	PZ11-75	PZ11-75 (FD)	PZ11-75	PZ11-75 (FD)	PZ11-76	PZ11-76
Sample Id:	PZ11-75	PZ11-75	MW11-200	PZ11-75	MW11-200	PZ11-76	PZ11-76
Sample Date:	02-OCT-96	05-NOV-97	05-NOV-97	03-APR-98	03-APR-98	02-OCT-96	31-OCT-97
Sample Depth:							
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT2	96SITE4RA	SEMI_EVENT1
METALS-Total (UG/L)							
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	SB	SB
Point Name:	PZ11-76	BR11-90	SB11-87
Sample Id:	PZ11-76	BR4-1(14)	WB11-87(12.0)
Sample Date:	06-APR-98	06-FEB-99	12-FEB-99
Sample Depth:		14 ft	12 ft
Investigation:	SEMI_EVENT2	PHASEII_RI	PHASEII_RI
METALS-Total (UG/L)			
ARSENIC	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A
COBALT	N/A	N/A	N/A
COPPER	N/A	N/A	N/A
IRON	N/A	N/A	N/A
LEAD	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A
SILVER	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A
ZINC	N/A	N/A	N/A
METALS-Diss. (UG/L)			
ALUMINUM	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A
COBALT	N/A	N/A	N/A
COPPER	N/A	N/A	N/A
IRON	N/A	N/A	N/A
LEAD	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	BR11-90	MW10-02	MW10-03	MW10-03	MW10-03	MW10-17	MW10-18
Sample Id:	BR11-90	MW10-02(9)	MW10-03(19.0)	MW10-03 (18.0)	MW10-03(19.0)	MW10-17	MW10-18
Sample Date:	07-MAR-99	29-MAR-94	27-JUN-94	28-SEP-94	21-DEC-94	23-FEB-99	23-FEB-99
Sample Depth:							
Investigation:	PHASEII_RI	GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI	PHASEII_RI
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	**1320**	N/A	N/A	N/A	N/A	**1990**	**1530**
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-19		MW11-19		MW11-19		MW11-19 (FD)		MW11-19		MW11-19 (FD)		MW11-19	
Sample Id:	MW11-19(14.5)		MW11-19(23.0)		MW11-19(13.0)		MW11-99(23.0)		MW11-19 (13.8)		MW11-98 (25.0)		MW11-19(12.2)	
Sample Date:	28-MAY-92		22-MAR-94		28-JUN-94		28-JUN-94		27-SEP-94		27-SEP-94		19-DEC-94	
Sample Depth:														
Investigation:	92GW		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94	
METALS-Diss. (UG/L)														
MAGNESIUM	N/A		30100		31600		N/A		49600	J	N/A		22500	
MANGANESE	N/A		1240		1360		N/A		1810		N/A		1390	
MERCURY	N/A		.13	U	.1	UJ	N/A		.1	U	N/A		.1	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		7	U	3.9	B	N/A		2.5	U	N/A		2.5	U
POTASSIUM	N/A		13500		18500	J	N/A		29400	J	N/A		9770	
SELENIUM	N/A		2.7	U+	2.3	U	N/A		2.3	U	N/A		2.3	U
SILVER	N/A		2	UJ	2	U	N/A		2	U	N/A		2	U
SODIUM	N/A		395000		433000	J	N/A		650000	J	N/A		285000	J
THALLIUM	N/A		20	UW	2	U	N/A		3	U	N/A		2	U
VANADIUM	N/A		2	UJ	3.2	B	N/A		1.4	U	N/A		2.7	B
ZINC	N/A		1	U	.5	UJ	N/A		2.9	U	N/A		2.4	U
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		24		N/A		N/A		N/A		N/A	
CHLORIDE	380		430		570		N/A		N/A		N/A		N/A	
FLUORIDE	.65		.83		.65		N/A		N/A		N/A		N/A	
NITRATE	.05	U	.06		.05	U	N/A		N/A		N/A		N/A	
NITRITE	.5	U	.05	U	.05	U	N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	.2	U	.31		.79		N/A		N/A		N/A		N/A	
SULFATE	14		37		25		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		8		12		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-19	MW11-19	MW11-19 (FD)	MW11-19	MW11-19 (FD)	MW11-19	MW11-20
Sample Id:	MW11-19	MW11-19	MW11-250	MW11-19	MW11-250	MW11-19	MW11-20 (15.5)
Sample Date:	04-OCT-96	07-NOV-97	07-NOV-97	08-APR-98	08-APR-98	22-JAN-99	22-SEP-94
Sample Depth:							
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT2	SEMI_EVENT3	GW3Q94
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	**16300**	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	**996**	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	.095 U	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	.84 U	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	1 U	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	**5350**	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	1.9 U	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	.19 U	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	**126000**	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	1.7 UJ	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	.29 U	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	5.5 UJ	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	**1500**	N/A	N/A	N/A	**325**	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-20	MW11-20	MW11-20	MW11-20	MW11-20	MW11-20	MW11-22
Sample Id:	MW11-20(14.0)	MW11-20 (14.0)	MW11-20	MW11-20	MW11-20	MW11-20	MW11-22(18.5)
Sample Date:	16-DEC-94	02-MAY-95	03-OCT-96	07-NOV-97	03-APR-98	22-JAN-99	29-MAY-92
Sample Depth:							
Investigation:	GW4Q94	BIOPAD	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	92GW
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	13	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	110	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	.59	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	.23	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	.05 U	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	.32	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	11	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	1530	N/A	556	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW11-22	MW11-22	MW11-23	MW11-23	MW11-23	MW11-55	MW11-55
Sample Id:	MW11-22(WATER)	MW11-22 (12.5)	MW11-23(18.5)	MW11-23 (19.0)	MW11-23	MW11-55(23.0)	MW11-55(13.0)
Sample Date:	22-JUL-92	02-MAY-95	29-MAY-92	02-MAY-95	03-OCT-96	23-MAR-94	28-JUN-94
Sample Depth:							
Investigation:	92GW	BIOPAD	92GW	BIOPAD	96SITE4RA	GW1Q94	GW2Q94
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	26600	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	467	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	.11 U	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	9 B	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	15300	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	2.7 BW	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	2 UJ	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	347000	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	20 UW	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	2 UJ	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	40.6	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	12	N/A	10	N/A	N/A	N/A
CHLORIDE	N/A	26	31	26	N/A	530	N/A
FLUORIDE	N/A	.66	.71	.63	N/A	1.1	N/A
NITRATE	N/A	.05 U	.05 U	.09	N/A	.64	.05 U
NITRITE	N/A	.05 U	.05 U	.05 U	N/A	.05 U	.05 U
ORTHOPHOSPHATE	N/A	.57	.2 U	.16	N/A	.2 U	.08
SULFATE	N/A	12	3.9	2.4	N/A	46	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	7.4	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-55		MW11-55		MW11-55		MW11-55		MW11-55		MW11-56	
Sample Id:	MW11-55 (12.0)		MW11-55 (12.2)		MW11-55(11.0)		MW11-55		MW11-55		MW11-56(22)	
Sample Date:	22-SEP-94		28-SEP-94		17-DEC-94		04-OCT-96		08-NOV-97		07-APR-98		30-MAR-94	
Sample Depth:														
Investigation:	GW3Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
METALS-Diss. (UG/L)														
MAGNESIUM	N/A		144000	J	24800		N/A		N/A		68400		314000	
MANGANESE	N/A		1630	J	99.8		N/A		N/A		39.3		515	
MERCURY	N/A		.1	U	.12	U	N/A		N/A		.095	J	.1	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		4	UJ	N/A	
NICKEL	N/A		2.5	U	2.5	U	N/A		N/A		2	U	7	U
POTASSIUM	N/A		75000	J	30400		N/A		N/A		44000		122000	
SELENIUM	N/A		16.2	UJ	2.3	U-Z	N/A		N/A		3.8	UN	N/A	
SILVER	N/A		2	U	2	U	N/A		N/A		.38	U	2	U
SODIUM	N/A		1600000	J	560000	J	N/A		N/A		760000		3570000	
THALLIUM	N/A		2	U	2	U	N/A		N/A		2.9	UJ	2	UJ
VANADIUM	N/A		1.4	U	8.5	B	N/A		N/A		3.5	J	50	U
ZINC	N/A		1.9	U	2.4	U	N/A		N/A		16.7	UJ	1	U
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NITRATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NITRITE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SULFATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		9110		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW11-56		MW11-56		MW11-56		MW11-56		MW11-56		MW11-57	
Sample Id:	MW11-56 (11.0)		MW11-56 (11.0)		MW11-56(10.0)		MW11-56		MW11-56		MW11-57(23)	
Sample Date:	28-JUN-94		23-SEP-94		17-DEC-94		04-OCT-96		07-NOV-97		07-APR-98		28-MAR-94	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW4Q94		96SITE4RA		SEMI_EVENT1		SEMI_EVENT2		GW1Q94	
METALS-Diss. (UG/L)														
MAGNESIUM	N/A		N/A		N/A		N/A		N/A		N/A		**79400**	
MANGANESE	N/A		N/A		N/A		N/A		N/A		N/A		**3800**	
MERCURY	N/A		N/A		N/A		N/A		N/A		N/A		.1	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		N/A		N/A		N/A		N/A		N/A		**7**	B
POTASSIUM	N/A		N/A		N/A		N/A		N/A		N/A		**15400**	
SELENIUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SILVER	N/A		N/A		N/A		N/A		N/A		N/A		2	U
SODIUM	N/A		N/A		N/A		N/A		N/A		N/A		**725000**	
THALLIUM	N/A		N/A		N/A		N/A		N/A		N/A		20	UJ
VANADIUM	N/A		N/A		N/A		N/A		N/A		N/A		50	U
ZINC	N/A		N/A		N/A		N/A		N/A		N/A		20	U
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLORIDE	**240**		N/A		N/A		N/A		N/A		N/A		**1600**	
FLUORIDE	**.68**		N/A		N/A		N/A		N/A		N/A		**.98**	
NITRATE	.05	U	N/A		N/A		N/A		N/A		N/A		.5	U
NITRITE	.05	U	N/A		N/A		N/A		N/A		N/A		.1	U
ORTHOPHOSPHATE	**1.1**		N/A		N/A		N/A		N/A		N/A		**.83**	
SULFATE	**1300**		N/A		N/A		N/A		N/A		N/A		**110**	
TDS	N/A		N/A		N/A		N/A		**23400**		N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		N/A		**9.4**	

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW
Point Name:	MW11-57		MW11-57 (FD)	MW11-57	MW11-57 (FD)	MW11-57	MW11-57 (FD)	MW11-57
Sample Id:	MW11-57(14.0)		MW11-100(24.0)	MW11-57 (13.5)	MW11-97 (24.0)	MW11-57(13.1)	MW11-94(20.0)	MW11-57
Sample Date:	30-JUN-94		30-JUN-94	24-SEP-94	24-SEP-94	20-DEC-94	20-DEC-94	02-OCT-96
Sample Depth:								
Investigation:	GW2Q94		GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	96SITE4RA
METALS-Diss. (UG/L)								
MAGNESIUM	**53700**		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	**2800**		N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.1	UJ	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	2.5	U	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	**20400**	J	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	2.3	U	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	2	U	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	**654000**	J	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	**1.7**	B	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	.5	UJ	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	**820**		N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	**.78**		N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	.25	U	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	**.06**		N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	.2	U	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	**77**		N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	**7.5**		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW		MW	MW	MW	MW	MW
Point Name:	MW11-57	MW11-57		MW11-57	MW11-80	MW11-81	MW11-82	MW11-83
Sample Id:	MW11-57	MW11-57		MW11-57	MW11-80	MW11-81	MW11-82	MW11-83
Sample Date:	05-NOV-97	06-APR-98		22-JAN-99	24-FEB-99	26-FEB-99	09-MAR-99	04-MAR-99
Sample Depth:								
Investigation:	SEMI_EVENT1	SEMI_EVENT2		SEMI_EVENT3	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS-Diss. (UG/L)								
MAGNESIUM	N/A	33700		N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	2010		N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	.095	U	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	1.5	UJ	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	3.8	UJ	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	9580	J	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	1.9	U	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	.19	U	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	225000		N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	1.6	UJ	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	.58	UJ	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	13.6	UJ	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A		N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A		N/A	N/A	N/A	N/A	N/A
TDS	2930	N/A		1240	346	310	493	505
TOTAL ORGANIC CARBON	N/A	N/A		N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	MW	MW	MW	PZ	PZ	PZ	PZ
Point Name:	MW11-85	MW11-86	MW11-88	PZ11-71	PZ11-71	PZ11-71	PZ11-71
Sample Id:	MW11-85	MW11-86	MW11-88	PZ11-71	PZ11-71	PZ11-71	PZ11-71
Sample Date:	19-FEB-99	19-FEB-99	25-FEB-99	05-OCT-96	08-NOV-97	03-APR-98	21-JAN-99
Sample Depth:							
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	**378**	**613**	**381**	N/A	**879**	N/A	**600**
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	PZ	PZ		PZ	PZ	PZ	PZ
Point Name:	PZ11-72	PZ11-72	PZ11-72		PZ11-74	PZ11-74	PZ11-74	PZ11-75
Sample Id:	PZ11-72	PZ11-72	PZ11-72		PZ11-74	PZ11-74	PZ11-74	PZ11-75
Sample Date:	04-OCT-96	08-NOV-97	07-APR-98		02-OCT-96	07-APR-98	21-JAN-99	03-APR-09
Sample Depth:								
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT2		96SITE4RA	SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT2
METALS-Diss. (UG/L)								
MAGNESIUM	N/A	N/A	45700		N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	1.8	UJ	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	.095	U	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	4.8	J	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	2	U	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	40000		N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	4.7	UJ	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	.38	U	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	731000		N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	2.8	N	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	3.5	J	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	8.4	UJ	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A		N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A		N/A	N/A	N/A	N/A
TDS	N/A	21700	N/A		N/A	N/A	767	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A		N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	PZ	PZ	PZ	PZ	PZ	PZ
Point Name:	PZ11-75	PZ11-75	PZ11-75 (FD)	PZ11-75	PZ11-75 (FD)	PZ11-76	PZ11-76
Sample Id:	PZ11-75	PZ11-75	MW11-200	PZ11-75	MW11-200	PZ11-76	PZ11-76
Sample Date:	02-OCT-96	05-NOV-97	05-NOV-97	03-APR-98	03-APR-98	02-OCT-96	31-OCT-97
Sample Depth:							
Investigation:	96SITE4RA	SEMI_EVENT1	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT2	96SITE4RA	SEMI_EVENT1
METALS-Diss. (UG/L)							
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)							
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	**4380**	N/A	N/A	N/A	N/A	**4390**
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 Shoreline Area (Drum Lot)
Water Analytical Results

Point Type:	PZ	SB	SB
Point Name:	PZ11-76	BR11-90	SB11-87
Sample Id:	PZ11-76	BR4-1(14)	WB11-87(12.0)
Sample Date:	06-APR-98	06-FEB-99	12-FEB-99
Sample Depth:		14 ft	12 ft
Investigation:	SEMI_EVENT2	PHASEII_RI	PHASEII_RI
METALS-Diss. (UG/L)			
MAGNESIUM	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A
SILVER	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A
ZINC	N/A	N/A	N/A
WATER QUALITY (MG/L)			
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A
CHLORIDE	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A
TDS	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A

SOIL

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	BR10-19		SB02-12		SB10-04		SB10-05		SB10-06		SB10-07		SB10-08	
Sample Id:	BR4-2(9.0-10.0)		SB02-12(7.0-8.0)		SB10-04 (20.0-20.5)		SB10-05 (18-18.5)		SB10-06 (13.5-17.5)		SB10-07 (8-8.4)		SB10-08 (5-5.5)	
Sample Date:	03-FEB-99		03-FEB-99		02-FEB-94		02-FEB-94		03-FEB-94		03-FEB-94		03-FEB-94	
Sample Depth:	9 - 10 ft		7 - 8 ft		20 - 20.5 ft		18 - 18.5 ft		13.5 - 17.5 ft		8 - 8.4 ft		5 - 5.5 ft	
Investigation:	PHASEII_RI		PHASEII_RI		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
TPH (MG/KG)														
BENZENE	.0057	U	.0054	U	.012	U	.006	U	.006	U	.11	U	.006	U
DIESEL RANGE ORGANICS	11	U	11	U	N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0057	U	.0054	U	.012	U	.006	U	.006	U	.11	U	.006	U
GASOLINE RANGE ORGANICS	1.1	U	1.1	U	2.3	U	1.2	U	1.2	U	21	U	1.1	U
JP4 RANGE ORGANICS	N/A		N/A		12	U	12	U	1.2	U	21	U	1.1	U
JP5 RANGE ORGANICS	11	U	11	U	12	U	12	U	1.2	U	21	U	1.1	U
METHYL-T-BUTYL ETHER	.028	U	.027	U	N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	11	U	11	U	N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		**1400**	X	**1600**	X	1.2	U	**3300**	X	1.1	U
OTHER LIGHT TPH COMPONENTS	N/A		N/A		**28**	Y	**15**	Y	**5.9**	Y	**350**	Y	1.1	U
TOLUENE	.0057	U	.0054	U	.012	U	.006	U	.006	U	.11	U	.006	U
TPH - BUNKER FUEL (C10-C28)	11	U	11	U	120	U	120	U	12	U	210	U	11	U
TPH - DIESEL F-76 (C8-C28)	11	U	11	U	12	UJ	12	UJ	1.2	UJ	21	U	1.1	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		12	U	12	U	1.2	U	21	U	1.1	U
XYLENE (TOTAL)	.011	U	.011	U	.012	U	.006	U	.006	U	.11	U	.006	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,1,2,2-TETRACHLOROETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,1,2-TRICHLOROETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,1-DICHLOROETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,1-DICHLOROETHENE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.35	U	N/A	
1,2-DICHLOROETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROETHENE (TOTAL)	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,2-DICHLOROPROPANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.35	U	N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.35	U	N/A	
2-BUTANONE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
2-HEXANONE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
4-METHYL-2-PENTANONE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
ACETONE	.012	UJ	.02	UJ	N/A		N/A		N/A		.018	UJ	N/A	
BENZENE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
BROMODICHLOROMETHANE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
BROMOFORM	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	
BROMOMETHANE	.011	UJ	.011	UJ	N/A		N/A		N/A		.011	U	N/A	
CARBON DISULFIDE	.011	U	.011	U	N/A		N/A		N/A		.011	U	N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
TPH (MG/KG)														
BENZENE	.024	U	.023	U	N/A		.006	U	.006	U	N/A		.007	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.024	U	.023	U	N/A		.006	U	.006	U	N/A		.007	U
GASOLINE RANGE ORGANICS	4.8	U	4.7	U	N/A		1.2	U	1.3	U	N/A		1.3	U
JP4 RANGE ORGANICS	1.2	U	1.2	U	N/A		1.2	U	1.3	U	N/A		1.3	U
JP5 RANGE ORGANICS	**110**		**210**		N/A		1.2	U	1.3	U	N/A		1.3	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	1.2	U	1.2	U	N/A		**240**		1.3	U	N/A		1.3	U
OTHER LIGHT TPH COMPONENTS	**78**	Y	**90**	Y	N/A		1.2	U	1.3	U	N/A		1.3	U
TOLUENE	.024	U	.023	U	N/A		**.014**		.006	U	N/A		.007	U
TPH - BUNKER FUEL (C10-C28)	12	U	12	U	N/A		12	U	13	U	N/A		13	U
TPH - DIESEL F-76 (C8-C28)	1.2	UJ	1.2	UJ	N/A		1.2	U	1.3	U	N/A		1.3	U
TPH - WEATHERED DIESEL(C8-C26)	1.2	U	1.2	U	N/A		1.2	U	1.3	U	N/A		1.3	U
XYLENE (TOTAL)	.024	U	.023	U	N/A		.006	U	.006	U	N/A		.007	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		.012	U	N/A		.012	U	N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,1-DICHLOROETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,1-DICHLOROETHENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,2-DICHLOROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
1,2-DICHLOROETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,2-DICHLOROPROPANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
1,3-DICHLOROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
1,4-DICHLOROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2-BUTANONE	N/A		.012	U	N/A		.012	U	.013	UJ	N/A		N/A	
2-HEXANONE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
4-METHYL-2-PENTANONE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
ACETONE	N/A		.012	U	N/A		.012	U	.04	UJ	N/A		N/A	
BENZENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
BROMODICHLOROMETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
BROMOFORM	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
BROMOMETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CARBON DISULFIDE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20	
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)	
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99	
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI	
TPH (MG/KG)														
BENZENE	.006	U	.006	U	N/A		.006	U	N/A		.006	U	.0054	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		11	U
ETHYLBENZENE	.006	U	.006	U	N/A		.006	U	N/A		.006	U	.0054	U
GASOLINE RANGE ORGANICS	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	UJ	1.1	U
JP4 RANGE ORGANICS	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	U	N/A	
JP5 RANGE ORGANICS	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	U	11	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		.027	U
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		15	Y
OTHER HEAVY TPH COMPONENTS	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	U	N/A	
OTHER LIGHT TPH COMPONENTS	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	U	N/A	
TOLUENE	.006	U	.006	U	N/A		.006	U	N/A		.006	U	.0054	U
TPH - BUNKER FUEL (C10-C28)	11	U	12	U	N/A		12	U	N/A		12	UJ	N/A	
TPH - DIESEL F-76 (C8-C28)	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	UJ	N/A	
TPH - WEATHERED DIESEL(C8-C26)	1.1	U	1.2	U	N/A		1.2	U	N/A		1.2	UJ	N/A	
XYLENE (TOTAL)	.006	U	.006	U	N/A		.006	U	N/A		.006	U	.011	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		.012	U	.011	U
1,1,2-TRICHLOROETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,1-DICHLOROETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,1-DICHLOROETHENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,2-DICHLOROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A	
1,2-DICHLOROETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,2-DICHLOROETHENE (TOTAL)	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,2-DICHLOROPROPANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
1,3-DICHLOROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A	
1,4-DICHLOROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A	
2-BUTANONE	.015	UJ	.012	U	N/A		.012	U	N/A		.012	UJ	.011	U
2-HEXANONE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	UJ
4-METHYL-2-PENTANONE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
ACETONE	.059	UJ	.011	U	N/A		.012	U	N/A		.003	UJ	.011	UJ
BENZENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
BROMODICHLOROMETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
BROMOFORM	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
BROMOMETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	UJ
CARBON DISULFIDE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SL		SL		SL		SL		SL	
Point Name:	SB10-20		SB10-20		SSPB-01		SSPB-01 (FD)		SSPB-02		SSPB-03		SSPB-04	
Sample Id:	SB4-1(16.5-17.5)		SB4-1(18.0-18.5)		SSPB-01		SSPB-01D		SSPB-02		SSPB-03		SSPB-04	
Sample Date:	04-FEB-99		04-FEB-99		12-NOV-98		12-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	16.5 - 17.5 ft		18 - 18.5 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)														
BENZENE	.0059	U	.56	U	N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	12	U	410		16	UJ	11	U	11	U	11	U	11	U
ETHYLBENZENE	.0059	U	.56	U	N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	1.2	U	91	J	.78	U	.56	U	.56	U	.56	U	.57	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	12	U	56	U	N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.03	U	3.1		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	14	Z	270		220	Y	355	Y	427		10	J	304	Y
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	.0059	U	.56	U	N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.012	U	1.1	U	N/A		N/A		N/A		N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
1,2-DICHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
1,4-DICHLOROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2-BUTANONE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	.012	UJ	.11	UJ	N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
ACETONE	.029	UJ	.14	UJ	N/A		N/A		N/A		N/A		N/A	
BENZENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
BROMOFORM	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	.012	UJ	.11	UJ	N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL		SL		SL		SL	
Point Name:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Id:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Date:	11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)								
BENZENE	N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	11	U	5	J	98	Z	247	Z
ETHYLBENZENE	N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	.56	U	.55	U	.55	U	.59	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	294	Y	13	Y	95	Y	277	Y
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A	
VOA (MG/KG)								
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A	
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	1.5	U	.037	U	.18	U	2	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	1.5	U	.037	U	.18	U	2	U
1,4-DICHLOROBENZENE	1.5	U	.037	U	.18	U	2	U
2-BUTANONE	N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB	SB	SB	SB		SB
Point Name:	BR10-19		SB02-12		SB10-04	SB10-05	SB10-06	SB10-07		SB10-08
Sample Id:	BR4-2(9.0-10.0)		SB02-12(7.0-8.0)		SB10-04 (20.0-20.5)	SB10-05 (18-18.5)	SB10-06 (13.5-17.5)	SB10-07 (8-8.4)		SB10-08 (5-5.5)
Sample Date:	03-FEB-99		03-FEB-99		02-FEB-94	02-FEB-94	03-FEB-94	03-FEB-94		03-FEB-94
Sample Depth:	9 - 10 ft		7 - 8 ft		20 - 20.5 ft	18 - 18.5 ft	13.5 - 17.5 ft	8 - 8.4 ft		5 - 5.5 ft
Investigation:	PHASEII_RI		PHASEII_RI		94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S		94SHORELN_S
VOA (MG/KG)										
CARBON TETRACHLORIDE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
CHLOROBENZENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
CHLOROETHANE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
CHLOROFORM	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
CHLOROMETHANE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
CIS-1,3-DICHLOROPROPENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
DIBROMOCHLOROMETHANE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
ETHYLBENZENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
METHYL-T-BUTYL ETHER	N/A		N/A		N/A	N/A	N/A	N/A		N/A
METHYLENE CHLORIDE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
STYRENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
TETRACHLOROETHENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
TOLUENE	.011	U	.011	U	N/A	N/A	N/A	.017		N/A
TRANS-1,3-DICHLOROPROPENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
TRICHLOROETHENE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
VINYL CHLORIDE	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
XYLENE (TOTAL)	.011	U	.011	U	N/A	N/A	N/A	.011	U	N/A
PAH (MG/KG)										
1-METHYLNAPHTHALENE	.057	UJ	.054	UJ	N/A	N/A	N/A	N/A		N/A
2-METHYLNAPHTHALENE	.057	UJ	.054	UJ	N/A	N/A	N/A	N/A		N/A
ACENAPHTHENE	.057	UJ	.054	UJ	N/A	N/A	N/A	N/A		N/A
ACENAPHTHYLENE	.023	U	.022	U	N/A	N/A	N/A	N/A		N/A
ANTHRACENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
BENZO(A)ANTHRACENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
BENZO(A)PYRENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
BENZO(B)FLUORANTHENE	.0023	U	.0022	U	N/A	N/A	N/A	N/A		N/A
BENZO(G,H,I)PERYLENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
BENZO(K)FLUORANTHENE	.0023	U	.0022	U	N/A	N/A	N/A	N/A		N/A
CHRYSENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
DIBENZO(A,H)ANTHRACENE	.0057	U	.0054	U	N/A	N/A	N/A	N/A		N/A
FLUORANTHENE	.0023	U	.0022	U	N/A	N/A	N/A	N/A		N/A
FLUORENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
INDENO(1,2,3-CD)PYRENE	.0023	U	.0022	U	N/A	N/A	N/A	N/A		N/A
NAPHTHALENE	.057	U	.054	U	N/A	N/A	N/A	N/A		N/A
PHENANTHRENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A
PYRENE	.0023	UJ	.0022	UJ	N/A	N/A	N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
VOA (MG/KG)														
CARBON TETRACHLORIDE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CHLOROBENZENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CHLOROETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CHLOROFORM	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CHLOROMETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
ETHYLBENZENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
STYRENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
TETRACHLOROETHENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
TOLUENE	N/A		.012	U	N/A		.007	J	.013	U	N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
TRICHLOROETHENE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
VINYL CHLORIDE	N/A		.012	U	N/A		.012	U	.013	U	N/A		N/A	
XYLENE (TOTAL)	N/A		.003	J	N/A		.012	U	.013	U	N/A		N/A	
PAH (MG/KG)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20	
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)	
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99	
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
CHLOROBENZENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
CHLOROETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
CHLOROFORM	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
CHLOROMETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
CIS-1,3-DICHLOROPROPENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
DIBROMOCHLOROMETHANE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
ETHYLBENZENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		.011	U
METHYLENE CHLORIDE	.011	UJ	.012	U	N/A		.012	U	N/A		.002	U	.011	UJ
STYRENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
TETRACHLOROETHENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
TOLUENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
TRANS-1,3-DICHLOROPROPENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
TRICHLOROETHENE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
VINYL CHLORIDE	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
XYLENE (TOTAL)	.011	UJ	.012	U	N/A		.012	U	N/A		.012	U	.011	U
PAH (MG/KG)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		.54	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		.54	U
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.54	U
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		.22	U
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.054	U
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		.54	U
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.022	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SL		SL		SL		SL		SL	
Point Name:	SB10-20		SB10-20		SSPB-01		SSPB-01 (FD)		SSPB-02		SSPB-03		SSPB-04	
Sample Id:	SB4-1(16.5-17.5)		SB4-1(18.0-18.5)		SSPB-01		SSPB-01D		SSPB-02		SSPB-03		SSPB-04	
Sample Date:	04-FEB-99		04-FEB-99		12-NOV-98		12-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	16.5 - 17.5 ft		18 - 18.5 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)														
CARBON TETRACHLORIDE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
CHLOROETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
CHLOROFORM	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
CHLOROMETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.012	UJ	.11	UJ	N/A		N/A		N/A		N/A		N/A	
STYRENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
TOLUENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
TRICHLOROETHENE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
VINYL CHLORIDE	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	.012	U	.11	U	N/A		N/A		N/A		N/A		N/A	
PAH (MG/KG)														
1-METHYLNAPHTHALENE	.059	U	.56	U	N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	.059	U	.56	U	N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	.059	U	.56	U	.39	U	.28	U	.28	U	.28	U	.057	U
ACENAPHTHYLENE	.024	U	.22	U	.16	U	.11	U	.11	U	.11	U	.023	U
ANTHRACENE	.0024	U	.02	J	.02		.001	J	.002	J	.011	U	.0023	U
BENZO(A)ANTHRACENE	.0024	U	.14	J	.068		.01	J	.043		.011	U	.004	
BENZO(A)PYRENE	.0024	U	.022	U	.11	J	.022		.011	U	.011	U	.0055	
BENZO(B)FLUORANTHENE	.0024	U	.022	U	.088	J	.035		.005	J	.004	J	.0068	
BENZO(G,H,I)PERYLENE	.0024	U	.022	U	.15	J	.072		.011	U	.011	U	.03	
BENZO(K)FLUORANTHENE	.0024	U	.022	U	.038	J	.011	J	.011	U	.011	U	.002	J
CHRYSENE	.0024	U	.022	U	.14	J	.031		.004	J	.001	J	.0057	
DIBENZO(A,H)ANTHRACENE	.0059	U	.056	U	.016	J	.007	J	.028	U	.028	U	.0057	U
FLUORANTHENE	.0024	U	.022	U	.27	J	.042		.007	J	.003	J	.014	
FLUORENE	.0024	U	.022	U	.016	U	.011	U	.011	U	.011	U	.0023	U
INDENO(1,2,3-CD)PYRENE	.0024	U	.022	U	.062		.02		.011	U	.011	U	.003	
NAPHTHALENE	.059	U	.56	U	.39	U	.28	U	.28	U	.28	U	.057	U
PHENANTHRENE	.0024	U	.04	J	.15	J	.02		.003	J	.011	U	.0098	
PYRENE	.0024	U	.448	J	.25	J	.048		.02		.007	J	.013	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL		SL		SL		SL	
Point Name:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Id:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Date:	11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)								
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A	
CHLOROETHANE	N/A		N/A		N/A		N/A	
CHLOROFORM	N/A		N/A		N/A		N/A	
CHLOROMETHANE	N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		N/A		N/A		N/A	
STYRENE	N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A	
TRICHLOROETHENE	N/A		N/A		N/A		N/A	
VINYL CHLORIDE	N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A	
PAH (MG/KG)								
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A	
ACENAPHTHENE	.56	U	.055	U	.055	U	.3	U
ACENAPHTHYLENE	.22	U	.022	U	.022	U	.12	U
ANTHRACENE	.011	J	.0022	U	.0022	U	.012	U
BENZO(A)ANTHRACENE	.04		.001	J	.003		.003	J
BENZO(A)PYRENE	.083		.0006	J	.01		.02	
BENZO(B)FLUORANTHENE	.066		.002	J	.0097		.01	J
BENZO(G,H,I)PERYLENE	.19		.0022	U	.028		.063	
BENZO(K)FLUORANTHENE	.03		.001	J	.004		.01	
CHRYSENE	.079		.003		.012		.002	J
DIBENZO(A,H)ANTHRACENE	.043	J	.0055	U	.003	J	.03	U
FLUORANTHENE	.13		.0054		.009		.01	
FLUORENE	.022	U	.0022	U	.0022	U	.012	U
INDENO(1,2,3-CD)PYRENE	.049		.0022	U	.0072		.011	J
NAPHTHALENE	.56	U	.055	U	.055	U	.3	U
PHENANTHRENE	.15		.0049		.004		.009	J
PYRENE	.19		.0057		.012		.035	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB		SB
Point Name:	BR10-19	SB02-12	SB10-04	SB10-05	SB10-06	SB10-07		SB10-08
Sample Id:	BR4-2(9.0-10.0)	SB02-12(7.0-8.0)	SB10-04 (20.0-20.5)	SB10-05 (18-18.5)	SB10-06 (13.5-17.5)	SB10-07 (8-8.4)		SB10-08 (5-5.5)
Sample Date:	03-FEB-99	03-FEB-99	02-FEB-94	02-FEB-94	03-FEB-94	03-FEB-94		03-FEB-94
Sample Depth:	9 - 10 ft	7 - 8 ft	20 - 20.5 ft	18 - 18.5 ft	13.5 - 17.5 ft	8 - 8.4 ft		5 - 5.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S		94SHORELN_S
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	**5.5**	D	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	.35	UJ	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	.85	UJ	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	**.96**		N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	**.27**	J	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	**.086**	J	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	**.051**	J	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	UJ	N/A
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		.38	UJ	N/A		.39	UJ	.42	U	N/A		N/A	
2,4,5-TRICHLOROPHENOL	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
2,4,6-TRICHLOROPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2,4-DICHLOROPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2,4-DIMETHYLPHENOL	N/A		.38	U	N/A		.39	U	.42	UJ	N/A		N/A	
2,4-DINITROPHENOL	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
2,4-DINITROTOLUENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2,6-DINITROTOLUENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2-CHLORONAPHTHALENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2-CHLOROPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
2-METHYLNAPHTHALENE	N/A		**.54**		N/A		.39	U	.42	U	N/A		N/A	
2-METHYLPHENOL	N/A		.38	U	N/A		.39	U	.42	UJ	N/A		N/A	
2-NITROANILINE	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
2-NITROPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
3,3'-DICHLOROBENZIDINE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
3-NITROANILINE	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
4,6-DINITRO-2-METHYLPHENOL	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
4-CHLORO-3-METHYLPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
4-CHLOROANILINE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
4-CHLOROPHENYL-PHENYLETHER	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
4-METHYLPHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
4-NITROANILINE	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
4-NITROPHENOL	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
ACENAPHTHENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
ACENAPHTHYLENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
ANTHRACENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BENZO(A)ANTHRACENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BENZO(A)PYRENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BIS(2-CHLOROETHYL)ETHER	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		.38	UJ	N/A		.39	UJ	.42	U	N/A		N/A	
BUTYLBENZYLPHTHALATE	N/A		.38	UJ	N/A		.39	UJ	.42	U	N/A		N/A	
CARBAZOLE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI
SVOA (MG/KG)													
1,2,4-TRICHLOROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2,4,5-TRICHLOROPHENOL	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
2,4,6-TRICHLOROPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2,4-DICHLOROPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2,4-DIMETHYLPHENOL	.37	UJ	.39	U	N/A		.38	UJ	N/A		.41	U	N/A
2,4-DINITROPHENOL	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
2,4-DINITROTOLUENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2,6-DINITROTOLUENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2-CHLORONAPHTHALENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2-CHLOROPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2-METHYLNAPHTHALENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
2-METHYLPHENOL	.37	UJ	.39	U	N/A		.38	UJ	N/A		.41	U	N/A
2-NITROANILINE	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
2-NITROPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
3,3'-DICHLOROBENZIDINE	.37	U	.39	U	N/A		.38	U	N/A		.41	UJ	N/A
3-NITROANILINE	.89	U	.95	U	N/A		.93	U	N/A		.99	UJ	N/A
4,6-DINITRO-2-METHYLPHENOL	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
4-BROMOPHENYL-PHENYLETHER	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
4-CHLORO-3-METHYLPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
4-CHLOROANILINE	.37	U	.39	U	N/A		.38	U	N/A		.41	UJ	N/A
4-CHLOROPHENYL-PHENYLETHER	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
4-METHYLPHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
4-NITROANILINE	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
4-NITROPHENOL	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
ACENAPHTHENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
ACENAPHTHYLENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
ANTHRACENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BENZO(A)ANTHRACENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BENZO(A)PYRENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BENZO(B)FLUORANTHENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BENZO(G,H,I)PERYLENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BENZO(K)FLUORANTHENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BIS(2-CHLOROETHOXY)METHANE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BIS(2-CHLOROETHYL)ETHER	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
BUTYLBENZYLPHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.012	J	N/A
CARBAZOLE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SL		SL		SL		SL		SL	
Point Name:	SB10-20		SB10-20		SSPB-01		SSPB-01 (FD)		SSPB-02		SSPB-03		SSPB-04	
Sample Id:	SB4-1(16.5-17.5)		SB4-1(18.0-18.5)		SSPB-01		SSPB-01D		SSPB-02		SSPB-03		SSPB-04	
Sample Date:	04-FEB-99		04-FEB-99		12-NOV-98		12-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	16.5 - 17.5 ft		18 - 18.5 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		.65	U	.46	U	1.8	U	.092	U	.095	U
2,4,6-TRICHLOROPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,4-DICHLOROPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,4-DIMETHYLPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,4-DINITROPHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2,6-DINITROTOLUENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2-CHLORONAPHTHALENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2-CHLOROPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2-METHYLNAPHTHALENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
2-METHYLPHENOL	N/A		N/A		.26	UJ	.18	UJ	.73	UJ	.037	UJ	.038	UJ
2-NITROANILINE	N/A		N/A		.65	U	.46	U	1.8	U	.092	U	.095	U
2-NITROPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		.26	UJ	.18	UJ	.73	UJ	.037	UJ	.038	UJ
3-NITROANILINE	N/A		N/A		.65	UJ	.46	UJ	1.8	U	.092	UJ	.095	U
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
4-CHLOROANILINE	N/A		N/A		.26	UJ	.18	UJ	.73	U	.037	UJ	.038	U
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
4-METHYLPHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
4-NITROANILINE	N/A		N/A		.65	U	.46	U	1.8	U	.092	U	.095	U
4-NITROPHENOL	N/A		N/A		.65	UJ	.46	UJ	1.8	UJ	.092	UJ	.095	UJ
ACENAPHTHENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
ACENAPHTHYLENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
ANTHRACENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
BENZO(A)ANTHRACENE	N/A		N/A		**.17**	J	**.078**	J	.73	U	**.012**	J	.038	U
BENZO(A)PYRENE	N/A		N/A		**.21**	J	**.092**	J	.73	U	**.015**	J	**.016**	J
BENZO(B)FLUORANTHENE	N/A		N/A		**.22**	J	**.26**		.73	U	**.019**	J	**.037**	J
BENZO(G,H,I)PERYLENE	N/A		N/A		**.1**	J	.18	U	.73	U	**.008**	J	.038	UJ
BENZO(K)FLUORANTHENE	N/A		N/A		**.069**	J	**.072**	J	.73	U	**.005**	J	.038	UJ
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		.26	U	.18	U	.73	UJ	.037	U	.038	UJ
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.043	U
BUTYLBENZYLPHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
CARBAZOLE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL		SL		SL		SL	
Point Name:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Id:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Date:	11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	1.5	U	.037	U	.18	U	2	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1.5	U	.037	U	.18	U	2	U
2,4,5-TRICHLOROPHENOL	3.7	U	.092	U	.46	U	4.9	U
2,4,6-TRICHLOROPHENOL	1.5	U	.037	U	.18	U	2	U
2,4-DICHLOROPHENOL	1.5	U	.037	U	.18	U	2	U
2,4-DIMETHYLPHENOL	1.5	U	.037	U	.18	U	2	U
2,4-DINITROPHENOL	N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	1.5	U	.037	U	.18	U	2	U
2,6-DINITROTOLUENE	1.5	U	.037	U	.18	U	2	U
2-CHLORONAPHTHALENE	1.5	U	.037	U	.18	U	2	U
2-CHLOROPHENOL	1.5	U	.037	U	.18	U	2	U
2-METHYLNAPHTHALENE	1.5	U	.037	U	.18	U	2	U
2-METHYLPHENOL	1.5	UJ	.037	UJ	.18	UJ	2	UJ
2-NITROANILINE	3.7	U	.092	UJ	.46	U	4.9	U
2-NITROPHENOL	1.5	U	.037	U	.18	U	2	U
3,3'-DICHLOROBENZIDINE	1.5	UJ	.037	UJ	.18	UJ	2	UJ
3-NITROANILINE	3.7	U	.092	UJ	.46	U	4.9	U
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	1.5	U	.037	U	.18	U	2	U
4-CHLORO-3-METHYLPHENOL	1.5	U	.037	U	.18	U	2	U
4-CHLOROANILINE	1.5	U	.037	UJ	.18	U	2	U
4-CHLOROPHENYL-PHENYLETHER	1.5	U	.037	U	.18	U	2	U
4-METHYLPHENOL	1.5	U	**.013**	J	**.056**	J	2	U
4-NITROANILINE	3.7	U	.092	U	.46	U	4.9	U
4-NITROPHENOL	3.7	UJ	.092	UJ	.46	UJ	4.9	UJ
ACENAPHTHENE	1.5	U	.037	U	.18	U	2	U
ACENAPHTHYLENE	1.5	U	.037	U	.18	U	2	U
ANTHRACENE	1.5	U	.037	U	.18	U	2	U
BENZO(A)ANTHRACENE	1.5	U	**.01**	J	.18	U	2	U
BENZO(A)PYRENE	1.5	UJ	**.011**	J	.18	U	**.38**	J
BENZO(B)FLUORANTHENE	1.5	UJ	**.014**	J	.18	U	**.32**	J
BENZO(G,H,I)PERYLENE	1.5	UJ	**.004**	J	.18	U	2	U
BENZO(K)FLUORANTHENE	1.5	UJ	**.005**	J	.18	U	2	U
BIS(2-CHLOROETHOXY)METHANE	1.5	U	.037	U	.18	U	2	U
BIS(2-CHLOROETHYL)ETHER	1.5	UJ	.037	U	.18	UJ	2	UJ
BIS(2-ETHYLHEXYL)PHTHALATE	1.5	U	.037	U	.18	U	2	U
BUTYLBENZYLPHTHALATE	1.5	U	.037	U	.18	U	2	U
CARBAZOLE	1.5	U	**.071**		**.084**	J	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB		SB
Point Name:	BR10-19	SB02-12	SB10-04	SB10-05	SB10-06	SB10-07		SB10-08
Sample Id:	BR4-2(9.0-10.0)	SB02-12(7.0-8.0)	SB10-04 (20.0-20.5)	SB10-05 (18-18.5)	SB10-06 (13.5-17.5)	SB10-07 (8-8.4)		SB10-08 (5-5.5)
Sample Date:	03-FEB-99	03-FEB-99	02-FEB-94	02-FEB-94	03-FEB-94	03-FEB-94		03-FEB-94
Sample Depth:	9 - 10 ft	7 - 8 ft	20 - 20.5 ft	18 - 18.5 ft	13.5 - 17.5 ft	8 - 8.4 ft		5 - 5.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S		94SHORELN_S
SVOA (MG/KG)								
CHRYSENE	N/A	N/A	N/A	N/A	N/A	**.37**		N/A
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	UJ	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	**.14**	J	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	**1**		N/A
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.85	U	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	**3.5**	D	N/A
PHENOL	N/A	N/A	N/A	N/A	N/A	.35	U	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	**.68**		N/A
PCB (MG/KG)								
AROCLOR-1016	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1221	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1232	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1242	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1248	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1254	N/A	N/A	N/A	N/A	N/A	N/A		N/A
AROCLOR-1260	N/A	N/A	N/A	N/A	N/A	N/A		N/A
PEST (MG/KG)								
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A		N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A		N/A
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
SVOA (MG/KG)														
CHRYSENE	N/A		.38	U	N/A		.025	J	.42	U	N/A		N/A	
DI-N-BUTYLPHTHALATE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
DI-N-OCTYLPHTHALATE	N/A		.38	UJ	N/A		.39	UJ	.42	U	N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
DIBENZOFURAN	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
DIETHYLPHTHALATE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
DIMETHYLPHTHALATE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
FLUORANTHENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
FLUORENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
HEXACHLOROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
HEXACHLOROBUTADIENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
HEXACHLOROETHANE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
ISOPHORONE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
NAPHTHALENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
NITROBENZENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
PENTACHLOROPHENOL	N/A		.93	U	N/A		.94	U	1	U	N/A		N/A	
PHENANTHRENE	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
PHENOL	N/A		.38	U	N/A		.39	U	.42	U	N/A		N/A	
PYRENE	N/A		.38	UJ	N/A		.016	J	.42	U	N/A		N/A	
PCB (MG/KG)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		.08	U	.088	U
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		.039	U	.043	U
PEST (MG/KG)														
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		.0047		.0043	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI
SVOA (MG/KG)													
CHRYSENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DI-N-BUTYLPHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DI-N-OCTYLPHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DIBENZO(A,H)ANTHRACENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DIBENZOFURAN	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DIETHYLPHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
DIMETHYLPHTHALATE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
FLUORANTHENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
FLUORENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
HEXACHLOROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
HEXACHLOROBUTADIENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
HEXACHLOROCYCLOPENTADIENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
HEXACHLOROETHANE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
INDENO(1,2,3-CD)PYRENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
ISOPHORONE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
N-NITROSODIPHENYLAMINE (1)	.37	U	.39	U	N/A		.034	J	N/A		.41	U	N/A
NAPHTHALENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
NITROBENZENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
PENTACHLOROPHENOL	.89	U	.95	U	N/A		.93	U	N/A		.99	U	N/A
PHENANTHRENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
PHENOL	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
PYRENE	.37	U	.39	U	N/A		.38	U	N/A		.41	U	N/A
PCB (MG/KG)													
AROCLOR-1016	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
AROCLOR-1221	.074	U	.08	UJ	N/A		.078	UJ	N/A		.083	UJ	N/A
AROCLOR-1232	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
AROCLOR-1242	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
AROCLOR-1248	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
AROCLOR-1254	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
AROCLOR-1260	.037	U	.039	UJ	N/A		.038	UJ	N/A		.041	UJ	N/A
PEST (MG/KG)													
4,4'-DDD	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
4,4'-DDE	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
4,4'-DDT	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SL		SL		SL		SL		SL	
Point Name:	SB10-20		SB10-20		SSPB-01		SSPB-01 (FD)		SSPB-02		SSPB-03		SSPB-04	
Sample Id:	SB4-1(16.5-17.5)		SB4-1(18.0-18.5)		SSPB-01		SSPB-01D		SSPB-02		SSPB-03		SSPB-04	
Sample Date:	04-FEB-99		04-FEB-99		12-NOV-98		12-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	16.5 - 17.5 ft		18 - 18.5 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)														
CHRYSENE	N/A		N/A		.18	J	.18	J	.73	U	.014	J	.021	J
DI-N-BUTYLPHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
DI-N-OCTYLPHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	UJ
DIBENZO(A,H)ANTHRACENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	UJ
DIBENZOFURAN	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
DIETHYLPHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
DIMETHYLPHTHALATE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
FLUORANTHENE	N/A		N/A		.23	J	.27		.73	U	.016	J	.028	J
FLUORENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
HEXACHLOROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
HEXACHLOROBUTADIENE	N/A		N/A		.26	U	.18	U	.73	UJ	.037	U	.038	UJ
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		.26	UJ	.18	UJ	.73	UJ	.037	UJ	.038	UJ
HEXACHLOROETHANE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		.11	J	.18	U	.73	U	.008	J	.007	J
ISOPHORONE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		.26	UJ	.18	UJ	.73	UJ	.037	UJ	.038	UJ
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
NAPHTHALENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
NITROBENZENE	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
PENTACHLOROPHENOL	N/A		N/A		.65	U	.46	U	1.8	U	.092	U	.095	U
PHENANTHRENE	N/A		N/A		.082	J	.07	J	.73	U	.037	U	.019	J
PHENOL	N/A		N/A		.26	U	.18	U	.73	U	.037	U	.038	U
PYRENE	N/A		N/A		.26		.24		.73	U	.018	J	.038	
PCB (MG/KG)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PEST (MG/KG)														
4,4'-DDD	N/A		N/A		.012		.0057		N/A		N/A		N/A	
4,4'-DDE	N/A		N/A		.0031	U	.0022	U	N/A		N/A		N/A	
4,4'-DDT	N/A		N/A		.051		.027		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL		SL		SL		SL	
Point Name:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Id:	SSPB-05		SSPB-06		SSPB-07		SSPB-08	
Sample Date:	11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)								
CHRYSENE	1.5	U	.012	J	.024	J	.37	J
DI-N-BUTYLPHTHALATE	1.5	U	.037	U	.18	U	2	U
DI-N-OCTYLPHTHALATE	1.5	UJ	.037	U	.18	U	2	U
DIBENZO(A,H)ANTHRACENE	1.5	UJ	.037	U	.18	U	2	U
DIBENZOFURAN	1.5	U	.037	U	.18	U	2	U
DIETHYLPHTHALATE	1.5	U	.037	U	.18	U	2	U
DIMETHYLPHTHALATE	1.5	U	.037	U	.18	U	2	U
FLUORANTHENE	.17	J	.016	J	.029	J	.29	J
FLUORENE	1.5	U	.037	U	.18	U	2	U
HEXACHLOROBENZENE	1.5	U	.037	U	.18	U	2	U
HEXACHLOROBUTADIENE	1.5	UJ	.037	U	.18	UJ	2	UJ
HEXACHLOROCYCLOPENTADIENE	1.5	UJ	.037	UJ	.18	UJ	2	UJ
HEXACHLOROETHANE	1.5	U	.037	U	.18	U	2	U
INDENO(1,2,3-CD)PYRENE	1.5	UJ	.005	J	.18	U	2	U
ISOPHORONE	1.5	U	.037	U	.18	U	2	U
N-NITROSO-DI-N-PROPYLAMINE	1.5	UJ	.037	UJ	.18	UJ	2	UJ
N-NITROSODIPHENYLAMINE (1)	1.5	U	.037	U	.18	U	2	U
NAPHTHALENE	1.5	U	.037	U	.18	U	2	U
NITROBENZENE	1.5	U	.037	U	.18	U	2	U
PENTACHLOROPHENOL	3.7	U	.092	UJ	.081	J	4.9	U
PHENANTHRENE	.18	J	.009	J	.18	U	.22	J
PHENOL	1.5	U	.037	U	.18	U	2	U
PYRENE	.27	J	.017	J	.032	J	.54	J
PCB (MG/KG)								
AROCLOR-1016	N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A	
PEST (MG/KG)								
4,4'-DDD	N/A		N/A		N/A		N/A	
4,4'-DDE	N/A		N/A		N/A		N/A	
4,4'-DDT	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR10-19	SB02-12	SB10-04	SB10-05	SB10-06	SB10-07	SB10-08
Sample Id:	BR4-2(9.0-10.0)	SB02-12(7.0-8.0)	SB10-04 (20.0-20.5)	SB10-05 (18-18.5)	SB10-06 (13.5-17.5)	SB10-07 (8-8.4)	SB10-08 (5-5.5)
Sample Date:	03-FEB-99	03-FEB-99	02-FEB-94	02-FEB-94	03-FEB-94	03-FEB-94	03-FEB-94
Sample Depth:	9 - 10 ft	7 - 8 ft	20 - 20.5 ft	18 - 18.5 ft	13.5 - 17.5 ft	8 - 8.4 ft	5 - 5.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
PEST (MG/KG)							
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
PEST (MG/KG)														
ALDRIN	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
ALPHA-BHC	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
ALPHA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
BETA-BHC	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
DELTA-BHC	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
DIELDRIN	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
ENDOSULFAN I	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
ENDOSULFAN II	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
ENDOSULFAN SULFATE	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
ENDRIN	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
ENDRIN ALDEHYDE	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
ENDRIN KETONE	N/A		N/A		N/A		N/A		N/A		.0039	U	.0043	U
GAMMA-BHC (LINDANE)	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
GAMMA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
HEPTACHLOR	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
HEPTACHLOR EPOXIDE	N/A		N/A		N/A		N/A		N/A		.002	U	.0022	U
METHOXYCHLOR	N/A		N/A		N/A		N/A		N/A		.02	U	.022	U
TOXAPHENE	N/A		N/A		N/A		N/A		N/A		.2	U	.22	U
METALS (MG/KG)														
ALUMINUM	N/A		22600		16600		16600		18400		N/A		19000	
ANTIMONY	N/A		7.2	UJ	7.7	UJ	7.3	UJ	9.1	J	N/A		8.2	UJ
ARSENIC	N/A		8.3	UJ	7.2	UJ	5.6	UJ	2.3	UJ	N/A		5.4	J
BARIUM	N/A		250		113		226		535		N/A		210	
BERYLLIUM	N/A		.72	B	1.3		.89	B	.8	B	N/A		.77	B
CADMIUM	N/A		.93	U	.99	U	.94	U	1	U	N/A		1.1	U
CALCIUM	N/A		18300		3360		9180		2690		N/A		2810	
CHROMIUM	N/A		38		31.1		19.9		28.3		N/A		28.2	
COBALT	N/A		1.8	UJ	4.8	UJ	4.6	UJ	7.9	B	N/A		5	U
COPPER	N/A		27.6		30.2		13.5		23.5		N/A		27.3	
IRON	N/A		31200		33200		17500		31600		N/A		22400	
LEAD	N/A		10.2		14.9		8.9	W	9.3	J	N/A		22.3	J
LEAD, ORGANIC	N/A		N/A		.62	U	.59	U	N/A		N/A		N/A	
MAGNESIUM	N/A		5560		5980		3350		6060		N/A		4940	
MANGANESE	N/A		174	J	175	UJ	223	J	312		N/A		242	
MERCURY	N/A		.36	J	.4	J	.42	J	1.3	U	N/A		1.3	U
NICKEL	N/A		31.1		33.8		21.6		26.7	UJ	N/A		26.2	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI
PEST (MG/KG)													
ALDRIN	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
ALPHA-BHC	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
ALPHA-CHLORDANE	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
BETA-BHC	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
DELTA-BHC	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
DIELDRIN	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
ENDOSULFAN I	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
ENDOSULFAN II	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
ENDOSULFAN SULFATE	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
ENDRIN	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
ENDRIN ALDEHYDE	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
ENDRIN KETONE	.0037	U	.0039	UJ	N/A		.0038	UJ	N/A		.0041	UJ	N/A
GAMMA-BHC (LINDANE)	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
GAMMA-CHLORDANE	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
HEPTACHLOR	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
HEPTACHLOR EPOXIDE	.0019	U	.002	UJ	N/A		.002	UJ	N/A		.0021	UJ	N/A
METHOXYCHLOR	.019	U	.02	UJ	N/A		.02	UJ	N/A		.021	UJ	N/A
TOXAPHENE	.19	U	.2	UJ	N/A		.2	UJ	N/A		.21	UJ	N/A
METALS (MG/KG)													
ALUMINUM	15000		12400		18400		13100		16900		13500		N/A
ANTIMONY	6.9	UJ	7.4	UJ	7.4	UJ	7.3	UJ	12.6	J	8.7	J	N/A
ARSENIC	1.8	UJ	6.9	J	3.6	UJ	2.4	UJ	8.4		7.6		N/A
BARIUM	218		119		203		162		54		154		N/A
BERYLLIUM	.84	B	.64	B	.75	B	.61	B	.13	U	.4	U	N/A
CADMIUM	.89	U	.95	U	.95	U	.94	U	.14	U	.15	U	N/A
CALCIUM	3030		1320		1640		1430		869	B	1730		N/A
CHROMIUM	22.5		18		29.8		24.5		34.8		25.8		N/A
COBALT	6	U	3.1	U	16		6.1	B	7.6	B	15.3		N/A
COPPER	22.9		15.5		24.7		20.1		28	J	37	J	N/A
IRON	19700		18900		24400		23700		23100		22300		N/A
LEAD	8.6	J	12	J	9.8	J	11.9	J	15.4		15.5		N/A
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	3480		4130		4390		4700		5800		5930		N/A
MANGANESE	303		134		1090		301		154		477		N/A
MERCURY	1.1	U	1.6		1.2	U	1.2	U	.1	B	.11	B	N/A
NICKEL	22.4		15.8		26.5		18.2		25.9		34.4		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SL		SL		SL		SL		SL		SL	
Point Name:	SB10-20	SB10-20	SSPB-01		SSPB-01 (FD)		SSPB-02		SSPB-03		SSPB-04	
Sample Id:	SB4-1(16.5-17.5)	SB4-1(18.0-18.5)	SSPB-01		SSPB-01D		SSPB-02		SSPB-03		SSPB-04	
Sample Date:	04-FEB-99	04-FEB-99	12-NOV-98		12-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	16.5 - 17.5 ft	18 - 18.5 ft	0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
PEST (MG/KG)												
ALDRIN	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
ALPHA-BHC	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
ALPHA-CHLORDANE	N/A	N/A	.0049		.0025		N/A		N/A		N/A	
BETA-BHC	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
DELTA-BHC	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
DIELDRIN	N/A	N/A	.0062		.0056		N/A		N/A		N/A	
ENDOSULFAN I	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
ENDOSULFAN II	N/A	N/A	.0031	U	.0022	U	N/A		N/A		N/A	
ENDOSULFAN SULFATE	N/A	N/A	.0078	U	.0056	U	N/A		N/A		N/A	
ENDRIN	N/A	N/A	.0031	U	.0022	U	N/A		N/A		N/A	
ENDRIN ALDEHYDE	N/A	N/A	.0031	U	.0022	U	N/A		N/A		N/A	
ENDRIN KETONE	N/A	N/A	.0031	U	.0022	U	N/A		N/A		N/A	
GAMMA-BHC (LINDANE)	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
GAMMA-CHLORDANE	N/A	N/A	.002		.001		N/A		N/A		N/A	
HEPTACHLOR	N/A	N/A	.0009	J	.0009	J	N/A		N/A		N/A	
HEPTACHLOR EPOXIDE	N/A	N/A	.0016	U	.0011	U	N/A		N/A		N/A	
METHOXYCHLOR	N/A	N/A	.016	U	.011	U	N/A		N/A		N/A	
TOXAPHENE	N/A	N/A	.16	U	.11	U	N/A		N/A		N/A	
METALS (MG/KG)												
ALUMINUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
ANTIMONY	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
ARSENIC	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
BARIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
BERYLLIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
CADMIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
CALCIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
CHROMIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
COBALT	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
COPPER	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
IRON	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
LEAD	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
LEAD, ORGANIC	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
MANGANESE	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
MERCURY	N/A	N/A	N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A	N/A	N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL	SL	SL	SL
Point Name:	SSPB-05	SSPB-06	SSPB-07	SSPB-08
Sample Id:	SSPB-05	SSPB-06	SSPB-07	SSPB-08
Sample Date:	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98
Sample Depth:	0 ft	0 ft	0 ft	0 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
PEST (MG/KG)				
ALDRIN	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A
METALS (MG/KG)				
ALUMINUM	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SB	SB	SB	SB	SB
Point Name:	BR10-19	SB02-12	SB10-04	SB10-05	SB10-06	SB10-07	SB10-08
Sample Id:	BR4-2(9.0-10.0)	SB02-12(7.0-8.0)	SB10-04 (20.0-20.5)	SB10-05 (18-18.5)	SB10-06 (13.5-17.5)	SB10-07 (8-8.4)	SB10-08 (5-5.5)
Sample Date:	03-FEB-99	03-FEB-99	02-FEB-94	02-FEB-94	03-FEB-94	03-FEB-94	03-FEB-94
Sample Depth:	9 - 10 ft	7 - 8 ft	20 - 20.5 ft	18 - 18.5 ft	13.5 - 17.5 ft	8 - 8.4 ft	5 - 5.5 ft
Investigation:	PHASEII_RI	PHASEII_RI	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S	94SHORELN_S
METALS (MG/KG)							
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB	
Point Name:	SB10-09		SB10-09		SB10-10		SB10-10		SB10-11		SB10-12		SB10-12	
Sample Id:	SB10-09 (10.1-10.5)		SB10-09 (11.1-11.3)		SB10-10 (18.7-19.0)		SB10-10 (7.0-7.5)		SB10-11 (5.0-5.5)		SB10-12(11.3-11.6)		SB10-12(6.9-7.2)	
Sample Date:	04-FEB-94		04-FEB-94		04-FEB-94		04-FEB-94		07-FEB-94		07-FEB-94		07-FEB-94	
Sample Depth:	10.1 - 10.5 ft		11.1 - 11.3 ft		18.7 - 19 ft		7 - 7.5 ft		5 - 5.5 ft		11.3 - 11.6 ft		6.9 - 7.2 ft	
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S	
METALS (MG/KG)														
POTASSIUM	N/A		4070		1600		2950		1600		N/A		2420	
SELENIUM	N/A		.7	UW	.74	U	.7	U	1.1	UJ	N/A		1	UJ
SILVER	N/A		.47	U	.5	U	.47	U	.51	U	N/A		.53	U
SODIUM	N/A		174	UJ	139	UJ	165	UJ	972	BE	N/A		216	BE
THALLIUM	N/A		.7	U	.74	U	.7	U	.76	U	N/A		.79	U
VANADIUM	N/A		45.7		52.1		34.6		43.7		N/A		41.3	
ZINC	N/A		56.1		54.6		31.8		53.9	J	N/A		57.9	J
WATER QUALITY (MG/KG)														
TOTAL ORGANIC CARBON	N/A		N/A		N/A		N/A		N/A		4700		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB		SB		SB		SB		SB		SB		SB
Point Name:	SB10-12		SB10-13		SB10-14		SB10-14		SB10-16		SB10-16A		SB10-20
Sample Id:	SB10-12(8.2-8.5)		SB10-13(6.0-6.5)		SB10-14(11-11.5)		SB10-14(8.6-9.0)		SB10-16(14.0-15.0)		SB10-16A(26.5-27.5)		SB4-1(10-11)
Sample Date:	07-FEB-94		08-FEB-94		08-FEB-94		08-FEB-94		28-JUL-94		28-JUL-94		04-FEB-99
Sample Depth:	8.2 - 8.5 ft		6 - 6.5 ft		11 - 11.5 ft		8.6 - 9 ft		14 - 15 ft		26.5 - 27.5 ft		10 - 11 ft
Investigation:	94SHORELN_S		94SHORELN_S		94SHORELN_S		94SHORELN_S		94WDA		94WDA		PHASEII_RI
METALS (MG/KG)													
POTASSIUM	1810		2830		2060		1750		1560	J	2270	J	N/A
SELENIUM	.83	UJ	.75	UJ	.72	UJ	.7	UJ	.53	U	.58	U	N/A
SILVER	.44	U	.48	U	.48	U	.47	U	.46	U	.5	U	N/A
SODIUM	215	BE	361	BE	243	BE	218	BE	616	B	478	B	N/A
THALLIUM	.67	UW	.71	U	.72	U	.7	U	.46	U	.5	U	N/A
VANADIUM	34.7		27.2		44		37.4		45.4		37.8		N/A
ZINC	46.2	J	44.5	J	45.3	J	47.1	J	58.4		78.7		N/A
WATER QUALITY (MG/KG)													
TOTAL ORGANIC CARBON	8500		1700		N/A		2400		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SB	SB	SL	SL	SL	SL	SL
Point Name:	SB10-20	SB10-20	SSPB-01	SSPB-01 (FD)	SSPB-02	SSPB-03	SSPB-04
Sample Id:	SB4-1(16.5-17.5)	SB4-1(18.0-18.5)	SSPB-01	SSPB-01D	SSPB-02	SSPB-03	SSPB-04
Sample Date:	04-FEB-99	04-FEB-99	12-NOV-98	12-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98
Sample Depth:	16.5 - 17.5 ft	18 - 18.5 ft	0 ft	0 ft	0 ft	0 ft	0 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)							
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Soil Analytical Results

Point Type:	SL	SL	SL	SL
Point Name:	SSPB-05	SSPB-06	SSPB-07	SSPB-08
Sample Id:	SSPB-05	SSPB-06	SSPB-07	SSPB-08
Sample Date:	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98
Sample Depth:	0 ft	0 ft	0 ft	0 ft
Investigation:	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)				
POTASSIUM	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)				
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A

SEDIMENT

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T01-10		T01-150		T01-300		T01-300		T01-50		T01-50		T02-10	
Sample Id:	T01-10 (0.5)		T01-150 (0.0-2.0)		T01-300 (0.0-2.0)		T01-300 (2.0-4.0)		T01-50 (0.0-2.0)		T01-50 (2.0-3.0)		T02-10(0.0-1.0)	
Sample Date:	24-APR-94		24-APR-94		24-APR-94		24-APR-94		24-APR-94		24-APR-94		25-APR-94	
Sample Depth:	.5 ft		0 - 2 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 3 ft		0 - 1 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.3	U	1.4	U	1.5	U	1.4	U	1.2	U	1.2	U	1.3	U
JP5 RANGE ORGANICS	1.3	U	1.4	U	1.5	U	1.4	U	1.2	U	1.2	U	1.3	U
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**64**	Y	**52**	Y	**26**	Y	1.4	U	**150**	Y	1.2	U	**24**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	13	U	14	U	15	U	14	U	12	U	12	U	13	U
TPH - DIESEL F-76 (C8-C28)	1.3	U	1.4	U	1.5	U	1.4	U	1.2	U	1.2	U	1.3	U
TPH - WEATHERED DIESEL(C8-C26)	1.3	U	1.4	U	1.5	U	1.4	U	1.2	U	1.2	U	1.3	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T02-175		T02-345		T02-345		T02-50		T03-10		T03-60		T03-60	
Sample Id:	T02-175(0.0-1.0)		T02-345(0.0-2.0)		T02-345(2.0-4.0)		T02-50(0.0-1.0)		T03-10 (0.0-0.5)		T03-60(0.0-2.0)		T03-160 (0.0 - 2.	
Sample Date:	25-APR-94		25-APR-94		25-APR-94		25-APR-94		01-MAY-94		25-APR-94		01-MAY-94	
Sample Depth:	0 - 1 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - .5 ft		0 - 2 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.5	U	1.4	U	1.5	U	1.5	U	1.4	U	1.4	U	1.3	U
JP5 RANGE ORGANICS	1.5	U	1.4	U	1.5	U	1.5	U	1.4	U	1.4	U	1.3	U
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**31**	Y	**31**	Y	1.5	U	**54**	Y	**21**	Y	**26**	Y	**11**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		**43**		35	U	32	U
TPH - BUNKER FUEL (C10-C28)	15	U	14	U	15	U	15	U	14	U	14	U	13	U
TPH - DIESEL F-76 (C8-C28)	1.5	U	1.4	U	1.5	U	1.5	U	1.4	U	1.4	U	1.3	U
TPH - WEATHERED DIESEL(C8-C26)	1.5	U	1.4	U	1.5	U	1.5	U	1.4	U	1.4	U	1.3	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
2-BUTANONE	N/A		N/A		N/A		N/A		.016	UJ	N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		.016	UJ	N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		.016	UJ	N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		.016	U	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T03-60		T04-10		T04-300		T04-300		T04-50		T05-10		T05-10	
Sample Id:	T03-60 (1.0-1.5)		T04-10 (0.0-2.0)		T04-300 (0.0-2.0)		T04-300 (2.0-4.0)		T04-50 (0.0-2.0)		T05-10 (0.0-2.0)		T05-10 (2.0-4.0)	
Sample Date:	01-MAY-94		27-APR-94		27-APR-94		27-APR-94		27-APR-94		27-APR-94		27-APR-94	
Sample Depth:	1 - 1.5 ft		0 - 2 ft		0 - 2 ft		2 - 4 ft		0 - 2 ft		0 - 2 ft		2 - 4 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	N/A		1.3	U	1.6	U	1.7	U	1.4	U	2.9	U	2.7	U
JP5 RANGE ORGANICS	N/A		1.3	U	1.6	U	1.7	U	1.4	U	2.9	U	2.7	U
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		1.3	U	**33**	Y	1.7	U	**34**	Y	**440**	Y	**250**	Y
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		13	U	16	U	17	U	14	U	29	U	27	U
TPH - DIESEL F-76 (C8-C28)	N/A		1.3	U	1.6	U	1.7	U	1.4	U	2.9	U	**310**	J
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.3	U	1.6	U	1.7	U	1.4	U	2.9	U	2.7	U
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.47	U	.45	U
1,2-DICHLOROETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.47	U	.45	U
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		.47	U	.45	U
2-BUTANONE	.012	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	.012	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	.012	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	.042	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	.012	U	N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	**.002**	J	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T05-130		T05-130		T05-50		T05-50		XT-2		XT-2		XT-2	
Sample Id:	T05-130 (0.0-2.0)		T05-130 (2.0-4.0)		T05-50 (0.0-2.0)		T05-50 (2.0-4.0)		XT-2(4)		XT-2(3)		XT-2(2)	
Sample Date:	26-APR-94		26-APR-94		27-APR-94		27-APR-94		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		1 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	N/A		N/A		N/A		N/A		**2**	J	**3**	J	**2**	J
ALIPHATICS-EPH(C19-C24)	N/A		N/A		N/A		N/A		**4**	J	**4**	J	**4**	J
ALIPHATICS-EPH(C25-C36)	N/A		N/A		N/A		N/A		**11**		**13**		**11**	
ALIPHATICS-EPH(C9-C12)	N/A		N/A		N/A		N/A		1	U	1	U	1	U
AROMATICS-EPH(C10-C16)	N/A		N/A		N/A		N/A		**4**	J	**6**	J	**6**	J
AROMATICS-EPH(C17-C22)	N/A		N/A		N/A		N/A		**19**		**13**		**14**	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	1.5	U	1.6	U	1.4	U	1.4	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	1.5	U	1.6	U	1.4	U	1.4	U	N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	**26**	Y	1.6	U	**25**	Y	1.4	U	N/A		N/A		N/A	
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	15	U	16	U	14	U	14	U	N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	1.5	U	1.6	U	1.4	U	1.4	U	N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	1.5	U	1.6	U	1.4	U	1.4	U	N/A		N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
1,4-DICHLOROBENZENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	XT-2		XT-3		XT-3		XT-3		XT-5		XT-5		XT-5	
Sample Id:	XT-2(1)		XT-3(2)		XT-3(1)		XT-3(3-4)		XT-5(4-5)		XT-5(3)		XT-5(1-2)	
Sample Date:	19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	3 - 4 ft		2 - 3 ft		3 - 4 ft		3 - 4 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft	
Investigation:	ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	1	J	1	J	2	J	4	J	1	J	2	J	1	U
ALIPHATICS-EPH(C19-C24)	1	J	2	J	16		5	J	2	J	2	J	1	J
ALIPHATICS-EPH(C25-C36)	4	J	6	J	23		15		6	J	7	J	3	J
ALIPHATICS-EPH(C9-C12)	1	U	1	U	1	U	1	U	1	U	1	U	1	U
AROMATICS-EPH(C10-C16)	3	J	4	J	8	J	6	J	3	J	4	J	2	J
AROMATICS-EPH(C17-C22)	3	J	7	J	11		16		6	J	8	J	2	J
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GASOLINE RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
1,4-DICHLOROBENZENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		SL		SL		SL		SL		SL		SL	
Point Name:	XT-6		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Id:	XT-6(1-2)		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Date:	16-OCT-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	2 - 4 ft		0 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	ECO_RISK		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
TPH (MG/KG)														
ALIPHATICS-EPH(C13-C18)	**2**	J	N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C19-C24)	**2**	J	N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C25-C36)	**7**	J	N/A		N/A		N/A		N/A		N/A		N/A	
ALIPHATICS-EPH(C9-C12)	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C10-C16)	**3**	J	N/A		N/A		N/A		N/A		N/A		N/A	
AROMATICS-EPH(C17-C22)	**10**	J	N/A		N/A		N/A		N/A		N/A		N/A	
DIESEL RANGE ORGANICS	N/A		58	U	14	U	12	U	11	U	11	U	**7**	J
GASOLINE RANGE ORGANICS	N/A		.58	U	.69	U	.61	U	.54	U	.53	U	.54	U
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
JP5 RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		**450**	Y	**92**	Y	12	U	**110**	Y	**37**	Y	**5**	J
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOTAL RECOVERABLE PETROLEUM HYDROCARBONS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VOA (MG/KG)														
1,1,1-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1,2-TRICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,1-DICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROBENZENE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
1,2-DICHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROETHENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,2-DICHLOROPROPANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
1,3-DICHLOROBENZENE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
1,4-DICHLOROBENZENE	.07	UJ	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2-BUTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-HEXANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4-METHYL-2-PENTANONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMODICHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BROMOMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CARBON DISULFIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T01-10	T01-150	T01-300	T01-300	T01-50	T01-50	T02-10
Sample Id:	T01-10 (0.5)	T01-150 (0.0-2.0)	T01-300 (0.0-2.0)	T01-300 (2.0-4.0)	T01-50 (0.0-2.0)	T01-50 (2.0-3.0)	T02-10(0.0-1.0)
Sample Date:	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	25-APR-94
Sample Depth:	.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 1 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T02-175	T02-345	T02-345	T02-50	T03-10	T03-60	T03-60
Sample Id:	T02-175(0.0-1.0)	T02-345(0.0-2.0)	T02-345(2.0-4.0)	T02-50(0.0-1.0)	T03-10 (0.0-0.5)	T03-60(0.0-2.0)	T03-160 (0.0 - 2.
Sample Date:	25-APR-94	25-APR-94	25-APR-94	25-APR-94	01-MAY-94	25-APR-94	01-MAY-94
Sample Depth:	0 - 1 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	0 - .5 ft	0 - 2 ft	0 - 2 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	.016 U	N/A	N/A
PAH (MG/KG)							
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	.46 U	.46 U	.43 U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T03-60		T04-10	T04-300	T04-300	T04-50	T05-10	T05-10
Sample Id:	T03-60 (1.0-1.5)		T04-10 (0.0-2.0)	T04-300 (0.0-2.0)	T04-300 (2.0-4.0)	T04-50 (0.0-2.0)	T05-10 (0.0-2.0)	T05-10 (2.0-4.0)
Sample Date:	01-MAY-94		27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94
Sample Depth:	1 - 1.5 ft		0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft
Investigation:	94SED1		94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
VOA (MG/KG)								
CARBON TETRACHLORIDE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	.012	U	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)								
ACENAPHTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)								
1,2,4-TRICHLOROBENZENE	N/A		N/A	N/A	N/A	N/A	.47 U	.45 U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T05-130	T05-130	T05-50	T05-50	XT-2	XT-2	XT-2
Sample Id:	T05-130 (0.0-2.0)	T05-130 (2.0-4.0)	T05-50 (0.0-2.0)	T05-50 (2.0-4.0)	XT-2(4)	XT-2(3)	XT-2(2)
Sample Date:	26-APR-94	26-APR-94	27-APR-94	27-APR-94	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	1 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	ECO_RISK	ECO_RISK	ECO_RISK
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	N/A	N/A	N/A	N/A	.06 U	.06 U	.06 U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	XT-2	XT-3	XT-3	XT-3	XT-5	XT-5	XT-5
Sample Id:	XT-2(1)	XT-3(2)	XT-3(1)	XT-3(3-4)	XT-5(4-5)	XT-5(3)	XT-5(1-2)
Sample Date:	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	3 - 4 ft	2 - 3 ft	3 - 4 ft	3 - 4 ft	1 - 2 ft	2 - 3 ft	3 - 4 ft
Investigation:	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK
VOA (MG/KG)							
CARBON TETRACHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROFORM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CIS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBROMOCHLOROMETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ETHYLBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHYLENE CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
STYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TETRACHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRANS-1,3-DICHLOROPROPENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRICHLOROETHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VINYL CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
XYLENE (TOTAL)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PAH (MG/KG)							
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SVOA (MG/KG)							
1,2,4-TRICHLOROBENZENE	.06 U	.06 U	.06 U	.06 U	.06 U	.06 U	.06 U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		SL		SL		SL		SL		SL		SL	
Point Name:	XT-6		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Id:	XT-6(1-2)		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Date:	16-OCT-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	2 - 4 ft		0 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	ECO_RISK		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
VOA (MG/KG)														
CARBON TETRACHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROFORM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CIS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBROMOCHLOROMETHANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
STYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TETRACHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOLUENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRANS-1,3-DICHLOROPROPENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TRICHLOROETHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
VINYL CHLORIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
XYLENE (TOTAL)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PAH (MG/KG)														
ACENAPHTHENE	N/A		.29	U	.34	U	.14	J	.27	U	.26	U	.054	U
ACENAPHTHYLENE	N/A		.12	U	.14	U	.025	U	.11	U	.11	U	.022	U
ANTHRACENE	N/A		.005	J	.01		.04	J	.005	J	.001	J	.0005	J
BENZO(A)ANTHRACENE	N/A		.03		.039		.088	J	.02		.006	J	.003	
BENZO(A)PYRENE	N/A		.042		.075		.112	J	.041		.02		.0052	
BENZO(B)FLUORANTHENE	N/A		.057		.063		.098	J	.033		.01		.004	
BENZO(G,H,I)PERYLENE	N/A		.07		.073		.035	J	.059		.035		.0063	
BENZO(K)FLUORANTHENE	N/A		.02		.03		.042	J	.01		.005	J	.002	J
CHRYSENE	N/A		.061		.091		.153	J	.047		.02		.0063	
DIBENZO(A,H)ANTHRACENE	N/A		.027	J	.034	U	.029	J	.027	U	.026	U	.002	J
FLUORANTHENE	N/A		.091		.14		.276	J	.11		.023		.0095	
FLUORENE	N/A		.012	U	.014	U	.0025	U	.011	U	.011	U	.0022	U
INDENO(1,2,3-CD)PYRENE	N/A		.02		.034		.043	J	.02		.008	J	.004	
NAPHTHALENE	N/A		.29	U	.34	U	.061	U	.27	U	.26	U	.054	U
PHENANTHRENE	N/A		.029		.11		.158	J	.12		.009	J	.0082	
PYRENE	N/A		.11		.12		.24	J	.091		.026		.011	
SVOA (MG/KG)														
1,2,4-TRICHLOROBENZENE	.06	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T01-10	T01-150	T01-300	T01-300	T01-50	T01-50	T02-10
Sample Id:	T01-10 (0.5)	T01-150 (0.0-2.0)	T01-300 (0.0-2.0)	T01-300 (2.0-4.0)	T01-50 (0.0-2.0)	T01-50 (2.0-3.0)	T02-10(0.0-1.0)
Sample Date:	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	25-APR-94
Sample Depth:	.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 1 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
SVOA (MG/KG)							
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANILINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZOIC ACID	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BENZYL ALCOHOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T02-175		T02-345		T02-345		T02-50		T03-10		T03-60	
Sample Id:	T02-175(0.0-1.0)		T02-345(0.0-2.0)		T02-345(2.0-4.0)		T02-50(0.0-1.0)		T03-10 (0.0-0.5)		T03-60(0.0-2.0)	
Sample Date:	25-APR-94		25-APR-94		25-APR-94		25-APR-94		01-MAY-94		25-APR-94	
Sample Depth:	0 - 1 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - .5 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)												
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		N/A		N/A		.46	U	.46	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		N/A		N/A		1.1	U	1.1	U
2,4,6-TRICHLOROPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
2,4-DICHLOROPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
2,4-DIMETHYLPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
2,4-DINITROPHENOL	N/A		N/A		N/A		N/A		1.1	U	1.1	U
2,4-DINITROTOLUENE	N/A		N/A		N/A		N/A		.46	U	.46	U
2,6-DINITROTOLUENE	N/A		N/A		N/A		N/A		.46	U	.46	U
2-CHLORONAPHTHALENE	N/A		N/A		N/A		N/A		.46	U	.46	U
2-CHLOROPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		.46	U	.46	U
2-METHYLPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
2-NITROANILINE	N/A		N/A		N/A		N/A		1.1	U	1.1	U
2-NITROPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		N/A		N/A		.46	UJ	.46	UJ
3-NITROANILINE	N/A		N/A		N/A		N/A		1.1	U	1.1	U
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A		N/A		1.1	U	1.1	U
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		N/A		N/A		.46	U	.46	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
4-CHLOROANILINE	N/A		N/A		N/A		N/A		.46	UJ	.46	UJ
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		N/A		N/A		.46	U	.46	U
4-METHYLPHENOL	N/A		N/A		N/A		N/A		.46	U	.46	U
4-NITROANILINE	N/A		N/A		N/A		N/A		1.1	U	1.1	U
4-NITROPHENOL	N/A		N/A		N/A		N/A		1.1	U	1.1	U
ACENAPHTHENE	N/A		N/A		N/A		N/A		.46	U	.46	U
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		.46	U	.46	U
ANILINE	N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		.026	J	.46	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		.076	J	.46	U
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		.46	U	.46	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		.46	U	.46	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		.46	U	.46	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		.46	U	.46	U
BENZOIC ACID	N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		N/A		N/A		.46	U	.46	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		N/A		N/A		.46	U	.46	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		N/A		N/A		.1	J	.46	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE		HCORE	
Point Name:	T03-60	T04-10	T04-300	T04-300	T04-50	T05-10		T05-10	
Sample Id:	T03-60 (1.0-1.5)	T04-10 (0.0-2.0)	T04-300 (0.0-2.0)	T04-300 (2.0-4.0)	T04-50 (0.0-2.0)	T05-10 (0.0-2.0)		T05-10 (2.0-4.0)	
Sample Date:	01-MAY-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94		27-APR-94	
Sample Depth:	1 - 1.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft		2 - 4 ft	
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1		94SED1	
SVOA (MG/KG)									
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2,4,5-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
2,4,6-TRICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2,4-DICHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2,4-DIMETHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2,4-DINITROPHENOL	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
2,4-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2,6-DINITROTOLUENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2-CHLORONAPHTHALENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2-CHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2-METHYLNAPHTHALENE	N/A	N/A	N/A	N/A	N/A	.47	U	**1**	
2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
2-NITROANILINE	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
2-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
3,3'-DICHLOROBENZIDINE	N/A	N/A	N/A	N/A	N/A	.47	UJ	.45	UJ
3-NITROANILINE	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
4,6-DINITRO-2-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
4-BROMOPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
4-CHLORO-3-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
4-CHLOROANILINE	N/A	N/A	N/A	N/A	N/A	.47	UJ	.45	UJ
4-CHLOROPHENYL-PHENYLETHER	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
4-METHYLPHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
4-NITROANILINE	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
4-NITROPHENOL	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
ACENAPHTHENE	N/A	N/A	N/A	N/A	N/A	.47	U	**.39**	J
ACENAPHTHYLENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
ANILINE	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
ANTHRACENE	N/A	N/A	N/A	N/A	N/A	.47	U	**.4**	J
BENZO(A)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	.47	U	**.13**	J
BENZO(A)PYRENE	N/A	N/A	N/A	N/A	N/A	**.24**	J	**.12**	J
BENZO(B)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	**.26**	J	.45	U
BENZO(G,H,I)PERYLENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
BENZO(K)FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
BENZOIC ACID	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
BENZYL ALCOHOL	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
BIS(2-CHLOROETHYL)ETHER	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T05-130		T05-130		T05-50		T05-50		XT-2		XT-2		XT-2	
Sample Id:	T05-130 (0.0-2.0)		T05-130 (2.0-4.0)		T05-50 (0.0-2.0)		T05-50 (2.0-4.0)		XT-2(4)		XT-2(3)		XT-2(2)	
Sample Date:	26-APR-94		26-APR-94		27-APR-94		27-APR-94		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		1 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
2,4,6-TRICHLOROPHENOL	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
2,4-DICHLOROPHENOL	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
2,4-DIMETHYLPHENOL	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
2,4-DINITROPHENOL	N/A		N/A		N/A		N/A		.09	UJ	.09	U	.09	U
2,4-DINITROTOLUENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
2,6-DINITROTOLUENE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
2-CHLORONAPHTHALENE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
2-CHLOROPHENOL	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
2-METHYLPHENOL	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
2-NITROANILINE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
2-NITROPHENOL	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		N/A		N/A		.04	U	.04	U	.04	U
3-NITROANILINE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		N/A		N/A		.03	UJ	.03	U	.03	U
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		N/A		N/A		.03	U	.03	U	.03	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
4-CHLOROANILINE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
4-METHYLPHENOL	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
4-NITROANILINE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
4-NITROPHENOL	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
ACENAPHTHENE	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
ANILINE	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
ANTHRACENE	N/A		N/A		N/A		N/A		.05	U	.05	U	.05	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		**.06**	J	**.09**	J	**.08**	J
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		**.1**	J	**.1**	J	**.1**	J
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		.08	U	**.1**	J	.08	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		**.08**	J	**.1**	J	**.08**	J
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		**.09**	J	**.09**	J	**.08**	J
BENZOIC ACID	N/A		N/A		N/A		N/A		.3	UJ	.3	U	.3	U
BENZYL ALCOHOL	N/A		N/A		N/A		N/A		.1	U	.1	U	.1	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		N/A		N/A		.1	U	.1	U	.1	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	XT-2		XT-3		XT-3		XT-3		XT-5		XT-5		XT-5	
Sample Id:	XT-2(1)		XT-3(2)		XT-3(1)		XT-3(3-4)		XT-5(4-5)		XT-5(3)		XT-5(1-2)	
Sample Date:	19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	3 - 4 ft		2 - 3 ft		3 - 4 ft		3 - 4 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft	
Investigation:	ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
2,2'-OXYBIS(1-CHLOROPROPANE)	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
2,4,5-TRICHLOROPHENOL	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
2,4,6-TRICHLOROPHENOL	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
2,4-DICHLOROPHENOL	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
2,4-DIMETHYLPHENOL	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
2,4-DINITROPHENOL	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
2,4-DINITROTOLUENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
2,6-DINITROTOLUENE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
2-CHLORONAPHTHALENE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
2-CHLOROPHENOL	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
2-METHYLNAPHTHALENE	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
2-METHYLPHENOL	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
2-NITROANILINE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
2-NITROPHENOL	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
3,3'-DICHLOROBENZIDINE	.04	U	.04	U	.04	U	.04	U	.04	U	.04	U	.04	U
3-NITROANILINE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
4,6-DINITRO-2-METHYLPHENOL	.03	U	.03	U	.03	U	.03	U	.03	U	.03	U	.03	U
4-BROMOPHENYL-PHENYLETHER	.03	U	.03	U	.03	U	.03	U	.03	U	.03	U	.03	U
4-CHLORO-3-METHYLPHENOL	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
4-CHLOROANILINE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
4-CHLOROPHENYL-PHENYLETHER	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
4-METHYLPHENOL	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
4-NITROANILINE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
4-NITROPHENOL	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
ACENAPHTHENE	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
ACENAPHTHYLENE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
ANILINE	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
ANTHRACENE	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
BENZO(A)ANTHRACENE	.06	U	**.09**	J	.06	U	**.1**	J	.06	U	**.1**	J	.06	U
BENZO(A)PYRENE	.06	U	**.1**	J	.06	U	**.2**	J	**.1**	J	**.3**		.06	U
BENZO(B)FLUORANTHENE	.08	U	.08	U	.08	U	**.1**	J	**.09**	J	**.2**	J	.08	U
BENZO(G,H,I)PERYLENE	.04	U	**.08**	J	.04	U	**.1**	J	**.07**	J	**.1**	J	.04	U
BENZO(K)FLUORANTHENE	.07	U	**.07**	J	.07	U	**.1**	J	**.08**	J	**.2**	J	.07	U
BENZOIC ACID	.3	U	.3	U	.3	U	.3	U	.3	U	.3	U	.3	U
BENZYL ALCOHOL	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U
BIS(2-CHLOROETHOXY)METHANE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
BIS(2-CHLOROETHYL)ETHER	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
BIS(2-ETHYLHEXYL)PHTHALATE	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		SL		SL		SL		SL		SL		SL	
Point Name:	XT-6		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Id:	XT-6(1-2)		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Date:	16-OCT-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	2 - 4 ft		0 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	ECO_RISK		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)														
2,2'-OXYBIS(1-CHLOROPROPANE)	.06	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2,4,5-TRICHLOROPHENOL	.08	U	.77	U	.57	U	.1	U	.45	U	.088	U	.09	U
2,4,6-TRICHLOROPHENOL	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2,4-DICHLOROPHENOL	.08	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2,4-DIMETHYLPHENOL	.05	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2,4-DINITROPHENOL	.09	U	N/A		N/A		N/A		N/A		N/A		N/A	
2,4-DINITROTOLUENE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2,6-DINITROTOLUENE	.05	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2-CHLORONAPHTHALENE	.05	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2-CHLOROPHENOL	.06	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
2-METHYLNAPHTHALENE	.09	U	.31	U	.23	U	.005	J	.18	U	.035	U	.036	U
2-METHYLPHENOL	.08	U	.31	UJ	.23	UJ	.04	UJ	.18	UJ	.035	UJ	.036	UJ
2-NITROANILINE	.05	U	.77	U	.57	U	.1	U	.45	U	.088	U	.09	U
2-NITROPHENOL	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
3,3'-DICHLOROBENZIDINE	.04	U	.31	UJ	.23	UJ	.04	UJ	.18	UJ	.035	UJ	.036	UJ
3-NITROANILINE	.07	U	.77	U	.57	UJ	.1	U	.45	UJ	.088	U	.09	UJ
4,6-DINITRO-2-METHYLPHENOL	.03	U	N/A		N/A		N/A		N/A		N/A		N/A	
4-BROMOPHENYL-PHENYLETHER	.03	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
4-CHLORO-3-METHYLPHENOL	.08	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
4-CHLOROANILINE	.07	U	.31	U	.23	UJ	.04	U	.18	UJ	.035	U	.036	UJ
4-CHLOROPHENYL-PHENYLETHER	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
4-METHYLPHENOL	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.005	J
4-NITROANILINE	.05	U	.77	U	.57	U	.1	U	.45	U	.088	U	.09	U
4-NITROPHENOL	.08	U	.77	UJ	.57	UJ	.1	UJ	.45	UJ	.088	UJ	.09	UJ
ACENAPHTHENE	.06	U	.31	U	.23	U	.008	J	.18	U	.035	U	.036	U
ACENAPHTHYLENE	.05	U	.31	U	.23	U	.012	J	.18	U	.007	J	.005	J
ANILINE	.08	U	N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.05	U	.31	U	.23	U	.027	J	.18	U	.01	J	.036	U
BENZO(A)ANTHRACENE	.07	J	.31	UJ	.077	J	.084		.078	J	.073		.018	J
BENZO(A)PYRENE	.09	J	.31	UJ	.093	J	.091		.12	J	.072		.023	J
BENZO(B)FLUORANTHENE	.08	U	.05	J	.11	J	.12		.15	J	.093		.025	J
BENZO(G,H,I)PERYLENE	.07	J	.31	UJ	.04	J	.023	J	.031	J	.019	J	.008	J
BENZO(K)FLUORANTHENE	.07	J	.31	UJ	.029	J	.049		.06	J	.039		.009	J
BENZOIC ACID	.3	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZYL ALCOHOL	.1	U	N/A		N/A		N/A		N/A		N/A		N/A	
BIS(2-CHLOROETHOXY)METHANE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
BIS(2-CHLOROETHYL)ETHER	.08	U	.31	UJ	.23	U	.04	UJ	.18	U	.035	UJ	.036	U
BIS(2-ETHYLHEXYL)PHTHALATE	.1	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	
Point Name:	T01-10	T01-150	T01-300	T01-300	T01-50	T01-50	T02-10	
Sample Id:	T01-10 (0.5)	T01-150 (0.0-2.0)	T01-300 (0.0-2.0)	T01-300 (2.0-4.0)	T01-50 (0.0-2.0)	T01-50 (2.0-3.0)	T02-10(0.0-1.0)	
Sample Date:	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	25-APR-94	
Sample Depth:	.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 1 ft	
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	
SVOA (MG/KG)								
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CHRYSENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FLUORENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N-NITROSODIMETHYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PHENOL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PYRENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
PCB (MG/KG)								
AROCLOR-1016	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ
AROCLOR-1221	N/A	N/A	N/A	N/A	N/A	N/A	.087	UJ
AROCLOR-1232	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ
AROCLOR-1242	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ
AROCLOR-1248	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ
AROCLOR-1254	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ
AROCLOR-1260	N/A	N/A	N/A	N/A	N/A	N/A	.043	UJ

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T02-175		T02-345		T02-345		T02-50		T03-10		T03-60		T03-60	
Sample Id:	T02-175(0.0-1.0)		T02-345(0.0-2.0)		T02-345(2.0-4.0)		T02-50(0.0-1.0)		T03-10 (0.0-0.5)		T03-60(0.0-2.0)		T03-160 (0.0 - 2.	
Sample Date:	25-APR-94		25-APR-94		25-APR-94		25-APR-94		01-MAY-94		25-APR-94		01-MAY-94	
Sample Depth:	0 - 1 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - .5 ft		0 - 2 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
SVOA (MG/KG)														
BUTYLBENZYLPHTHALATE	N/A		N/A		N/A		N/A		.024	J	.46	U	.034	J
CARBAZOLE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
CHRYSENE	N/A		N/A		N/A		N/A		.096	J	.46	U	.43	U
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		N/A		.022	J	.46	U	.028	J
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
DIBENZOFURAN	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
DIETHYLPHTHALATE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
DIMETHYLPHTHALATE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
FLUORANTHENE	N/A		N/A		N/A		N/A		.13	J	.041	J	.43	U
FLUORENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
HEXACHLOROBENZENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
HEXACHLOROBUTADIENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
HEXACHLOROETHANE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
ISOPHORONE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		N/A		.46	UJ	.46	U	.43	UJ
NAPHTHALENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
NITROBENZENE	N/A		N/A		N/A		N/A		.46	U	.46	U	.43	U
PENTACHLOROPHENOL	N/A		N/A		N/A		N/A		1.1	U	1.1	U	1	U
PHENANTHRENE	N/A		N/A		N/A		N/A		.096	J	.46	U	.43	U
PHENOL	N/A		N/A		N/A		N/A		.05	J	.46	U	.43	U
PYRENE	N/A		N/A		N/A		N/A		.18	J	.05	J	.038	J
PCB (MG/KG)														
AROCLOR-1016	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		.097	UJ	.099	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		.048	UJ	.049	UJ	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE		HCORE	
Point Name:	T03-60	T04-10	T04-300	T04-300	T04-50	T05-10		T05-10	
Sample Id:	T03-60 (1.0-1.5)	T04-10 (0.0-2.0)	T04-300 (0.0-2.0)	T04-300 (2.0-4.0)	T04-50 (0.0-2.0)	T05-10 (0.0-2.0)		T05-10 (2.0-4.0)	
Sample Date:	01-MAY-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94		27-APR-94	
Sample Depth:	1 - 1.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft		2 - 4 ft	
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1		94SED1	
SVOA (MG/KG)									
BUTYLBENZYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
CARBAZOLE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
CHRYSENE	N/A	N/A	N/A	N/A	N/A	.098	J	.19	J
DI-N-BUTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
DI-N-OCTYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
DIBENZO(A,H)ANTHRACENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
DIBENZOFURAN	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
DIETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
DIMETHYLPHTHALATE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
FLUORANTHENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
FLUORENE	N/A	N/A	N/A	N/A	N/A	.47	U	.47	
HEXACHLOROBENZENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
HEXACHLOROBUTADIENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
HEXACHLOROCYCLOPENTADIENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
HEXACHLOROETHANE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
INDENO(1,2,3-CD)PYRENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
ISOPHORONE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
N-NITROSO-DI-N-PROPYLAMINE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
N-NITROSODIMETHYLAMINE	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	N/A	N/A	N/A	N/A	N/A	.47	UJ	.45	UJ
NAPHTHALENE	N/A	N/A	N/A	N/A	N/A	.47	U	.56	
NITROBENZENE	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
PENTACHLOROPHENOL	N/A	N/A	N/A	N/A	N/A	1.1	U	1.1	U
PHENANTHRENE	N/A	N/A	N/A	N/A	N/A	.47	U	1.4	
PHENOL	N/A	N/A	N/A	N/A	N/A	.47	U	.45	U
PYRENE	N/A	N/A	N/A	N/A	N/A	.52		.46	
PCB (MG/KG)									
AROCLOR-1016	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1221	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1232	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1242	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1248	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1254	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
AROCLOR-1260	N/A	N/A	N/A	N/A	N/A	N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T05-130		T05-130		T05-50		T05-50		XT-2		XT-2		XT-2	
Sample Id:	T05-130 (0.0-2.0)		T05-130 (2.0-4.0)		T05-50 (0.0-2.0)		T05-50 (2.0-4.0)		XT-2(4)		XT-2(3)		XT-2(2)	
Sample Date:	26-APR-94		26-APR-94		27-APR-94		27-APR-94		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	0 - 2 ft		2 - 4 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		1 - 2 ft		2 - 3 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
BUTYLBENZYLPHTHALATE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
CARBAZOLE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		**.09**	J	**.1**	J	**.07**	J
DI-N-BUTYLPHTHALATE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
DI-N-OCTYLPHTHALATE	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		.03	U	.03	U	.03	U
DIBENZOFURAN	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
DIETHYLPHTHALATE	N/A		N/A		N/A		N/A		.1	U	.1	U	.1	U
DIMETHYLPHTHALATE	N/A		N/A		N/A		N/A		.1	U	.1	U	.1	U
FLUORANTHENE	N/A		N/A		N/A		N/A		**.1**	J	**.2**	J	**.1**	J
FLUORENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
HEXACHLOROBENZENE	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
HEXACHLOROBUTADIENE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		N/A		N/A		.07	UJ	.07	U	.07	U
HEXACHLOROETHANE	N/A		N/A		N/A		N/A		.07	U	.07	U	.07	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		**.07**	J	**.09**		**.07**	J
ISOPHORONE	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
N-NITROSODIMETHYLAMINE	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
NAPHTHALENE	N/A		N/A		N/A		N/A		.06	U	.06	U	.06	U
NITROBENZENE	N/A		N/A		N/A		N/A		.08	U	.08	U	.08	U
PENTACHLOROPHENOL	N/A		N/A		N/A		N/A		.05	UJ	.05	U	.05	U
PHENANTHRENE	N/A		N/A		N/A		N/A		.08	U	**.1**	J	.08	U
PHENOL	N/A		N/A		N/A		N/A		.09	U	.09	U	.09	U
PYRENE	N/A		N/A		N/A		N/A		**.1**	J	**.2**	J	**.1**	J
PCB (MG/KG)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	XT-2		XT-3		XT-3		XT-3		XT-5		XT-5		XT-5	
Sample Id:	XT-2(1)		XT-3(2)		XT-3(1)		XT-3(3-4)		XT-5(4-5)		XT-5(3)		XT-5(1-2)	
Sample Date:	19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98		19-OCT-98	
Sample Depth:	3 - 4 ft		2 - 3 ft		3 - 4 ft		3 - 4 ft		1 - 2 ft		2 - 3 ft		3 - 4 ft	
Investigation:	ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK		ECO_RISK	
SVOA (MG/KG)														
BUTYLBENZYLPHTHALATE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
CARBAZOLE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	.07	U	**.08**	J	.07	U	**.1**	J	.07	U	**.2**	J	.07	U
DI-N-BUTYLPHTHALATE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
DI-N-OCTYLPHTHALATE	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
DIBENZO(A,H)ANTHRACENE	.03	U	.03	U	.03	U	**.03**	J	.03	U	**.05**	J	.03	U
DIBENZOFURAN	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
DIETHYLPHTHALATE	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U
DIMETHYLPHTHALATE	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U	.1	U
FLUORANTHENE	.08	U	**.2**	J	.08	U	**.2**	J	**.09**	J	.08	U	.08	U
FLUORENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
HEXACHLOROBENZENE	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
HEXACHLOROBUTADIENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
HEXACHLOROCYCLOPENTADIENE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
HEXACHLOROETHANE	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U	.07	U
INDENO(1,2,3-CD)PYRENE	.04	U	**.07**	J	.04	U	**.1**	J	**.06**	J	**.1**	J	.04	U
ISOPHORONE	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
N-NITROSO-DI-N-PROPYLAMINE	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
N-NITROSODIMETHYLAMINE	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
N-NITROSODIPHENYLAMINE (1)	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
NAPHTHALENE	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U	.06	U
NITROBENZENE	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U	.08	U
PENTACHLOROPHENOL	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U	.05	U
PHENANTHRENE	.08	U	**.1**	J	.08	U	**.1**	J	.08	U	.08	U	.08	U
PHENOL	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U	.09	U
PYRENE	**.07**	J	**.2**	J	.06	U	**.2**	J	**.1**	J	**.1**	J	.06	U
PCB (MG/KG)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		SL		SL		SL		SL		SL		SL	
Point Name:	XT-6		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Id:	XT-6(1-2)		SDPB-01		SDPB-02		SDPB-03		SDPB-04		SDPB-05		SDPB-06	
Sample Date:	16-OCT-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98		11-NOV-98	
Sample Depth:	2 - 4 ft		0 ft		0 ft		0 ft		0 ft		0 ft		0 ft	
Investigation:	ECO_RISK		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI		PHASEII_RI	
SVOA (MG/KG)														
BUTYLBENZYLPHTHALATE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
CARBAZOLE	N/A		.31	U	.23	U	.013	J	.18	U	.035	U	.024	J
CHRYSENE	.07	U	.036	J	.085	J	.078		.091	J	.071		.022	J
DI-N-BUTYLPHTHALATE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
DI-N-OCTYLPHTHALATE	.06	U	.31	UJ	.23	U	.04	U	.18	U	.035	U	.036	U
DIBENZO(A,H)ANTHRACENE	.03	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
DIBENZOFURAN	.09	U	.31	U	.23	U	.008	J	.18	U	.035	U	.036	U
DIETHYLPHTHALATE	.1	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
DIMETHYLPHTHALATE	.1	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
FLUORANTHENE	.1	J	.31	U	.12	J	.19		.12	J	.12		.033	J
FLUORENE	.07	U	.31	U	.23	U	.01	J	.18	U	.035	U	.036	U
HEXACHLOROBENZENE	.06	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
HEXACHLOROBUTADIENE	.07	U	.31	UJ	.23	U	.04	UJ	.18	U	.035	UJ	.036	U
HEXACHLOROCYCLOPENTADIENE	.07	U	.31	UJ	.23	UJ	.04	UJ	.18	UJ	.035	UJ	.036	UJ
HEXACHLOROETHANE	.07	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
INDENO(1,2,3-CD)PYRENE	.06	J	.31	UJ	.041	J	.023	J	.035	J	.018	J	.009	J
ISOPHORONE	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
N-NITROSO-DI-N-PROPYLAMINE	.08	U	.31	UJ	.23	UJ	.04	UJ	.18	UJ	.035	UJ	.036	UJ
N-NITROSODIMETHYLAMINE	.06	U	N/A		N/A		N/A		N/A		N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
NAPHTHALENE	.06	U	.31	U	.23	U	.006	J	.18	U	.035	U	.036	U
NITROBENZENE	.08	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
PENTACHLOROPHENOL	.05	U	.77	U	.57	U	.1	U	.45	U	.088	U	.09	UJ
PHENANTHRENE	.08	J	.31	U	.065	J	.18		.062	J	.032	J	.025	J
PHENOL	.09	U	.31	U	.23	U	.04	U	.18	U	.035	U	.036	U
PYRENE	.1	J	.038	J	.14	J	.19		.14	J	.14		.037	
PCB (MG/KG)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	
Point Name:	T01-10	T01-150	T01-300	T01-300	T01-50	T01-50	T02-10	
Sample Id:	T01-10 (0.5)	T01-150 (0.0-2.0)	T01-300 (0.0-2.0)	T01-300 (2.0-4.0)	T01-50 (0.0-2.0)	T01-50 (2.0-3.0)	T02-10(0.0-1.0)	
Sample Date:	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	25-APR-94	
Sample Depth:	.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 1 ft	
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	
PEST (MG/KG)								
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	.0065	J
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	.0043	UJ
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	.0022	UJ
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	.022	UJ
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	.22	UJ
METALS (MG/KG)								
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE		HCORE		HCORE		HCORE		HCORE		HCORE		HCORE	
Point Name:	T02-175		T02-345		T02-345		T02-50		T03-10		T03-60		T03-60	
Sample Id:	T02-175(0.0-1.0)		T02-345(0.0-2.0)		T02-345(2.0-4.0)		T02-50(0.0-1.0)		T03-10 (0.0-0.5)		T03-60(0.0-2.0)		T03-160 (0.0 - 2.	
Sample Date:	25-APR-94		25-APR-94		25-APR-94		25-APR-94		01-MAY-94		25-APR-94		01-MAY-94	
Sample Depth:	0 - 1 ft		0 - 2 ft		2 - 4 ft		0 - 1 ft		0 - .5 ft		0 - 2 ft		0 - 2 ft	
Investigation:	94SED1		94SED1		94SED1		94SED1		94SED1		94SED1		94SED1	
PEST (MG/KG)														
4,4'-DDD	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
4,4'-DDE	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
4,4'-DDT	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ALDRIN	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
ALPHA-BHC	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
ALPHA-CHLORDANE	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
BETA-BHC	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
DELTA-BHC	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
DIELDRIN	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ENDOSULFAN I	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
ENDOSULFAN II	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ENDOSULFAN SULFATE	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ENDRIN	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ENDRIN ALDEHYDE	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
ENDRIN KETONE	N/A		.0048	UJ	.0049	UJ	N/A		N/A		N/A		N/A	
GAMMA-BHC (LINDANE)	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
GAMMA-CHLORDANE	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
HEPTACHLOR	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
HEPTACHLOR EPOXIDE	N/A		.0025	UJ	.0025	UJ	N/A		N/A		N/A		N/A	
METHOXYCHLOR	N/A		.025	UJ	.025	UJ	N/A		N/A		N/A		N/A	
TOXAPHENE	N/A		.25	UJ	.25	UJ	N/A		N/A		N/A		N/A	
METALS (MG/KG)														
ALUMINUM	N/A		N/A		N/A		N/A		13100		10600		13300	
ANTIMONY	N/A		N/A		N/A		N/A		8.6	UJ	8.7	UJ	8	UJ
ARSENIC	N/A		N/A		N/A		N/A		5.7	S	9.9		5.2	
BARIUM	N/A		N/A		N/A		N/A		47.6	B	34.5	J	39.7	B
BERYLLIUM	N/A		N/A		N/A		N/A		.4	B	.28	U	.37	B
CADMIUM	N/A		N/A		N/A		N/A		1.1	U	1.2	J	1.3	
CALCIUM	N/A		N/A		N/A		N/A		3620		3090		4770	
CHROMIUM	N/A		N/A		N/A		N/A		38		39	J	40.9	
COBALT	N/A		N/A		N/A		N/A		9	B	10.6	J	8.4	B
COPPER	N/A		N/A		N/A		N/A		27.3		23		25.3	
IRON	N/A		N/A		N/A		N/A		20100		20600		22500	
LEAD	N/A		N/A		N/A		N/A		15.6	J	14.6		11.2	S*
LEAD, ORGANIC	N/A		N/A		N/A		N/A		.69	U	.69	U	.65	U
MAGNESIUM	N/A		N/A		N/A		N/A		6180		6680	J	7000	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T03-60	T04-10	T04-300	T04-300	T04-50	T05-10	T05-10
Sample Id:	T03-60 (1.0-1.5)	T04-10 (0.0-2.0)	T04-300 (0.0-2.0)	T04-300 (2.0-4.0)	T04-50 (0.0-2.0)	T05-10 (0.0-2.0)	T05-10 (2.0-4.0)
Sample Date:	01-MAY-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94
Sample Depth:	1 - 1.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
PEST (MG/KG)							
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T05-130	T05-130	T05-50	T05-50	XT-2	XT-2	XT-2
Sample Id:	T05-130 (0.0-2.0)	T05-130 (2.0-4.0)	T05-50 (0.0-2.0)	T05-50 (2.0-4.0)	XT-2(4)	XT-2(3)	XT-2(2)
Sample Date:	26-APR-94	26-APR-94	27-APR-94	27-APR-94	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	1 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	ECO_RISK	ECO_RISK	ECO_RISK
PEST (MG/KG)							
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	XT-2	XT-3	XT-3	XT-3	XT-5	XT-5	XT-5
Sample Id:	XT-2(1)	XT-3(2)	XT-3(1)	XT-3(3-4)	XT-5(4-5)	XT-5(3)	XT-5(1-2)
Sample Date:	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	3 - 4 ft	2 - 3 ft	3 - 4 ft	3 - 4 ft	1 - 2 ft	2 - 3 ft	3 - 4 ft
Investigation:	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK
PEST (MG/KG)							
4,4'-DDD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)							
ALUMINUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	SL		SL	SL	SL	SL	SL
Point Name:	XT-6	SDPB-01		SDPB-02	SDPB-03	SDPB-04	SDPB-05	SDPB-06
Sample Id:	XT-6(1-2)	SDPB-01		SDPB-02	SDPB-03	SDPB-04	SDPB-05	SDPB-06
Sample Date:	16-OCT-98	11-NOV-98		11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98
Sample Depth:	2 - 4 ft	0 ft		0 ft	0 ft	0 ft	0 ft	0 ft
Investigation:	ECO_RISK	PHASEII_RI		PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
PEST (MG/KG)								
4,4'-DDD	N/A	.009		N/A	N/A	N/A	N/A	N/A
4,4'-DDE	N/A	.0046	U	N/A	N/A	N/A	N/A	N/A
4,4'-DDT	N/A	.046		N/A	N/A	N/A	N/A	N/A
ALDRIN	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	.004		N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	.005		N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	.0046	U	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	.012	U	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	.002	J	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	.004	J	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	.0046	U	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	.0023	U	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	.0008	J	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	.002	J	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	.007	J	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	.23	U	N/A	N/A	N/A	N/A	N/A
METALS (MG/KG)								
ALUMINUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	N/A		N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	N/A		N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
COBALT	N/A	N/A		N/A	N/A	N/A	N/A	N/A
COPPER	N/A	N/A		N/A	N/A	N/A	N/A	N/A
IRON	N/A	N/A		N/A	N/A	N/A	N/A	N/A
LEAD	N/A	N/A		N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	N/A		N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T01-10	T01-150	T01-300	T01-300	T01-50	T01-50	T02-10
Sample Id:	T01-10 (0.5)	T01-150 (0.0-2.0)	T01-300 (0.0-2.0)	T01-300 (2.0-4.0)	T01-50 (0.0-2.0)	T01-50 (2.0-3.0)	T02-10(0.0-1.0)
Sample Date:	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	24-APR-94	25-APR-94
Sample Depth:	.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 3 ft	0 - 1 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T02-175	T02-345	T02-345	T02-50	T03-10	T03-60	T03-60
Sample Id:	T02-175(0.0-1.0)	T02-345(0.0-2.0)	T02-345(2.0-4.0)	T02-50(0.0-1.0)	T03-10 (0.0-0.5)	T03-60(0.0-2.0)	T03-160 (0.0 - 2.
Sample Date:	25-APR-94	25-APR-94	25-APR-94	25-APR-94	01-MAY-94	25-APR-94	01-MAY-94
Sample Depth:	0 - 1 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	0 - .5 ft	0 - 2 ft	0 - 2 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	**181**	**178**	**176**
MERCURY	N/A	N/A	N/A	N/A	**.07** J	.2 UJ	.06 UJ
NICKEL	N/A	N/A	N/A	N/A	**37.6**	**43.2** J	**36.6**
POTASSIUM	N/A	N/A	N/A	N/A	**2650** J	**2860**	**2550**
SELENIUM	N/A	N/A	N/A	N/A	**.67** J	.56 UJ	**.67** J
SILVER	N/A	N/A	N/A	N/A	.56 U	.56 U	.52 U
SODIUM	N/A	N/A	N/A	N/A	**5060**	**4960**	**4520**
THALLIUM	N/A	N/A	N/A	N/A	.56 UJ	.56 UJ	.52 UJ
VANADIUM	N/A	N/A	N/A	N/A	**36.4**	**36.5**	**37.7**
ZINC	N/A	N/A	N/A	N/A	**63.3**	**62.2** J	**56.2**
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	**2700**	N/A	**7500**

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T03-60	T04-10	T04-300	T04-300	T04-50	T05-10	T05-10
Sample Id:	T03-60 (1.0-1.5)	T04-10 (0.0-2.0)	T04-300 (0.0-2.0)	T04-300 (2.0-4.0)	T04-50 (0.0-2.0)	T05-10 (0.0-2.0)	T05-10 (2.0-4.0)
Sample Date:	01-MAY-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94	27-APR-94
Sample Depth:	1 - 1.5 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft	0 - 2 ft	0 - 2 ft	2 - 4 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1	94SED1
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	T05-130	T05-130	T05-50	T05-50	XT-2	XT-2	XT-2
Sample Id:	T05-130 (0.0-2.0)	T05-130 (2.0-4.0)	T05-50 (0.0-2.0)	T05-50 (2.0-4.0)	XT-2(4)	XT-2(3)	XT-2(2)
Sample Date:	26-APR-94	26-APR-94	27-APR-94	27-APR-94	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	0 - 2 ft	2 - 4 ft	0 - 2 ft	2 - 4 ft	0 - 1 ft	1 - 2 ft	2 - 3 ft
Investigation:	94SED1	94SED1	94SED1	94SED1	ECO_RISK	ECO_RISK	ECO_RISK
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE	HCORE
Point Name:	XT-2	XT-3	XT-3	XT-3	XT-5	XT-5	XT-5
Sample Id:	XT-2(1)	XT-3(2)	XT-3(1)	XT-3(3-4)	XT-5(4-5)	XT-5(3)	XT-5(1-2)
Sample Date:	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98	19-OCT-98
Sample Depth:	3 - 4 ft	2 - 3 ft	3 - 4 ft	3 - 4 ft	1 - 2 ft	2 - 3 ft	3 - 4 ft
Investigation:	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK	ECO_RISK
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Sediment Analytical Results

Point Type:	HCORE	SL	SL	SL	SL	SL	SL
Point Name:	XT-6	SDPB-01	SDPB-02	SDPB-03	SDPB-04	SDPB-05	SDPB-06
Sample Id:	XT-6(1-2)	SDPB-01	SDPB-02	SDPB-03	SDPB-04	SDPB-05	SDPB-06
Sample Date:	16-OCT-98	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98	11-NOV-98
Sample Depth:	2 - 4 ft	0 ft	0 ft	0 ft	0 ft	0 ft	0 ft
Investigation:	ECO_RISK	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI	PHASEII_RI
METALS (MG/KG)							
MANGANESE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/KG)							
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

GROUNDWATER

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR10-19		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01	
Sample Id:	BR10-19		ERM10-01(23)		ERM10-01 (21.0)		ERM10-01 (20.0)		ERM10-01 (18.0)		ERM10-01(20.1)		ERM10-01	
Sample Date:	25-FEB-99		28-MAR-94		25-JUN-94		29-JUN-94		27-SEP-94		14-DEC-94		06-NOV-97	
Sample Depth:														
Investigation:	PHASEII_RI		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	UJ	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.08	J	N/A		N/A		N/A		N/A		N/A		.1	U
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	N/A		.0005	UJ	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.03	J	.05	U	.05	U	N/A		.05	UJ	.05	UJ	.05	U
JP4 RANGE ORGANICS	N/A		.052	U	.05	U	N/A		N/A		.05	U	N/A	
JP5 RANGE ORGANICS	.1	U	.052	U	.05	U	N/A		N/A		.05	U	.1	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	N/A		N/A		N/A		N/A		N/A		.35	Z
OTHER HEAVY TPH COMPONENTS	N/A		.052	U	1.8	J	N/A		1.9	J	.05	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		1	Y	.66	J	N/A		.55	Y	.3	Y	N/A	
TOLUENE	.0005	U	.0005	U	.0005	U	N/A		.0005	UJ	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.1	U	.52	U	.5	U	N/A		N/A		.5	U	3.62	Y
TPH - DIESEL F-76 (C8-C28)	.1	U	.052	U	.05	U	N/A		N/A		1.6		.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		1.3		.05	U	N/A		N/A		.05	U	N/A	
XYLENE (TOTAL)	.001	U	.0005	U	.0005	U	N/A		.0005	UJ	.0008		N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,1-DICHLOROETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,1-DICHLOROETHENE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,2-DICHLOROBENZENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
1,2-DICHLOROETHANE	.5	U	3	U	2	U	N/A		2	UJ	2	U	.5	U
1,2-DICHLOROETHENE (TOTAL)	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,2-DICHLOROPROPANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
1,3-DICHLOROBENZENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
1,4-DICHLOROBENZENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2-BUTANONE	2	U	39		2	UJ	N/A		2	UJ	2	U	2	U
2-HEXANONE	2	U	3	U	2	UJ	N/A		2	UJ	2	U	1	J
4-METHYL-2-PENTANONE	2	U	3	U	2	UJ	N/A		2	UJ	2	U	2	U
ACETONE	2	UJ	3	U	2	UJ	N/A		5	UJ	2	UJ	2	UJ
BENZENE	.5	U	3	U	.2	J	N/A		2	UJ	2	U	.5	U
BROMODICHLOROMETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
BROMOFORM	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
BROMOMETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
CARBON DISULFIDE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02		MW02-17	
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)		MW02-17	
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94		23-FEB-99	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.1	U	**5.62**	Y	N/A		N/A		N/A		N/A		.1	U
ETHYLBENZENE	.0005	U	**.0012**		.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	**.06**	Z	**.26**		.05	U	.05	U	.05	UJ	.05	UJ	**.07**	Z
JP4 RANGE ORGANICS	N/A		N/A		.051	U	.05	U	.05	U	.05	U	N/A	
JP5 RANGE ORGANICS	.1	U	N/A		.051	U	.05	U	.05	UJ	.05	U	**.29**	Y
METHYL-T-BUTYL ETHER	.001	U	.005	U	N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	.1	U	N/A		N/A		N/A		N/A		.12	U
OTHER HEAVY TPH COMPONENTS	N/A		N/A		.051	U	**.11**	J	.05	U	.05	U	N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		.05	U	.05	U	.05	U	.05	U	N/A	
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	**1.4**	Y	N/A		.51	U	.5	U	.5	UJ	.5	U	.1	U
TPH - DIESEL F-76 (C8-C28)	.1	U	N/A		.051	U	.05	U	.05	U	.05	U	.1	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		.051	U	.05	U	.05	U	.05	U	N/A	
XYLENE (TOTAL)	.001	U	**.001**		.0005	U	.0005	U	.0005	UJ	.0005	U	.001	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	N/A		2	U	2	U	**1**	J	2	U	10	U
1,1,2,2-TETRACHLOROETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
1,1,2-TRICHLOROETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
1,1-DICHLOROETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
1,1-DICHLOROETHENE	2	U	N/A		2	U	2	U	**9**		2	U	10	U
1,2-DICHLOROBENZENE	1	UJ	40	U	10	U	N/A		10	U	10	U	N/A	
1,2-DICHLOROETHANE	.5	U	N/A		2	U	2	U	2	U	2	U	10	U
1,2-DICHLOROETHENE (TOTAL)	2	U	N/A		2	U	2	U	2	U	2	U	10	U
1,2-DICHLOROPROPANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
1,3-DICHLOROBENZENE	1	UJ	40	U	10	U	N/A		10	U	10	U	N/A	
1,4-DICHLOROBENZENE	1	UJ	40	U	10	U	N/A		10	U	10	U	N/A	
2-BUTANONE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
2-HEXANONE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
4-METHYL-2-PENTANONE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
ACETONE	2	UJ	N/A		2	U	2	UJ	2	U	2	UJ	10	UJ
BENZENE	.5	U	N/A		2	U	.05	J	**.2**	J	2	U	10	U
BROMODICHLOROMETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
BROMOFORM	2	U	N/A		2	U	2	U	2	U	2	U	10	U
BROMOMETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
CARBON DISULFIDE	2	U	N/A		2	U	2	U	2	UJ	2	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17		MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:														
Investigation:	UST_PHASEII		GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
DIESEL RANGE ORGANICS	.1	U	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.07	Z	.05	U	.05	U	.05	U	.05	UJ	.05	UJ	.05	U
JP4 RANGE ORGANICS	N/A		.052	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	UJ
JP5 RANGE ORGANICS	.5	UJ	.052	UJ	.05	UJ	.05	U	.05	UJ	.05	U	.05	UJ
METHYL-T-BUTYL ETHER	.005	U	N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.5	U	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		2.8	J	2.3	J	1.8	J	.05	U	.05	U	.05	UJ
OTHER LIGHT TPH COMPONENTS	N/A		.05	U	.05	U	.36	J	.05	U	.05	U	.37	Z
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.1	U	.52	UJ	.5	UJ	.5	U	.5	UJ	.5	U	.5	UJ
TPH - DIESEL F-76 (C8-C28)	.1	U	.052	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	UJ
TPH - WEATHERED DIESEL(C8-C26)	N/A		.052	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	UJ
XYLENE (TOTAL)	.001	U	.0005	U	.0005	U	.0005	U	.0005	UJ	.0005	UJ	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		N/A		N/A		N/A		N/A		2	U	N/A	
1,1,2-TRICHLOROETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,1-DICHLOROETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,1-DICHLOROETHENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,2-DICHLOROBENZENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
1,2-DICHLOROETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,2-DICHLOROPROPANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
1,3-DICHLOROBENZENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
1,4-DICHLOROBENZENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-BUTANONE	N/A		11	UJ	9	UJ	N/A		N/A		2	U	2	U
2-HEXANONE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
4-METHYL-2-PENTANONE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
ACETONE	N/A		4	UJ	4	UJ	N/A		N/A		3	UJ	2	U
BENZENE	N/A		2	U	2	U	N/A		N/A		2	U	.1	J
BROMODICHLOROMETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
BROMOFORM	N/A		N/A		N/A		N/A		N/A		2	U	N/A	
BROMOMETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
CARBON DISULFIDE	N/A		.5	J	.5	J	N/A		N/A		.2	J	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-05		MW10-05		MW10-05 (FD)		MW10-05		MW10-05 (FD)		MW10-05	
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)		MW10-101 (27.0)		MW10-05(16.0)		MW10-70(25.5)		MW10-05	
Sample Date:	27-JUN-94		30-SEP-94		30-SEP-94		10-DEC-94		10-DEC-94		03-APR-98	
Sample Depth:												
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U	N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.1	U	N/A	
ETHYLBENZENE	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U	N/A	
GASOLINE RANGE ORGANICS	.05	U	.05	UJ	N/A		.05	UJ	N/A		.05	U	N/A	
JP4 RANGE ORGANICS	.05	U	.05	U	N/A		.05	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	.05	U	.05	U	N/A		.05	U	N/A		.1	U	N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		.005	U	N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		.1	U	N/A	
OTHER HEAVY TPH COMPONENTS	.5	J	.05	U	N/A		.05	U	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	.05	U	.05	U	N/A		.05	U	N/A		N/A		N/A	
TOLUENE	.0005	U	.0005	U	N/A		.0005	U	N/A		.0005	U	N/A	
TPH - BUNKER FUEL (C10-C28)	.5	U	.5	UJ	N/A		.5	U	N/A		.1	U	N/A	
TPH - DIESEL F-76 (C8-C28)	.05	U	.05	U	N/A		.05	U	N/A		.1	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	.05	U	.05	U	N/A		.05	U	N/A		N/A		N/A	
XYLENE (TOTAL)	.0005	U	.0005	U	N/A		.0005	UJ	N/A		.001	U	N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,1,2,2-TETRACHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,1,2-TRICHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,1-DICHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,1-DICHLOROETHENE	2	U	.5	U	N/A		2	U	N/A		2	UJ	10	UJ
1,2-DICHLOROBENZENE	10	U	N/A		N/A		10	U	N/A		N/A		N/A	
1,2-DICHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		.5	U	10	UJ
1,2-DICHLOROETHENE (TOTAL)	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,2-DICHLOROPROPANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
1,3-DICHLOROBENZENE	10	U	N/A		N/A		10	U	N/A		N/A		N/A	
1,4-DICHLOROBENZENE	10	U	N/A		N/A		10	U	N/A		N/A		N/A	
2-BUTANONE	2	UJ	4	UJ	N/A		2	U	N/A		2	U	10	UJ
2-HEXANONE	2	UJ	4	UJ	N/A		2	U	N/A		2	UJ	10	UJ
4-METHYL-2-PENTANONE	2	UJ	4	UJ	N/A		2	U	N/A		2	U	10	UJ
ACETONE	2	UJ	4	UJ	N/A		2	UJ	N/A		.8	UJ	10	UJ
BENZENE	2	U	.5	U	N/A		2	U	N/A		.5	U	10	UJ
BROMODICHLOROMETHANE	2	U	.5	U	N/A		.9	J	N/A		.6	J	.4	J
BROMOFORM	2	U	.5	U	N/A		2	U	N/A		.5	J	10	UJ
BROMOMETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
CARBON DISULFIDE	2	U	.5	U	N/A		2	U	N/A		2	U	.6	J

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)		MW10-08(23.0)		MW10-08		MW10-08		MW10-08		MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94		13-DEC-94		06-NOV-97		06-APR-98		21-JAN-99		25-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		GW1Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		.1	U	**.09**	Y	.1	U	N/A	
ETHYLBENZENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	U	.05	UJ	.05	UJ	.05	U	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	.052	UJ	.05	UJ	.05	U	N/A		N/A		N/A		.051	UJ
JP5 RANGE ORGANICS	.052	UJ	.05	UJ	.05	U	.1	U	.1	U	.1	U	.051	UJ
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		.005	U	.005	U	N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		.1	U	.1	U	.1	U	N/A	
OTHER HEAVY TPH COMPONENTS	**.25**	J	**.64**	J	.05	U	N/A		N/A		N/A		.051	UJ
OTHER LIGHT TPH COMPONENTS	**.081**	Y	.05	U	.05	U	N/A		N/A		N/A		.05	U
TOLUENE	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.52	UJ	.5	UJ	.5	U	**.3**	Y	.1	U	N/A		.51	UJ
TPH - DIESEL F-76 (C8-C28)	.052	UJ	.05	UJ	.05	U	.1	U	.1	U	N/A		.051	UJ
TPH - WEATHERED DIESEL(C8-C26)	.052	UJ	.05	UJ	.05	U	N/A		N/A		N/A		.051	UJ
XYLENE (TOTAL)	.0005	U	.0005	UJ	.0005	U	N/A		.001	U	.001	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,1,2,2-TETRACHLOROETHANE	N/A		2	U	2	U	2	U	2	U	10	U	N/A	
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,1-DICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,2-DICHLOROBENZENE	10	U	N/A		N/A		1	U	1	UJ	5	U	10	U
1,2-DICHLOROETHANE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
1,3-DICHLOROBENZENE	10	U	N/A		N/A		1	U	1	UJ	5	U	10	U
1,4-DICHLOROBENZENE	10	U	N/A		N/A		1	U	1	UJ	5	U	10	U
2-BUTANONE	2	U	2	U	2	U	2	U	2	U	10	UJ	2	U
2-HEXANONE	2	U	2	UJ	2	U	2	U	2	U	10	UJ	2	U
4-METHYL-2-PENTANONE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
ACETONE	2	U	2	UJ	2	UJ	**2**	J	2	UJ	10	UJ	2	U
BENZENE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
BROMODICHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
BROMOFORM	N/A		2	U	2	U	2	U	2	U	10	U	N/A	
BROMOMETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
CARBON DISULFIDE	2	U	2	U	**.2**	J	2	U	2	U	10	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09	
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09	
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		.1	Y	.2	Y	.38	J
ETHYLBENZENE	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	U	.05	U	.05	UJ	.05	UJ	.05	U	.05	U	.05	U
JP4 RANGE ORGANICS	.05	UJ	.05	U	.05	U	.05	U	N/A		N/A		N/A	
JP5 RANGE ORGANICS	.05	UJ	.05	U	.05	UJ	.05	U	.1	U	.1	U	N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		.005	U	.003	J
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		.2	Z	.1	U	.1	U
OTHER HEAVY TPH COMPONENTS	.18	J	.64	Z	.05	U	.054	Z	N/A		N/A		N/A	
OTHER LIGHT TPH COMPONENTS	.05	U	.05	U	.05	U	.05	U	N/A		N/A		N/A	
TOLUENE	.0005	U	.0005	U	.0005	UJ	.0005	U	.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	UJ	.5	UJ	.5	UJ	.5	U	.1	U	.1	U	N/A	
TPH - DIESEL F-76 (C8-C28)	.05	UJ	.05	U	.05	U	.05	U	.1	U	.1	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	.05	UJ	.05	UJ	.05	U	.05	U	N/A		N/A		N/A	
XYLENE (TOTAL)	.0005	U	.0005	U	.0005	UJ	.0005	U	N/A		.001	U	.0007	J
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,1,2,2-TETRACHLOROETHANE	N/A		2	U	2	U	2	U	2	U	2	U	10	U
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,1-DICHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,1-DICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,2-DICHLOROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	5	U
1,2-DICHLOROETHANE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
1,3-DICHLOROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	5	U
1,4-DICHLOROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	5	U
2-BUTANONE	2	U	2	U	2	U	2	U	2	U	2	U	10	UJ
2-HEXANONE	2	U	2	U	2	UJ	2	U	2	U	2	U	10	UJ
4-METHYL-2-PENTANONE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
ACETONE	2	U	2	U	2	UJ	2	UJ	2	J	2	UJ	10	UJ
BENZENE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	U
BROMODICHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
BROMOFORM	N/A		2	U	2	U	2	U	2	U	2	U	10	U
BROMOMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
CARBON DISULFIDE	2	U	2	U	2	U	2	U	2	U	2	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-10		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)	
Sample Id:	MW10-10(21.0)		MW10-10(17.0)		MW10-70(27.0)		MW10-10 (15.5)		MW10-71 (25.0)		MW10-10(07.0)		MW10-71(17.5)	
Sample Date:	24-MAR-94		30-JUN-94		30-JUN-94		27-SEP-94		27-SEP-94		13-DEC-94		13-DEC-94	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	N/A		.0005	UJ	N/A		.0005	U	N/A	
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	N/A		.0005	UJ	N/A		.0005	U	N/A	
GASOLINE RANGE ORGANICS	.05	U	.05	U	N/A		.05	UJ	N/A		.05	UJ	N/A	
JP4 RANGE ORGANICS	.051	UJ	.05	U	N/A		.05	U	N/A		.05	U	N/A	
JP5 RANGE ORGANICS	.051	UJ	.05	U	N/A		.05	UJ	N/A		.05	U	N/A	
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.051	UJ	.5	Y	N/A		.05	U	N/A		.84	Y	N/A	
OTHER LIGHT TPH COMPONENTS	.05	U	.05	U	N/A		.05	U	N/A		.05	U	N/A	
TOLUENE	.0005	U	.0005	U	N/A		.0005	UJ	N/A		.0005	U	N/A	
TPH - BUNKER FUEL (C10-C28)	.51	UJ	.5	U	N/A		.5	UJ	N/A		.5	U	N/A	
TPH - DIESEL F-76 (C8-C28)	.051	UJ	.05	U	N/A		.05	U	N/A		.05	U	N/A	
TPH - WEATHERED DIESEL(C8-C26)	.051	UJ	.05	U	N/A		.05	U	N/A		.05	U	N/A	
XYLENE (TOTAL)	.0005	U	.0005	U	N/A		.0005	UJ	N/A		.0005	U	N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	7		2	J	2	J	.8	J	.8	J	4		4	
1,1,2,2-TETRACHLOROETHANE	N/A		2	U	2	U	2	UJ	2	UJ	2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
1,1-DICHLOROETHANE	38		39		39		28	J	28	J	12		13	
1,1-DICHLOROETHENE	3		3		3		2	UJ	2	J	2	U	2	U
1,2-DICHLOROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A	
1,2-DICHLOROETHANE	2	U	2	U	2	U	2	UJ	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
1,3-DICHLOROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A	
1,4-DICHLOROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A	
2-BUTANONE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
2-HEXANONE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
4-METHYL-2-PENTANONE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
ACETONE	2	U	2	UJ	3	UJ	2	UJ	2	UJ	3	UJ	2	UJ
BENZENE	2	U	.1	J	.1	J	2	UJ	.09	J	2	U	.2	J
BROMODICHLOROMETHANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
BROMOFORM	N/A		2	U	2	U	2	UJ	2	UJ	2	U	2	U
BROMOMETHANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
CARBON DISULFIDE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-10		MW10-10		MW10-10		MW10-10 (FD)		MW10-11		MW10-11		MW10-11	
Sample Id:	MW10-10		MW10-10		MW10-10		MW11-250		MW10-11(21)		MW10-11(20.0)		MW10-11 (20.3)	
Sample Date:	05-NOV-97		03-APR-98		21-JAN-99		21-JAN-99		29-MAR-94		29-JUN-94		26-SEP-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94	
TPH (MG/L)														
BENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	N/A		N/A	
DIESEL RANGE ORGANICS	.1	U	.1	U	.1	U	.1	U	N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	N/A		N/A	
GASOLINE RANGE ORGANICS	.05	U	.05	U	.05	U	.05	U	.05	U	N/A		N/A	
JP4 RANGE ORGANICS	N/A		N/A		N/A		N/A		.05	U	N/A		N/A	
JP5 RANGE ORGANICS	.1	U	.0001	U	.1	U	.1	U	.05	U	N/A		N/A	
METHYL-T-BUTYL ETHER	N/A		.005	U	.006		.005	U	N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	.1	U	.55	Y	.47	UJ	.58		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		N/A		N/A		.05	U	N/A		N/A	
OTHER LIGHT TPH COMPONENTS	N/A		N/A		N/A		N/A		.05	U	N/A		N/A	
TOLUENE	.0005	U	.0005	U	.0005	U	.0005	U	.0005	U	N/A		N/A	
TPH - BUNKER FUEL (C10-C28)	1.5	Y	.0001	U	N/A		N/A		.5	U	N/A		N/A	
TPH - DIESEL F-76 (C8-C28)	.1	U	.0001	U	N/A		N/A		.05	U	N/A		N/A	
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		N/A		N/A		.05	U	N/A		N/A	
XYLENE (TOTAL)	N/A		.001	U	.001	U	.001	U	.0005	U	N/A		N/A	
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	10	U	10	U	N/A		2	U	2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
1,1-DICHLOROETHANE	8		.4	J	2	J	2	J	2	U	2	U	2	U
1,1-DICHLOROETHENE	.5	J	2	UJ	10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROBENZENE	1	U	1	U	5	U	5	U	10	U	N/A		N/A	
1,2-DICHLOROETHANE	.5	U	.5	U	10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	10	U	10	U	2	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
1,3-DICHLOROBENZENE	1	U	1	U	5	U	5	U	10	U	N/A		N/A	
1,4-DICHLOROBENZENE	1	U	1	U	5	U	5	U	10	U	N/A		N/A	
2-BUTANONE	2	U	2	U	10	UJ	10	UJ	2	U	2	U	2	U
2-HEXANONE	2	U	2	U	10	UJ	10	UJ	2	U	2	U	2	UJ
4-METHYL-2-PENTANONE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
ACETONE	2	J	2	UJ	10	UJ	10	UJ	2	U	2	UJ	2	UJ
BENZENE	.5	U	.5	U	10	U	10	U	2	U	2	U	2	U
BROMODICHLOROMETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
BROMOFORM	2	U	2	U	10	U	10	U	N/A		2	U	2	U
BROMOMETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
CARBON DISULFIDE	2	U	2	UJ	10	U	10	U	.05	J	2	U	.1	J

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)		MW10-14(16.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94		30-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94		GW2Q94	
TPH (MG/L)														
BENZENE	N/A		N/A		.0005	U	N/A		N/A		.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	N/A		N/A		.0005	U	N/A		N/A		.0005	U	.0005	U
GASOLINE RANGE ORGANICS	N/A		N/A		.05	U	N/A		N/A		.05	U	.05	U
JP4 RANGE ORGANICS	N/A		N/A		.05	U	N/A		N/A		.052	U	.05	U
JP5 RANGE ORGANICS	N/A		N/A		.05	U	N/A		N/A		.052	U	.05	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	N/A		N/A		.05	U	N/A		N/A		.052	U	**.43**	J
OTHER LIGHT TPH COMPONENTS	N/A		N/A		.05	U	N/A		N/A		.05	U	.05	U
TOLUENE	N/A		N/A		.0005	U	N/A		N/A		.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	N/A		N/A		.5	UJ	N/A		N/A		.52	UJ	.5	U
TPH - DIESEL F-76 (C8-C28)	N/A		N/A		.05	U	N/A		N/A		.052	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	N/A		N/A		.05	UJ	N/A		N/A		.052	UJ	.05	U
XYLENE (TOTAL)	N/A		N/A		.0005	U	N/A		N/A		.0005	U	.0005	U
VOA (UG/L)														
1,1,1-TRICHLOROETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
1,1,2,2-TETRACHLOROETHANE	2	U	2	U	N/A		2	U	5	U	N/A		2	U
1,1,2-TRICHLOROETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
1,1-DICHLOROETHANE	2	U	2	U	2	U	2	U	5	U	2	U	**.3**	J
1,1-DICHLOROETHENE	2	U	2	U	2	U	2	U	**.5**	J	2	U	2	U
1,2-DICHLOROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
1,2-DICHLOROETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
1,2-DICHLOROETHENE (TOTAL)	2	U	2	U	2	U	2	U	5	U	2	U	2	U
1,2-DICHLOROPROPANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
1,3-DICHLOROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
1,4-DICHLOROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-BUTANONE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
2-HEXANONE	2	UJ	2	U	2	U	2	UJ	5	U	2	U	2	U
4-METHYL-2-PENTANONE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
ACETONE	2	UJ	3	UJ	2	U	2	UJ	8	UJ	2	U	2	UJ
BENZENE	2	U	2	U	2	U	2	U	**.5**	J	2	U	2	U
BROMODICHLOROMETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
BROMOFORM	2	U	2	U	N/A		2	U	5	U	N/A		2	U
BROMOMETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CARBON DISULFIDE	2	U	2	U	2	U	2	U	5	U	2	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
TPH (MG/L)												
BENZENE	.0005	U	.0005	U	N/A		.0005	U	.0005	U	.0005	U
DIESEL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A	
ETHYLBENZENE	.0005	U	.0005	U	N/A		.0005	U	.0005	U	.0005	U
GASOLINE RANGE ORGANICS	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
JP4 RANGE ORGANICS	.05	U	.05	U	N/A		.05	U	.05	U	.05	U
JP5 RANGE ORGANICS	.05	U	.05	U	N/A		.05	U	.05	U	.05	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A	
MOTOR OIL RANGE ORGANICS	N/A		N/A		N/A		N/A		N/A		N/A	
OTHER HEAVY TPH COMPONENTS	.05	U	.05	U	N/A		.05	U	.05	U	.05	U
OTHER LIGHT TPH COMPONENTS	.05	U	.05	U	N/A		.05	U	.05	U	.05	U
TOLUENE	.0005	U	.0005	U	N/A		.0005	U	.0005	U	.0005	U
TPH - BUNKER FUEL (C10-C28)	.5	UJ	.5	U	N/A		.5	U	.5	UJ	.5	U
TPH - DIESEL F-76 (C8-C28)	.05	U	.05	U	N/A		.05	UJ	.05	U	.05	U
TPH - WEATHERED DIESEL(C8-C26)	.05	U	.05	U	N/A		.05	U	.05	U	.05	U
XYLENE (TOTAL)	.0005	U	.0005	U	N/A		.0005	U	.0005	U	.0005	U
VOA (UG/L)												
1,1,1-TRICHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,1,2,2-TETRACHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,1,2-TRICHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,1-DICHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,1-DICHLOROETHENE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,2-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,2-DICHLOROETHENE (TOTAL)	.5	U	2	U	2	U	2	U	.5	U	2	U
1,2-DICHLOROPROPANE	.5	U	2	U	2	U	2	U	.5	U	2	U
1,3-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
1,4-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	4	UJ	2	U	2	U	2	U	4	UJ	2	U
2-HEXANONE	4	UJ	2	U	2	U	2	U	4	UJ	2	U
4-METHYL-2-PENTANONE	4	UJ	2	U	2	U	2	U	4	UJ	2	U
ACETONE	4	UJ	2	UJ	2	UJ	2	UJ	4	UJ	2	UJ
BENZENE	.5	U	2	U	2	U	2	U	.5	U	2	U
BROMODICHLOROMETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
BROMOFORM	.5	U	2	U	2	U	2	U	.5	U	2	U
BROMOMETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
CARBON DISULFIDE	.5	U	2	U	2	U	2	U	.5	U	2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR10-19		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01	
Sample Id:	BR10-19		ERM10-01(23)		ERM10-01 (21.0)		ERM10-01 (20.0)		ERM10-01 (18.0)		ERM10-01(20.1)		ERM10-01	
Sample Date:	25-FEB-99		28-MAR-94		25-JUN-94		29-JUN-94		27-SEP-94		14-DEC-94		06-NOV-97	
Sample Depth:														
Investigation:	PHASEII_RI		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	
VOA (UG/L)														
CARBON TETRACHLORIDE	.5	U	3	U	2	U	N/A		2	UJ	2	U	.5	U
CHLOROBENZENE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
CHLOROETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
CHLOROFORM	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
CHLOROMETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
CIS-1,3-DICHLOROPROPENE	.5	U	3	U	2	U	N/A		2	UJ	2	U	.5	U
DIBROMOCHLOROMETHANE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
ETHYLBENZENE	2	U	3	U	.2	J	N/A		2	UJ	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	.4	J	2	U	N/A		2	UJ	2	U	2	U
STYRENE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
TETRACHLOROETHENE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
TOLUENE	2	U	3	U	.2	J	N/A		2	UJ	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	.5	U	3	U	2	U	N/A		2	UJ	2	U	.5	U
TRICHLOROETHENE	2	U	3	U	2	U	N/A		2	UJ	2	U	2	U
VINYL CHLORIDE	.5	U	3	U	2	U	N/A		2	UJ	2	U	.5	U
XYLENE (TOTAL)	2	U	3	U	.7	J	N/A		2	UJ	2	U	.8	J
PAH (UG/L)														
1-METHYLNAPHTHALENE	1	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	1	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	2	U	N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.2	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	.5	U	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02		MW02-17	
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)		MW02-17	
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94		23-FEB-99	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI	
VOA (UG/L)														
CARBON TETRACHLORIDE	.5	U	N/A		2	U	2	U	2	U	2	U	10	U
CHLOROBENZENE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
CHLOROETHANE	2	U	N/A		2	U	2	U	2	UJ	2	U	10	U
CHLOROFORM	2	U	N/A		2	U	2	U	2	U	2	U	10	U
CHLOROMETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
CIS-1,3-DICHLOROPROPENE	.5	U	N/A		2	U	2	U	2	U	2	U	10	U
DIBROMOCHLOROMETHANE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
ETHYLBENZENE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
STYRENE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
TETRACHLOROETHENE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
TOLUENE	2	U	N/A		2	U	2	U	2	U	2	U	10	U
TRANS-1,3-DICHLOROPROPENE	.5	U	N/A		2	U	2	U	2	U	2	U	10	U
TRICHLOROETHENE	2	U	N/A		2	U	2	U	1	J	2	U	10	U
VINYL CHLORIDE	.5	U	N/A		2	U	2	U	2	U	2	U	10	U
XYLENE (TOTAL)	2	U	N/A		2	U	2	U	2	U	2	U	10	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		5	U
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		2	U
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		.5	U
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		5	U
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		1	U
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		.2	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17		MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:														
Investigation:	UST_PHASEII		GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
VOA (UG/L)														
CARBON TETRACHLORIDE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
CHLOROBENZENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
CHLOROETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
CHLOROFORM	N/A		2	U	2	U	N/A		N/A		2	U	2	U
CHLOROMETHANE	N/A		2	UJ	2	U	N/A		N/A		2	U	2	UJ
CIS-1,3-DICHLOROPROPENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
DIBROMOCHLOROMETHANE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
ETHYLBENZENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
STYRENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
TETRACHLOROETHENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
TOLUENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
TRANS-1,3-DICHLOROPROPENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
TRICHLOROETHENE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
VINYL CHLORIDE	N/A		2	U	2	U	N/A		N/A		2	U	2	U
XYLENE (TOTAL)	N/A		2	U	2	U	N/A		N/A		2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	2	U	N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	.2	UJ	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	.5	U	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	.2	U	N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	5	U	N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	1	U	N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	.2	UJ	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-05		MW10-05		MW10-05 (FD)		MW10-05		MW10-05 (FD)		MW10-05		MW10-05	
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)		MW10-101 (27.0)		MW10-05(16.0)		MW10-70(25.5)		MW10-05		MW10-05	
Sample Date:	27-JUN-94		30-SEP-94		30-SEP-94		10-DEC-94		10-DEC-94		03-APR-98		20-JAN-99	
Sample Depth:														
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT2		SEMI_EVENT3	
VOA (UG/L)														
CARBON TETRACHLORIDE	2	U	.5	U	N/A		.8	J	N/A		.3	J	10	UJ
CHLOROBENZENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
CHLOROETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
CHLOROFORM	2	U	.5	U	N/A		3		N/A		7		4	J
CHLOROMETHANE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
CIS-1,3-DICHLOROPROPENE	2	U	.5	U	N/A		2	U	N/A		.5	U	10	UJ
DIBROMOCHLOROMETHANE	2	U	.5	U	N/A		2	U	N/A		.4	J	10	UJ
ETHYLBENZENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
STYRENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
TETRACHLOROETHENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
TOLUENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
TRANS-1,3-DICHLOROPROPENE	2	U	.5	U	N/A		2	U	N/A		.5	U	10	UJ
TRICHLOROETHENE	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
VINYL CHLORIDE	2	U	.5	U	N/A		2	U	N/A		.5	U	10	UJ
XYLENE (TOTAL)	2	U	.5	U	N/A		2	U	N/A		2	U	10	UJ
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)		MW10-08(23.0)		MW10-08		MW10-08		MW10-08		MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94		13-DEC-94		06-NOV-97		06-APR-98		21-JAN-99		25-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		GW1Q94	
VOA (UG/L)														
CARBON TETRACHLORIDE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
CHLOROBENZENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
CHLOROETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
CHLOROFORM	2	U	2	U	2	U	2	U	2	U	10	U	2	U
CHLOROMETHANE	2	UJ	2	U	2	U	2	U	2	U	10	U	2	U
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
ETHYLBENZENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		10	U	N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	2	U	2	U	10	UJ	2	U
STYRENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
TETRACHLOROETHENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
TOLUENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
TRICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	10	U	2	U
VINYL CHLORIDE	2	U	2	U	2	U	.5	U	.5	U	10	U	2	U
XYLENE (TOTAL)	2	U	2	U	2	U	2	U	2	U	10	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09	
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09	
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
VOA (UG/L)														
CARBON TETRACHLORIDE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	U
CHLOROBENZENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
CHLOROETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
CHLOROFORM	2	U	2	U	2	U	2	U	2	U	2	U	10	U
CHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
ETHYLBENZENE	2	U	2	U	.1	J	2	U	2	U	2	U	10	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	2	U	2	U	2	U	10	UJ
STYRENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
TETRACHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
TOLUENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	U
TRICHLOROETHENE	2	U	2	U	2	U	2	U	2	U	2	U	10	U
VINYL CHLORIDE	2	U	2	U	2	U	2	U	.5	U	.5	U	10	UJ
XYLENE (TOTAL)	2	U	2	U	.3	J	2	U	2	U	2	U	10	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-10		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)	
Sample Id:	MW10-10(21.0)		MW10-10(17.0)		MW10-70(27.0)		MW10-10 (15.5)		MW10-71 (25.0)		MW10-10(07.0)		MW10-71(17.5)	
Sample Date:	24-MAR-94		30-JUN-94		30-JUN-94		27-SEP-94		27-SEP-94		13-DEC-94		13-DEC-94	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94	
VOA (UG/L)														
CARBON TETRACHLORIDE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
CHLOROBENZENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
CHLOROETHANE	7		2	U	2	U	2	UJ	2	UJ	3		4	
CHLOROFORM	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
CHLOROMETHANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
ETHYLBENZENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
STYRENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
TOLUENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
TRICHLOROETHENE	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
VINYL CHLORIDE	2		2	U	2	U	2	UJ	2	UJ	1	J	1	J
XYLENE (TOTAL)	2	U	2	U	2	U	2	UJ	2	UJ	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-10		MW10-10		MW10-10		MW10-10 (FD)		MW10-11		MW10-11		MW10-11	
Sample Id:	MW10-10		MW10-10		MW10-10		MW11-250		MW10-11(21)		MW10-11(20.0)		MW10-11 (20.3)	
Sample Date:	05-NOV-97		03-APR-98		21-JAN-99		21-JAN-99		29-MAR-94		29-JUN-94		26-SEP-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94	
VOA (UG/L)														
CARBON TETRACHLORIDE	.5	U	.5	UJ	10	U	10	U	2	U	2	U	2	U
CHLOROBENZENE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
CHLOROETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
CHLOROFORM	2	U	2	U	10	UJ	10	U	2	U	2	U	2	U
CHLOROMETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
CIS-1,3-DICHLOROPROPENE	.5	U	.5	U	10	U	10	U	2	U	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
ETHYLBENZENE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		10	U	10	U	N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	10	UJ	10	UJ	2	U	2	U	2	U
STYRENE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
TOLUENE	2	U	2	U	10	U	10	U	2	U	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	.5	U	.5	U	10	U	10	U	2	U	2	U	2	U
TRICHLOROETHENE	2	U	2	U	10	U	10	U	2	U	.4	J	2	U
VINYL CHLORIDE	.5	U	.5	U	10	U	10	U	2	U	2	U	2	U
XYLENE (TOTAL)	2	U	2	U	10	U	10	U	2	U	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)		MW10-14(16.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94		30-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94		GW2Q94	
VOA (UG/L)														
CARBON TETRACHLORIDE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CHLOROBENZENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CHLOROETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CHLOROFORM	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CHLOROMETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
CIS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
DIBROMOCHLOROMETHANE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
ETHYLBENZENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
STYRENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
TETRACHLOROETHENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
TOLUENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
TRANS-1,3-DICHLOROPROPENE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
TRICHLOROETHENE	2	U	.3	J	2	U	2	U	4	J	2	U	2	U
VINYL CHLORIDE	2	U	2	U	2	U	2	U	5	U	2	U	2	U
XYLENE (TOTAL)	2	U	2	U	2	U	2	U	5	U	2	U	2	U
PAH (UG/L)														
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
VOA (UG/L)												
CARBON TETRACHLORIDE	.5	U	2	U	2	U	2	U	.5	U	2	U
CHLOROBENZENE	.5	U	2	U	2	U	2	U	.5	U	2	U
CHLOROETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
CHLOROFORM	.5	U	.3	J	.3	J	2	U	.5	U	2	U
CHLOROMETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
CIS-1,3-DICHLOROPROPENE	.5	U	2	U	2	U	2	U	.5	U	2	U
DIBROMOCHLOROMETHANE	.5	U	2	U	2	U	2	U	.5	U	2	U
ETHYLBENZENE	.5	U	2	U	2	U	2	U	.5	U	2	U
METHYL-T-BUTYL ETHER	N/A		N/A		N/A		N/A		N/A		N/A	
METHYLENE CHLORIDE	.5	U	2	U	2	U	.5	U	.5	U	.7	J
STYRENE	.5	U	2	U	2	U	2	U	.5	U	2	U
TETRACHLOROETHENE	.5	U	2	U	2	U	2	U	.5	U	2	U
TOLUENE	.5	U	2	U	2	U	2	U	.5	U	2	U
TRANS-1,3-DICHLOROPROPENE	.5	U	2	U	2	U	2	U	.5	U	2	U
TRICHLOROETHENE	.5	U	2	U	2	U	2	U	.5	U	2	U
VINYL CHLORIDE	.5	U	2	U	2	U	2	U	.5	U	2	U
XYLENE (TOTAL)	.5	U	2	U	2	U	2	U	.5	U	2	U
PAH (UG/L)												
1-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	
2-METHYLNAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHENE	N/A		N/A		N/A		N/A		N/A		N/A	
ACENAPHTHYLENE	N/A		N/A		N/A		N/A		N/A		N/A	
ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(A)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(B)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(G,H,I)PERYLENE	N/A		N/A		N/A		N/A		N/A		N/A	
BENZO(K)FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	
CHRYSENE	N/A		N/A		N/A		N/A		N/A		N/A	
DIBENZO(A,H)ANTHRACENE	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORANTHENE	N/A		N/A		N/A		N/A		N/A		N/A	
FLUORENE	N/A		N/A		N/A		N/A		N/A		N/A	
INDENO(1,2,3-CD)PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	
NAPHTHALENE	N/A		N/A		N/A		N/A		N/A		N/A	
PHENANTHRENE	N/A		N/A		N/A		N/A		N/A		N/A	
PYRENE	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR10-19		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01	
Sample Id:	BR10-19		ERM10-01(23)		ERM10-01 (21.0)		ERM10-01 (20.0)		ERM10-01 (18.0)		ERM10-01(20.1)		ERM10-01	
Sample Date:	25-FEB-99		28-MAR-94		25-JUN-94		29-JUN-94		27-SEP-94		14-DEC-94		06-NOV-97	
Sample Depth:														
Investigation:	PHASEII_RI		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,4,5-TRICHLOROPHENOL	3	U	27	U	25	U	N/A		25	U	25	U	3	U
2,4,6-TRICHLOROPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,4-DICHLOROPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,4-DIMETHYLPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,4-DINITROPHENOL	3	UJ	27	U	25	UJ	N/A		25	U	25	U	N/A	
2,4-DINITROTOLUENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2,6-DINITROTOLUENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2-CHLORONAPHTHALENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2-CHLOROPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2-METHYLNAPHTHALENE	1	U	.9	J	3	J	N/A		5	J	2	J	1	U
2-METHYLPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
2-NITROANILINE	3	U	27	U	25	U	N/A		25	U	25	U	3	U
2-NITROPHENOL	1	U	11	U	10	UJ	N/A		10	U	10	U	1	U
3,3'-DICHLOROBENZIDINE	1	U	11	UJ	10	UJ	N/A		10	U	10	UJ	1	U
3-NITROANILINE	3	U	27	UJ	25	UJ	N/A		25	UJ	25	UJ	3	U
4,6-DINITRO-2-METHYLPHENOL	3	U	27	U	25	UJ	N/A		25	U	25	U	3	J
4-BROMOPHENYL-PHENYLETHER	1	U	11	U	10	U	N/A		10	U	10	U	1	U
4-CHLORO-3-METHYLPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
4-CHLOROANILINE	1	UJ	11	UJ	10	UJ	N/A		10	U	10	U	1	U
4-CHLOROPHENYL-PHENYLETHER	1	U	11	U	10	U	N/A		10	U	10	U	1	U
4-METHYLPHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
4-NITROANILINE	3	U	27	U	25	UJ	N/A		25	U	25	U	3	U
4-NITROPHENOL	3	U	27	U	25	U	N/A		25	U	25	U	3	U
ACENAPHTHENE	1	U	11	U	2	J	N/A		3	J	10	U	.4	J
ACENAPHTHYLENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
ANTHRACENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BENZO(A)ANTHRACENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BENZO(A)PYRENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BENZO(B)FLUORANTHENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BENZO(G,H,I)PERYLENE	1	UJ	11	U	10	U	N/A		10	U	10	U	1	U
BENZO(K)FLUORANTHENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BIS(2-CHLOROETHOXY)METHANE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BIS(2-CHLOROETHYL)ETHER	1	U	11	U	10	U	N/A		10	U	10	U	1	U
BIS(2-ETHYLHEXYL)PHTHALATE	1	UJ	11	U	10	UJ	N/A		10	U	23	UJ	1	U
BUTYLBENZYLPHTHALATE	1	U	11	U	10	UJ	N/A		10	U	10	U	1	U
CARBAZOLE	1	U	11	UJ	10	UJ	N/A		10	U	10	U	1	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02		MW02-17
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)		MW02-17
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94		23-FEB-99
Sample Depth:													
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,4,5-TRICHLOROPHENOL	3	UJ	200	U	26	U	N/A		25	U	25	U	N/A
2,4,6-TRICHLOROPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,4-DICHLOROPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,4-DIMETHYLPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,4-DINITROPHENOL	3	UJ	200	U	26	U	N/A		25	U	25	U	N/A
2,4-DINITROTOLUENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2,6-DINITROTOLUENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2-CHLORONAPHTHALENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2-CHLOROPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2-METHYLNAPHTHALENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2-METHYLPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
2-NITROANILINE	3	UJ	200	U	26	U	N/A		25	U	25	U	N/A
2-NITROPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
3,3'-DICHLOROBENZIDINE	1	UJ	80	UJ	10	UJ	N/A		10	U	10	UJ	N/A
3-NITROANILINE	3	UJ	200	U	26	UJ	N/A		25	UJ	25	UJ	N/A
4,6-DINITRO-2-METHYLPHENOL	3	UJ	200	U	26	U	N/A		25	U	25	U	N/A
4-BROMOPHENYL-PHENYLETHER	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
4-CHLORO-3-METHYLPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
4-CHLOROANILINE	1	UJ	80	U	10	UJ	N/A		10	U	10	U	N/A
4-CHLOROPHENYL-PHENYLETHER	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
4-METHYLPHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
4-NITROANILINE	3	UJ	210	U	26	U	N/A		25	U	25	U	N/A
4-NITROPHENOL	3	UJ	200	U	26	U	N/A		25	U	25	U	N/A
ACENAPHTHENE	.1	J	80	U	10	U	N/A		10	U	10	U	N/A
ACENAPHTHYLENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
ANTHRACENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BENZO(A)ANTHRACENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BENZO(A)PYRENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BENZO(B)FLUORANTHENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BENZO(G,H,I)PERYLENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BENZO(K)FLUORANTHENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BIS(2-CHLOROETHOXY)METHANE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BIS(2-CHLOROETHYL)ETHER	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	.5	UJ	32	U	10	U	N/A		10	U	10	U	N/A
BUTYLBENZYLPHTHALATE	.1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
CARBAZOLE	1	UJ	80	UJ	10	UJ	N/A		10	U	10	U	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17		MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:														
Investigation:	UST_PHASEII		GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	N/A		26	U	25	U	N/A		25	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,4-DICHLOROPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,4-DIMETHYLPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,4-DINITROPHENOL	N/A		26	U	25	U	N/A		25	U	25	U	25	U
2,4-DINITROTOLUENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2,6-DINITROTOLUENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-CHLORONAPHTHALENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-CHLOROPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-METHYLNAPHTHALENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-METHYLPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
2-NITROANILINE	N/A		26	U	25	U	N/A		25	U	25	U	25	U
2-NITROPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	N/A		10	U	10	U	N/A		10	U	10	UJ	10	U
3-NITROANILINE	N/A		26	U	25	U	N/A		25	UJ	25	UJ	25	U
4,6-DINITRO-2-METHYLPHENOL	N/A		26	U	25	U	N/A		25	U	25	U	25	U
4-BROMOPHENYL-PHENYLETHER	N/A		10	U	10	U	N/A		10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	N/A		10	U	10	U	N/A		10	U	10	U	10	U
4-CHLOROANILINE	N/A		10	UJ	10	UJ	N/A		10	U	10	U	10	UJ
4-CHLOROPHENYL-PHENYLETHER	N/A		10	U	10	U	N/A		10	U	10	U	10	U
4-METHYLPHENOL	N/A		4	J	4	J	N/A		10	U	10	U	10	U
4-NITROANILINE	N/A		26	UJ	25	U	N/A		25	U	25	U	25	UJ
4-NITROPHENOL	N/A		26	U	25	U	N/A		25	U	25	U	25	U
ACENAPHTHENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
ACENAPHTHYLENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
ANTHRACENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BENZO(A)ANTHRACENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BENZO(A)PYRENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BENZO(B)FLUORANTHENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BENZO(K)FLUORANTHENE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	N/A		10	U	10	U	N/A		10	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		10	U	10	UJ	N/A		10	UJ	10	U	10	U
BUTYLBENZYLPHTHALATE	N/A		10	U	10	UJ	N/A		10	U	1	J	10	UJ
CARBAZOLE	N/A		10	UJ	10	UJ	N/A		10	U	10	U	10	UJ

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW		MW	MW	MW
Point Name:	MW10-05		MW10-05	MW10-05 (FD)	MW10-05		MW10-05 (FD)	MW10-05	MW10-05
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)	MW10-101 (27.0)	MW10-05(16.0)		MW10-70(25.5)	MW10-05	MW10-05
Sample Date:	27-JUN-94		30-SEP-94	30-SEP-94	10-DEC-94		10-DEC-94	03-APR-98	20-JAN-99
Sample Depth:									
Investigation:	GW2Q94		GW3Q94	GW3Q94	GW4Q94		GW4Q94	SEMI_EVENT2	SEMI_EVENT3
SVOA (UG/L)									
1,2,4-TRICHLOROBENZENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,4,5-TRICHLOROPHENOL	25	U	N/A	N/A	25	U	N/A	N/A	N/A
2,4,6-TRICHLOROPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,4-DICHLOROPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,4-DIMETHYLPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,4-DINITROPHENOL	25	UJ	N/A	N/A	25	U	N/A	N/A	N/A
2,4-DINITROTOLUENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2,6-DINITROTOLUENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2-CHLORONAPHTHALENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2-CHLOROPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2-METHYLNAPHTHALENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2-METHYLPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
2-NITROANILINE	25	U	N/A	N/A	25	U	N/A	N/A	N/A
2-NITROPHENOL	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A
3,3'-DICHLOROBENZIDINE	10	UJ	N/A	N/A	10	UJ	N/A	N/A	N/A
3-NITROANILINE	25	UJ	N/A	N/A	25	UJ	N/A	N/A	N/A
4,6-DINITRO-2-METHYLPHENOL	25	UJ	N/A	N/A	25	U	N/A	N/A	N/A
4-BROMOPHENYL-PHENYLETHER	10	U	N/A	N/A	10	U	N/A	N/A	N/A
4-CHLORO-3-METHYLPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
4-CHLOROANILINE	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A	N/A	10	U	N/A	N/A	N/A
4-METHYLPHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
4-NITROANILINE	25	UJ	N/A	N/A	25	U	N/A	N/A	N/A
4-NITROPHENOL	25	U	N/A	N/A	25	U	N/A	N/A	N/A
ACENAPHTHENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
ACENAPHTHYLENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
ANTHRACENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BENZO(A)ANTHRACENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BENZO(A)PYRENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BENZO(B)FLUORANTHENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BENZO(G,H,I)PERYLENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BENZO(K)FLUORANTHENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BIS(2-CHLOROETHYL)ETHER	10	U	N/A	N/A	10	U	N/A	N/A	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A
BUTYLBENZYLPHTHALATE	10	UJ	N/A	N/A	.6	J	N/A	N/A	N/A
CARBAZOLE	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-08		MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)		MW10-08(23.0)		MW10-08		MW10-08		MW10-08		MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94		13-DEC-94		06-NOV-97		06-APR-98		21-JAN-99		25-MAR-94	
Sample Depth:														
Investigation:	GW1Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		GW1Q94	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,4,5-TRICHLOROPHENOL	26	U	N/A		N/A		3	U	3	UJ	25	U	26	U
2,4,6-TRICHLOROPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,4-DICHLOROPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,4-DIMETHYLPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,4-DINITROPHENOL	26	U	N/A		N/A		N/A		3	UJ	25	U	26	U
2,4-DINITROTOLUENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2,6-DINITROTOLUENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2-CHLORONAPHTHALENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2-CHLOROPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2-METHYLNAPHTHALENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2-METHYLPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
2-NITROANILINE	26	U	N/A		N/A		3	U	3	UJ	25	U	26	U
2-NITROPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	UJ	N/A		N/A		1	U	1	UJ	10	U	10	UJ
3-NITROANILINE	26	U	N/A		N/A		3	U	3	UJ	25	U	26	U
4,6-DINITRO-2-METHYLPHENOL	26	U	N/A		N/A		3	J	3	UJ	25	U	26	U
4-BROMOPHENYL-PHENYLETHER	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
4-CHLORO-3-METHYLPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
4-CHLOROANILINE	10	UJ	N/A		N/A		1	U	1	UJ	10	U	10	UJ
4-CHLOROPHENYL-PHENYLETHER	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
4-METHYLPHENOL	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
4-NITROANILINE	26	U	N/A		N/A		3	U	3	UJ	25	U	26	U
4-NITROPHENOL	26	U	N/A		N/A		3	J	3	UJ	25	U	26	U
ACENAPHTHENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
ACENAPHTHYLENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
ANTHRACENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
BENZO(A)ANTHRACENE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
BENZO(A)PYRENE	10	U	N/A		N/A		1	U	1	UJ	N/A		10	U
BENZO(B)FLUORANTHENE	10	U	N/A		N/A		1	U	1	UJ	N/A		10	U
BENZO(G,H,I)PERYLENE	10	U	N/A		N/A		1	U	1	UJ	N/A		10	U
BENZO(K)FLUORANTHENE	10	U	N/A		N/A		1	U	1	UJ	N/A		10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	N/A		N/A		1	U	.9	UJ	5	UJ	10	U
BUTYLBENZYLPHTHALATE	10	U	N/A		N/A		1	U	.09	UJ	10	U	10	U
CARBAZOLE	10	U	N/A		N/A		1	U	1	UJ	10	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09	
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09	
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,4,5-TRICHLOROPHENOL	25	U	25	U	25	U	25	U	3	J	3	U	25	U
2,4,6-TRICHLOROPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,4-DICHLOROPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,4-DIMETHYLPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,4-DINITROPHENOL	25	U	25	U	25	U	25	U	N/A		3	UJ	25	U
2,4-DINITROTOLUENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2,6-DINITROTOLUENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2-CHLORONAPHTHALENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2-CHLOROPHENOL	10	U	10	U	10	U	10	U	1	U	1	U	10	U
2-METHYLNAPHTHALENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2-METHYLPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
2-NITROANILINE	25	U	25	U	25	U	25	U	3	J	3	U	25	U
2-NITROPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
3,3'-DICHLOROBENZIDINE	10	UJ	10	U	10	U	10	UJ	1	J	1	UJ	10	UJ
3-NITROANILINE	25	U	25	UJ	25	UJ	25	UJ	3	J	3	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	U	25	U	25	U	25	U	3	J	3	U	25	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	1	J	1	U	10	U
4-CHLORO-3-METHYLPHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
4-CHLOROANILINE	10	UJ	10	U	10	U	10	U	1	J	1	U	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	1	J	1	U	10	U
4-METHYLPHENOL	10	U	5	J	10	U	10	U	1	J	1	U	10	U
4-NITROANILINE	25	U	25	U	25	U	25	U	3	J	3	U	25	U
4-NITROPHENOL	25	U	25	UJ	25	U	25	U	3	J	3	U	25	U
ACENAPHTHENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
ACENAPHTHYLENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
ANTHRACENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
BENZO(A)ANTHRACENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
BENZO(A)PYRENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
BENZO(B)FLUORANTHENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
BENZO(G,H,I)PERYLENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
BENZO(K)FLUORANTHENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	10	U	10	U	1	J	1	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	10	U	2	J	10	UJ	1	J	.2	UJ	28	
BUTYLBENZYLPHTHALATE	10	U	10	U	.7	J	10	U	1	J	1	U	10	U
CARBAZOLE	10	U	10	U	10	U	10	U	1	J	1	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW10-10		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)
Sample Id:	MW10-10(21.0)		MW10-10(17.0)		MW10-70(27.0)		MW10-10 (15.5)		MW10-71 (25.0)		MW10-10(07.0)		MW10-71(17.5)
Sample Date:	24-MAR-94		30-JUN-94		30-JUN-94		27-SEP-94		27-SEP-94		13-DEC-94		13-DEC-94
Sample Depth:													
Investigation:	GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,4,5-TRICHLOROPHENOL	26	U	25	U	N/A		25	U	N/A		25	U	N/A
2,4,6-TRICHLOROPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,4-DICHLOROPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,4-DIMETHYLPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,4-DINITROPHENOL	26	U	25	U	N/A		25	U	N/A		25	U	N/A
2,4-DINITROTOLUENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2,6-DINITROTOLUENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2-CHLORONAPHTHALENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2-CHLOROPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2-METHYLNAPHTHALENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2-METHYLPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
2-NITROANILINE	26	U	25	U	N/A		25	U	N/A		25	U	N/A
2-NITROPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
3,3'-DICHLOROBENZIDINE	10	UJ	10	U	N/A		10	U	N/A		10	UJ	N/A
3-NITROANILINE	26	U	25	UJ	N/A		25	UJ	N/A		25	UJ	N/A
4,6-DINITRO-2-METHYLPHENOL	26	U	25	U	N/A		25	U	N/A		25	U	N/A
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	N/A		10	U	N/A		10	U	N/A
4-CHLORO-3-METHYLPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
4-CHLOROANILINE	10	UJ	10	U	N/A		10	U	N/A		10	U	N/A
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	N/A		10	U	N/A		10	U	N/A
4-METHYLPHENOL	10	U	10	U	N/A		10	U	N/A		10	U	N/A
4-NITROANILINE	26	U	25	U	N/A		25	U	N/A		25	U	N/A
4-NITROPHENOL	26	U	25	U	N/A		25	U	N/A		25	U	N/A
ACENAPHTHENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
ACENAPHTHYLENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
ANTHRACENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BENZO(A)ANTHRACENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BENZO(A)PYRENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BENZO(B)FLUORANTHENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BENZO(G,H,I)PERYLENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BENZO(K)FLUORANTHENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	N/A		10	U	N/A		10	U	N/A
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	10	U	N/A		10	U	N/A		63		N/A
BUTYLBENZYLPHTHALATE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
CARBAZOLE	10	U	10	U	N/A		10	U	N/A		10	U	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW10-10		MW10-10		MW10-10		MW10-10 (FD)		MW10-11		MW10-11		MW10-11
Sample Id:	MW10-10		MW10-10		MW10-10		MW11-250		MW10-11(21)		MW10-11(20.0)		MW10-11 (20.3)
Sample Date:	05-NOV-97		03-APR-98		21-JAN-99		21-JAN-99		29-MAR-94		29-JUN-94		26-SEP-94
Sample Depth:													
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94
SVOA (UG/L)													
1,2,4-TRICHLOROBENZENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,2'-OXYBIS(1-CHLOROPROPANE)	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,4,5-TRICHLOROPHENOL	3	U	3	U	25	U	25	U	25	U	N/A		N/A
2,4,6-TRICHLOROPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,4-DICHLOROPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,4-DIMETHYLPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,4-DINITROPHENOL	N/A		3	UJ	25	U	25	U	25	U	N/A		N/A
2,4-DINITROTOLUENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2,6-DINITROTOLUENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2-CHLORONAPHTHALENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2-CHLOROPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
2-METHYLNAPHTHALENE	1	U	.06	J	10	U	10	U	10	U	N/A		N/A
2-METHYLPHENOL	1	U	1	U	10	UJ	10	UJ	10	U	N/A		N/A
2-NITROANILINE	3	U	3	U	25	U	25	U	25	U	N/A		N/A
2-NITROPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
3,3'-DICHLOROBENZIDINE	1	U	1	UJ	10	UJ	10	UJ	10	U	N/A		N/A
3-NITROANILINE	3	U	3	U	25	U	25	U	25	U	N/A		N/A
4,6-DINITRO-2-METHYLPHENOL	3	J	3	U	25	U	25	U	25	U	N/A		N/A
4-BROMOPHENYL-PHENYLETHER	1	U	1	U	10	U	10	U	10	U	N/A		N/A
4-CHLORO-3-METHYLPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
4-CHLOROANILINE	1	U	1	U	10	UJ	10	UJ	10	UJ	N/A		N/A
4-CHLOROPHENYL-PHENYLETHER	1	U	1	U	10	U	10	U	10	U	N/A		N/A
4-METHYLPHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A
4-NITROANILINE	3	U	3	U	25	U	25	U	25	U	N/A		N/A
4-NITROPHENOL	3	J	3	U	25	U	25	U	25	U	N/A		N/A
ACENAPHTHENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
ACENAPHTHYLENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
ANTHRACENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BENZO(A)ANTHRACENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BENZO(A)PYRENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BENZO(B)FLUORANTHENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BENZO(G,H,I)PERYLENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BENZO(K)FLUORANTHENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BIS(2-CHLOROETHOXY)METHANE	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BIS(2-CHLOROETHYL)ETHER	1	U	1	U	10	U	10	U	10	U	N/A		N/A
BIS(2-ETHYLHEXYL)PHTHALATE	1	U	1	UJ	4	UJ	4	UJ	10	UJ	N/A		N/A
BUTYLBENZYLPHTHALATE	1	U	.08	UJ	10	U	10	U	10	UJ	N/A		N/A
CARBAZOLE	1	U	1	U	10	UJ	10	UJ	10	UJ	N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)		MW10-14(16.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94		30-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94		GW2Q94	
SVOA (UG/L)														
1,2,4-TRICHLOROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,4,5-TRICHLOROPHENOL	N/A		N/A		26	U	N/A		N/A		26	U	25	U
2,4,6-TRICHLOROPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,4-DICHLOROPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,4-DIMETHYLPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,4-DINITROPHENOL	N/A		N/A		26	U	N/A		N/A		26	U	25	U
2,4-DINITROTOLUENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2,6-DINITROTOLUENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-CHLORONAPHTHALENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-CHLOROPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-METHYLNAPHTHALENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-METHYLPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
2-NITROANILINE	N/A		N/A		26	U	N/A		N/A		26	U	25	U
2-NITROPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
3,3'-DICHLOROBENZIDINE	N/A		N/A		10	UJ	N/A		N/A		11	UJ	10	U
3-NITROANILINE	N/A		N/A		26	U	N/A		N/A		26	U	25	UJ
4,6-DINITRO-2-METHYLPHENOL	N/A		N/A		26	U	N/A		N/A		26	U	25	U
4-BROMOPHENYL-PHENYLETHER	N/A		N/A		10	U	N/A		N/A		11	U	10	U
4-CHLORO-3-METHYLPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	10	U
4-CHLOROANILINE	N/A		N/A		10	UJ	N/A		N/A		11	UJ	10	U
4-CHLOROPHENYL-PHENYLETHER	N/A		N/A		10	U	N/A		N/A		11	U	10	U
4-METHYLPHENOL	N/A		N/A		10	U	N/A		N/A		11	U	**230**	D
4-NITROANILINE	N/A		N/A		26	U	N/A		N/A		26	U	25	U
4-NITROPHENOL	N/A		N/A		26	U	N/A		N/A		26	U	25	U
ACENAPHTHENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
ACENAPHTHYLENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
ANTHRACENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BENZO(A)ANTHRACENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BENZO(A)PYRENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BENZO(B)FLUORANTHENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BENZO(G,H,I)PERYLENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BENZO(K)FLUORANTHENE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BIS(2-CHLOROETHOXY)METHANE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BIS(2-CHLOROETHYL)ETHER	N/A		N/A		10	U	N/A		N/A		11	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U	18	UJ
BUTYLBENZYLPHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U	10	U
CARBAZOLE	N/A		N/A		10	U	N/A		N/A		11	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
SVOA (UG/L)												
1,2,4-TRICHLOROBENZENE	10	U	10	U	10	U	10	UJ	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DICHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DIMETHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DINITROPHENOL	25	U	25	U	25	U	25	UJ	25	U	25	U
2,4-DINITROTOLUENE	10	U	10	U	10	U	10	U	10	U	10	U
2,6-DINITROTOLUENE	10	U	10	U	10	U	10	U	10	U	10	U
2-CHLORONAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
2-CHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2-METHYLNAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
2-METHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2-NITROANILINE	25	U	25	U	25	U	25	U	25	U	25	U
2-NITROPHENOL	10	UJ	10	U	10	U	10	U	10	UJ	10	U
3,3'-DICHLOROBENZIDINE	10	U	10	UJ	10	UJ	10	U	10	U	10	UJ
3-NITROANILINE	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ	25	UJ
4,6-DINITRO-2-METHYLPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLOROANILINE	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	10	U	10	U
4-METHYLPHENOL	2	J	10	U	10	U	10	U	10	U	10	U
4-NITROANILINE	25	U	25	U	25	U	25	U	25	U	25	U
4-NITROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
ACENAPHTHENE	10	U	10	U	10	U	10	U	10	U	10	U
ACENAPHTHYLENE	10	U	10	U	10	U	10	U	10	U	10	U
ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(K)FLUORANTHENE	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	2	J	10	UJ	10	UJ	10	U	10	U	10	UJ
BUTYLBENZYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
CARBAZOLE	10	U	10	U	10	U	10	U	10	U	10	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	BR10-19		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01		ERM10-01	
Sample Id:	BR10-19		ERM10-01(23)		ERM10-01 (21.0)		ERM10-01 (20.0)		ERM10-01 (18.0)		ERM10-01(20.1)		ERM10-01	
Sample Date:	25-FEB-99		28-MAR-94		25-JUN-94		29-JUN-94		27-SEP-94		14-DEC-94		06-NOV-97	
Sample Depth:														
Investigation:	PHASEII_RI		GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	
SVOA (UG/L)														
CHRYSENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
DI-N-BUTYLPHTHALATE	1	UJ	11	U	10	U	N/A		.2	J	10	U	.6	J
DI-N-OCTYLPHTHALATE	1	U	11	U	10	U	N/A		10	U	10	U	.3	J
DIBENZO(A,H)ANTHRACENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
DIBENZOFURAN	1	U	11	U	.7	J	N/A		10	U	10	U	1	U
DIETHYLPHTHALATE	2	UJ	11	U	10	U	N/A		10	U	10	U	.4	J
DIMETHYLPHTHALATE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
FLUORANTHENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
FLUORENE	1	U	11	U	2	J	N/A		2	J	10	U	.2	J
HEXACHLOROBENZENE	1	U	11	UJ	10	U	N/A		10	U	10	U	1	U
HEXACHLOROBUTADIENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
HEXACHLOROCYCLOPENTADIENE	1	U	11	U	10	U	N/A		10	U	10	U	1	J
HEXACHLOROETHANE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
INDENO(1,2,3-CD)PYRENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
ISOPHORONE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
N-NITROSO-DI-N-PROPYLAMINE	1	U	11	U	10	U	N/A		10	U	10	U	1	J
N-NITROSODIPHENYLAMINE (1)	1	U	11	UJ	10	UJ	N/A		10	U	10	U	1	U
NAPHTHALENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
NITROBENZENE	1	U	11	U	10	U	N/A		10	U	10	U	1	U
PENTACHLOROPHENOL	3	U	27	U	25	U	N/A		25	UJ	25	U	3	J
PHENANTHRENE	1	U	11	U	2	J	N/A		10	U	10	U	1	U
PHENOL	1	U	11	U	10	U	N/A		10	U	10	U	1	U
PYRENE	1	U	11	U	10	UJ	N/A		10	U	10	U	1	U
PCB (UG/L)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PEST (UG/L)														
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02		MW02-17
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)		MW02-17
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94		23-FEB-99
Sample Depth:													
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI
SVOA (UG/L)													
CHRYSENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
DI-N-BUTYLPHTHALATE	.2	UJ	80	U	10	U	N/A		.6	J	10	U	N/A
DI-N-OCTYLPHTHALATE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
DIBENZO(A,H)ANTHRACENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
DIBENZOFURAN	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
DIETHYLPHTHALATE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
DIMETHYLPHTHALATE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
FLUORANTHENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
FLUORENE	.2	J	80	U	10	U	N/A		10	U	10	U	N/A
HEXACHLOROBENZENE	1	UJ	80	U	10	UJ	N/A		10	U	10	U	N/A
HEXACHLOROBUTADIENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
HEXACHLOROCYCLOPENTADIENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
HEXACHLOROETHANE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
INDENO(1,2,3-CD)PYRENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
ISOPHORONE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
N-NITROSODIPHENYLAMINE (1)	1	UJ	80	U	10	UJ	N/A		10	U	10	U	N/A
NAPHTHALENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
NITROBENZENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
PENTACHLOROPHENOL	3	UJ	200	U	26	U	N/A		25	UJ	25	U	N/A
PHENANTHRENE	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
PHENOL	1	UJ	80	U	10	U	N/A		10	U	10	U	N/A
PYRENE	.1	J	80	U	10	U	N/A		10	U	10	U	N/A
PCB (UG/L)													
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PEST (UG/L)													
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17	MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17	MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99	24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:													
Investigation:	UST_PHASEII	GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
SVOA (UG/L)													
CHRYSENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
DI-N-BUTYLPHTHALATE	N/A	10	U	10	UJ	N/A		.9	J	10	U	10	U
DI-N-OCTYLPHTHALATE	N/A	10	U	10	U	N/A		10	U	10	UJ	10	U
DIBENZO(A,H)ANTHRACENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
DIBENZOFURAN	N/A	10	U	10	U	N/A		10	U	10	U	10	U
DIETHYLPHTHALATE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
DIMETHYLPHTHALATE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
FLUORANTHENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
FLUORENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
HEXACHLOROBENZENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
HEXACHLOROBUTADIENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
HEXACHLOROETHANE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
ISOPHORONE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	N/A	3	J	10	UJ	N/A		10	U	10	U	10	UJ
NAPHTHALENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
NITROBENZENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
PENTACHLOROPHENOL	N/A	26	U	25	U	N/A		25	UJ	25	U	25	U
PHENANTHRENE	N/A	10	U	10	U	N/A		10	U	10	U	10	U
PHENOL	N/A	10	U	10	U	N/A		10	U	10	U	10	U
PYRENE	N/A	10	U	10	UJ	N/A		10	U	10	U	10	U
PCB (UG/L)													
AROCLOR-1016	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
PEST (UG/L)													
4,4'-DDD	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDE	N/A	N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDT	N/A	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW		MW	MW	MW
Point Name:	MW10-05		MW10-05	MW10-05 (FD)	MW10-05		MW10-05 (FD)	MW10-05	MW10-05
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)	MW10-101 (27.0)	MW10-05(16.0)		MW10-70(25.5)	MW10-05	MW10-05
Sample Date:	27-JUN-94		30-SEP-94	30-SEP-94	10-DEC-94		10-DEC-94	03-APR-98	20-JAN-99
Sample Depth:									
Investigation:	GW2Q94		GW3Q94	GW3Q94	GW4Q94		GW4Q94	SEMI_EVENT2	SEMI_EVENT3
SVOA (UG/L)									
CHRYSENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
DI-N-BUTYLPHTHALATE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
DI-N-OCTYLPHTHALATE	10	U	N/A	N/A	10	UJ	N/A	N/A	N/A
DIBENZO(A,H)ANTHRACENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
DIBENZOFURAN	10	U	N/A	N/A	10	U	N/A	N/A	N/A
DIETHYLPHTHALATE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
DIMETHYLPHTHALATE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
FLUORANTHENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
FLUORENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
HEXACHLOROBENZENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
HEXACHLOROBUTADIENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
HEXACHLOROCYCLOPENTADIENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
HEXACHLOROETHANE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
INDENO(1,2,3-CD)PYRENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
ISOPHORONE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
N-NITROSODIPHENYLAMINE (1)	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A
NAPHTHALENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
NITROBENZENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
PENTACHLOROPHENOL	25	U	N/A	N/A	25	U	N/A	N/A	N/A
PHENANTHRENE	10	U	N/A	N/A	10	U	N/A	N/A	N/A
PHENOL	10	U	N/A	N/A	10	U	N/A	N/A	N/A
PYRENE	10	UJ	N/A	N/A	10	U	N/A	N/A	N/A
PCB (UG/L)									
AROCLOR-1016	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1221	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1232	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1242	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1248	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1254	N/A		N/A	N/A	N/A		N/A	N/A	N/A
AROCLOR-1260	N/A		N/A	N/A	N/A		N/A	N/A	N/A
PEST (UG/L)									
4,4'-DDD	N/A		N/A	N/A	N/A		N/A	N/A	N/A
4,4'-DDE	N/A		N/A	N/A	N/A		N/A	N/A	N/A
4,4'-DDT	N/A		N/A	N/A	N/A		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW	MW	MW	MW	
Point Name:	MW10-08		MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)	MW10-08(23.0)	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94	13-DEC-94	06-NOV-97		06-APR-98		21-JAN-99		25-MAR-94	
Sample Depth:												
Investigation:	GW1Q94		GW3Q94	GW4Q94	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		GW1Q94	
SVOA (UG/L)												
CHRYSENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
DI-N-BUTYLPHTHALATE	10	U	N/A	N/A	.6	J	.3	UJ	10	U	10	U
DI-N-OCTYLPHTHALATE	10	U	N/A	N/A	1	U	1	UJ	N/A		10	U
DIBENZO(A,H)ANTHRACENE	10	U	N/A	N/A	1	U	1	UJ	N/A		10	U
DIBENZOFURAN	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
DIETHYLPHTHALATE	10	U	N/A	N/A	1	U	.07	UJ	10	UJ	10	U
DIMETHYLPHTHALATE	10	U	N/A	N/A	1	U	1	UJ	10	UJ	10	U
FLUORANTHENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
FLUORENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
HEXACHLOROBENZENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
HEXACHLOROBUTADIENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	U	N/A	N/A	1	J	1	UJ	10	U	10	U
HEXACHLOROETHANE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	U	N/A	N/A	1	U	1	UJ	N/A		10	U
ISOPHORONE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	10	UJ	N/A	N/A	1	U	1	UJ	10	U	10	UJ
NAPHTHALENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
NITROBENZENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
PENTACHLOROPHENOL	26	U	N/A	N/A	3	J	3	UJ	25	U	26	U
PHENANTHRENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
PHENOL	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
PYRENE	10	U	N/A	N/A	1	U	1	UJ	10	U	10	U
PCB (UG/L)												
AROCLOR-1016	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
PEST (UG/L)												
4,4'-DDD	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
4,4'-DDE	N/A		N/A	N/A	N/A		N/A		N/A		N/A	
4,4'-DDT	N/A		N/A	N/A	N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09	
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09	
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
SVOA (UG/L)														
CHRYSENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
DI-N-BUTYLPHTHALATE	10	U	10	U	10	U	10	U	.7	J	.3	UJ	10	UJ
DI-N-OCTYLPHTHALATE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
DIBENZO(A,H)ANTHRACENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
DIBENZOFURAN	10	U	10	U	10	U	10	U	1	J	1	U	10	U
DIETHYLPHTHALATE	10	U	10	U	10	U	10	U	1	J	.07	UJ	10	UJ
DIMETHYLPHTHALATE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
FLUORANTHENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
FLUORENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
HEXACHLOROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
HEXACHLOROBUTADIENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
HEXACHLOROETHANE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
INDENO(1,2,3-CD)PYRENE	10	U	10	U	10	U	10	U	N/A		1	U	10	U
ISOPHORONE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
N-NITROSODIPHENYLAMINE (1)	10	UJ	10	U	10	U	10	U	1	J	1	U	10	U
NAPHTHALENE	10	U	10	U	10	U	.8	J	1	J	.05	J	10	U
NITROBENZENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
PENTACHLOROPHENOL	25	U	25	UJ	25	U	25	U	3	J	3	UJ	25	U
PHENANTHRENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
PHENOL	10	U	10	U	10	U	10	U	1	J	1	U	10	U
PYRENE	10	U	10	U	10	U	10	U	1	J	1	U	10	U
PCB (UG/L)														
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
PEST (UG/L)														
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW10-10		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)		MW10-10		MW10-10 (FD)
Sample Id:	MW10-10(21.0)		MW10-10(17.0)		MW10-70(27.0)		MW10-10 (15.5)		MW10-71 (25.0)		MW10-10(07.0)		MW10-71(17.5)
Sample Date:	24-MAR-94		30-JUN-94		30-JUN-94		27-SEP-94		27-SEP-94		13-DEC-94		13-DEC-94
Sample Depth:													
Investigation:	GW1Q94		GW2Q94		GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94
SVOA (UG/L)													
CHRYSENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
DI-N-BUTYLPHTHALATE	10	U	10	U	N/A		.3	J	N/A		10	U	N/A
DI-N-OCTYLPHTHALATE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
DIBENZO(A,H)ANTHRACENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
DIBENZOFURAN	10	U	10	U	N/A		10	U	N/A		10	U	N/A
DIETHYLPHTHALATE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
DIMETHYLPHTHALATE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
FLUORANTHENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
FLUORENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
HEXACHLOROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
HEXACHLOROBUTADIENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
HEXACHLOROETHANE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
INDENO(1,2,3-CD)PYRENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
ISOPHORONE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
N-NITROSO-DI-N-PROPYLAMINE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
N-NITROSODIPHENYLAMINE (1)	10	UJ	10	U	N/A		10	U	N/A		10	U	N/A
NAPHTHALENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
NITROBENZENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
PENTACHLOROPHENOL	26	U	25	U	N/A		25	UJ	N/A		25	U	N/A
PHENANTHRENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
PHENOL	10	U	10	U	N/A		10	U	N/A		2	J	N/A
PYRENE	10	U	10	U	N/A		10	U	N/A		10	U	N/A
PCB (UG/L)													
AROCLOR-1016	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1221	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1232	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1242	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1248	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1254	N/A		N/A		N/A		N/A		N/A		N/A		N/A
AROCLOR-1260	N/A		N/A		N/A		N/A		N/A		N/A		N/A
PEST (UG/L)													
4,4'-DDD	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
4,4'-DDT	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-10		MW10-10		MW10-10		MW10-10 (FD)		MW10-11		MW10-11		MW10-11	
Sample Id:	MW10-10		MW10-10		MW10-10		MW11-250		MW10-11(21)		MW10-11(20.0)		MW10-11 (20.3)	
Sample Date:	05-NOV-97		03-APR-98		21-JAN-99		21-JAN-99		29-MAR-94		29-JUN-94		26-SEP-94	
Sample Depth:														
Investigation:	SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94	
SVOA (UG/L)														
CHRYSENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
DI-N-BUTYLPHTHALATE	.3	J	.3	UJ	10	U	10	UJ	10	UJ	N/A		N/A	
DI-N-OCTYLPHTHALATE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
DIBENZO(A,H)ANTHRACENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
DIBENZOFURAN	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
DIETHYLPHTHALATE	.5	J	.1	UJ	10	U	10	UJ	10	U	N/A		N/A	
DIMETHYLPHTHALATE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
FLUORANTHENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
FLUORENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
HEXACHLOROBENZENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
HEXACHLOROBUTADIENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
HEXACHLOROCYCLOPENTADIENE	1	J	1	UJ	10	U	10	U	10	U	N/A		N/A	
HEXACHLOROETHANE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
INDENO(1,2,3-CD)PYRENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
ISOPHORONE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
N-NITROSO-DI-N-PROPYLAMINE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
N-NITROSODIPHENYLAMINE (1)	1	U	1	U	10	U	10	U	10	UJ	N/A		N/A	
NAPHTHALENE	1	U	.3	J	10	U	10	U	10	U	N/A		N/A	
NITROBENZENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
PENTACHLOROPHENOL	3	J	3	U	25	U	25	U	25	U	N/A		N/A	
PHENANTHRENE	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
PHENOL	1	U	1	U	10	U	10	U	10	U	N/A		N/A	
PYRENE	1	U	1	U	10	U	10	U	10	UJ	N/A		N/A	
PCB (UG/L)														
AROCLOR-1016	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
AROCLOR-1221	N/A		N/A		N/A		N/A		2	UJ	N/A		2	U
AROCLOR-1232	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
AROCLOR-1242	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
AROCLOR-1248	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
AROCLOR-1254	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
AROCLOR-1260	N/A		N/A		N/A		N/A		1	UJ	N/A		1	U
PEST (UG/L)														
4,4'-DDD	N/A		N/A		N/A		N/A		.1	UJ	N/A		.1	U
4,4'-DDE	N/A		N/A		N/A		N/A		.1	UJ	N/A		.1	U
4,4'-DDT	N/A		N/A		N/A		N/A		.1	UJ	N/A		.1	U

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94	
SVOA (UG/L)												
CHRYSENE	N/A		N/A		10	U	N/A		N/A		11	U
DI-N-BUTYLPHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U
DI-N-OCTYLPHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U
DIBENZO(A,H)ANTHRACENE	N/A		N/A		10	U	N/A		N/A		11	U
DIBENZOFURAN	N/A		N/A		10	U	N/A		N/A		11	U
DIETHYLPHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U
DIMETHYLPHTHALATE	N/A		N/A		10	U	N/A		N/A		11	U
FLUORANTHENE	N/A		N/A		10	U	N/A		N/A		11	U
FLUORENE	N/A		N/A		10	U	N/A		N/A		11	U
HEXACHLOROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U
HEXACHLOROBUTADIENE	N/A		N/A		10	U	N/A		N/A		11	U
HEXACHLOROCYCLOPENTADIENE	N/A		N/A		10	U	N/A		N/A		11	U
HEXACHLOROETHANE	N/A		N/A		10	U	N/A		N/A		11	U
INDENO(1,2,3-CD)PYRENE	N/A		N/A		10	U	N/A		N/A		11	U
ISOPHORONE	N/A		N/A		10	U	N/A		N/A		11	U
N-NITROSO-DI-N-PROPYLAMINE	N/A		N/A		10	U	N/A		N/A		11	U
N-NITROSODIPHENYLAMINE (1)	N/A		N/A		10	U	N/A		N/A		11	U
NAPHTHALENE	N/A		N/A		10	U	N/A		N/A		11	U
NITROBENZENE	N/A		N/A		10	U	N/A		N/A		11	U
PENTACHLOROPHENOL	N/A		N/A		26	U	N/A		N/A		26	U
PHENANTHRENE	N/A		N/A		10	U	N/A		N/A		11	U
PHENOL	N/A		N/A		10	U	N/A		N/A		11	U
PYRENE	N/A		N/A		10	U	N/A		N/A		11	U
PCB (UG/L)												
AROCLOR-1016	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
AROCLOR-1221	N/A		2	U	2.1	UJ	2	UJ	2	U	2.1	UJ
AROCLOR-1232	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
AROCLOR-1242	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
AROCLOR-1248	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
AROCLOR-1254	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
AROCLOR-1260	N/A		1	U	1	UJ	1	UJ	1	U	1	UJ
PEST (UG/L)												
4,4'-DDD	N/A		.1	UX	.1	UJ	.1	UJ	.1	U	.1	UJ
4,4'-DDE	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ
4,4'-DDT	N/A		.1	U	.1	UJ	.1	UJ	.1	UX	.1	UJ

Point Name:	MW10-14	
Sample Id:	MW10-14(16.0)	
Sample Date:	30-JUN-94	
Investigation:	GW2Q94	
SVOA (UG/L)		
CHRYSENE	10	U
DI-N-BUTYLPHTHALATE	10	U
DI-N-OCTYLPHTHALATE	10	U
DIBENZO(A,H)ANTHRACENE	10	U
DIBENZOFURAN	10	U
DIETHYLPHTHALATE	10	U
DIMETHYLPHTHALATE	10	U
FLUORANTHENE	10	U
FLUORENE	10	U
HEXACHLOROBENZENE	10	U
HEXACHLOROBUTADIENE	10	U
HEXACHLOROCYCLOPENTADIENE	10	U
HEXACHLOROETHANE	10	U
INDENO(1,2,3-CD)PYRENE	10	U
ISOPHORONE	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U
N-NITROSODIPHENYLAMINE (1)	10	U
NAPHTHALENE	10	U
NITROBENZENE	10	U
PENTACHLOROPHENOL	25	U
PHENANTHRENE	10	U
PHENOL	10	U
PYRENE	10	U
PCB (UG/L)		
AROCLOR-1016	N/A	
AROCLOR-1221	N/A	
AROCLOR-1232	N/A	
AROCLOR-1242	N/A	
AROCLOR-1248	N/A	
AROCLOR-1254	N/A	
AROCLOR-1260	N/A	
PEST (UG/L)		
4,4'-DDD	N/A	
4,4'-DDE	N/A	
4,4'-DDT	N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
SVOA (UG/L)												
CHRYSENE	10	U	10	U	10	U	10	U	10	U	10	U
DI-N-BUTYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
DI-N-OCTYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
DIBENZO(A,H)ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
DIBENZOFURAN	10	U	10	U	10	U	10	U	10	U	10	U
DIETHYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
DIMETHYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
FLUORANTHENE	10	U	10	U	10	U	10	U	10	U	10	U
FLUORENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBUTADIENE	10	U	10	U	10	U	10	UJ	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	10	U	10	UJ	10	U	10	U
HEXACHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	U	10	U	10	U	10	U	10	U	10	U
ISOPHORONE	10	U	10	U	10	U	10	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	10	U	10	U	10	U	10	U	10	U
N-NITROSODIPHENYLAMINE (1)	10	U	10	U	10	U	10	U	10	U	10	U
NAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
NITROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
PHENANTHRENE	10	U	10	U	10	U	10	U	10	U	10	U
PHENOL	10	U	10	U	10	U	10	U	10	U	10	U
PYRENE	10	U	10	U	10	U	10	UJ	10	U	10	U
PCB (UG/L)												
AROCLOR-1016	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
AROCLOR-1221	2	UJ	2	UJ	N/A		2	UJ	2	UJ	2	UJ
AROCLOR-1232	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
AROCLOR-1242	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
AROCLOR-1248	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
AROCLOR-1254	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
AROCLOR-1260	1	UJ	1	UJ	N/A		1	UJ	1	UJ	1	UJ
PEST (UG/L)												
4,4'-DDD	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
4,4'-DDE	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
4,4'-DDT	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	BR10-19	ERM10-01	ERM10-01	ERM10-01	ERM10-01	ERM10-01	ERM10-01
Sample Id:	BR10-19	ERM10-01(23)	ERM10-01 (21.0)	ERM10-01 (20.0)	ERM10-01 (18.0)	ERM10-01(20.1)	ERM10-01
Sample Date:	25-FEB-99	28-MAR-94	25-JUN-94	29-JUN-94	27-SEP-94	14-DEC-94	06-NOV-97
Sample Depth:							
Investigation:	PHASEII_RI	GW1Q94	GW2Q94	GW2Q94	GW3Q94	GW4Q94	SEMI_EVENT1
PEST (UG/L)							
ALDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
METALS-Total (UG/L)							
ALUMINUM	N/A	344	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	31 UJ	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	5.4 B	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	52.1 B	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	1 U	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	4 U	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	8970	N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	3 U	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	2 U	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	2 U	N/A	N/A	N/A	N/A	N/A
IRON	N/A	3820	N/A	N/A	N/A	N/A	N/A
LEAD	N/A	2.3 B	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A	100 U	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	5450	N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	522	N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	.1 J	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02	
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)	
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94	
Sample Depth:												
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94	
PEST (UG/L)												
ALDRIN	N/A		N/A		N/A		N/A		N/A		N/A	
ALPHA-BHC	N/A		N/A		N/A		N/A		N/A		N/A	
ALPHA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A	
BETA-BHC	N/A		N/A		N/A		N/A		N/A		N/A	
DELTA-BHC	N/A		N/A		N/A		N/A		N/A		N/A	
DIELDRIN	N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN I	N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN II	N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN SULFATE	N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN	N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN ALDEHYDE	N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN KETONE	N/A		N/A		N/A		N/A		N/A		N/A	
GAMMA-BHC (LINDANE)	N/A		N/A		N/A		N/A		N/A		N/A	
GAMMA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A	
HEPTACHLOR	N/A		N/A		N/A		N/A		N/A		N/A	
HEPTACHLOR EPOXIDE	N/A		N/A		N/A		N/A		N/A		N/A	
METHOXYCHLOR	N/A		N/A		N/A		N/A		N/A		N/A	
TOXAPHENE	N/A		N/A		N/A		N/A		N/A		N/A	
METALS-Total (UG/L)												
ALUMINUM	N/A		N/A		1640		11500		11900		3070	J
ANTIMONY	N/A		N/A		31	UJ	28.6	U	28.6	U	28.6	U
ARSENIC	N/A		N/A		2	U	5	B	7.3	U	6.5	U
BARIUM	N/A		N/A		79.7	B	188	J	179	B	93.5	J
BERYLLIUM	N/A		N/A		1	U	.68	J	.4	U	.4	U
CADMIUM	N/A		N/A		4	U	.6	U	.6	U	.6	U
CALCIUM	N/A		N/A		47900		50700	J	56000		38700	
CHROMIUM	N/A		N/A		3	U	14.6		30.3		3.7	U
COBALT	N/A		N/A		2	U	5.1	B	4.3	B	2.3	U
COPPER	N/A		N/A		25	U	9	U	3.7	J	5.4	U
IRON	N/A		N/A		1520		10300	J	8080	J	3230	
LEAD	N/A		N/A		5		15.7		7.7	UJ	5.5	U
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	N/A		N/A		24200		27500	J	29800		23200	
MANGANESE	N/A		N/A		510		624	J	467		950	
MERCURY	N/A		N/A		.43	J	.1	UJ	.12	B	.1	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A	

Point Name:	MW02-17	
Sample Id:	MW02-17	
Sample Date:	23-FEB-99	
Investigation:	PHASEII_RI	
PEST (UG/L)		
ALDRIN	N/A	
ALPHA-BHC	N/A	
ALPHA-CHLORDANE	N/A	
BETA-BHC	N/A	
DELTA-BHC	N/A	
DIELDRIN	N/A	
ENDOSULFAN I	N/A	
ENDOSULFAN II	N/A	
ENDOSULFAN SULFATE	N/A	
ENDRIN	N/A	
ENDRIN ALDEHYDE	N/A	
ENDRIN KETONE	N/A	
GAMMA-BHC (LINDANE)	N/A	
GAMMA-CHLORDANE	N/A	
HEPTACHLOR	N/A	
HEPTACHLOR EPOXIDE	N/A	
METHOXYCHLOR	N/A	
TOXAPHENE	N/A	
METALS-Total (UG/L)		
ALUMINUM	18500	
ANTIMONY	1.5	U
ARSENIC	9	J
BARIUM	157	J
BERYLLIUM	.2	J
CADMIUM	.17	U
CALCIUM	83200	
CHROMIUM	38.8	
COBALT	9.9	J
COPPER	25.3	
IRON	27700	
LEAD	14.2	
LEAD, ORGANIC	N/A	
MAGNESIUM	53700	
MANGANESE	1840	
MERCURY	.62	
MOLYBDENUM	1.1	UJ

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17		MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:														
Investigation:	UST_PHASEII		GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
PEST (UG/L)														
ALDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALPHA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ALPHA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
BETA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DELTA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
DIELDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN I	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN II	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDOSULFAN SULFATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN ALDEHYDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
ENDRIN KETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GAMMA-BHC (LINDANE)	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
GAMMA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEPTACHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
HEPTACHLOR EPOXIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METHOXYCHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
TOXAPHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
METALS-Total (UG/L)														
ALUMINUM	N/A		39100	J	42500	J	N/A		N/A		N/A		4630	J
ANTIMONY	N/A		31	UJ	31	UJ	N/A		N/A		N/A		31	UJ
ARSENIC	N/A		5	U	5.1	U	N/A		N/A		N/A		3.6	U
BARIUM	N/A		538		565		N/A		N/A		N/A		271	
BERYLLIUM	N/A		1.5	B	1.8	B	N/A		N/A		N/A		1	U
CADMIUM	N/A		4	U	4	U	N/A		N/A		N/A		4	U
CALCIUM	N/A		44100		47000		N/A		N/A		N/A		156000	
CHROMIUM	N/A		74.8		74.1		N/A		N/A		N/A		7.9	B
COBALT	N/A		35.4	B	34.9	B	N/A		N/A		N/A		4.9	B
COPPER	N/A		47.5		45.6		N/A		N/A		N/A		5.5	B
IRON	N/A		57200		57700		N/A		N/A		N/A		5960	
LEAD	N/A		38.3	S	34	W	N/A		N/A		N/A		5.5	W
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		100	U
MAGNESIUM	N/A		82200		87000		N/A		N/A		N/A		397000	
MANGANESE	N/A		2280		2350		N/A		N/A		N/A		1470	
MERCURY	N/A		.15	U	.14	U	N/A		N/A		N/A		.15	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW10-05		MW10-05		MW10-05 (FD)		MW10-05		MW10-05 (FD)		MW10-05		MW10-05
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)		MW10-101 (27.0)		MW10-05(16.0)		MW10-70(25.5)		MW10-05		MW10-05
Sample Date:	27-JUN-94		30-SEP-94		30-SEP-94		10-DEC-94		10-DEC-94		03-APR-98		20-JAN-99
Sample Depth:													
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT2		SEMI_EVENT3
PEST (UG/L)													
ALDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ALPHA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ALPHA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BETA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DELTA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIELDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN I	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN II	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN SULFATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN ALDEHYDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN KETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
GAMMA-BHC (LINDANE)	N/A		N/A		N/A		N/A		N/A		N/A		N/A
GAMMA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEPTACHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEPTACHLOR EPOXIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METHOXYCHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TOXAPHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METALS-Total (UG/L)													
ALUMINUM	555		143	UJ	N/A		3840		3960		N/A		N/A
ANTIMONY	28.6	U	28.6	U	N/A		28.6	U	28.6	U	N/A		N/A
ARSENIC	3.5	B	5	U	N/A		3.6	J	3.5	J	N/A		N/A
BARIUM	135	J	79.6	B	N/A		83.9	B	83.3	B	N/A		N/A
BERYLLIUM	2.5	J	.57	B	N/A		.4	U	.4	U	N/A		N/A
CADMIUM	6	U	.6	U	N/A		.6	U	.6	U	N/A		N/A
CALCIUM	250000	J	142000		N/A		90900		89400		N/A		N/A
CHROMIUM	2.4	B	2.3	U	N/A		5.9	B	7.2	B	N/A		N/A
COBALT	2.3	U	2.3	U	N/A		3.6	B	4.9	B	N/A		N/A
COPPER	.53	U	.4	U	N/A		6.3	B	5.8	B	N/A		N/A
IRON	4310	J	500	J	N/A		4360		4430		N/A		N/A
LEAD	8	U	8	J	N/A		5.3	U	4	U	N/A		N/A
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	987000	J	393000	J	N/A		270000		264000		N/A		N/A
MANGANESE	61.6	J	262		N/A		228		236		N/A		N/A
MERCURY	.1	UJ	.1	U	N/A		.1	U	.1	U	N/A		N/A
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW	
Point Name:	MW10-08		MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)	MW10-08(23.0)	MW10-08	MW10-08	MW10-08	MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94	13-DEC-94	06-NOV-97	06-APR-98	21-JAN-99	25-MAR-94	
Sample Depth:									
Investigation:	GW1Q94		GW3Q94	GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	GW1Q94	
PEST (UG/L)									
ALDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ALPHA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ALPHA-CHLORDANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
BETA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
DELTA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
DIELDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDOSULFAN I	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDOSULFAN II	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDOSULFAN SULFATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDRIN ALDEHYDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
ENDRIN KETONE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
GAMMA-BHC (LINDANE)	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
GAMMA-CHLORDANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
HEPTACHLOR	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
HEPTACHLOR EPOXIDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
METHOXYCHLOR	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
TOXAPHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
METALS-Total (UG/L)									
ALUMINUM	1340	J	N/A	N/A	N/A	N/A	N/A	1640	J
ANTIMONY	31	UJ	N/A	N/A	N/A	N/A	N/A	31	UJ
ARSENIC	2.1	U	N/A	N/A	N/A	N/A	N/A	3.7	U
BARIUM	110	B	N/A	N/A	N/A	N/A	N/A	117	B
BERYLLIUM	1	U	N/A	N/A	N/A	N/A	N/A	1	U
CADMIUM	4	U	N/A	N/A	N/A	N/A	N/A	4	U
CALCIUM	83000		N/A	N/A	N/A	N/A	N/A	120000	
CHROMIUM	3	U	N/A	N/A	N/A	N/A	N/A	3	U
COBALT	2	B	N/A	N/A	N/A	N/A	N/A	2.7	B
COPPER	2	U	N/A	N/A	N/A	N/A	N/A	3	B
IRON	1570		N/A	N/A	N/A	N/A	N/A	2120	
LEAD	1	U	N/A	N/A	N/A	N/A	N/A	1	U
LEAD, ORGANIC	N/A		N/A	N/A	N/A	N/A	N/A	100	U
MAGNESIUM	58800		N/A	N/A	N/A	N/A	N/A	31800	
MANGANESE	666		N/A	N/A	N/A	N/A	N/A	636	
MERCURY	.1	U	N/A	N/A	N/A	N/A	N/A	.12	U
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99
Sample Depth:													
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3
PEST (UG/L)													
ALDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ALPHA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ALPHA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
BETA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DELTA-BHC	N/A		N/A		N/A		N/A		N/A		N/A		N/A
DIELDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN I	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN II	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDOSULFAN SULFATE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN ALDEHYDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
ENDRIN KETONE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
GAMMA-BHC (LINDANE)	N/A		N/A		N/A		N/A		N/A		N/A		N/A
GAMMA-CHLORDANE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEPTACHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A
HEPTACHLOR EPOXIDE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METHOXYCHLOR	N/A		N/A		N/A		N/A		N/A		N/A		N/A
TOXAPHENE	N/A		N/A		N/A		N/A		N/A		N/A		N/A
METALS-Total (UG/L)													
ALUMINUM	175	J	9610		9520	J	4700	J	N/A		N/A		N/A
ANTIMONY	31	UJ	28.6	U	28.6	U	28.6	U	N/A		N/A		N/A
ARSENIC	2.9	U	6.3	B	6.9	U	3.1	U	N/A		N/A		N/A
BARIUM	108	B	135	J	165	B	160	J	N/A		N/A		N/A
BERYLLIUM	1	U	.52	J	.4	U	.4	U	N/A		N/A		N/A
CADMIUM	4	U	.6	U	.6	U	.6	U	N/A		N/A		N/A
CALCIUM	122000		107000	J	123000		127000		N/A		N/A		N/A
CHROMIUM	3	U	23.1		23.8		11.1	UJ	N/A		N/A		N/A
COBALT	2	U	8.3	B	7.3	B	3.8	U	N/A		N/A		N/A
COPPER	2	U	15.3	B	16.3	B	6.8	U	N/A		N/A		N/A
IRON	244		11900	J	9420		4800		N/A		N/A		N/A
LEAD	1	U	8.8		6.1	UJ	4.3	UJ	N/A		N/A		N/A
LEAD, ORGANIC	100	U	N/A		N/A		N/A		N/A		N/A		N/A
MAGNESIUM	31400		48500	J	42300		33100		N/A		N/A		N/A
MANGANESE	615		453	J	565		579		N/A		N/A		N/A
MERCURY	.2	UJ	.1	UJ	.1	U	.18	U	N/A		N/A		N/A
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW
Point Name:	MW10-10		MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)
Sample Id:	MW10-10(21.0)		MW10-10(17.0)	MW10-70(27.0)	MW10-10 (15.5)	MW10-71 (25.0)	MW10-10(07.0)	MW10-71(17.5)
Sample Date:	24-MAR-94		30-JUN-94	30-JUN-94	27-SEP-94	27-SEP-94	13-DEC-94	13-DEC-94
Sample Depth:								
Investigation:	GW1Q94		GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94
PEST (UG/L)								
ALDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ALPHA-CHLORDANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
BETA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DELTA-BHC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
DIELDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN I	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN II	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDOSULFAN SULFATE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN ALDEHYDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
ENDRIN KETONE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-BHC (LINDANE)	N/A		N/A	N/A	N/A	N/A	N/A	N/A
GAMMA-CHLORDANE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR	N/A		N/A	N/A	N/A	N/A	N/A	N/A
HEPTACHLOR EPOXIDE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
METHOXYCHLOR	N/A		N/A	N/A	N/A	N/A	N/A	N/A
TOXAPHENE	N/A		N/A	N/A	N/A	N/A	N/A	N/A
METALS-Total (UG/L)								
ALUMINUM	**21200**	J	N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	31	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	3.3	U	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	**227**		N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	1	U	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	4	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	**139000**		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	**32.7**		N/A	N/A	N/A	N/A	N/A	N/A
COBALT	3	B	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	**5.3**	B	N/A	N/A	N/A	N/A	N/A	N/A
IRON	**23500**		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	**10.1**		N/A	N/A	N/A	N/A	N/A	N/A
LEAD, ORGANIC	N/A		N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	**25900**		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	**213**		N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.12	U	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW		MW		MW	
Point Name:	MW10-10	MW10-10	MW10-10	MW10-10 (FD)	MW10-11		MW10-11		MW10-11	
Sample Id:	MW10-10	MW10-10	MW10-10	MW11-250	MW10-11(21)		MW10-11(20.0)		MW10-11 (20.3)	
Sample Date:	05-NOV-97	03-APR-98	21-JAN-99	21-JAN-99	29-MAR-94		29-JUN-94		26-SEP-94	
Sample Depth:										
Investigation:	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT3	GW1Q94		GW2Q94		GW3Q94	
PEST (UG/L)										
ALDRIN	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	UX
ALPHA-BHC	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
ALPHA-CHLORDANE	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
BETA-BHC	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
DELTA-BHC	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
DIELDRIN	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
ENDOSULFAN I	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
ENDOSULFAN II	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
ENDOSULFAN SULFATE	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
ENDRIN	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
ENDRIN ALDEHYDE	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
ENDRIN KETONE	N/A	N/A	N/A	N/A	.1	UJ	N/A		.1	U
GAMMA-BHC (LINDANE)	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
GAMMA-CHLORDANE	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
HEPTACHLOR	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
HEPTACHLOR EPOXIDE	N/A	N/A	N/A	N/A	.05	UJ	N/A		.05	U
METHOXYCHLOR	N/A	N/A	N/A	N/A	.5	UJ	N/A		.5	U
TOXAPHENE	N/A	N/A	N/A	N/A	5	UJ	N/A		5	U
METALS-Total (UG/L)										
ALUMINUM	N/A	N/A	N/A	N/A	28800	J	N/A		N/A	
ANTIMONY	N/A	N/A	N/A	N/A	31	U	N/A		N/A	
ARSENIC	N/A	N/A	N/A	N/A	4.5	B	N/A		N/A	
BARIUM	N/A	N/A	N/A	N/A	195	B	N/A		N/A	
BERYLLIUM	N/A	N/A	N/A	N/A	1	U	N/A		N/A	
CADMIUM	N/A	N/A	N/A	N/A	4	U	N/A		N/A	
CALCIUM	N/A	N/A	N/A	N/A	49100		N/A		N/A	
CHROMIUM	N/A	N/A	N/A	N/A	34.5	UJ	N/A		N/A	
COBALT	N/A	N/A	N/A	N/A	7.6	U	N/A		N/A	
COPPER	N/A	N/A	N/A	N/A	15.3	B	N/A		N/A	
IRON	N/A	N/A	N/A	N/A	27600		N/A		N/A	
LEAD	N/A	N/A	N/A	N/A	7.4	UJ	N/A		N/A	
LEAD, ORGANIC	N/A	N/A	N/A	N/A	N/A		N/A		N/A	
MAGNESIUM	N/A	N/A	N/A	N/A	38900		N/A		N/A	
MANGANESE	N/A	N/A	N/A	N/A	691		N/A		N/A	
MERCURY	N/A	N/A	N/A	N/A	.1	U	N/A		N/A	
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)		MW10-14(16.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94		30-JUN-94	
Sample Depth:														
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94		GW2Q94	
PEST (UG/L)														
ALDRIN	N/A		.05	UX	.052	UJ	.05	UJ	.05	UX	.052	UJ	N/A	
ALPHA-BHC	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
ALPHA-CHLORDANE	N/A		.05	U	.052	UJ	.05	UJ	.05	UX	.052	UJ	N/A	
BETA-BHC	N/A		.05	UX	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
DELTA-BHC	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
DIELDRIN	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
ENDOSULFAN I	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
ENDOSULFAN II	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
ENDOSULFAN SULFATE	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
ENDRIN	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
ENDRIN ALDEHYDE	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
ENDRIN KETONE	N/A		.1	U	.1	UJ	.1	UJ	.1	U	.1	UJ	N/A	
GAMMA-BHC (LINDANE)	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
GAMMA-CHLORDANE	N/A		.05	U	.052	UJ	.05	UJ	.05	UX	.052	UJ	N/A	
HEPTACHLOR	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
HEPTACHLOR EPOXIDE	N/A		.05	U	.052	UJ	.05	UJ	.05	U	.052	UJ	N/A	
METHOXYCHLOR	N/A		.5	U	.52	UJ	.5	UJ	.5	U	.52	UJ	N/A	
TOXAPHENE	N/A		5	U	5.2	UJ	5	UJ	5	U	5.2	UJ	N/A	
METALS-Total (UG/L)														
ALUMINUM	N/A		N/A		15300	J	N/A		N/A		6450	J	68800	
ANTIMONY	N/A		N/A		31	UJ	N/A		N/A		31	UJ	28.6	U
ARSENIC	N/A		N/A		5.3	U	N/A		N/A		2	U	24.5	
BARIUM	N/A		N/A		158	B	N/A		N/A		66.1	B	761	
BERYLLIUM	N/A		N/A		1	U	N/A		N/A		1	U	1.5	J
CADMIUM	N/A		N/A		4	U	N/A		N/A		4	U	18	
CALCIUM	N/A		N/A		48100		N/A		N/A		8460		40900	
CHROMIUM	N/A		N/A		41.1		N/A		N/A		23.2		130	
COBALT	N/A		N/A		4.2	B	N/A		N/A		2	U	38.1	B
COPPER	N/A		N/A		7.7	B	N/A		N/A		2	U	106	
IRON	N/A		N/A		20900		N/A		N/A		6650		80900	
LEAD	N/A		N/A		7		N/A		N/A		2.1	BW	48.2	
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		100	U	N/A	
MAGNESIUM	N/A		N/A		33800		N/A		N/A		10700		46600	
MANGANESE	N/A		N/A		1560		N/A		N/A		69.1		1260	
MERCURY	N/A		N/A		.11	U	N/A		N/A		.1	U	.11	J
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
PEST (UG/L)												
ALDRIN	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
ALPHA-BHC	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
ALPHA-CHLORDANE	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
BETA-BHC	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
DELTA-BHC	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
DIELDRIN	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
ENDOSULFAN I	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
ENDOSULFAN II	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
ENDOSULFAN SULFATE	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
ENDRIN	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
ENDRIN ALDEHYDE	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
ENDRIN KETONE	.1	UJ	.1	UJ	N/A		.1	UJ	.1	UJ	.1	UJ
GAMMA-BHC (LINDANE)	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
GAMMA-CHLORDANE	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
HEPTACHLOR	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
HEPTACHLOR EPOXIDE	.05	UJ	.05	UJ	N/A		.05	UJ	.05	UJ	.05	UJ
METHOXYCHLOR	.5	UJ	.5	UJ	N/A		.5	UJ	.5	UJ	.5	UJ
TOXAPHENE	5	UJ	5	UJ	N/A		5	UJ	5	UJ	5	UJ
METALS-Total (UG/L)												
ALUMINUM	14900	J	25500	J	N/A		3650		1590	J	1320	J
ANTIMONY	28.6	U	28.6	U	N/A		29.1	B	28.6	U	28.6	U
ARSENIC	7.2	U	8.5	U	N/A		3.1	U	5.4	U	3.1	U
BARIUM	564		301	J	N/A		38.5	B	22.9	B	24.8	J
BERYLLIUM	.72	B	.58	U	N/A		.4	U	.4	U	.4	U
CADMIUM	.6	U	.6	U	N/A		.6	U	.6	U	.6	U
CALCIUM	31500		8430		N/A		19000		19100		17400	
CHROMIUM	29.1		44.2		N/A		9.1	B	2.7	B	3.3	U
COBALT	23.9	B	11.8	U	N/A		2.3	U	2.3	U	2.3	U
COPPER	31.9		33.7		N/A		3	J	.4	U	1.5	U
IRON	18600	J	26300		N/A		3110		1470	J	1530	
LEAD	24	J	16.6		N/A		3.2	UJ	2.5	UJ	2.1	U
LEAD, ORGANIC	N/A		N/A		N/A		N/A		N/A		N/A	
MAGNESIUM	35600	J	14200		N/A		20900		19500	J	19300	
MANGANESE	914		363		N/A		126		102		84.7	
MERCURY	.34	UJ	.12	U	N/A		.1	UJ	.66		.59	
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW		MW	MW	MW	MW	MW
Point Name:	BR10-19	ERM10-01		ERM10-01	ERM10-01	ERM10-01	ERM10-01	ERM10-01
Sample Id:	BR10-19	ERM10-01(23)		ERM10-01 (21.0)	ERM10-01 (20.0)	ERM10-01 (18.0)	ERM10-01(20.1)	ERM10-01
Sample Date:	25-FEB-99	28-MAR-94		25-JUN-94	29-JUN-94	27-SEP-94	14-DEC-94	06-NOV-97
Sample Depth:								
Investigation:	PHASEII_RI	GW1Q94		GW2Q94	GW2Q94	GW3Q94	GW4Q94	SEMI_EVENT1
METALS-Total (UG/L)								
NICKEL	N/A	7	U	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	626	U	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
SILVER	N/A	2	U	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	**20500**		N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	50	U	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	20	U	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	200	U	N/A	N/A	N/A	N/A	N/A
ANTIMONY	N/A	31	U	N/A	N/A	N/A	N/A	N/A
ARSENIC	N/A	**3.3**	B	N/A	N/A	N/A	N/A	N/A
BARIUM	N/A	**39.8**	B	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	N/A	1	U	N/A	N/A	N/A	N/A	N/A
CADMIUM	N/A	4	U	N/A	N/A	N/A	N/A	N/A
CALCIUM	N/A	**8990**		N/A	N/A	N/A	N/A	N/A
CHROMIUM	N/A	3	U	N/A	N/A	N/A	N/A	N/A
COBALT	N/A	2	U	N/A	N/A	N/A	N/A	N/A
COPPER	N/A	2	U	N/A	N/A	N/A	N/A	N/A
IRON	N/A	**2270**		N/A	N/A	N/A	N/A	N/A
LEAD	N/A	1	U	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	N/A	**5330**		N/A	N/A	N/A	N/A	N/A
MANGANESE	N/A	**518**		N/A	N/A	N/A	N/A	N/A
MERCURY	N/A	.1	U	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
NICKEL	N/A	7	U	N/A	N/A	N/A	N/A	N/A
POTASSIUM	N/A	5000	U	N/A	N/A	N/A	N/A	N/A
SELENIUM	N/A	N/A		N/A	N/A	N/A	N/A	N/A
SILVER	N/A	2	U	N/A	N/A	N/A	N/A	N/A
SODIUM	N/A	**20400**		N/A	N/A	N/A	N/A	N/A
THALLIUM	N/A	2	UJ	N/A	N/A	N/A	N/A	N/A
VANADIUM	N/A	2	U	N/A	N/A	N/A	N/A	N/A
ZINC	N/A	20	U	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A		N/A	**14**	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	ERM10-01		ERM10-01		ERM10-02		ERM10-02		ERM10-02		ERM10-02	
Sample Id:	ERM10-01		ERM10-01		ERM10-02(19)		ERM10-02(16.0)		ERM10-02(16.0)		ERM10-02(15.0)		MW02-17	
Sample Date:	06-APR-98		19-JAN-99		28-MAR-94		30-JUN-94		26-SEP-94		13-DEC-94		23-FEB-99	
Sample Depth:														
Investigation:	SEMI_EVENT2		SEMI_EVENT3		GW1Q94		GW2Q94		GW3Q94		GW4Q94		PHASEII_RI	
METALS-Total (UG/L)														
NICKEL	N/A		N/A		7	U	19	B	23.7	B	10.2	B	30.2	
POTASSIUM	N/A		N/A		5000	U	8470	J	9210	J	3350	B	6660	
SELENIUM	N/A		N/A		N/A		2.3	U	2.6	U	5.4	UJ	2.9	U
SILVER	N/A		N/A		2	U	2	U	2	U	2	U	.8	U
SODIUM	N/A		N/A		152000		182000		181000	J	183000	J	90700	
THALLIUM	N/A		N/A		2	UJ	2	U	2	U	7.9	U	1.6	U
VANADIUM	N/A		N/A		2	U	22.6	B	20	B	6.2	U	41.4	J
ZINC	N/A		N/A		43.1		43.3		31.4	J	15.6	U	62.5	
METALS-Diss. (UG/L)														
ALUMINUM	N/A		N/A		14	U	65.2	U	165	U	76	U	70	UJ
ANTIMONY	N/A		N/A		31	U	28.6	U	28.6	U	28.6	U	1.5	U
ARSENIC	N/A		N/A		2.3	J	3.1	U	6.5	U	5	U	1.2	U
BARIUM	N/A		N/A		67.9	B	68.7	B	89.2	B	67.3	J	49.1	J
BERYLLIUM	N/A		N/A		1	U	.4	UJ	.4	U	.4	U	.11	U
CADMIUM	N/A		N/A		4	U	.6	U	.6	U	.6	U	.17	U
CALCIUM	N/A		N/A		48200		41500		56200		38200		76000	
CHROMIUM	N/A		N/A		3	U	2.3	U	2.3	U	2.3	U	2.3	J
COBALT	N/A		N/A		2	U	2.3	U	2.3	U	2.3	U	1.1	J
COPPER	N/A		N/A		2	U	6.7	U	.4	U	18.8	B	1.5	UJ
IRON	N/A		N/A		5	U	154		353	J	789		70.9	J
LEAD	N/A		N/A		1	UJ	1.8	J	.94	U	4.2	UJ	2	J
MAGNESIUM	N/A		N/A		24000		22800		28200	J	22300		46100	
MANGANESE	N/A		N/A		477		429		372		883		1190	
MERCURY	N/A		N/A		.1	U	.1	UJ	.1	U	.1	U	.44	
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		2	UJ
NICKEL	N/A		N/A		7.8	B	3.7	B	4.4	B	4.8	B	2	UJ
POTASSIUM	N/A		N/A		5000	U	1440	J	2390	J	1420	B	4320	J
SELENIUM	N/A		N/A		N/A		2.3	U	2.3	U	6.4	UJ	2.9	U
SILVER	N/A		N/A		2	U	2	U	2	U	2	U	.8	U
SODIUM	N/A		N/A		150000		165000	J	185000	J	183000	J	95200	
THALLIUM	N/A		N/A		2	UJ	2	UJ	2	U	4.9	U	1.6	U
VANADIUM	N/A		N/A		2	U	3.2	B	1.4	U	1.4	U	1.4	J
ZINC	N/A		N/A		8.8	B	.5	UJ	4.8	U	10.7	U	6.2	J
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW02-17		MW10-04		MW10-04 (FD)		MW10-04		MW10-04		MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)		MW10-97(21.0)		MW10-04 (15.5)		MW10-04 (16.9)		MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94		24-MAR-94		24-JUN-94		28-SEP-94		09-DEC-94		24-MAR-94	
Sample Depth:														
Investigation:	UST_PHASEII		GW1Q94		GW1Q94		GW2Q94		GW3Q94		GW4Q94		GW1Q94	
METALS-Total (UG/L)														
NICKEL	N/A		88.7		87.4		N/A		N/A		N/A		21.9	B
POTASSIUM	N/A		43900		46500		N/A		N/A		N/A		118000	
SELENIUM	N/A		20	UJ	20	UJ	N/A		N/A		N/A		25.7	J
SILVER	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
SODIUM	N/A		1240000		1320000		N/A		N/A		N/A		3820000	
THALLIUM	N/A		20	UJ	20	UJ	N/A		N/A		N/A		20	UJ
VANADIUM	N/A		89.1		94.1		N/A		N/A		N/A		11	J
ZINC	N/A		178		177		N/A		N/A		N/A		18.9	U
METALS-Diss. (UG/L)														
ALUMINUM	N/A		44.9	U	N/A		N/A		N/A		N/A		45.1	U
ANTIMONY	N/A		31	UJ	N/A		N/A		N/A		N/A		31	UJ
ARSENIC	N/A		4.5	B	N/A		N/A		N/A		N/A		2	UW
BARIUM	N/A		90.9	B	N/A		N/A		N/A		N/A		232	
BERYLLIUM	N/A		1	U	N/A		N/A		N/A		N/A		1	U
CADMIUM	N/A		4	U	N/A		N/A		N/A		N/A		4	U
CALCIUM	N/A		35000		N/A		N/A		N/A		N/A		149000	
CHROMIUM	N/A		3	U	N/A		N/A		N/A		N/A		3	U
COBALT	N/A		3.9	B	N/A		N/A		N/A		N/A		3.5	B
COPPER	N/A		2	U	N/A		N/A		N/A		N/A		4.5	B
IRON	N/A		25	B	N/A		N/A		N/A		N/A		5	U
LEAD	N/A		2	B	N/A		N/A		N/A		N/A		1	UW
MAGNESIUM	N/A		69400		N/A		N/A		N/A		N/A		383000	
MANGANESE	N/A		1430		N/A		N/A		N/A		N/A		1280	
MERCURY	N/A		.15	U	N/A		N/A		N/A		N/A		.1	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		12	B	N/A		N/A		N/A		N/A		7	U
POTASSIUM	N/A		36600		N/A		N/A		N/A		N/A		110000	
SELENIUM	N/A		20	UW	N/A		N/A		N/A		N/A		20	UE
SILVER	N/A		2	UJ	N/A		N/A		N/A		N/A		2	UJ
SODIUM	N/A		1200000		N/A		N/A		N/A		N/A		3700000	
THALLIUM	N/A		20	UW	N/A		N/A		N/A		N/A		20	UW
VANADIUM	N/A		5.7	J	N/A		N/A		N/A		N/A		2	UJ
ZINC	N/A		1	U	N/A		N/A		N/A		N/A		1	U
WATER QUALITY (MG/L)														
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-05		MW10-05		MW10-05 (FD)		MW10-05		MW10-05 (FD)		MW10-05	
Sample Id:	MW10-05(16.0)		MW10-05 (17.0)		MW10-101 (27.0)		MW10-05(16.0)		MW10-70(25.5)		MW10-05	
Sample Date:	27-JUN-94		30-SEP-94		30-SEP-94		10-DEC-94		10-DEC-94		03-APR-98	
Sample Depth:												
Investigation:	GW2Q94		GW3Q94		GW3Q94		GW4Q94		GW4Q94		SEMI_EVENT2	
METALS-Total (UG/L)												
NICKEL	2.5	U	2.5	U	N/A		13.3	B	11.8	B	N/A	
POTASSIUM	480000	J	281000	J	N/A		218000		201000		N/A	
SELENIUM	23	U	14.1	UJ	N/A		2.3	U	2.3	U	N/A	
SILVER	2	U	2	U	N/A		2	U	2	U	N/A	
SODIUM	8120000		5920000	J	N/A		4480000	J	4170000	J	N/A	
THALLIUM	52.9	B	2	U	N/A		3.2	U	2.9	U	N/A	
VANADIUM	1.7	B	1.4	U	N/A		8	B	7.4	B	N/A	
ZINC	.5	UJ	7.4	B	N/A		23.3	UJ	25.8	UJ	N/A	
METALS-Diss. (UG/L)												
ALUMINUM	35.4	U	76	U	75.3	U	44.1	U	47.6	U	N/A	
ANTIMONY	28.6	U	28.6	U	28.6	U	28.6	U	28.6	U	N/A	
ARSENIC	3.2	B	4.3	U	5.3	U	3.7	B	3.1	U	N/A	
BARIUM	130	J	76.4	B	76.5	B	56.5	J	56.8	J	N/A	
BERYLLIUM	2.1	UJ	.74	U	.79	U	.4	U	.4	U	N/A	
CADMIUM	.6	U	.6	U	.6	U	.6	U	.6	U	N/A	
CALCIUM	250000	J	140000	J	141000	J	92200		95800		N/A	
CHROMIUM	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	N/A	
COBALT	2.3	U	2.3	U	2.3	U	2.3	U	2.3	U	N/A	
COPPER	104		15.2	B	.4	U	10.4	J	1.7	U	N/A	
IRON	653	J	386	J	392	J	468		495		N/A	
LEAD	11.3	B	8	U	8	U	4	U	4	U	N/A	
MAGNESIUM	963000	J	393000	J	392000	J	274000		283000		N/A	
MANGANESE	15.7	J	216	J	167	J	6.8	B	4.1	U	N/A	
MERCURY	.1	U	.1	U	.1	U	.1	U	.1	U	N/A	
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	2.5	U	2.7	B	2.5	U	3.1	B	2.5	U	N/A	
POTASSIUM	460000	J	281000	J	282000	J	214000		217000		N/A	
SELENIUM	2.3	U	11.9	UJ	13.9	UJ	2.3	U	2.3	U	N/A	
SILVER	2	U	2	U	2	U	2	U	2	U	N/A	
SODIUM	9960000	J	5890000	J	5900000	J	4460000	J	4520000	J	N/A	
THALLIUM	2	U	2	U	2	U	2	U	2	U	N/A	
VANADIUM	1.4	U	1.4	U	1.4	U	1.7	B	1.4	U	N/A	
ZINC	18.1	B	2.2	U	1.1	U	10.2	U	2.1	U	N/A	
WATER QUALITY (MG/L)												
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW	
Point Name:	MW10-08		MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-09	
Sample Id:	MW10-08 (24.0)		MW10-08 (22.5)	MW10-08(23.0)	MW10-08	MW10-08	MW10-08	MW10-09 (19.0)	
Sample Date:	25-MAR-94		26-SEP-94	13-DEC-94	06-NOV-97	06-APR-98	21-JAN-99	25-MAR-94	
Sample Depth:									
Investigation:	GW1Q94		GW3Q94	GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	GW1Q94	
METALS-Total (UG/L)									
NICKEL	7	U	N/A	N/A	N/A	N/A	N/A	10.6	B
POTASSIUM	2790	U	N/A	N/A	N/A	N/A	N/A	5480	U
SELENIUM	2.2	J	N/A	N/A	N/A	N/A	N/A	2.4	J
SILVER	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
SODIUM	82800		N/A	N/A	N/A	N/A	N/A	60300	
THALLIUM	2	UJ	N/A	N/A	N/A	N/A	N/A	2	UJ
VANADIUM	2	J	N/A	N/A	N/A	N/A	N/A	2	UJ
ZINC	14.1	U	N/A	N/A	N/A	N/A	N/A	11	U
METALS-Diss. (UG/L)									
ALUMINUM	34.6	U	N/A	N/A	N/A	N/A	N/A	21.1	U
ANTIMONY	31	UJ	N/A	N/A	N/A	N/A	N/A	31	UJ
ARSENIC	2.4	U	N/A	N/A	N/A	N/A	N/A	3.4	U
BARIUM	91.7	B	N/A	N/A	N/A	N/A	N/A	83	B
BERYLLIUM	1	U	N/A	N/A	N/A	N/A	N/A	1	U
CADMIUM	4	U	N/A	N/A	N/A	N/A	N/A	4	U
CALCIUM	83400		N/A	N/A	N/A	N/A	N/A	118000	
CHROMIUM	3	U	N/A	N/A	N/A	N/A	N/A	3	U
COBALT	2	U	N/A	N/A	N/A	N/A	N/A	2	U
COPPER	2	U	N/A	N/A	N/A	N/A	N/A	2	U
IRON	5	U	N/A	N/A	N/A	N/A	N/A	5	U
LEAD	1	U	N/A	N/A	N/A	N/A	N/A	1	U
MAGNESIUM	56800		N/A	N/A	N/A	N/A	N/A	30300	
MANGANESE	632		N/A	N/A	N/A	N/A	N/A	421	
MERCURY	.14	U	N/A	N/A	N/A	N/A	N/A	.1	U
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A	
NICKEL	7.4	B	N/A	N/A	N/A	N/A	N/A	7	U
POTASSIUM	4580	U	N/A	N/A	N/A	N/A	N/A	6120	UJ
SELENIUM	2	UW	N/A	N/A	N/A	N/A	N/A	2	BS
SILVER	2	UJ	N/A	N/A	N/A	N/A	N/A	2	UJ
SODIUM	77600		N/A	N/A	N/A	N/A	N/A	57000	
THALLIUM	2	UW	N/A	N/A	N/A	N/A	N/A	2	UW
VANADIUM	2	UJ	N/A	N/A	N/A	N/A	N/A	2	UJ
ZINC	8.2	B	N/A	N/A	N/A	N/A	N/A	1	U
WATER QUALITY (MG/L)									
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A	N/A	N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09	MW10-09	MW10-09
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09	MW10-09	MW10-09
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97	06-APR-98	19-JAN-99
Sample Depth:											
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3
METALS-Total (UG/L)											
NICKEL	7	U	23.5	B	21.9	B	11.7	B	N/A	N/A	N/A
POTASSIUM	4750	U	10200	J	7050		6230		N/A	N/A	N/A
SELENIUM	2	J	2.3	U	2.3	U	2.7	U	N/A	N/A	N/A
SILVER	N/A		2	U	2	U	2	U	N/A	N/A	N/A
SODIUM	59600		160000		64700	J	55800	J	N/A	N/A	N/A
THALLIUM	2	UJ	2	U	2	U	2.3	U	N/A	N/A	N/A
VANADIUM	2	UJ	26	B	22.7	B	12.4	U	N/A	N/A	N/A
ZINC	2.3	U	36.9		62.4	UJ	22.7	UJ	N/A	N/A	N/A
METALS-Diss. (UG/L)											
ALUMINUM	31.9	U	41	U	49.8	U	65.8	U	N/A	N/A	N/A
ANTIMONY	31	UJ	28.6	U	28.6	U	28.6	U	N/A	N/A	N/A
ARSENIC	2.6	U	3.1	U	3.3	U	3.1	U	N/A	N/A	N/A
BARIUM	81.1	B	53.1	B	84.3	B	113	J	N/A	N/A	N/A
BERYLLIUM	1	U	.4	UJ	.4	U	.4	U	N/A	N/A	N/A
CADMIUM	4	U	.6	U	.6	U	.6	U	N/A	N/A	N/A
CALCIUM	116000		94600		122000		129000		N/A	N/A	N/A
CHROMIUM	3	U	2.3	U	7.1	U	2.3	U	N/A	N/A	N/A
COBALT	2	U	2.3	U	2.3	U	2.3	U	N/A	N/A	N/A
COPPER	2.3	B	.4	UJ	1.2	U	11.3	B	N/A	N/A	N/A
IRON	5	U	174		240		171	UJ	N/A	N/A	N/A
LEAD	1	U	.8	UJ	.8	U	2.2	U	N/A	N/A	N/A
MAGNESIUM	30200		33300		40300		32800		N/A	N/A	N/A
MANGANESE	395		225		369		499		N/A	N/A	N/A
MERCURY	.1	U	.1	UJ	.1	U	.1	U	N/A	N/A	N/A
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A	N/A	N/A
NICKEL	7	U	2.5	U	3.9	B	4.3	B	N/A	N/A	N/A
POTASSIUM	5100		3680	B	4540	B	5240		N/A	N/A	N/A
SELENIUM	2	U+	2.3	U	2.3	U	2.3	U	N/A	N/A	N/A
SILVER	2	UJ	2	U	2	U	2	U	N/A	N/A	N/A
SODIUM	57800		63500	J	65100	J	58100	J	N/A	N/A	N/A
THALLIUM	2	UW	2	U	2	U	2	U	N/A	N/A	N/A
VANADIUM	2	UJ	2.7	B	3.8	B	2.6	U	N/A	N/A	N/A
ZINC	1.2	B	.5	UJ	10	U	7.4	U	N/A	N/A	N/A
WATER QUALITY (MG/L)											
BIOCHEMICAL OXYGEN DEMAND	N/A		6		N/A		N/A		N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW	MW
Point Name:	MW10-10		MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)
Sample Id:	MW10-10(21.0)		MW10-10(17.0)	MW10-70(27.0)	MW10-10 (15.5)	MW10-71 (25.0)	MW10-10(07.0)	MW10-71(17.5)
Sample Date:	24-MAR-94		30-JUN-94	30-JUN-94	27-SEP-94	27-SEP-94	13-DEC-94	13-DEC-94
Sample Depth:								
Investigation:	GW1Q94		GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94
METALS-Total (UG/L)								
NICKEL	**26.6**	B	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	5780	U	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	**2.8**	J	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	N/A		N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	**23300**		N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	**39.8**	B	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	**41.4**		N/A	N/A	N/A	N/A	N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	**984**		N/A	N/A	N/A	N/A	N/A	N/A
ANTIMONY	31	UJ	N/A	N/A	N/A	N/A	N/A	N/A
ARSENIC	2.6	U	N/A	N/A	N/A	N/A	N/A	N/A
BARIUM	**113**	B	N/A	N/A	N/A	N/A	N/A	N/A
BERYLLIUM	1	U	N/A	N/A	N/A	N/A	N/A	N/A
CADMIUM	4	U	N/A	N/A	N/A	N/A	N/A	N/A
CALCIUM	**137000**		N/A	N/A	N/A	N/A	N/A	N/A
CHROMIUM	3	U	N/A	N/A	N/A	N/A	N/A	N/A
COBALT	2	U	N/A	N/A	N/A	N/A	N/A	N/A
COPPER	2	U	N/A	N/A	N/A	N/A	N/A	N/A
IRON	**1340**		N/A	N/A	N/A	N/A	N/A	N/A
LEAD	**4.7**	W	N/A	N/A	N/A	N/A	N/A	N/A
MAGNESIUM	**21900**		N/A	N/A	N/A	N/A	N/A	N/A
MANGANESE	**84.2**		N/A	N/A	N/A	N/A	N/A	N/A
MERCURY	.19	U	N/A	N/A	N/A	N/A	N/A	N/A
MOLYBDENUM	N/A		N/A	N/A	N/A	N/A	N/A	N/A
NICKEL	**9.6**	B	N/A	N/A	N/A	N/A	N/A	N/A
POTASSIUM	3700	U	N/A	N/A	N/A	N/A	N/A	N/A
SELENIUM	2	U+	N/A	N/A	N/A	N/A	N/A	N/A
SILVER	2	UJ	N/A	N/A	N/A	N/A	N/A	N/A
SODIUM	**25500**		N/A	N/A	N/A	N/A	N/A	N/A
THALLIUM	2	UW	N/A	N/A	N/A	N/A	N/A	N/A
VANADIUM	**2**	J	N/A	N/A	N/A	N/A	N/A	N/A
ZINC	**15**	B	N/A	N/A	N/A	N/A	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW		MW	MW
Point Name:	MW10-10	MW10-10	MW10-10	MW10-10 (FD)	MW10-11		MW10-11	MW10-11
Sample Id:	MW10-10	MW10-10	MW10-10	MW11-250	MW10-11(21)		MW10-11(20.0)	MW10-11 (20.3)
Sample Date:	05-NOV-97	03-APR-98	21-JAN-99	21-JAN-99	29-MAR-94		29-JUN-94	26-SEP-94
Sample Depth:								
Investigation:	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT3	GW1Q94		GW2Q94	GW3Q94
METALS-Total (UG/L)								
NICKEL	N/A	N/A	N/A	N/A	28.5	B	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	6650		N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	20	UW	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	2	U	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	72200		N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	2	UJ	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	54.7		N/A	N/A
ZINC	N/A	N/A	N/A	N/A	68.4		N/A	N/A
METALS-Diss. (UG/L)								
ALUMINUM	N/A	N/A	N/A	N/A	49.5	U	N/A	N/A
ANTIMONY	N/A	N/A	N/A	N/A	31	U	N/A	N/A
ARSENIC	N/A	N/A	N/A	N/A	2	UW	N/A	N/A
BARIUM	N/A	N/A	N/A	N/A	35	B	N/A	N/A
BERYLLIUM	N/A	N/A	N/A	N/A	1	U	N/A	N/A
CADMIUM	N/A	N/A	N/A	N/A	4	U	N/A	N/A
CALCIUM	N/A	N/A	N/A	N/A	45300		N/A	N/A
CHROMIUM	N/A	N/A	N/A	N/A	3	U	N/A	N/A
COBALT	N/A	N/A	N/A	N/A	2	U	N/A	N/A
COPPER	N/A	N/A	N/A	N/A	2	U	N/A	N/A
IRON	N/A	N/A	N/A	N/A	8.4	U	N/A	N/A
LEAD	N/A	N/A	N/A	N/A	1	UW	N/A	N/A
MAGNESIUM	N/A	N/A	N/A	N/A	32500		N/A	N/A
MANGANESE	N/A	N/A	N/A	N/A	424		N/A	N/A
MERCURY	N/A	N/A	N/A	N/A	.1	U	N/A	N/A
MOLYBDENUM	N/A	N/A	N/A	N/A	N/A		N/A	N/A
NICKEL	N/A	N/A	N/A	N/A	7	U	N/A	N/A
POTASSIUM	N/A	N/A	N/A	N/A	1890	U	N/A	N/A
SELENIUM	N/A	N/A	N/A	N/A	2	UW	N/A	N/A
SILVER	N/A	N/A	N/A	N/A	2	U	N/A	N/A
SODIUM	N/A	N/A	N/A	N/A	70700		N/A	N/A
THALLIUM	N/A	N/A	N/A	N/A	2	UW	N/A	N/A
VANADIUM	N/A	N/A	N/A	N/A	2	U	N/A	N/A
ZINC	N/A	N/A	N/A	N/A	2.1	U	N/A	N/A
WATER QUALITY (MG/L)								
BIOCHEMICAL OXYGEN DEMAND	N/A	N/A	N/A	N/A	N/A		N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-11 (FD)		MW10-11		MW10-12		MW10-12		MW10-12		MW10-14	
Sample Id:	MW10-70 (30.0)		MW10-11(20.7)		MW10-12(18.0)		MW10-12 (12.0)		MW10-12(07.2)		MW10-14(19.0)	
Sample Date:	26-SEP-94		19-DEC-94		21-MAR-94		24-SEP-94		14-DEC-94		21-MAR-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW1Q94		GW3Q94		GW4Q94		GW1Q94	
METALS-Total (UG/L)												
NICKEL	N/A		N/A		42		N/A		N/A		31.5	B
POTASSIUM	N/A		N/A		4340	U	N/A		N/A		3170	U
SELENIUM	N/A		N/A		2	J	N/A		N/A		2	UJ
SILVER	N/A		N/A		N/A		N/A		N/A		45.8	J
SODIUM	N/A		N/A		48800		N/A		N/A		25300	
THALLIUM	N/A		N/A		20	UJ	N/A		N/A		2	UJ
VANADIUM	N/A		N/A		30	B	N/A		N/A		11.3	J
ZINC	N/A		N/A		38.4		N/A		N/A		16.4	U
METALS-Diss. (UG/L)												
ALUMINUM	N/A		N/A		27.4	U	N/A		N/A		49	U
ANTIMONY	N/A		N/A		31	UJ	N/A		N/A		31	UJ
ARSENIC	N/A		N/A		9.4	U	N/A		N/A		2	UW
BARIUM	N/A		N/A		49.3	B	N/A		N/A		20.8	B
BERYLLIUM	N/A		N/A		1	U	N/A		N/A		1	U
CADMIUM	N/A		N/A		4	U	N/A		N/A		4	U
CALCIUM	N/A		N/A		47000		N/A		N/A		7840	
CHROMIUM	N/A		N/A		3	U	N/A		N/A		3	U
COBALT	N/A		N/A		2	U	N/A		N/A		2	U
COPPER	N/A		N/A		2	U	N/A		N/A		2	U
IRON	N/A		N/A		2100		N/A		N/A		37.3	B
LEAD	N/A		N/A		1	U	N/A		N/A		1	UW
MAGNESIUM	N/A		N/A		30600		N/A		N/A		9080	
MANGANESE	N/A		N/A		1400		N/A		N/A		8.8	B
MERCURY	N/A		N/A		.14	U	N/A		N/A		.11	U
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	N/A		N/A		7.7	B	N/A		N/A		8.7	B
POTASSIUM	N/A		N/A		1770	U	N/A		N/A		1210	U
SELENIUM	N/A		N/A		2.9	B	N/A		N/A		2.2	B
SILVER	N/A		N/A		2	UJ	N/A		N/A		2	UJ
SODIUM	N/A		N/A		49600		N/A		N/A		24900	
THALLIUM	N/A		N/A		2	UW	N/A		N/A		2	UW
VANADIUM	N/A		N/A		2	UJ	N/A		N/A		2	UJ
ZINC	N/A		N/A		1	U	N/A		N/A		3.4	B
WATER QUALITY (MG/L)												
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A	

Point Type:	MW		MW	
Point Name:	MW10-14		MW10-14	
Sample Id:	MW10-14(16.0)			
Sample Date:	30-JUN-94			
Sample Depth:				
Investigation:	GW2Q94			
METALS-Total (UG/L)				
NICKEL	117			
POTASSIUM	12600	J		
SELENIUM	2.3	U		
SILVER	2	U		
SODIUM	62200	J		
THALLIUM	2	UJ		
VANADIUM	179			
ZINC	257	J		
METALS-Diss. (UG/L)				
ALUMINUM	78.6	U		
ANTIMONY	28.6	U		
ARSENIC	3.1	U		
BARIUM	68.6	B		
BERYLLIUM	.4	UJ		
CADMIUM	.6	U		
CALCIUM	30700			
CHROMIUM	10.9			
COBALT	2.3	U		
COPPER	.4	U		
IRON	162			
LEAD	.8	UJ		
MAGNESIUM	24200			
MANGANESE	24.8			
MERCURY	.1	UJ		
MOLYBDENUM	N/A			
NICKEL	2.5	U		
POTASSIUM	2550	J		
SELENIUM	2.3	U		
SILVER	2	U		
SODIUM	53200	J		
THALLIUM	2	UJ		
VANADIUM	1.4	U		
ZINC	.5	UJ		
WATER QUALITY (MG/L)				
BIOCHEMICAL OXYGEN DEMAND	1	U		

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW	
Point Name:	MW10-14		MW10-14		MW10-14 (FD)		MW10-16		MW10-16		MW10-16	
Sample Id:	MW10-14 (16.5)		MW10-14(06.0)		MW10-72(17.5)		MW10-16(18.0)		MW10-16 (20.6)		MW10-16(25.5)	
Sample Date:	30-SEP-94		15-DEC-94		15-DEC-94		03-AUG-94		30-SEP-94		15-DEC-94	
Sample Depth:												
Investigation:	GW3Q94		GW4Q94		GW4Q94		94WDA		GW3Q94		GW4Q94	
METALS-Total (UG/L)												
NICKEL	42.8		44.2		N/A		8.5	B	4.5	B	3.4	B
POTASSIUM	2600	J	3960	B	N/A		4290	J	2260	J	2000	B
SELENIUM	10.8	UJ	3.4	U	N/A		2.3	U	12.5	UJ	2.3	U
SILVER	2	U	2.3	B	N/A		2	U	2	U	2	U
SODIUM	56600	J	22400	J	N/A		79800	J	70900	J	70500	J
THALLIUM	2	U	2	U	N/A		2	U	2	U	3.1	U
VANADIUM	51.3		58.4		N/A		9	B	4.8	B	4.2	U
ZINC	117		132		N/A		24	UJ	11.5	B	10.8	U
METALS-Diss. (UG/L)												
ALUMINUM	120	U	861	*	N/A		61.6	U	83.7	U	75.1	U
ANTIMONY	28.6	U	28.6	U	N/A		28.6	U	28.6	U	28.6	U
ARSENIC	3.1	U	3.1	U	N/A		3.1	U	3.5	U	3.1	U
BARIUM	56	B	18.4	J	N/A		16.2	B	10	B	16.7	J
BERYLLIUM	.4	U	.4	U	N/A		.4	U	.4	U	.4	U
CADMIUM	.6	U	.6	U	N/A		.6	U	.6	U	.6	U
CALCIUM	24100	J	4960	B	N/A		17800		19200	J	17400	
CHROMIUM	2.3	U	2.3	U	N/A		2.3	U	2.3	U	2.3	U
COBALT	2.3	U	2.3	U	N/A		2.3	U	2.3	U	2.3	U
COPPER	15.7	B	13.1	B	N/A		13.7	B	.4	U	4.7	U
IRON	129	J	606		N/A		154		91.7	J	142	UJ
LEAD	.8	U	2.3	U	N/A		.95	U	.8	U	4.4	UJ
MAGNESIUM	24500	J	6310		N/A		18700		19600	J	19400	
MANGANESE	200	J	12.4	B	N/A		53.7	J	47.6	J	68.3	
MERCURY	.1	U	.1	U	N/A		.1	U	.49	UJ	.45	UJ
MOLYBDENUM	N/A		N/A		N/A		N/A		N/A		N/A	
NICKEL	4.6	B	4.8	B	N/A		4.7	B	2.5	U	2.5	U
POTASSIUM	1670	J	424	U	N/A		3730	B	2230	J	1640	B
SELENIUM	8.4	UJ	2.5	U	N/A		2.3	U	10.8	UJ	2.3	U
SILVER	2	U	2	U	N/A		2	U	2	U	2	U
SODIUM	59600	J	19800	J	N/A		75900		76000	J	72300	J
THALLIUM	2	U	4.7	U	N/A		2	U	2	U	2	U
VANADIUM	1.4	U	2.2	U	N/A		1.4	B	1.4	U	1.6	U
ZINC	5.3	B	32	UJ	N/A		23.1	J	1.5	U	5	U
WATER QUALITY (MG/L)												
BIOCHEMICAL OXYGEN DEMAND	N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	BR10-19	ERM10-01	ERM10-01	ERM10-01	ERM10-01	ERM10-01	ERM10-01
Sample Id:	BR10-19	ERM10-01(23)	ERM10-01 (21.0)	ERM10-01 (20.0)	ERM10-01 (18.0)	ERM10-01(20.1)	ERM10-01
Sample Date:	25-FEB-99	28-MAR-94	25-JUN-94	29-JUN-94	27-SEP-94	14-DEC-94	06-NOV-97
Sample Depth:							
Investigation:	PHASEII_RI	GW1Q94	GW2Q94	GW2Q94	GW3Q94	GW4Q94	SEMI_EVENT1
WATER QUALITY (MG/L)							
CHLORIDE	N/A	100	13	N/A	N/A	N/A	N/A
FLUORIDE	N/A	.95	.68	N/A	N/A	N/A	N/A
NITRATE	N/A	.5 U	.05 U	N/A	N/A	N/A	N/A
NITRITE	N/A	.1 U	.05 U	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	.2 U	.09	N/A	N/A	N/A	N/A
SULFATE	N/A	1.3	2	N/A	N/A	N/A	N/A
TDS	600	N/A	N/A	N/A	N/A	N/A	120
TOTAL ORGANIC CARBON	N/A	6.3	5.2	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	ERM10-01	ERM10-01	ERM10-02	ERM10-02	ERM10-02	ERM10-02	MW02-17
Sample Id:	ERM10-01	ERM10-01	ERM10-02(19)	ERM10-02(16.0)	ERM10-02(16.0)	ERM10-02(15.0)	MW02-17
Sample Date:	06-APR-98	19-JAN-99	28-MAR-94	30-JUN-94	26-SEP-94	13-DEC-94	23-FEB-99
Sample Depth:							
Investigation:	SEMI_EVENT2	SEMI_EVENT3	GW1Q94	GW2Q94	GW3Q94	GW4Q94	PHASEII_RI
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	300	N/A	N/A	N/A	N/A	673
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW	MW	MW	MW	MW		MW	
Point Name:	MW02-17		MW10-04	MW10-04 (FD)	MW10-04	MW10-04	MW10-04		MW10-05	
Sample Id:	MW02-17		MW10-04 (21.0)	MW10-97(21.0)	MW10-04 (15.5)	MW10-04 (16.9)	MW10-04(15.7)		MW10-05(19.0)	
Sample Date:	28-SEP-99		24-MAR-94	24-MAR-94	24-JUN-94	28-SEP-94	09-DEC-94		24-MAR-94	
Sample Depth:										
Investigation:	UST_PHASEII		GW1Q94	GW1Q94	GW2Q94	GW3Q94	GW4Q94		GW1Q94	
WATER QUALITY (MG/L)										
CHLORIDE	64		N/A	N/A	200	N/A	N/A		7400	
FLUORIDE	N/A		N/A	N/A	.51	N/A	N/A		1.9	
NITRATE	2	U	N/A	N/A	.26	N/A	N/A		.11	
NITRITE	2	U	N/A	N/A	.06	N/A	N/A		.05	U
ORTHOPHOSPHATE	N/A		N/A	N/A	2.5	N/A	N/A		.2	U
SULFATE	36		N/A	N/A	2200	N/A	N/A		730	
TDS	N/A		N/A	N/A	N/A	N/A	N/A		N/A	
TOTAL ORGANIC CARBON	N/A		N/A	N/A	N/A	N/A	N/A		3.3	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW10-05	MW10-05	MW10-05 (FD)	MW10-05	MW10-05 (FD)	MW10-05	MW10-05
Sample Id:	MW10-05(16.0)	MW10-05 (17.0)	MW10-101 (27.0)	MW10-05(16.0)	MW10-70(25.5)	MW10-05	MW10-05
Sample Date:	27-JUN-94	30-SEP-94	30-SEP-94	10-DEC-94	10-DEC-94	03-APR-98	20-JAN-99
Sample Depth:							
Investigation:	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94	SEMI_EVENT2	SEMI_EVENT3
WATER QUALITY (MG/L)							
CHLORIDE	200	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	.67	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	.96	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	.05 U	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	.07	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	2300	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	13000
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW	
Point Name:	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-08	MW10-09	
Sample Id:	MW10-08 (24.0)	MW10-08 (22.5)	MW10-08(23.0)	MW10-08	MW10-08	MW10-08	MW10-09 (19.0)	
Sample Date:	25-MAR-94	26-SEP-94	13-DEC-94	06-NOV-97	06-APR-98	21-JAN-99	25-MAR-94	
Sample Depth:								
Investigation:	GW1Q94	GW3Q94	GW4Q94	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	GW1Q94	
WATER QUALITY (MG/L)								
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	**40**	
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	**.44**	
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	.25	U
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	.05	U
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	.2	U
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	**31**	
TDS	N/A	N/A	N/A	**674**	N/A	**759**	N/A	
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	**4.6**	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW		MW		MW		MW		MW		MW		MW	
Point Name:	MW10-09 (FD)		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09		MW10-09	
Sample Id:	MW10-98(19.0)		MW10-09 (16.5)		MW10-09 (16.0)		MW10-09(11.7)		MW10-09		MW10-09		MW10-09	
Sample Date:	25-MAR-94		29-JUN-94		22-SEP-94		14-DEC-94		05-NOV-97		06-APR-98		19-JAN-99	
Sample Depth:														
Investigation:	GW1Q94		GW2Q94		GW3Q94		GW4Q94		SEMI_EVENT1		SEMI_EVENT2		SEMI_EVENT3	
WATER QUALITY (MG/L)														
CHLORIDE	**38**		**51**		N/A		N/A		N/A		N/A		N/A	
FLUORIDE	**.49**		**.56**		N/A		N/A		N/A		N/A		N/A	
NITRATE	.25	U	.05	U	N/A		N/A		N/A		N/A		N/A	
NITRITE	.05	U	.05	U	N/A		N/A		N/A		N/A		N/A	
ORTHOPHOSPHATE	.2	U	**.11**		N/A		N/A		N/A		N/A		N/A	
SULFATE	**29**		**210**		N/A		N/A		N/A		N/A		N/A	
TDS	N/A		N/A		N/A		N/A		**598**		N/A		**610**	
TOTAL ORGANIC CARBON	**3.9**		N/A		N/A		N/A		N/A		N/A		N/A	

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW10-10	MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)	MW10-10	MW10-10 (FD)
Sample Id:	MW10-10(21.0)	MW10-10(17.0)	MW10-70(27.0)	MW10-10 (15.5)	MW10-71 (25.0)	MW10-10(07.0)	MW10-71(17.5)
Sample Date:	24-MAR-94	30-JUN-94	30-JUN-94	27-SEP-94	27-SEP-94	13-DEC-94	13-DEC-94
Sample Depth:							
Investigation:	GW1Q94	GW2Q94	GW2Q94	GW3Q94	GW3Q94	GW4Q94	GW4Q94
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW10-10	MW10-10	MW10-10	MW10-10 (FD)	MW10-11	MW10-11	MW10-11
Sample Id:	MW10-10	MW10-10	MW10-10	MW11-250	MW10-11(21)	MW10-11(20.0)	MW10-11 (20.3)
Sample Date:	05-NOV-97	03-APR-98	21-JAN-99	21-JAN-99	29-MAR-94	29-JUN-94	26-SEP-94
Sample Depth:							
Investigation:	SEMI_EVENT1	SEMI_EVENT2	SEMI_EVENT3	SEMI_EVENT3	GW1Q94	GW2Q94	GW3Q94
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TDS	**700**	N/A	**589**	**604**	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW	MW
Point Name:	MW10-11 (FD)	MW10-11	MW10-12	MW10-12	MW10-12	MW10-14	MW10-14
Sample Id:	MW10-70 (30.0)	MW10-11(20.7)	MW10-12(18.0)	MW10-12 (12.0)	MW10-12(07.2)	MW10-14(19.0)	MW10-14(16.0)
Sample Date:	26-SEP-94	19-DEC-94	21-MAR-94	24-SEP-94	14-DEC-94	21-MAR-94	30-JUN-94
Sample Depth:							
Investigation:	GW3Q94	GW4Q94	GW1Q94	GW3Q94	GW4Q94	GW1Q94	GW2Q94
WATER QUALITY (MG/L)							
CHLORIDE	N/A	N/A	27	N/A	N/A	30	52
FLUORIDE	N/A	N/A	.85	N/A	N/A	.12	.63
NITRATE	N/A	N/A	.25 U	N/A	N/A	.62	.05 U
NITRITE	N/A	N/A	.05 U	N/A	N/A	.05 U	.05 U
ORTHOPHOSPHATE	N/A	N/A	.2	N/A	N/A	.2 U	.2 U
SULFATE	N/A	N/A	21	N/A	N/A	45	30
TDS	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	4.4	N/A	N/A	3.1	3.9

Naval Fuel Depot Point Molate
IR Site 4 South Shoreline Area
Water Analytical Results

Point Type:	MW	MW	MW	MW	MW	MW
Point Name:	MW10-14	MW10-14	MW10-14 (FD)	MW10-16	MW10-16	MW10-16
Sample Id:	MW10-14 (16.5)	MW10-14(06.0)	MW10-72(17.5)	MW10-16(18.0)	MW10-16 (20.6)	MW10-16(25.5)
Sample Date:	30-SEP-94	15-DEC-94	15-DEC-94	03-AUG-94	30-SEP-94	15-DEC-94
Sample Depth:						
Investigation:	GW3Q94	GW4Q94	GW4Q94	94WDA	GW3Q94	GW4Q94
WATER QUALITY (MG/L)						
CHLORIDE	N/A	N/A	N/A	N/A	N/A	N/A
FLUORIDE	N/A	N/A	N/A	N/A	N/A	N/A
NITRATE	N/A	N/A	N/A	N/A	N/A	N/A
NITRITE	N/A	N/A	N/A	N/A	N/A	N/A
ORTHOPHOSPHATE	N/A	N/A	N/A	N/A	N/A	N/A
SULFATE	N/A	N/A	N/A	N/A	N/A	N/A
TDS	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL ORGANIC CARBON	N/A	N/A	N/A	N/A	N/A	N/A

APPENDIX B

FIELD BORELOGS

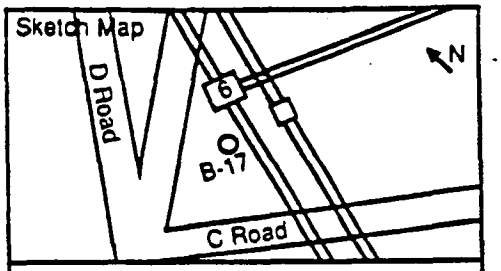
WASTE DISPOSAL AREA

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy
Location beneath VB-6 W.O. Number 469.06
Well Number B-17 Total Depth 29'8" Diameter 6"
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Spectrum Drilling Method HSA
Driller Ray/Brian Log By JAQ Date Drilled 3/13/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: dry grass and low shrubs
1	CL		0, 0, 0	CLAY, silty, hard, high strength, slightly moist, dark brown with orange mottling and black spots, low plasticity, organic (musty) odor
2		rec 2'		
3, 4	CL	rec 2'	0, 0, 0	CLAY, silty, very stiff, slightly moist, gray brown with orange and darker brown mottling, high strength, slightly plastic, no odor
5, 6, 7	CL		0, 0, 0, 0, 0, 0	CLAY, gravelly, dark brown with orange mottling, slightly moist, low strength (easily cohesive but easily crumbled), very slightly plastic, no odor
8, 9	GC	rec 5'	0, 0, 0	GRAVEL, clayey, moist, plastic, red-brown, relatively unconsolidated, clay-sized to gravel (<1/2" diameter), no odor
10, 11, 12	CL		0, 1.4, 6.8, 10, 4, 12	CLAY, silty with gravel (<1/2" diameter), very stiff, high strength, red-brown with darker brown and orange mottling, slightly moist, no odor

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location beneath VB-6 | W.O. Number 469.06
Well Number B-17 | Total Depth 29'8" | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAO | Date Drilled 3/13/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			44	very slight odor (hydrocarbon) in clay
		5'	18	
14	CL		4	
15				
	GC			GRAVEL lense, clayey, saturated with oil (JP5) and stained dark gray, strong odor (JP5), unconsolidated, well-graded (clay to gravel <1/2")
16			3	
			0.1	CLAY, gravelly, relatively unconsolidated, slightly moist, low plasticity, red-brown, some thin clayey layers throughout, very low strength, hydrocarbon odor at top, but diminishes quickly
17	CL		0.1	
			0.1	
18			0.3	
			0.4	
	CL			
19		rec 4'	0.1	CLAY, silty, very stiff, high strength, red-brown, low plasticity, slightly moist
20			0	CLAY, silty, low strength (very easily crumbled) red-brown, slightly moist, low plasticity, occasional gravel
			0.2	
	CL			
21			0.7	
			1.1	
22			1.1	
			0.1	
23			0	
			0.1	
24		rec 5'	0.4	
25			0.1	
			0.1	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beneath VB-6 W.O. Number 469.06

Well Number B-17 Total Depth 29'8" Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/13/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			0	
			0	gravel content increases at base, grades into
27			0	CLAY, gravelly, gray tan with orange mottling, very low strength, low plasticity, slightly moist, gravel <2" diameter, no odor
			0	
28	CL		0	
			0	
29		rec 5'	0	
	BOH			BOH = 29'8"
30				

Flush Mount Well 20' Screen

Environmental Resources Management

Drilling Log

Project Pt Molate — Client Navy

Location downgradient of VB-7 — W.O. Number 469.06

Well Number B-18/EW-1 — Total Depth 29.5'/30' — Diameter 6"/10"

Surface Elevation ____ — Water First Detected 12' — 24-hrs. ____

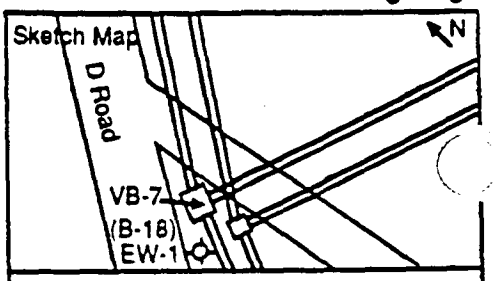
Screen: Dia. 4" — Length 20' — Slot Size ____

Casing: Dia. 4" — Length 9½ — Type HSA

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/13/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0					SURFACE: graded gravel and dirt
					(Fill)
1	GW				GRAVEL, well-graded, dry, dark brown, fine-grained sand to cobbles (<2 1/2" diameter), no odor
2					
3				0	
				0	
4				0	Darker brown at depth, very slightly moist, no odor
			rec 2.5'	0	
5					CLAY, sandy and gravelly, very stiff, medium strength, breaks into blocky fragments, red-brown, very slightly moist, slight plasticity, no odor
6	CL			0	
				0	
7				0	
				0	
8				0	
				0.1	Grades into
9				0	GRAVEL, sandy, well-graded, fine sand to cobble (<1 1/2" diameter), slightly moist, red-tan, unconsolidated (easily crumbled) no odor
			rec 4.5'	0	
10					
11	GW				hydrocarbon odor detected
				18	
12				320	first encountered "water" (suspected JP5) at 12' depth Sharp color change - dark gray staining, strong hydrocarbon odor, wet with hydrocarbon staining and sheen most prevalent in upper foot of gravel, diminishes with depth
				20	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location downgradient of VB-7 — W.O. Number 469.06

Well Number B-18/EW-1 — Total Depth 29.5'/30' — Diameter 6"/10"

Surface Elevation ____ — Water First Detected 12' — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type HSA

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/13/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GW			34	
				40	
14				22	
			rec 4.5'	21	CLAY, silty and gravelly, red-brown with dark gray localized spotting, wet, very stiff, medium strength, strong hydrocarbon odor
15					
	CL				
16				40	
				22	
17				86	
				60	
18				210	GRAVEL, clayey, wet, red-brown predominantly stained gray with dark gray mottling, liquid has dark brown color and sheen, clay content decreases with depth, low strength, relatively unconsolidated, slightly plastic
				70	
19				175	
			rec 4.5'	270	
20	GC				
21					clay content decreases with depth
22				50	
				270	
23				180	CLAY, gravelly, red-brown with gray-green mottling, low strength, saturated, easily crumbled, occasional dark gray spots
				420	
24				180	hydrocarbon? → TEH = 1,100 ppm
	CL		rec 3.5'	80	
25					

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location downgradient of VB-7 | W.O. Number 469.06
Well Number B-18/EW-1 | Total Depth 29.5'/30' | Diameter 6"/10"
Surface Elevation _____ | Water First Detected 12' | 24-hrs. _____
Screen: Dia. _____ | Length _____ | Slot Size _____
Casing: Dia. _____ | Length _____ | Type HSA
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/13/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26					
27	CL			18	
				28	
28				28	
				14	color ?
29				15	clay content increases with depth - more cohesive than above
	BOH		TEC 4.5'		TEH = 210 ppm (mg/kg)
30		TD			BOH = 29.5' (refusal with 6" auger)
					TD = 30' (refusal with 10" auger)
31					
32					
33					
34					
35					
36					
37					
38					

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location above catchment basin W.O. Number 469.06

Well Number B-19 Total Depth 30' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

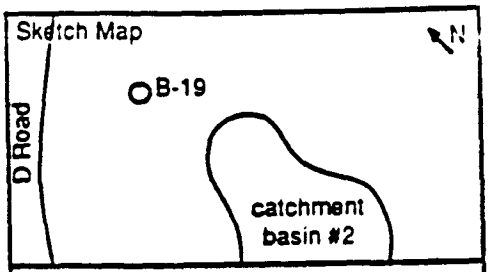
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/14/90

Sketch Map



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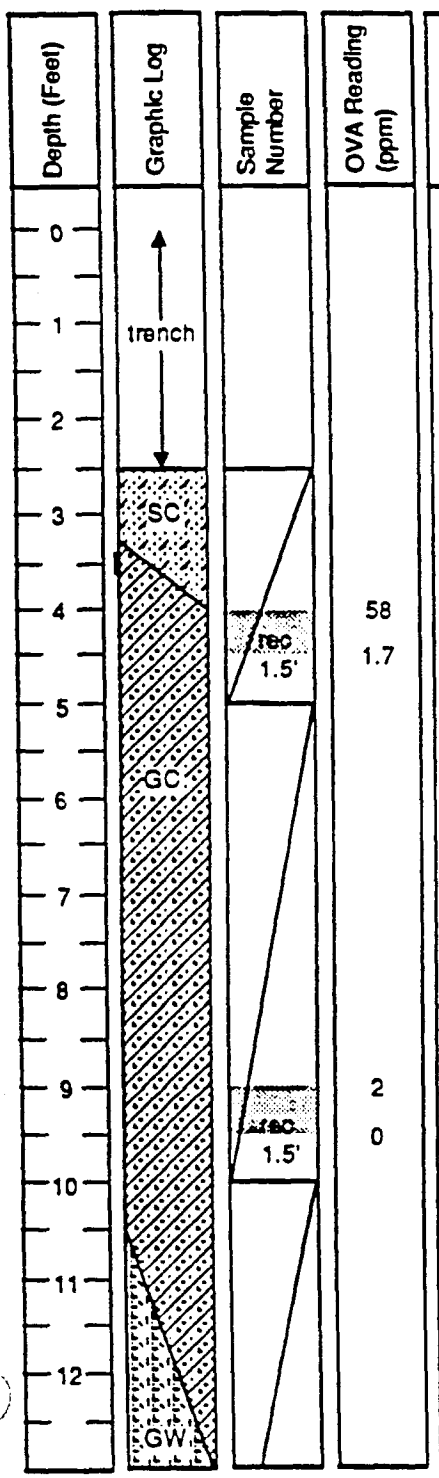


Description/Soil Classification (Color, Texture, Structures)
SURFACE: grass - drilled in ditch above catchment basin
CLAY/SAND, loose, unconsolidated surficial deposits, dark brown, possibly hydrocarbon stained, strong hydrocarbon odor
GRAVEL, clayey and sandy, very well-graded (clay sized to <2 1/2" diameter cobbles), unconsolidated, moist, subangular to subrounded, gray-brown with orange staining, no odor TEH = 470 mg/kg

Environmental Resources Management

Drilling Log

Project: Pt. Molate Client: Navy

Location: above catchment basin W.O. Number: 469.06

Well Number: B-19 Total Depth: 30' Diameter: 6"

Surface Elevation: Water Level: First Detected: 24-hrs.:

Screen: Dia.: Length: Slot Size:

Casing: Dia.: Length: Type:

Drilling Company: Spectrum Drilling Method: HSA

Driller: Ray/Brian Log By: JAQ Date Drilled: 3/14/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				grades into
			0	(Highly weathered bedrock)
14	GW		0	GRAVEL, angular bedrock fragments, highly fractured, moderate grading (sand to cobble <2" diameter), dry, unconsolidated, no odor
		rec 2'	0	
15	SC			SAND, clayey, fine-grained, very highly weathered, easily crumbled, green-gray with orange mottling, no odor
			0	
16	GC		0	GRAVEL, clayey, slightly cohesive but easily crumbled, bedrock pebbles with abundant clay, red-brown, moist, slightly plastic, gravel <2" diameter, no odor
			0	
17			0	
			0	
18	CL		0	CLAY, sandy, moist, plastic, red-brown, occasional gravel (<1/4" diameter), soft, low strength, no odor
			0	
19			0	
		rec 5'	0	
20				CLAY, gravelly, silty, slightly plastic, slightly moist, gray-brown with orange mottling and lighter gray streaks, several gray lenses throughout section, low strength, easily crumbled, no odor
			0	
21	CL		0	
			0	
22			0	
			0	plasticity increases slightly with depth gravel content decreases wtih depth
23			0	
			0	
24			0	
		rec 5'	0	
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location above catchment basin W.O. Number 469.06

Well/Number B-19 Total Depth 30' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAO Date Drilled 3/14/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL		0	
			0	
27			0	grades into
			0	
28	CL		0	
			0	CLAY, gravelly with very fine sand and silt, moist, plastic, red-brown with occasional gray mottling, very stiff, medium strength
29			0	
	CL	rec 3.5'	0	CLAY, gravelly, silty, gray tan with abundant red-brown staining (predominantly around pebbles), hard, high strength, low plasticity, very slightly moist
30	BOH			BOH = 30 feet

EW-2 10 ft screen

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beneath VB-7, and below product pool W.O. Number 469.06.07

Well Number B-20/EW-2 Total Depth 12' Diameter 6"/10"

Surface Elevation ____ Water Level: First Detected 2'6" 24-hrs ____

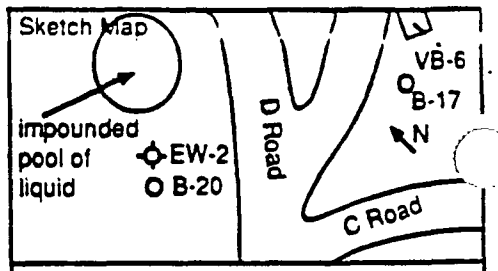
Screen: Dia. 4" Length 10 ft. Slot Size ____

Casing: Dia. 4" Length ~3.5 ft. Type PVC

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/14-15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				None Measured - High Humidity	Well Completion: monument elevation ~3' above grade, well casing ~2.5' above grade SURFACE: soil and grass
1	SC				SAND, clayey, red-brown with orange staining and dark gray mottling, moist, very low strength, slightly plastic, relatively non-cohesive, no odor
2					
3	CL GP				TEH = 3,900 mg/kg CLAY, sandy, dark gray (possible hydrocarbon staining), hydrocarbon odor, wet, plastic GRAVEL, saturated, poorly graded (primarily <1/8" diameter), strong hydrocarbon odor
4	CL		rec 4'		CLAY, silty, dark gray, wet, soft, plastic, low strength, strong hydrocarbon odor
5					
6	SP				SAND, green-gray, saturated, subrounded, poorly-graded, coarse-grained, uncohesive
7	GW				GRAVEL, saturated, green-gray, coarse sand to gravel (<1/2" diameter subrounded), uncohesive, strong hydrocarbon odor
8	ML				SILT, clayey, saturated, very soft, moderate plasticity, green-gray, hydrocarbon odor, very low strength
9			rec 3.5'		ND
10	CL				CLAY, silty, green-gray, wet, hydrocarbon odor, low strength, plastic
11			no rec		
12	BOH	TD			BOH = 12' (refusal with 6" auger and 10' auger)

Drilling Log

Environmental Resources Management

Project Pt. Molate Client Navy

Location on D Rd. 1/2 way betw. VB-7 and 8 W.O. Number 469.06

Well Number B-21 Total Depth 9.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

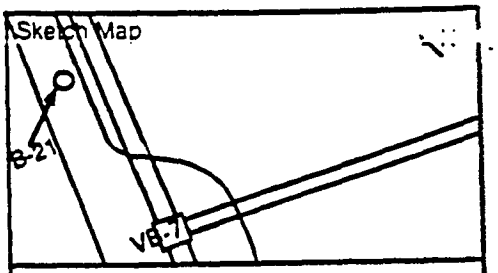
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~3" thick
1				(Colluvium) GRAVEL, well-graded, fine sand to gravel <2" diameter, subangular to subrounded, dry, no odor, no plasticity, unconsolidated
2	GW			
			0	
3			0	
			0.2	
4			0	
		rec 3'	0	(Bedrock) SILTSTONE, highly fractured, light red-tan, little to no chemical weathering (no clay), no odor
5				
6				
7			0	
			0	
8			0	
			0	
9		rec 3.5'	0	
	BOH			BOH = 9.5' (refusal in bedrock)
10				
11				
12				

Environmental Resources Management

Drilling Log

Project: Pt. Molate — Client: Navy

Location: midway betw. B-21 and VB-7 — W.O. Number: 469.06

Well Number: B-22 — Total Depth: 13 ft. — Diameter: 6"

Surface Elevation: ____ — Water Level: First Detected ____ — 24-hrs. ____

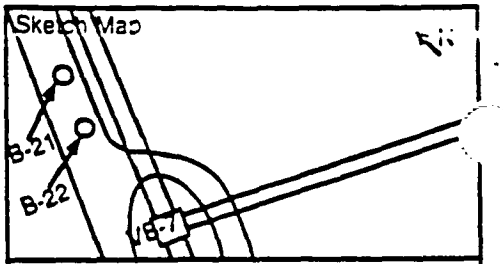
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company: Spectrum — Drilling Method: HSA

Driller: Ray/Brian — Log By: JAO — Date Drilled: 3/15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~1" thick
	GW			GRAVEL, well-graded, sand to gravel-sized (<1" diameter), very slightly moist, no plasticity,
1			0	unconsolidated, red-brown clay content increases with depth, subangular to subrounded
			0	
2			0	CLAY, silty, with occasional gravel (<1/4" diameter), moist, low strength, medium stiff, plastic, dark brown with orange mottling near gravel
			0	
3	CL		0	
			0.2	
4		rec 4.5'		
5				
			0.4	
6			0	gradational contact (Highly weathered bedrock)
			0	SILTSTONE, gravel in clayey matrix, easily crumbled, gravel is subangular to angular, bedrock source, slightly moist, slightly plastic
7	GC		0.1	
			0	
8			0	
			0.2	
9			0	(Weathered bedrock) SILTSTONE, clay content decreases (primarily confined to fractures between gravel) and size of gravel increases with depth, breaks along gravel edges
		rec 5'	0	
10				
11			0	
			0	
12			0	
		rec 2.5'	0	
	BOH			BOH = 13 ft. (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beneath VB-8 W.O. Number 469.06

Well Number B-23 Total Depth 24.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

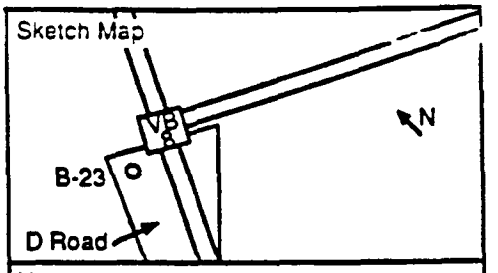
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil
				GRAVEL, well-graded, sand to cobbles (<2 1/2" diameter), dry, unconsolidated (some clayey lenses are compacted and coherent), red-tan color
1			0	
			0	
2			0	
	GW		0	
3			0	
			0	
4		rec 4'	0	
5				
			0	
6			0	
			0	
7			0	
			0	
8			0	
			0	
9		rec 4.5'	0	
10				CLAY, silty, hard, medium strength, very slight plasticity, dark brown, occasional gravel, slightly moist, organic odor
			0.2	
11	CL		0	
			0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location beneath VB-8 | W.O. Number 469.06
Well Number B-23 | Total Depth 24.5' | Diameter 6"
Surface Elevation ____ | Water Level: First Detected ____ | 24-hrs. ____
Screen: Dia. ____ | Length ____ | Slot Size ____
Casing: Dia. ____ | Length ____ | Type ____
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/15/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	
			0	
14		rec 4.5'	0	SILT, gravelly, slightly moist, no plasticity, vesicles within entire section, hard, medium strength, crumbles into blocky fragments, red-brown with brick red gravel (<1/4" diameter), slight organic odor
15				
16	GM		0	
			0	
17			0	
			0.1	
18			0	
			0	
19		rec 4'	0	
20				
			3.0	organic odor (possibly methane)
21			1.8	
			1.8	
22			1.4	
			3.3	
23			0.1	Gravel content and size increases with depth (<1" diameter)
			0	
24		rec 4.5'	0	
	BOH			(Bedrock)
25				BOH = 24.5' (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location beneath VB-6 in gravel pack between pipelines — W.O. Number 469.06

Well Number B-47 — Total Depth 24.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

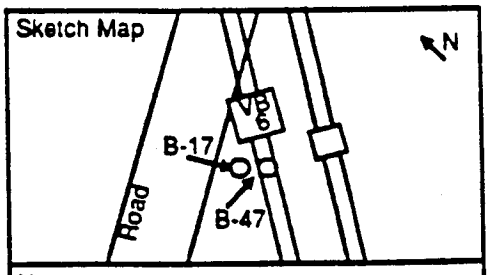
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/26/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	SURFACE: grass covered slope GRAVEL, loose, dry, unconsolidated, gray brown, no odor
1–3	CL			CLAY, gravelly, red-brown with dark gray and orange mottling, slightly moist, low plasticity, gravel < 1" diameter, no odor
4–5	GW	rec 2.5'		GRAVEL, sandy, well-graded (fine sand - cobbles < 1-1/2" diameter), very slightly moist, strong old hydrocarbon odor, brown-gray with dark gray staining
6–8	CL			CLAY, silty, dark brown with overall dark gray mottling/staining, slight odor at top - increases with depth to strong diesel/bunker mix (?), moist, stiff, medium strength, plastic
9–10	GM	rec 3'		GRAVEL, silty, red-tan, low strength - easily crumbled, slightly moist, no odor, gravel < 1/2" diameter, relatively unconsolidated, grades into
11–12	ML			SILT, clayey, with gravel, low plasticity, low strength - easily crumbled, slightly moist, no odor, red-brown with orange mottling and dark gray mottling, gravel content increases at upper and lower contacts

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location beneath VB-6 in gravel pack between pipelines — W.O. Number 469 06

Well Number B-47 — Total Depth 24.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/26/90

Sketch Map

See page 1

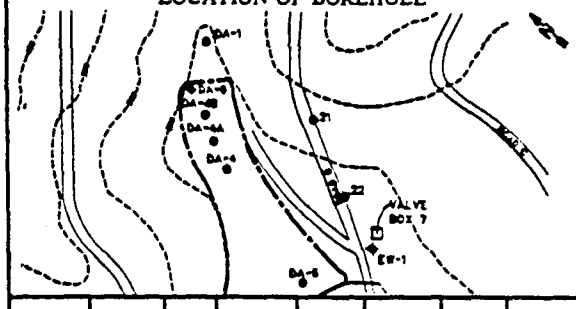
Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	ML		None Taken	
14		rec 5'		grades into SILT, a.a., but gravelly
15	ML			
16				
17	CL			CLAY, silty and gravelly, red-brown, slightly moist, low plasticity, no odor
18				
19		rec 5'		SILT, clayey with gravel, red-brown, low strength - easily crumbled, slightly moist, very low plasticity, no odor
20	ML			
21				
22				grades into
23	ML			(Highly weathered bedrock) SILT, gravelly, with clay, very slightly moist, easily crumbled, no plasticity, no odor, bedrock fragments angular, some with dark staining along fracture surfaces, no odor
24		rec 4.5'		
	BOH			
25				BOH = 24.5 feet (refusal in bedrock - gravel)

FIELD BOREHOLOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



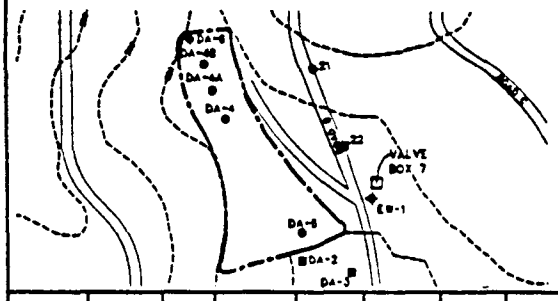
JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: DA-1
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER:
SUBSITE: Disposal Area (Landfill)	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9-18-90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski, CME-75, 3 1/4" ID HSA, Auger with selective split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Pto Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
				1330						Surficial gravels 0.0 to 1.0 ft.
								1	GM/ML	1.0 to 2.0 ft: Silt, gravelly silt, gravels approximately 1-2 inches, subrounded to subangular quartz/feldspar; brown silt (10YR5/3), dry, hard to very hard (dense), structureless, oil staining encountered at 2 ft.
								2		
								3	ML	3.0 to 4.0 ft: Silt, gravelly silt, similar to above, dark brown (10YR3/3), dry, hard, smell of old JP-5.
					15-20 (HS)			4		4.0 to 5.0 ft: As above, except darker brown.
Std.	5.0 - 6.5	4 / 3 / 2	1.0 / 1.5	1350	0-5			5	ML/CL	5.0 to 6.5 ft: Silt, gravelly silt, similar to above, dark brown to very dark brown (10YR2/2); denser with depth. Sample DA-1 (5.0-6.5) collected.
								6		6.5 to 8.0 ft: Drive 1 1/2 inch sampler with only 0.3 ft penetration, very hard gravelly silt/bedrock?
								7		
Std.	6.5 - 6.8	50	0.3 / 0.3	1358	0-1			8		Auger to 15 ft, cuttings indicate similar silty gravels/gravelly bedrock? No moisture encountered; dense, slow auger penetration.
								9		
								10		
								11		
								12		
								13		
								14		
								15		
Std.	15.0 - 15.2	60	0.1 / 0.2	1420	0-1			16		15.0 ft: 60 blow counts for 0.2 ft, only 0.1 ft recovered; mostly slough but includes slightly moist grayish brown (10YR5/2) clay with oil staining; probably from above. TOTAL DEPTH = 15.2 FT

FIELD BOREHOLE

PRC ENVIRONMENTAL MANAGEMENT, IN

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: DA-4
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER:
SUBSITE: Disposal Area (Landfill)	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/17/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/Mobil B-57, 4 1/4" ID HSA, exploratory auger drilling only; no split spoon samples driven	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
				1212	0					NOTE: Exploratory auger drilling through landfill, descriptions based on drill cuttings only.
								1		0.0 to 2.0 ft: Silt, gravelly silt, gravels approximately 1/2 to 2 inches, subrounded to subangular quartz/feldspar; brown silt (10YR5/3), hard to slightly hard, dry, structureless, likely heterogeneous fill material over landfill.
								2		
								3		
								4		
				1216				5		5.0 ft: As above.
								6		
								7		
								8		8.0 ft: As above.
				1222	0			9		
								10		10.0 ft: As above but looser.
								11		
								12		
								13		
								14		
					0			15		15.0 ft: As above.
								16		
								17		
								18		
				1232	10-15 (BH)			19		19.0 ft: Clay and gravel, clay is nonplastic to slightly plastic, dark grayish brown (10YR4/2), moist, slightly hard to firm, structureless, some hydrocarbon odors (HNu = 10-15 at borehole); stiff at 20 ft.
								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010 IRSIFW

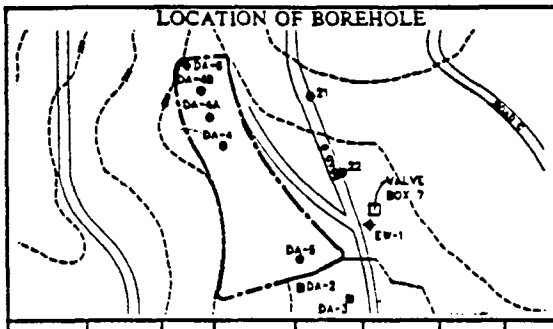
BOREHOLE DESIGNATION: DA-4 continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21	CL/ML	21 ft: Clay/clay with silt and gravel, similar to above, gravels are rounded, 1/2 to 1 1/2 inches, quartz or feldspar, <5%; clay with silt is dark grayish brown to grayish brown (10YR5/2), slightly moist, stiff, continued hard drilling.
					5-10 (BH)			22		
				1241				23		
								24		24.0 to 25.0 ft: Silt content increases (silty clay), pebble content increases to ~10%; occasional HNu spikes up to 15-20 ppm.
					15-20 (BH)			25		
								26	GW	26.0 ft: Very gravelly (silty gravels), gravels subrounded to subangular, 1/2 to 2 inches, occasional HNu spikes as before; very tight drilling.
					15-20 (BH)			27		
								28		28.0 ft: Continued very tight drilling but still penetrating; 1310-shut down drilling to allow clutch to cool on rig. Resumed at 1320; auger refusal at 29.0 ft on sandstone (boulder or bedrock).
				1254				29		TOTAL DEPTH = 29 FT.

FIELD BOREHOLE

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: DA-4A
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER:
SUBSITE: Disposal Area (Landfill)	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/17/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/Mobil B-57, 4 1/4" ID	
HSA/CME-75, 3 1/4" ID HSA, exploratory auger boring; no drive samples	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
				1335				1	ML	NOTE: Descriptions based on cuttings only. 0.0 to 2.0 ft: Surficial gravels and silt followed by gravelly silt, gravels are 1/2 to 2 inches, quartzite or feldspar, subrounded to subangular; silt is brown to yellowish brown (10YR5/4), hard to very hard, dry; fill material overlying landfill.
								2		
								3		
				1339				4		4.0 ft: As above.
								5		
								6		6.0 to 7.0 ft: Grades to sandy silt, sand is fine-grained to coarse; dark brown (10YR3/3) to black, moist, slightly firm, visibly stained but no apparent odor (at 7.0 ft); likely contaminated fill material; HNu readings 15-20 on stained material only; odors in breathing zone require APRs, but not hydrocarbon odors; maintain respirators to 20 ft.
				1341	15-20			7	ML/SM	
								8		
								9		
								10		
								11	ML/SM	11.0 ft: Sandy silt as above; grading to silt and clay. Silt and clay is nonplastic, brown (10YR5/3) to dark brown (10YR3/3), slightly moist, firm, structureless (fill material).
					10-15			12		
								13		
				1350				14		14.0 to 15.0 ft: As above.
								15		
								16		
								17		17.0 ft: As above. Easy drilling 17.0 to 20.0 feet.
								18		
								19		
				1359	0-1			20	ML/CL	20.0 ft: Silt/clayey silt, clay ≈ 25 to 50%, nonplastic, brown, slightly moist, firm, no staining.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

JOB NO: 044-0010 IRSIFW

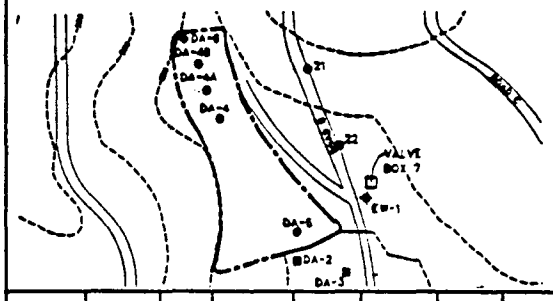
BOREHOLE DESIGNATION: DA-4A continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Pb/y Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										NOTE: Descriptions based on cuttings only
								21	ML/CL	21.0 ft: Silt/clayey silt as above.
								22		
								23		
				1406				24		24.0 ft: Complete to 24.0 ft. Tight drilling thereafter, trip out hole, steel wire and wood cuttings in lead auger. Clutch slipping, shut down and allow to cool; set up CME-75 on 9/18/90, trip back into hole with 3 1/4" HSA to 25 feet.
				1410				25		
				0945				26		
								27		27.0 ft: Poor cuttings.
								28		
								29		
				1005				30		30.0 ft: Poor cuttings, tight drilling.
								31		
								32		
								33		33.0 ft: Poor cuttings, some gravels, fractured, 1-2 inches.
								34		
								35		
				1023				36		36.0 ft: Very hard drilling 36 to 37 ft; poor cuttings, auger refused below 37 ft; move off hole.
								37		TOTAL DEPTH = 37 FT.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: DA-4B
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 38 ft
SUBSITE: Disposal Area (Landfill)	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/18/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/CME-75, 3 1/4" ID HSA, auger with selective split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
				1050	0			1	ML	NOTE: Descriptions based mostly on drill cuttings. 0.0 to 5.0 ft: Surficial gravels and silt followed by: gravelly silt to 5 ft; gravels are 1/2 to 2 inches, subrounded to subangular quartzite with feldspar; silt is brown (10YR5/3), dry, slightly hard, structureless, fill material.
								2		
								3		
								4		
				1054				5		5.0 ft: As above.
								6		6.0 ft: Gravelly silt similar to above but very dark brown (10YR2/2) to black (10YR2/1), dry, hard, some odors but no significant HNu readings (possibly stained fill material).
					0-2			7	ML	
								8		8.0 to 9.0 ft: As above, but silts are becoming grayish brown (10YR5/2),
								9		
								10		10.0 to 11.5 ft: Sample driven, only slough recovered.
Std.	10.0 - 11.5	4/3/2	0.1/1.5	1103	0			11		
								12		
								13		
								14		
					0-2			15		15.0 ft: As above, poor cuttings.
								16		
								17		
								18		18.0 to 19.4 ft: Silt and organic silt, silt is mottled gray (10YR5/1) and brown (10YR5/3), dry, hard to very hard; about 1/3 organic silt, dark brown (10YR3/3) with wood fragments, dry, slightly hard, gray mottles yield HNu reading to 10 ppm, HNu headspace reading to 15 ppm. Sample DA-4B (18.0-19.5) collected.
Std.	18.0 - 19.5	8/7/8	1.1/1.5	1115	10; 15 (HS)			19	ML	
								20		20.0 to 21.0 ft: Silt, gravelly silt (20 to 30 ft); gravels are subrounded to subangular, 1/2 to 2 inches, about 10-25% of sample, silt matrix is brown (10YR5/3), dry, slightly hard to hard, structureless, continued fill material.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010 IRSIFW

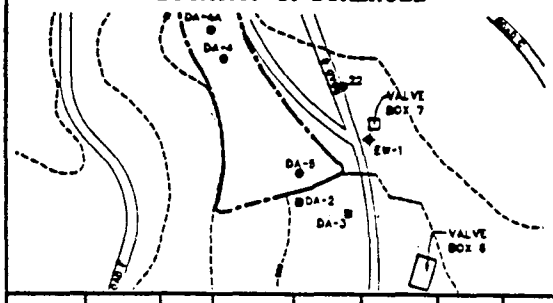
BOREHOLE DESIGNATION: DA-4B continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
					0-1			21	ML	NOTE: Descriptions below 20 ft based on cuttings only.
								22		
								23		
								24		
				1122	0-2			25		25.0 ft: As above.
								26		
								27		
								28	ML	
								29		
					0-2			30		30.0 ft: Silt, gravelly silt, similar to above but grayish brown (10YR5/2), dry, gravels increasing to over 50%, HNu readings up to 5 ppm at 30 to 35 ft.
					3-5			31	GM	
								32		
								33		
								34		
				1130	3-5			35		35.0 ft: Gravels are rounded, 1/2 to 1 1/2 inches.
								36		
								37		
								38		38.0 ft: As above, harder drilling; water encountered after completion of borehole; depth to water measured at 38.3 ft below ground, ground water sample DA-4BGW(39) collected.
						■	▼	39		
								40		40.0 ft: Becoming very gravelly.
				1145				41		41.0 to 42.5 ft: Gravels only, mostly rounded 1/2 to 1 1/2 inches, very hard drilling. Complete to 42.5 ft, auger refusal in bedrock or impenetrable obstruction.
				1156				42		TOTAL DEPTH = 42.5 FT.
								43		

FIELD BOREHOLOG

PRC ENVIRONMENTAL MANAGEMENT, IN(

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: DA-5
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 32 ft (Initial)
SUBSITE: Disposal Area (Landfill)	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/18/90 to 9/19/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski, CME-75, 3 1/4" ID HSA, auger with selective split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Pby Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								1	ML	0.0 to 0.5 ft: Surficial gravels followed by: silt, gravelly silt; gravels are 1/2 to 1 inch, subrounded to subangular ~ 25%; silt is brown (10YR5/3), dry, slightly hard.
								2		
								3		
								4		4.0 ft: As above, becoming finer grained with abundant gravels.
Std.	5.0 - 6.5	7/8/6	0.7/1.5	1535	10-15 (HS)			5	ML/CL	5.0 to 6.5 ft: Clay, silty clay with abundant gravel; gravel content up to 50%, 1/2 to 1 inch subrounded; clay-silty clay is slightly plastic, stained dark gray (10YR4/1) to gray (10YR5/1) with hydrocarbons, hydrocarbon odor evident with headspace readings 10-15 ppm, no apparent soil structure. Sample DA-5 (5.0-6.5) collected.
								6		
								7		
								8		
								9		9.0 ft: As above, gravel content increasing.
Std.	10.0 - 11.5	4/8/11	1.3/1.5	1545	10-15 (HS)			10	GC/ML	10.0 to 11.5 ft: Clayey gravels, gravels mostly well sorted 1/2 to 1 inch, subrounded, occasional angular rock fragments; clays are slightly plastic, light brownish gray (10YR6/2) and mottled brown and gray, slightly moist, some hydrocarbon odors, interval also includes dry gravelly silt (possible slough), followed by silt and wood fragments, silt is oil coated and wet, dark gray (10YR4/1) to black; headspace reading 10-15 ppm. Sample DA-5 (10.0-11.5) collected.
								11		
								12		
								13		
							▼	14		14.0 ft: Depth to water on 9/19/90 (0904) is 14.05 ft below ground (measured inside augers).
Std.	15.0 - 16.5	6/8/9		1552	0-5 (HS)			15		15.0 to 16.5 ft: Clay with minor gravel, nonplastic, gray stained with gray and brown mottling, oxidized with reddish brown (2.5YR4/4) patches, slightly moist, tight/firm, no apparent soil structure. Sample DA-5 (15.0-16.5) collected.
								16		
								17		
								18		18.0 to 20 ft: Clay, silty clay similar to above; depth to water ~ 20.0 to 21.0 ft below ground on 9/18/90.
								19		
Std.	20.0 - 21.5	13/18/22	1.5/1.5	1602	0-5 (HS)			20		20.0 to 21.5 ft: Clay, silty clay with minor gravel, nonplastic, mottled reddish brown (2.5YR4/4) to red (2.5YR5/8) with gray (10YR6/1) and light gray (10YR7/1) pods or streaks, oxidized reddish brown pods as well, slightly moist tight/firm, structure not apparent; gravels are subrounded to subangular siltst or very fine-grained sandstone.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

JOB NO: 044-0010 IRSIFW

BOREHOLE DESIGNATION: DA-5 Continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
							▼	21	CL	
								22		
								23		
								24		
								25		25.0 to 26.5 ft: Silty clay similar to above; light gray (10YR7/1) partings and red (10R4/8 to 2.5YR5/8) oxidized pods, mottled gray (10YR6/1) and red (2.5YR5/8); partings are more prominent.
Std.	25.0 - 26.5	13 / 16 / 8	1.5 / 1.5	1615	0-5 (HS)			26	CL	
								27		
								28		
								29		
								30		30.0 to 31.5 ft: Clay or silt with minor gravel, nonplastic to slightly plastic, mottled brown (7.5YR5/4) and yellowish red (5YR5/8) to light gray (10YR7/1), slightly moist to wet within partings, firm/tight, structure not apparent; gravel is subangular siltstone or very fine sandstone. Sample DA-5 (30.0-31.5) collected.
Std.	30.0 - 31.5	8 / 8 / 10	1.1 / 1.5	1626	0-5 (HS)			31	CL/ML	
							▼	32		
								33		33.0 ft: Clay/silt similar to above but more gray clay encountered than yellowish brown. Water table initially encountered at 32 ft, but stabilized at ~ 20.0 to 21.0 ft, on 9/18/90, then 14.05 ft below ground on 9/19/90. Rise in water probably due to steep gradient within landfill and head change in open borehole.
								34		
								35		35.0 to 35.5 ft: Fractured siltstone (bedrock) encountered, wet; augers complete to 35 ft on 9/18/90. Auger 35.0 to 42.0 feet on 9/19/90.
Std.	35.0 - 35.5	50	0.4 / 0.5	1645				36		
								37		
								38		
								39		
								40		40.0 to 42.0 ft: Complete augers to 42.0 ft total depth. Auger refusal at 42 ft (bedrock).
								41		
								42		TOTAL DEPTH = 42 FT

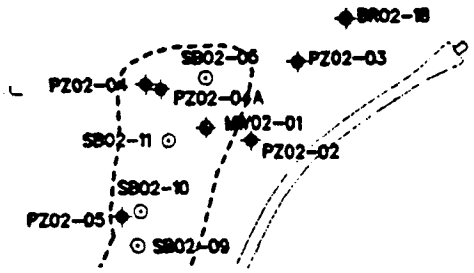
LOCATION OF BOREHOLE

PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-01
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	WDA - Bottom Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/22/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Mounted
HSA 4 1/2" ID, 8" OD, CME Continuous Sampler (5.1'x2.5"ID)
E. Sandoval, F. Sandoval, C. Macio

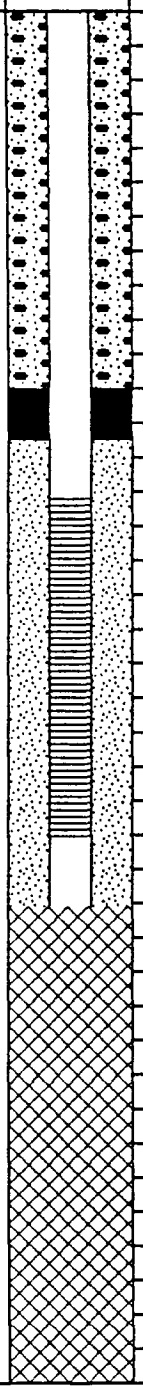
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5, 10	CL	(Auger cuttings) Colluvium, mottled yellowish red (10YR 5/6)and yellowish brown, moist, stiff, cohesive, no hydrocarbon staining or odors.
N/A	N/A	N/A	N/A	N/A	N/A			15, 20	CL	(Auger cuttings) Mottled brown colluvium as above, reddish brown (5YR 5/4).
N/A	N/A	N/A	N/A	N/A	N/A				CL	(Auger cuttings) Moist to very moist. (Gradational contact).
N/A	N/A	N/A	N/A	N/A	N/A				Weathered Bedrock	(Auger cuttings) Harder drilling, weathered sandstone fragments in cuttings.
N/A	N/A	N/A	N/A	N/A	N/A				Weathered Bedrock	(Auger cuttings) Weathered bedrock as above.

LOCATION OF BOREHOLE

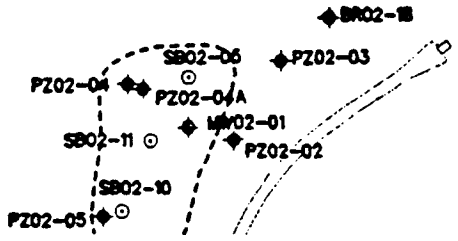


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-02
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	23.0' bgs
SUBSITE:	WDA - Top Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/21/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Mounted
HSA 4 1/2" ID, 8" OD, CME Continuous Sampler (5.1'x2.5" ID)
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5	CL	(Auger cuttings) Native colluvium, brownish yellow (10YR 6/8), minor amount of rock fragments, stiff, damp to moist, uniform. Harder drilling at 7.0 feet (not refusal), possibly weathered bedrock contact, Sandstone fragments, yellowish brown, damp, fine grained, well sorted, friable, drillable with augers. (Gradational contact).
N/A	N/A	N/A	N/A	N/A	N/A			10 15 20 25 30 35	Weathered Bedrock	Drilled to 40' bgs in sandstone, interbedded mudstone; no immediate evidence of saturated conditions, water level stabilized @ 23.0' bgs following piezometer completion on 1/22/99. Backfilled original borehole from 40' bgs to 26.0' bgs.

LOCATION OF BOREHOLE

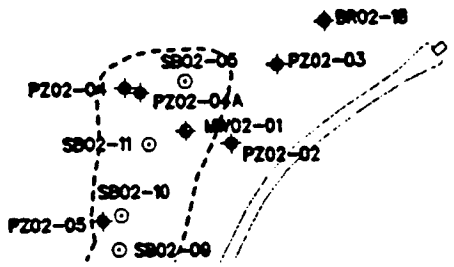


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-03
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	9.0' bgs
SUBSITE:	WDA Upgradient End	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	

DRILLING PERSONNEL/METHOD:
CME 850 Track Mounted
HSA 4 1/2" ID, 8" OD, CME Continuous Sampler (5.1-x2.5"ID)
E. Sandoval, F. Sandoval, C. Macio

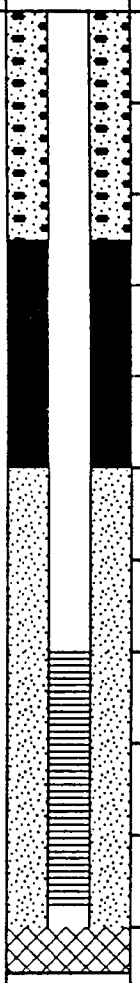
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5	CL	(Auger cuttings) Colluvium, mottled dark yellowish brown and yellowish brown, dry to moist, stiff, no hydrocarbon staining or odors observed.
N/A	N/A	N/A	N/A	N/A	N/A			10, 15	Weathered Bedrock	(Auger cuttings) Weathered bedrock, sandstone and interbedded mudstone, somewhat friable.
N/A	N/A	N/A	N/A	N/A	N/A				Weathered Bedrock	(Auger cuttings) Moderately harder drilling, weathered mudstone and sandstone, drill cuttings range from 0.25-0.75", primarily subangular, some subrounded.
N/A	N/A	N/A	N/A	N/A	N/A			20	Weathered Bedrock	Slow, harder drilling (not refusal).
									Weathered Bedrock	At 21', cuttings very moist to saturated; very hard drilling, refusal; saturated, mudstone gray to dark gray.

LOCATION OF BOREHOLE

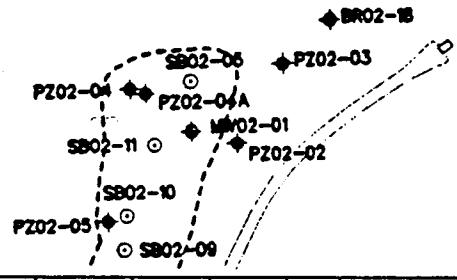


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-04
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Top Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	1/21/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Mounted
HSA 4 1/2" ID, 8" OD, CME Continuous Sampler (5.1'x2.5"ID)
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5 10	CL	(Auger cuttings) Colluvium, mottled brownish yellow to yellow (10YR 6/6-7/5), damp to mois, stiff. Refusal at 10.5', possibly obstruction, not likely bedrock. Note: Due to obstruction at 10.5', PZ02-04 was re-located 18' East and re-drilled as PZ02-04A.

LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-04A
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	32.0' bgs
SUBSITE:	WDA - Top Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	1/25-26/99

DRILLING PERSONNEL/METHOD:

CME 850 Track Mounted
4 1/2" ID, 8" OD, CME Continuous Sampler (5.1'x2.5"ID)
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5, 10	ML-CL	(Auger cuttings) Minimal auger cuttings, soft clayey silt (colluvium), dark yellowish brown, moist to very moist.
N/A	N/A	N/A	N/A	N/A	N/A			15	CL	(Distinct color change) colluvium, brownish yellow (10YR 6/8), damp, stiff, somewhat plastic.
N/A	N/A	N/A	N/A	N/A	N/A			20, 25, 30	Weathered Bedrock	Weathered sandstone and mudstone, (similar to lithology observed at PZ02-03 and PZ02-05). Hard drilling at 26'. Very hard drilling at 28.5'. TD = 33.9'.

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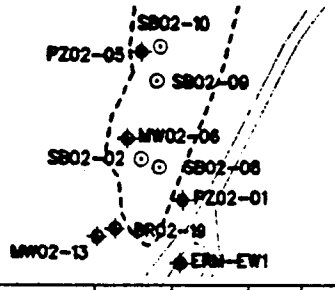
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	PZ02-05
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	24.2' bgs
SUBSITE:	WDA - Bottom Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	1/25/99

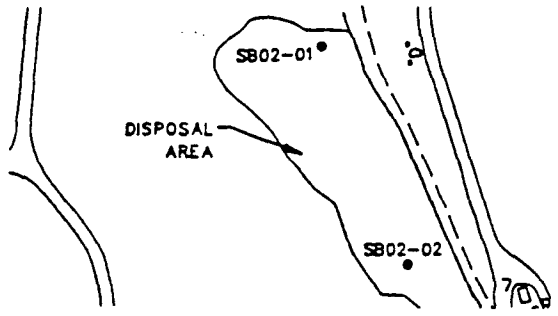
DRILLING PERSONNEL/METHOD:
CME 850 Track Mounted
HSA 4 1/2" ID, 8" OD, CME Continuous Sampler (5.1'x2.5"ID)
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	PIEZOMETER Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5	CL	(Auger cuttings) Colluvium, mottled dark yellowish brown to reddish brown, stiff, moist, no hydrocarbon staining or odors observed.
N/A	N/A	N/A	N/A	N/A	N/A			10	Weathered Bedrock	(Harder drilling) Weathered sandstone, olive yellow (2.5Y 6/8), somewhat friable, well sorted, fine grained.
N/A	N/A	N/A	N/A	N/A	N/A			15	Weathered Bedrock	Difficult drilling, subrounded to subangular sandstone (similar drilling conditions to PZ02-03), sandstone/mudstone.
N/A	N/A	N/A	N/A	N/A	N/A			20	Weathered Bedrock	(Hard to very hard drilling) Sandstone (weathered) as above. TD = 25', no immediate water. (Cuttings from base of borehole are water saturated).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRLFFW	BOREHOLE DESIGNATION: SB02-01
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 20.13 FT. (2/18/94)
SUBSITE: DISPOSAL AREA	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/16/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ Central Mining Equipment (CME) 75 drill rig, 6 3/4-inch outer diameter (OD), 3 7/8-inch inner diameter (ID) hollow stem auger (HSA), continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										CL	0.0 to 5.0 feet: Colluvium; clayey silt with some weathered quartzite fragments ranging from 1/2 inch to 1 inch in diameter. Logged from auger cuttings.
										1		
										2		
										3		5.0 to 7.0 feet: Colluvium; sandy silt with some clay (25 to 35 percent fine sand, 10 to 15 percent clay), yellowish brown (10YR4/4 to 10YR4/6), , 5.0- to 6.0-foot interval contains some root fragments, 6.0- to 7.0-foot interval contains numerous weathered quartzite fragments ranging from 1/2 inch to 1 inch in diameter; soft, moist to wet.
										4		
		5.0								5	SM	
ss	5.0		4	2.0/2.0	0900	3						7.0 to 11.0 feet: Colluvium; sandy silt with moderate amount of cl (approximately 20 to 30 percent), yellowish brown (10YR4/4 to 10YR4/6), slightly plastic, wet to saturated at 8.5 feet; 10.0- to 11.0-foot interval is wood, (demolition refuse) compressed, hydrocarbon stained, PID (headspace) reading of 8.5 ppm.
			5							6		
			6									
		7.0	6							7		
ss	7.0		3	2.0/2.0	0905						SM	
			2							8		SAMPLE SB02-01 (8.5-9.0) collected at 0905.
			1									
		9.0	2					X				SAMPLE SB02-01 (9.0-10.0) collected at 0915.
ss	9.0		3	2.0/2.0				X		9		11.0 to 12.0 feet: Colluvium; sandy silt with moderate amount of clay (30 percent), contains stained wood (demolition refuse), PID reading of 90 ppm on stained refuse.
			12		0915			X				
			11			8.5				0		
		11.0	4									
ss	11.0		3	2.0/2.0	0925					1	SM	12.0 to 13.0 feet: Fill Material; silty clay with minor fine sand, very dark gray (10YR3/1) to very dark grayish brown (10YR3/2), plastic, soft, moist to wet.
			3									
			4			90				2		13.0 to 15.0 feet: No sample recovery. Split spoon sampler plugged with wood (demolition refuse).
		13.0	4									
ss	13.0		3	0.0/2.0	0930					3		
			2									15.0 to 17.0 feet: Colluvium; clayey silt with some fine sand (20 percent clay, 20 percent sand), dark gray (10YR4/1) to dark grayish brown (10YR4/3), approximately 2 inches of wood (demolition refuse) from 15.0 to 15.2 feet, soft, moist, hydrocarbon odor.
			2							4		
		15.0	3									
ss	15.0		4	2.0/2.0	0935					5		
			3								CL	SAMPLE SB02-01 (17.5-18.0) collected at 0940
			3							6		
		17.0	3									CO-LOCATED DUPLICATE SAMPLE SB02-01 (28.0-28.5) collected from 18.0- to 18.5-foot interval at 0945.
ss	17.0		2	2.0/2.0	0940					7		
			4					X				
			4					X		8		17.0 to 19.0 feet: Colluvium; clayey silt with numerous quartzite fragments (30 to 40 percent), dark gray (10YR4/1) to dark grayish brown (10YR4/3); quartzite fragments range form 1/4 inch to 1.5 inches in diameter, angular to subangular; matrix is wet to saturated, soft, hydrocarbon odor.
		19.0	7								CL	
ss	19.0		2	2.0/2.0	1000	150				9		
			5					X		0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB02-01
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/16/94
	DRILLING PERSONNEL/METHOD:	

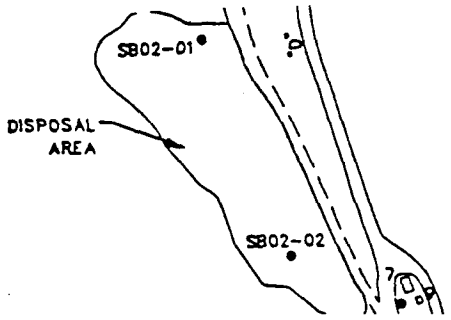
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
			6					X				19.0 to 21.0 feet: Colluvium (as above); hydrocarbon odor.
	21.0		8	2.0/2.0	1010					1		
ss	21.0		8									SAMPLE SB02-01 (19.5-20.0) collected at 1000
			13							2	CL	SAMPLE SB02-01 (20.0-20.5) collected at 1000
			14									21.0 to 22.0 feet: Colluvium; sandy silt with clay (20 percent), mottled brown (10YR5/3), yellowish brown (10YR5/4), and brownish yellow (10YR6/6), numerous weathered sandstone fragments, soft to moderately hard, saturated.
	23.0		16							3		
ss	23.0		8									
			20	2.0/2.0	1025		X			4		
			25								SM	22.0 25.0 feet: Colluvium; weathered phyllite, highly fractured, fragments are 1/2 inch to 1.5 inches in diameter, angular, moderately hard, moist to wet.
	25.0		30							5		
										6	GM	SAMPLE SB02-01 (24.0-24.5) collected at 1025 for physical analysis.
										7		Total Depth at 25.0 feet.
										8		
										9		
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRLFFW	BOREHOLE DESIGNATION: SB02-02
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: DISPOSAL AREA	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/17/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/CME 75 drill rig, 6 3/4 inch OD, 3 7/8 inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED/DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1 2 3 4	FILL	0.0 to 5.0 feet: Refuse; green waste, wood, and concrete demolition refuse. Logged from auger cuttings.
		5.0								5 6		
SS	5.0		4 5 5	2.0/2.0	0905						SM	5.0 to 7.0 feet: Fill Material; silty sand with some clay (30 percent silt, 10 percent clay), dark grayish brown (10YR4/2) to brown (10YR4/3), numerous quartzite and phyllite rock fragments ranging from 1/2 inch to 2 inches in diameter, loose, soft, moist.
		7.0								7 8		
SS	7.0		7 2 19	1.0/1.0	0912						SM	7.0 to 9.0 feet: Fill Material as above, up to 40 percent clay, lesser amount of phyllite rock fragments ranging from 1/8 inch to 1/4 inch in diameter. Augered past concrete refuse in 8.0 to 9.0 foot interval.
		9.0								9 0		
SS	9.0		5 4 5	2.0/2.0	0920						SM	9.0 to 15.0 feet: Fill Material; silty sand with some clay (20 percent silt, 20 percent clay), very dark gray (10YR3/1), loose, soft, moist to wet, obvious hydrocarbon odor and sheen.
		11.0	7					X		1		SAMPLE SB02-02 (10.5-11.0) collected at 0920 SAMPLE SB02-02 (14.0-14.5) collected at 0920
SS	11.0		2 3 3	0.9/2.0	0928					2		
		13.0	4							3		
SS	13.0		2 3 4	2.0/2.0	0935			X		4		
		15.0	50							5 6 7 8 9 0		Total Depth (refusal) at 15.0 feet.

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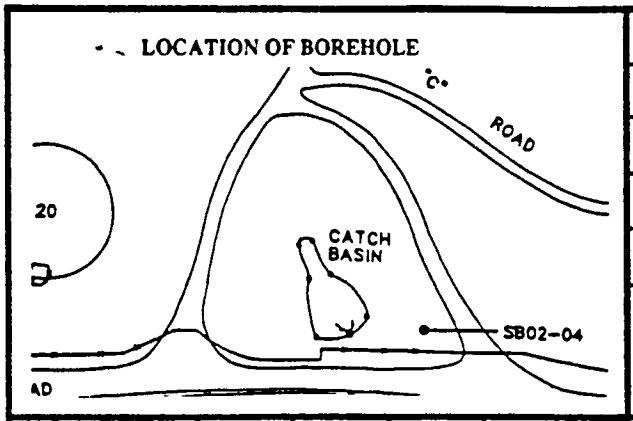
FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0248IRLFFW	BOREHOLE DESIGNATION: SB02-04
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 28.47 FT. (2/18/94)
SUBSITE: DISPOSAL AREA	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/17/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	FILL	0.0 to 5.0 feet: Fill Material; abundant rock fragments. Logged from auger cuttings.
										2		
										3		
										4		
		5.0								5		
ss	5.0		6 7	1.3/2.0	1309					6	SM	5.0 to 7.0 feet: Fill Material; silty sand with some clay (20 to 30 percent silt, 10 percent clay), yellowish brown (10YR5/4 to 10YR5/6), contains quartzite rock fragments ranging from 1/2 inch to 1.5 inches in diameter, angular to subangular, loose, soft, moist.
		7.0	5 4							7		
ss	7.0		3 3	0.8/2.0	1316					8	SM	7.0 to 9.0 feet: Fill Material (as above); large rock fragment plugged split spoon.
		9.0	4 4							9		
ss	9.0		3 5	2.0/2.0	1327	0.6				0	SM	9.0 to 15.0 feet: Colluvium; sandy silt with some clay (30 to 40 percent fine to medium sand, 10 to 20 percent clay), mottled dark yellowish brown (10YR4/4 to 10YR4/6) to brownish yellow (10YR6/6 to 10YR6/8), contains weathered sandstone fragments ranging from 1/8 inch to 1/4 inch in diameter, soft, moist, decreasing to slightly moist at 12.5 feet.
		11.0	8 10							1		
ss	11.0		3 5	2.0/2.0	1336	0.9				2		
		13.0	11 12							3		
ss	13.0		6 12	2.0/2.0	1349	1.3				4		
		15.0	16 26							5		
ss	15.0		11 19	2.0/2.0	1405					6	SM	15.0 to 17.0 feet: Colluvium; sandy silt with some clay (30 to 40 percent fine to medium sand, 10 percent clay),mottled yellowish brown (10YR4/6) to brownish yellow (10YR4/8) with gray (10YR6/1) clay partings, slightly plastic, soft to medium consistency, moist. No apparent hydrocarbon contamination.
		17.0	25 23							7		
ss	17.0		13 14	2.0/2.0	1415					8	SM	17.0 to 19.0 feet: Colluvium (as above); contains numerous weathered quartzite and sandstone rock fragments ranging from 1/8 inch to 1/4 inch in diameter.
		19.0	21 33							9		
ss	19.0		7 16	2.0/2.0	1427					0		

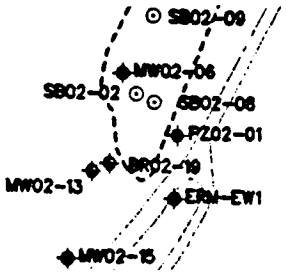
FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB02-04
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/17/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
			23	2.0/2.0	1427							
		21.0	27							1	SM	19.0 to 21.0 feet: Colluvium (as above); contains phyllite, quartzite, and weathered sandstone rock fragments ranging from 1/4 inch to 3/4 inch in diameter, subrounded.
SS	21.0		10	2.0/2.0	1435							
			13							2		
			22								SM	21.0 to 23.0 feet: Colluvium; silty sand with some clay (40 percent silt, 10 percent clay), yellowish brown (10YR4/6 to 10YR4/8), contains numerous weathered sandstone fragments, non-plastic, moderately hard, moist.
		23.0	25							3		
SS	23.0		11	2.0/2.0	1452							
			15							4		
			20								SM	23.0 to 27.0 feet: Colluvium (as above); some clay partings up to 1/4- inch wide.
		25.0	20							5		
SS	25.0		10	2.0/2.0	1505							
			10							6		
			20									
		27.0	20							7		27.0 to 29.0 feet: Colluvium; silty sand with some clay (40 percent silt, 10 to 20 percent clay), mottled yellowish brown (10YR4/6 to 10YR4/8) to brownish yellow (10YR6/6 to 10YR6/8), moist; 27.5- to 28.0-foot interval contains primarily quartzite fragments ranging from 1/2 inch to 3/4 inch in diameter, subrounded to subangular; medium hard to hard, wet to saturated.
SS	27.0		10	2.0/2.0	1515			X			SM	
			25							8		
			50									
		29.0								9		
												SAMPLE SB02-04 (27.5-28.0) collected at 1515.
										0		
												Total Depth at 29.0 feet.
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-08
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	23.3' bgs (While Drilling)
SUBSITE:	Waste Disposal Area - Bottom End	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/20/99
DRILLING PERSONNEL/METHOD:	CME 850 Track Mounted HSA 8"OD, 5' Continuous Core Sampling (2 1/2" ID) E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5" ID	0.0	5.1	3.6/5.1	1532	NA Rain		5	CL	Fill material, Silty Clay, mottled dark yellowish brown (10YR 4/6) and yellow (10YR 7/6). Silty clay matrix is plastic (moderately) cohesive and consists of moderate amount of yellow fragments ranging from 1-2 mm up to 0.5" diameter. Matrix is moist. No hydrocarbon staining or odors observed.
CME 2.5" ID	5.1	10.2	1.5/5.1	1537	NA Rain		10	SP	(Auger cuttings - coarse gravel up to 2" diameter from approximately 6.5 - 10' bgs). Poor recovery, poorly graded sand and gravel, very dark grayish brown (10YR 3/2) with abundant gravel pieces (subangular) up to 0.5" diameter. Matrix moist, unconsolidated. No hydrocarbon staining or odors observed.
								Fill	Fill materialas above, wood debris present at 10.5'; 10.2-10.3' interval consists of very soft, very moist clay fill, silty, very dark brown (10YR 2/2), trace of hydrocarbon odor present.
CME 2.5" ID	10.2	15.0	4.0/4.8	1555	NA Rain		15	CL	Native Colluvium, silty clay, mottled yellowish red (10YR 5/6) and yellowish brown (10YR 4/6), moist, stiff cohesive. Relict hydrocarbon staining present (trace to no odors) from 11.2 to 11.7';
CME 2.5" ID	15.0	20.2	4.7/5.2	1602	NA Rain		20	CL	Colluvium as above, no hydrocarbon staining or odors.
CME 2.5" ID	20.2	25.1	3.3/4.9	1617	NA Rain		25	CL	Colluvium as above; relict hydrocarbon staining and prominent odor, grayish green (5G 4/2), slightly sandy, moist, slightly crumbly.
								CL	Soil sample collected from interval of most prominent relict staining and most prominent hydrcarbon odor (18.7-19.2') in native colluvium.
								CL	(Relict hydrocarbon staining and odors from preceding interval is not present in 20.2-25.1' interval - staining and odors stop between 20.2-20.9' bgs). Colluvium as above, mottled dark yellowish brown (10YR 4/6, yellow and yellowish red (5YR 4/6) No staining or odors present. Thin water bearing lense from 23.3-23.6'. Water saturated fine to medium grained sandy clay, pale brown (10YR 6/3)
								CL	Colluvium mottled dark yellowish brown (10YR 4/6 - Primary) and yellowish red (5YR 4/6 - minor), stiff, very moist, no hydrocarbon staining or odors observed.
								GC	Colluvium as above, very stiff, moist, no hydrocarbon staining or odors observed.
							30		Weathered mudstone, dark gray, durable, promient 60-70 degree bedding planes, highly plastic clay partings (greenish gray) prominent along bedding planes. TD = 27.2' No measurable water after drilling.

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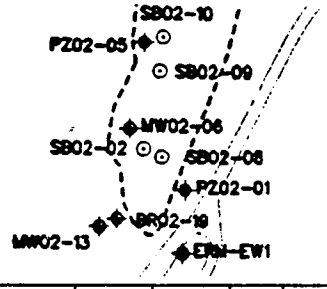
LOCATION OF BOREHOLE

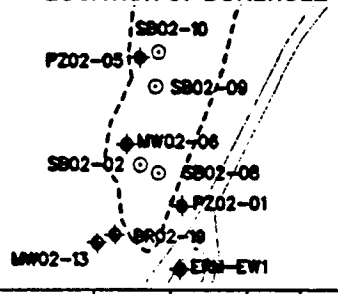


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-09
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	17.7'
SUBSITE:	Waste Disposal Area - Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/21/99

DRILLING PERSONNEL/METHOD: CME 850 Truck Mounted
HSA 8"OD, 5' Continuous CME sampling (2 1/2" ID).
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5" ID	0	5.0	3.5/5.0	0755	N/A		5	ML	Fill material, clayey silt (0.0-2.1'), fine grained sand (2.1-2.9') and clayey silt (2.9-5.0'). Moist, slightly cohesive, dark yellowish brown (10YR 4/6), with moderate amount of sandstone rock fragments up to 0.5" in diameter; debris present (wood debris and pieces of asphalt). No hydrocarbon staining or odors observed.
CME 2.5" ID	5.0	10.2	4.4/5.2	0805	N/A		10	ML	Fill material (clayey silt) as above, mottled dark yellowish brown (10YR 4/4) and yellow (minor - 10YR 7/8), stiff, moist cohesive. Traces of relict hydrocarbon staining and trace of odors from 7.8-8.3 foot interval. No staining or odors present from 5.0-7.8' and 8.3-10.2'.
CME 2.5" ID	10.2	12.9	1.4/2.7	0815	N/A			ML	(Hard drilling - obstruction, from at 12.9', pulled sampler). 11.6-12.9' Fill material (clayey silt, sandy, bluish gray (10BG 5/1), very moist, cohesive; hydrocarbon stained (fresh) and odorous. Wood fragments at 12.9'.
CME 2.5" ID	12.9	15.0	NA	0835	N/A		15	ML	Drilled without CME sampler.
CME 2.5" ID	15.0	20.2	0.0/5.2	0842	N/A		20	ML	Augered through obstruction, put CME sampler back into augers, sampler dropped approximately 3 feet below lead auger. Apparently a void in subsurface from 15-18'). CME sampler recovered 6" of clayey silt, product saturated, odorous, very soft. Water encountered base of interval 19.9'. No sample recovery, soft water-saturated clayey silt.
CME 2.5" ID	20.2	25.1	2.8/4.9	0852	N/A		25	ML	Fill material (clayey silt with minor sandstone fragments, water-saturated, dark bluish gray (5PB 4/1), strong hydrocarbon odors and product saturated pieces of plastic and metal present.
								Weathered Bedrock / Bedrock	Weathered mudstone bedrock, prominently weathered to stiff clay matrix blusih gray (10BG 5/1), product stained, moist(not water-saturated), hydrocarbon odors decrease compared to preceding fill interval. Mudstone bedrock, more competent, 60 degree bedding planes evident, fractured, no staining or odors observed.
							30		TD = 25.1'. TD after auger removal: 20.0'. Water level in open hole: 17.7'.

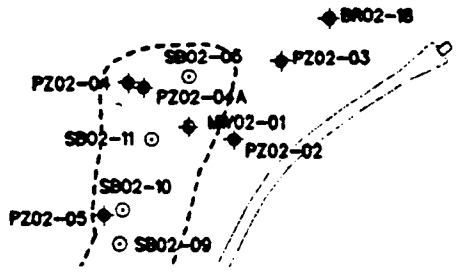
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-10
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Waste Disposal Area - Flank	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christiansen	DRILLING DATE(s):	01/21/99
DRILLING PERSONNEL/METHOD:	CME 850 Truck Mounted HSA 8"OD, 5' Continuous CME sampling (2 1/2" ID). E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	4.9	3.9/4.9	1007	N/A		ML	Fill material, clayey silt, mottled dark yellowish brown (10YR 4.4 - primary) and yellowish brown (10YR 5/6 - minor), moist, stiff; pieces of asphalt debris present (3.2-3.9'); clayey silt matrix consists of moderate amount of sandstone fragments (yellowish brown) up to 3/4" in diameter. No hydrocarbon staining or odors observed.
CME 2.5"ID	4.9	10.2	4.4/5.3	1015	N/A		ML-GP	Fill material as above; sandstone fragments up to core diameter (2.5"); asphalt pieces up to 2.0" present from 9.7-10.2', no hydrocarbon staining or odors observed.
CME 2.5"ID	10.2	15.0	2.5/4.8	1027	N/A		ML-GP	(Poor recovery). Fill material, unconsolidated silty sand, dark yellowish brown (10YR 3/4) with subangular gravel and also sandstone fragments up to 1.0" in diameter; wood fragments and highly organic (black) clayey silt, soft, is present from 14.7-15.0', dry and unconsolidated. No hydrocarbon staining or odors observed.
CME 2.5"ID	15.0	20.0	3.4/5.0	1040	N/A		ML	Fill material (clayey silt, mottled dark yellowish brown (10YR 4/6) and brownish yellow (10YR 6/8); very moist, soft, somewhat plastic; prominent wood debris, organic material and rubber debris (tire tubing) present from 18.5-18.9'. No hydrocarbon staining or odors observed.
CME 2.5"ID	20.0	23.5	1.3/3.5	1105	N/A		ML CL	(Possibly native colluvium) Clayey silt, mottled dark yellowish brown and greenish gray (10Y 6/1), soft, very moist. No hydrocarbon staining or odors observed. (Hard irregular drilling (rocky-gravelly) at approximately 22-24'). Colluvium as above; no hydrocarbon staining or odors observed.
CME 2.5"ID	23.5	25.3	0.2/0.2	1125	N/A		CL Bedrock Bedrock	(Pulled sampler at 23.5' - refusal). Sandstone, durable, well-sorted, fine grained, full size of CME barrel (2.5"). (Augered from 23.5-25.0' without CME sampler, insert split spoon sampler at 25'). Augered from 23.5-25.0' without CME sampler, insert split spoon sampler at 25'. Sandstone bedrock, hard, with interbedded mudstone. TD = 25.3'; no water encountered. TD after augers recovered: 21.2' Note: No soil sample collected for laboratory analysis. No hydrocarbon staining or odors observed at drill location.

LOCATION OF BOREHOLE

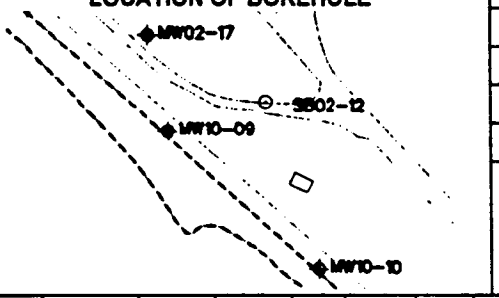


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-11
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	18.5-19.0 (While Drilling)
SUBSITE:	Waste Dispoasl Area - Upper End	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/21/99

DRILLING PERSONNEL/METHOD: CME 850 Truck Mounted
HSA 8"OD, 5' Continuous CME sampling (2 1/2" ID).
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.2	4.1/5.2	1208	N/A		5	ML	Fill material, clayey silt, mottled dark yellowish brown (10YR 4/4 - primary) and yellow (10YR 7/8 - minor); moderate amount of sandstone rock fragments up to 3/4" in diameter; matrix is damp to moist, slightly sandy, cohesive, uniform, no hydrocarbon staining or odors observed.
CME 2.5"ID	5.2	9.9	4.0/4.7	1215	N/A		10	ML	Fill material as above, abundant wood debris present, as well as black organic material; matrix is moist, soft. No hydrocarbon staining or odors observed.
CME 2.5"ID	9.9	15.2	3.6/5.3	1222	N/A		15	ML	Fill as above, no staining or odors.
CME 2.5"ID	15.2	20.0	1.1/4.8	1238	N/A	■	20	ML	Fill as above, fresh product staining and fresh odor observed in clayey silt (fill), greenish gray (10GY 5/1), moist to very moist, slightly granular (sandy) with moderate sandstone fragments up to 1.5". Limited recovery, interval cored consists of approximately 50% wood debris (uniform in core from 19.3-20.0'). Fresh product from previous interval extends to 19.3', trace of free product evident 18.8-19.1', water saturation at 18.8'. Soil sample collected from 18.8-19.1' in fill material, most prominent fresh product staining and odor interval, with trace of free product evident. Insufficient volume of material representative of hydrocarbon concentration to collect more than one 8 oz soil jar.
CME 2.5"ID	21.0	25.0	N/A	—	N/A		25	ML	(Augered from 20.0-21.0' without CME sampler). No recovery, abundant wood debris in cuttings, apparent cresote odors, possibly buried railroad ties. (Switch to split spoon sampler at 25.0').
Split Spoon	25.0	26.5	N/A	1305	N/A			ML	Wood debris, minimal to no soil recovery.
CME 2.5"ID	26.5	28.0	N/A	1315	N/A		30	Weathered Bedrock	Possibly native colluvium/weathered bedrock in split spoon sampler shoe. Weathered sandstone bedrock, mottled yellowsih brown (10YR 5/6) with highly plastic clay partings, light greenish gray (10GY 7/1). No hydrocarbon odors or staining observed. TD = 28.0'; TD after auger removal 23.2'.

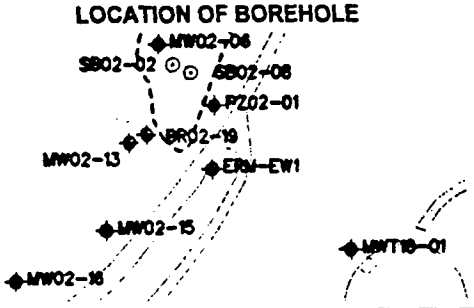
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-12
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Between CB#2 and Burma Rd.	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/03/99
DRILLING PERSONNEL/METHOD:	CME 850 Track HSA 8" OD, 4 1/2" ID; CME Sampler, 5.1'x2/5" ID E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5" ID	0.0	5.0	0.5/5.0	0925	—			NR	Negligible recovery - 6" topsoil.
CME 2.5" ID	5.0	10.0	2.2/5.0	0930	2.0 ppm		5	CL	Colluvium; silty clay, yellowish brown (10YR 5/6); mudstone fragments, angular to subrounded; no mottling.
							10	Mudstone	Weathered mudstone, gray, highly fractured, some clay (white) partings and iron staining.
CME 2.5" ID	10.0	12.7	2.4/2.7	0940	6.5 ppm			Mudstone	Mudstone, gray, more competent; laminations (light brown), blocky with fractures at 60 degrees; no detectable odor but PID readings up to 6.5 ppm; slightly moist in some fractures.

LOCATION OF BOREHOLE

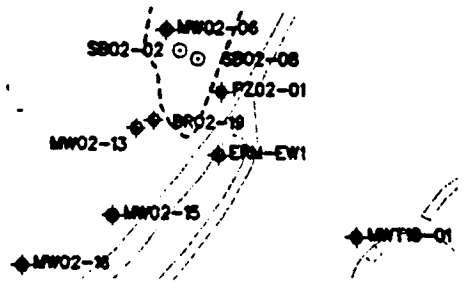


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW02-13
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	See note below
SUBSITE:	Directly Downgradient of WDA	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/26/99

DRILLING PERSONNEL/METHOD:
CME 850 Truck Mounted, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5" ID	0.0	5.2	—	1235	N/A		ML	Colluvium, clayey silt, dark brown (10YR 3/3), soft, very moist, uniform; dark brown to black organic material present from 4.8-5.2'. No hydrocarbon staining or odors observed.
CME 2.5" ID	5.2	9.4	1.6/3.8	1243	N/A		ML	(Limited sample recovery in soft clayey silt). Colluvium as above, hydrocarbon staining relict and trace odors present from 7.0-9.4' interval; clayey silt, dark greenish gray (5G 4/1), moist to very moist, soft. Soil sample collected from colluvium 8.5-9.4'; most continous relict stained and odorous interval in borehole.
CME 2.5"ID	9.4	14.6	2.0/5.2	1300	N/A		Bedrock	Colluvium as above; relict staining and odors become patchy (less prevalent) from 9.4 to 14.6'; colluvium is dark brown with intermittent patches of staining (greenish gray), no evidence of water saturation.
CME 2.5" ID	14.6	19.6	2.5/5.0	1305	N/A		Weathered Bedrock	Weathered sandstone bedrock, yellowish brown (10YR 5/6), prominently fractured, friable, some bedding discernible; sandstone is fine grained, well sorted; no evidence of water saturation; no hydrocarbon staining or odors. Weathered bedrock as above, patchy relict staining noted (<30%) slightly odorous; weathered mudstone present (interbedded) with mudstone fragments up to 1.0" diameter; also interval consists of 10-15% clay matrix (weathered mudstone), stiff, moist cohesive - hydrocarbon stained.
CME 2.5" ID	19.6	20.3	—	—	N/A		Mudstone Bedrock	(Refusal at 20.0', Tag Depth 20.3'). Mudstone bedrock, competent, very dark gray (N3). Groundwater seeping into base of borehole at 20.0' bgs). TD = 20.3'. (Trip 8" OD augers out of hole and ream to 20' to set 4" monitoring well). Note: Saturated conditions not encountered during drilling; within 48 hours, groundwater level observed at ground surface.

LOCATION OF BOREHOLE



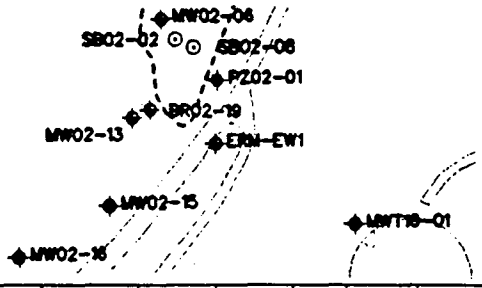
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-14
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	
SUBSITE:		LOGGED BY:	
DRILLING CO.:		DRILLING DATE(s):	N/A

DRILLING PERSONNEL/METHOD:
N/A

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
										Note: SB02-14 was originally intended to be a shallow(5') stilling well for sampling a seep at this location. Due to wet surface conditions, the stilling well could not be installed during drilling activities.
								5		
								10		

C:\Program Files\GBSD\Well Logger\Pt Molate Pbl.Rl.mdb

LOCATION OF BOREHOLE

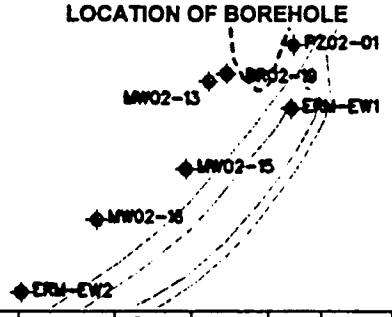


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW02-15
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	16-17' bgs
SUBSITE:	Downgradient of Waste Disp. Area	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/02/99

DRILLING PERSONNEL/METHOD:
CME 850 Truck Mounted, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/ 8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.8/5.0	1540	—				NR	Cobble jammed in sampler shoe - 0.8' of topsoil recovered.
CME 2.5"ID	5.0	10.0	2.0/5.0	1600	—			5	CL	Colluvium; silty clay, brown (10YR 4/3) with yellow to red mottling throughout; also considerable organics (roots ?); dry, no staining or odors present.
CME 2.5"ID	10.0	15.0	3.3/5.0	1615	50 ppm			10	CL	Colluvium; silty clay, brown to yellowish brown (10YR 5/4-5/6) with grey and yellow to red mottling; small gravel sized fragments (sandstone and mudstone ?) up to 1/4", angular to subrounded; dry with distinct petroleum odor.
CME 2.5"ID	15.0	20.0	4.3/5.0	1635	2-4 ppm			15	CL	Colluvium as above but with mudstone fragments increasing in size/frequency; wet at contact with fractured mudstone bedrock at 18.5'; slight petroleum odor. 18.5-20' mudstone, gray, fractured with white clay partings and prominent iron staining on fracture faces.
									Bedrock	

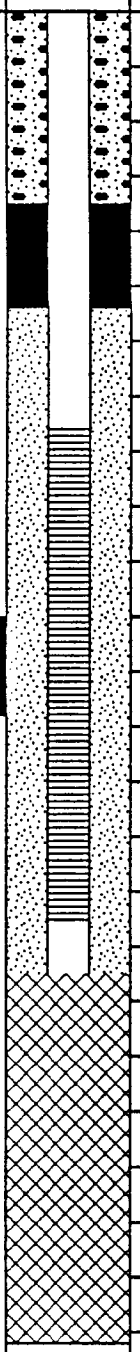
LOCATION OF BOREHOLE



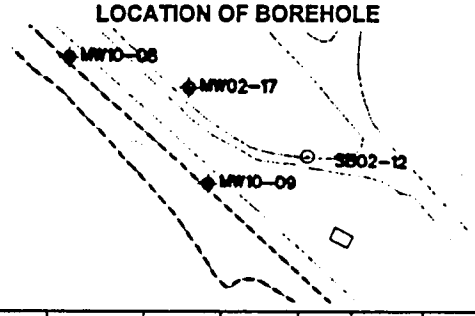
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW02-16
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	8.0' bgs
SUBSITE:	Between Retention Ponds	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/27/99

DRILLING PERSONNEL/METHOD:
CME 850 Truck Mounted, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.1	2.5/5.1	1012	—		ML	Fill material, clayey silt, dark yellowish brown (10YR 4/4), very moist to wet (from precipitation); consists of moderate amount of rock fragments (sandstone) yellow (10YR 7/8) up to 1/5" in diameter, clayey silt matrix also consists of sandy material. No hydrocarbon staining or odors observed.
CME 2.5"ID	5.1	10.0	2.5/4.9	—	130 ppm		ML	Fill as above; saturated (water) at approximately 8.0' bgs.
							ML	Clayey silt (native colluvium) soft, saturated (water), first indication of hydrocarbon staining (relict) at 8.0'.
CME 2.5"ID	10.0	11.7	1.7/1.7	—	114 ppm		ML	Colluvium as above - fresh product staining, strong odor, water saturated, greenish gray (5G 5/1).
					300 ppm		ML	Colluvium as above, trace of free product (appears as JP-5) at 12.0' bgs, water saturated.
CME 2.5"ID	11.7	14.0	2.2/2.3	—	—		Weathered Bedrock	Weathered mudstone bedrock, fractured dark greenish gray (10Y 4/1), no hydrocarbon staining or odors.
CME 2.5"ID	14.0	17.4	1.9/3.4	—	—		Weathered Bedrock	Weathered bedrock as above; prominently weathered to clay matrix (clay rich zone), hydrocarbon staining/odors dissipate, color is dark yellowish brown (10YR 4/6).
CME 2.5"ID	17.4	19.3	—	—	—		Weathered Bedrock	Weathered sandstone and interbedded mudstone, 30-40% fractures, moist to wet (17.4-18.9), damp (not saturated) from 18.9-19.3', no hydrocarbon staining/odors observed.
CME 2.5"ID	19.3	21.3	—	—	—		Weathered Bedrock	Weathered sandstone (Primary) and interbedded mudstone; 30-40% fractures; sandstone is very fine grained, well sorted, friable; interval is damp, no hydrocarbon staining or odors observed.
CME 2.5"ID	21.3	24.2	—	—	—		Weathered Bedrock	Weathered sandstone (primary); clay rich partings up to 7mm thick; FeO staining on fractured surfaces, damp to dry, no hydrocarbon staining or odors observed. TD = 24.2' Pull 8" Augers and ream to set 4" well.



LOCATION OF BOREHOLE



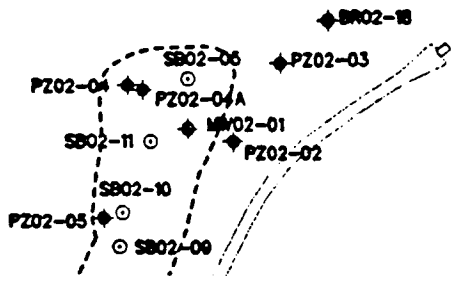
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW02-17
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	16-17' bgs
SUBSITE:	Downgradient of Catch Basin #2	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/03/99

DRILLING PERSONNEL/METHOD:
CME 850 Truck Mounted, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
							Topsoil	Topsoil
CME	0.0	5.0	3.5/5.0	1010	—		CL	Colluvium; silty clay, brown (10YR 4/3-4/4) with extensive yellow, rust and red mottling; mudstone fragments angular to subrounded up to 1/2"; damp.
CME	5.0	10.0	4.5/5.0	1020	—		CL	
CME	10.0	15.0	4.1/5.0	1025	15 ppm 30 ppm		CL	Colluvium; silty clay, dark greenish gray (Chart 1, GLEY 4/1) discoloration appears to be associated with petroleum odor; elevated PID readings; wet at approximately 16.5'.
CME	15.0	20.0	3.7/5.1	1035	7 ppm 2.5 ppm		CL	Colluvium, silty clay with normal coloration (10YR 4/3-4/4) and mudstone fragments up to 3/4"; prominenty iron mottling; damp to moist.
CME	20.0	25.0	3.5/5.0	1045	—		CL	
CME	25.0	30.0	5.0/5.0	1100	0.1 ppm		CL	Colluvium as above but with wide gray seams (2.5Y 6/1); gray seams are less silty and contain smaller mudstone fragments (up to 1/8"); moist.
							CL	Residuum; clay, greenish gray (Chart 2 GLEY 5/1) grading to fractured mudstone at 30.0'.
CME	30.0	32.5	2.3/2.5	1125	—		Mudstone	Mudstone, fractured, weathered, greenish grey as residuum above.

WELL Info. DEPTH (ft.) Graphic Log

LOCATION OF CORELOG

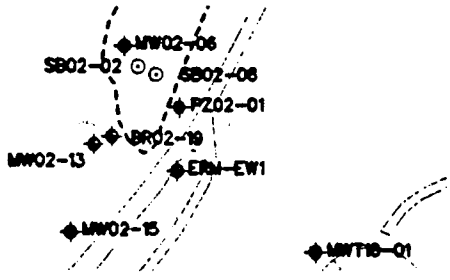


PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR02-18
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: N/A
SUBSITE: WDA - Directly Upgradient	LOGGED BY: J. DeAngelis
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 01/23/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig
3 7/8"OD Bedrock Coring
E. Sandoval, F. Sandoval, C. Macio

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY/ GRAPHIC LOG	Well Info.	ROCK DESCRIPTION
HQ 2 1/2"	60%	95%	—	N/A	N/A	N/A	N/A	1210		CL		Colluvium, mottled yellowish brown (10YR 5/6) and yellow (minor - 10YR 7/8); clayey silt, stiff, moist, cohesive; consists of minor amount of sandstone fragments up to 0.5", uniform.
HQ 2 1/2"	85%	90%	80%	N/A	N/A	N/A	N/A	1240	5	Weathered Bedrock		Weathered bedrock conglomerate, competent, primarily consists of sandstone clasts, very fine grained, well sorted, up to 2.5" diameter, yellowish brown; conglomerate matrix is plastic clay, yellowish brown; subangular mudstone nodules present in conglomerate, ranging from 3/4" diameter to 5mm diameter; patchy bunker fuel (noted sheen) present at approximately 6.5' to 7.5' bgs; some hydrocarbon odor noted - insufficient amount for chemical analysis, no hydrocarbon staining or odor noted below 7.5'.
HQ 2 1/2"	5%	90%	5%	N/A	N/A	N/A	N/A	—	10	NR		No recovery.
HQ 2 1/2"	10%	90%	5-10%	N/A	N/A	N/A	N/A	1315	15	Weathered Bedrock		Conglomerate as above, poor recovery, sandstone clasts prominent up to 2.5" (core diameter); mudstone nodules exhibit FeO, MnO staining; clayey matrix is bluish gray (10B 6/1).
HQ 2 1/2"	—	—	—	N/A	N/A	N/A	N/A	—		Weathered Bedrock		Bluish gray conglomerate as above.
HQ 2 1/2"	60%	90%	60-70%	N/A	80-90	N/A	N/A	1400		Mudstone		Mudstone, very dark gray (N 3), hard, massive, some evidence of approximately 90 degree (vertical) fracture orientation, remnants of highly plastic clay parting material present on fractured surfaces.
HQ 2 1/2"	60%	90%	40%	N/A	80-90	N/A	N/A	1505	20	Mudstone		(18-23' slow, hard coring, drill pressure steady). Massive mudstone as above, some milky quartz filling in fracture planes up to 1/4" thick. TD = 22.8'

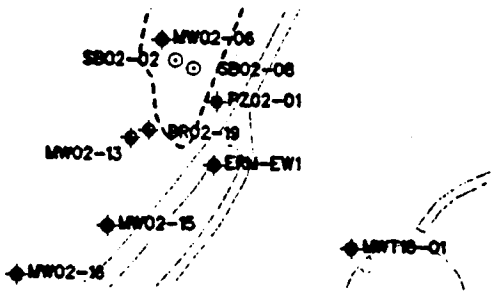
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-19
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	1.0' bgs
SUBSITE:	WDA Directly Downgradient	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/25/99
DRILLING PERSONNEL/METHOD:	CME 850 Truck Mounted, HSA 8"OD to bedrock 5' Continous CME Sampling (2 1/2" ID) E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.1	3.0/5.1	1225	N/A			ML	Fill material (clayey silt), dark yellowish brown, consists of minor rock fragments (sandstone - yellow), some organic material present.
								ML	Native colluvium, slightly clayey silt, uniform, greenish gray (5G 5/1), moist; relict staining and slight odor (3.0-5.1').
							5		
CME 2.5"ID	5.1	10.2	4.5/5.1	1240	N/A			ML	Colluvium as above; relict staining continues from preceding interval but is patchy from 5.1 to 8.0', and decreases from 8.6-10.2', matrix is moist, plastic (cohesive). Interval from 8.6-10.2 is yellowish brown (10YR 5/8).
							10		
CME 2.5"ID	10.2	15.5	2.1/5.3	1250	N/A			ML	(Loss of recovery, very soft material and evidence of water saturation). Colluvium (clayey silt as above) relict staining and slight hydrocarbon odor present from 11' to 14.4' (greenish gray as above); Interval from 14.4 to 15.5' is brownish yellow (10YR 6/8 - no relict staining present); interval from 11' to 15.5' is water saturated, very soft, sandy (possible flowing sands - water bearing). Soil sample collected from 12.0-13.0', relict staining prominent and odors present, clayey silt (colluvium)
							15		
CME 2.5"ID	15.5	20.4	2.0/4.9	1305	N/A			ML	Colluvium as above, water saturation prominent; no evidence of hydrocarbon staining or odors.
							20	ML	Hard drilling 18-20'. Weathered sandstone bedrock, well sorted, fine grained, durable, FeO staining on fracture planes, some bedding planes discernible; matrix is weathered silty clay with yellowish brown sand grains (weathered sandstone). TD = 20.4'. (Switch over to coring apparatus) 20.4-34.8' description found on corelog BR02-19.

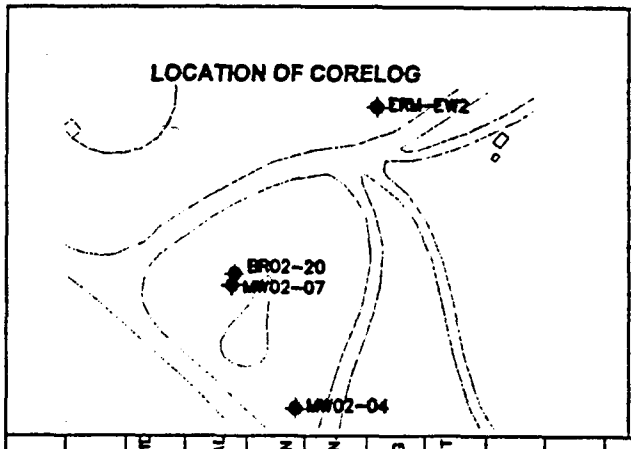
LOCATION OF CORELOG



PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR02-19
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: 1.0' bgs
SUBSITE: WDA Directly Downgradient	LOGGED BY: J. DeAngelis
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 01/25/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig
3 7/8"OD Bedrock Coring
E. Sandoval, F. Sandoval, C. Macio

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY/ GRAPHIC LOG	Well Info.	ROCK DESCRIPTION
												(0.0-20.4' description on boreing SB02-19).
									5			
									10			
									15			
									20			
HQ	90	80-90	75%	N/A	80-90	N/A	1430			Weathered Bedrock; Mudstone Bedrock		Weathered sandstone bedrock. Mudstone bedrock (competent) dark greenish gray (10Y 4/1) uniform; fracture planes 80-90 degrees, highly plastic clay parting material (greenish gray) up to 1mm in thickness.
HQ	75	75-85	75%	N/A	80-90	N/A	1450			Mudstone Bedrock		Mudstone as above, <1 % quartz filling intact within 80-90 degree fracture planes (24-25'), minor limonite staining on fractured surfaces.
HQ	65	80-90	60-70%	N/A	80-85	N/A	1510		25	Mudstone Bedrock		Mudstone as above, uniform, massive.
HQ	85	80-90	80%	N/A	80-90	N/A	1535			Mudstone		mudstone as above, quartz filling in fracture planes (<1%) up to 3mm thick from 28.5-30.0' interval.
HQ	—	—	—	N/A	—	N/A	1605		30	Mudstone		Mudstone, uniform, massive as above, prominent quartz filling intact in vertical (90 degrees) fracture planes (3%) from 32.5-33.5', ranging from 1 to-4mm in thickness. TD = 34.8'. TD after core bit removed, 34.0'.



PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR02-20
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: 14.0' bgs
SUBSITE: Catch Basin #2	LOGGED BY: J. DeAngelis
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 01/27-28/99

DRILLING PERSONNEL/METHOD:
CME 850 Truck Mounted
3 7/8"OD Bedrock Coring
E. Sandoval, F. Sandoval, C. Macio

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME
HQ	50%	50%	50-60	N/A	70-80	N/A	N/A	1720
HQ	75%	30%	60-70	N/A	85-90	N/A	N/A	N/A
HQ	75%	30%	50	N/A	85-90	N/A	N/A	0900
HQ	80%	30%	60-70	N/A	85-90	N/A	N/A	0920

DEPTH: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70

LITHOLOGY/GRAPHIC LOG: Weathered Bedrock; Mudstone; Mudstone; Sandstone; Sandstone; Sandstone

Well Info.

ROCK DESCRIPTION

0-30.2' description on borelog SB02-20.

Sandstone bedrock (85%) and interbedded mudstone bedrock (15%); sandstone is olive (5Y 5/3), very fine grained, durable, with yellowish brown limonite staining on fractured surfaces; mudstone occurs as thinly laminated interbeds (<1mm thick from 30.2 to 32.5') and increasing up to 7mm thick from 32.5 to 34.9'; highly elastic buff-white clay partings are present along fracture planes, and also appear on mudstone interbed surfaces, ranging from 3 to 5mm thick; clay partings appear as weak zones and are prominent along 70-80 degree fracture planes.

Mudstone interbeds increasing in thickness and constitute > 50% of sequence.

Mudstone with laminar sandstone interbeds up to 5mm in thickness; laminar interbeds up to 5mm in thickness; laminar interbeds are parallel to 90 degrees (vertical) fracture orientation.

No data

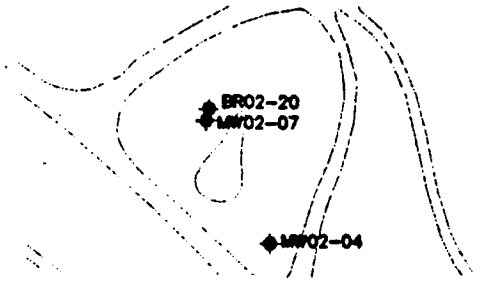
Sandstone, very fine grained, friable, prominently fractured; decrease in rock quality.

Sandstone as above to 40.7'. At 40.7', primarily mudstone with sandstone interbeds up to 8mm thick; fracture orientation 75-85 degree, FeO and limonite staining on fracture surfaces.

Sandstone/mudstone interbedded (50% each); laminar interbeds parallel 0 degree fracture orientation; sandstone interbeds are very fine grained, friable, and weaker bedrock quality along fracture planes.

TD = 43.2 feet (Cave in of 1.1').

LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB02-20
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	14.0' bgs
SUBSITE:	Catch Basin #2	LOGGED BY:	J. DeAngelis
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	01/27-28/99
DRILLING PERSONNEL/METHOD:	CME 850 Track HSA 8"OD to bedrock E. Sandoval, F. Sandoval, C. Macio		

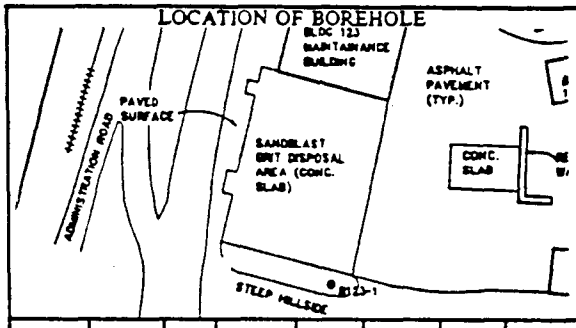
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	BLOW COUNTS	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	2.2/5.0	1400		N/A			CL	Fill material, clayey silt, dark yellowish brown (10YR 4/6) mosit, stiff; consists of moderate amount of sandstone rock fragments brownish yellow (10YR 6/8); fragments are well sorted, fine grained, durable, up to 1.0" in diameter. No hydrocarbon staining or odors observed.
								5		
CME 2.5"ID	5.0	10.1	1.5/5.1	1417		N/A			CL	(Poor recovery, will begin 2.5' sampling intervals at 10'). Fill material as above, yellowish brown (10YR 5/6), moist to very moist, no hydrocarbon staining or odors observed.
								10		
CME 2.5"ID	10.1	12.5	N/A	N/A		N/A			NR	No recovery.
									CL	Fill (possibly colluvium) as above, no sample recovery.
Split Spoon	12.5	15.1	N/A	1500	9-8/12	N/A			CL	Colluvium with sandstone fragments, friable, prominently fractured, water saturated (water level measred at 14.0').
								15		
CME 2.5"ID	15.1	17.6	2.0/2.5	1515		N/A			CL	Colluvium as above with clay (clay rich zones), fresh hydrocarbon staining and odors present in interval from 15.5-17.6'; matrix is not satuarated from 16.0 to 17.6' (moist); water bearing interval is approximately 13.5-15.5'. Matrix is very dark gray (N 3/1). (Stop drilling - allow water to develop to grab groundwater sample. Insufficient water developing, water level at adjacent well is 15.2' with product evident (well is 15 west of SB02-20). 15:50 resume drilling. Collected composite soil sample from 15.5-17.6', clayey silt, soft, water saturated, fresh hydrocarbon stained, odorous.
CME 2.5"ID	17.6	19.6	N/A	1600		N/A			CL	
								20		
CME 2.5"ID	19.6	25.1	N/A	1610		N/A			CL	Colluvium as above, moist, fresh staining and odors from previous interval through this interval.
									CL	Colluvium, stained, odorous, moist (not water saturated).
								25		Colluvium as above, no staining or odors (share hydrocarbon content at 22.7', colluvium is stiff, moist, yellowish brown (10YR 5/8).
CME 2.5"ID	25.1	30.2	N/A	N/A		N/A			CL	Colluvium as above, mottled yellowish brown (10YR 7/6), stiff to very stiff, moist, no hydrocarbon staining or odors.
								30	Weathered Bedrock	Weathered sandstone bedrock (primary) and interbedded mudstone (29.5-30.2'); weathered sandstone is friable, very fine grained, well sorted 10-20% fractures prominent, FeO staining present on fractured surfaces. TD = 30.2', will begin coring bedrock at 30.2'.

SANDBLAST GRIT AREA

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, IN.

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: B123-1
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 36 ft
SUBSITE: Building 123	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/19/90 to 9/21/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/Mobil B-57, 4 1/4" ID/ HSA, Auger with selected split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
Mod. (2.5")	0.0 - 1.5	26 / 32 / 40	0.9 / 1.5	1530	0			1	NA	0.0 to 1.5 ft: Fine sandstone (sand) with silty (siltstone) liminations, mottled dark gray (2.5YN/4) and light reddish brown (5YR7/4), dry, dense, crumbly, grades into uniform light reddish brown (5YR7/4) very fine sandstone, also dry and crumbly, trace quartz or feldspar grains, 2-3mm and rounded. Sample B123-1 (0.0-1.5) collected.
Calif. (2")	1.5 - 3.0	33 / 50 / 42	1.5 / 1.5	1535	1-2			2		1.5 to 3.0 ft: Very fine to fine sandstone bedrock like above but less dense, dry, very crumbly, weathered and oxidized along partings or fractures, quartz arenite sand grains. Sample B123-1 (1.5-3.0) collected.
Std. (1.5")	3.0 - 3.3	50	0.2 / 0.3	1540				3		3.0 to 3.3 ft: Slough with 0.1 ft very fine sandstone, yellow (10YR7/8), dry.
Std.	4.0 - 5.0	86 / 100	0.8 / 1.0	1545	0			4	NA	4.0 to 5.0 ft: Weathered siltstone/sandstone bedrock, finely laminated and cross laminated siltstone, weathered reddish brown (2.5YR4/4) to black along fractures or partings, dry.
								5		
								6	NA	6.5 to 7.0 ft: Mostly slough from plug, fractured shale and sandstone imbedded in slough matrix, sandstone is yellow (10YR7/8) to grayish brown (10YR5/2). End 9/19/90.
Calif.	6.5 - 7.0	100	1.5 / 0.5	1550				7		
								8		
Std.	9.0 - 10.0	46 / 90	1.0 / 1.0	0830	0			9	NA	Begin 9/20/90 9.0 to 10.0 ft: Sandstone bedrock, finely laminated, clean but weathered brownish yellow (10YR6/8) with strong brown (7.5YR5/8) partings, also contains laminations, partings, and clasts of pale brown (10YR6/3) clay.
								10		10.0 to 13.0 ft: Logged from cuttings: sand, well sorted, brownish yellow (10YR6/8), dry, medium dense, some clods of silt, occasional siltstone and clay cuttings.
								11	NA	
								12		
								13		13.0 to 14.5 ft: Sandstone bedrock, weathered and finely laminated as above, brownish yellow (10YR6/8), oxidized dark reddish brown (2.5YR3/4) partings, dry. Bedrock Upper 1.0 ft contains slough of light gray (10YR7/2) clay and brownish yellow (10YR6/6) silt.
Calif.	13.0 - 14.5	43 / 60 / 53	1.5 / 1.5	0845	0			14		
								15		
								16		
								17		
								18	NA	18.0 to 18.5 ft: Upper 0.5 ft is slough followed by 0.4 ft fractured sandstone bedrock, oxidized along fractures, black to dark reddish brown (5YR3/3) oxidized faces along fractures, dry, very dense. Sample obtained is angular and fractured from drilling/hammering. End 9/20/90.
Std.	18.0 - 18.5	90	0.9 / 0.5	0920	0			19		
								20		

JOB NO: 044-0010IRSIFW

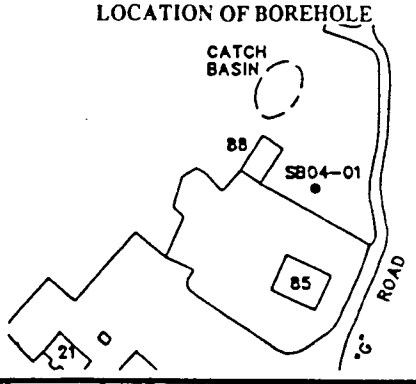
BOREHOLE DESIGNATION: B123-1

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Pro Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										NOTE: Rig moved off borehole 9/20/90. Moved back onto borehole on 9/21/90. Drill deeper to auger refusal and/or water. Start 9/21/90. Following descriptions based on cuttings only.
				1112				21	NA	21.0 ft: Fractured sandstone bedrock, brownish yellow (10YR6/6), dry, pulverized.
								22		22.0 ft: Sandstone bedrock, brownish yellow (10YR6/6), dry, occasional small (4-6mm) fractured chips of siltstone/quartzite.
								23		
								24		
								25		
								26		26.0 ft: As above.
								27		
				1130				28		28.0 to 30.0 ft: Very tight drilling. Rounded pebbles of weathered quartzite; gravel consisting of quartz arenite sandstone, quartz and feldspar grains predominant, also dark gray microcrystalline quartz.
								29	NA	
								30		30.0 to 33.0 ft: Gravel cuttings only to 33 ft, similar to above.
								31		
								32		
								33		33.0 ft: Softer material; mostly siltstone/sandstone cuttings, mostly pulverized; trip out to check teeth on bit. Changed 3 of 4 teeth on lead auger bit; 2-inch quartzite pebble obtained from auger bit. Continued very hard drilling in bedrock.
				1144				34	NA	
								35		
						■	▼	36		36.0 ft: Ground water encountered on 9/22/90, sample obtained as B123-1 GW(36).
								37		
								38		
								39		
				1258				40		40.0 ft: Very hard drilling.
								41		41.0 ft Continued drilling in bedrock.
				1306				42		42.0 ft: Auger refusal in sandstone/siltstone bedrock.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHDE	BOREHOLE DESIGNATION: SB04-01
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: SANDBLAST GRIT	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/15/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ Central Mining Equipment (CME) 75 drill rig, 6 3/4-inch outer diameter (OD), 3 7/8-inch inner diameter (ID) HSA hollow stem auger (HSA), continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1 2 3 4	ML	0.0 to 5.0 feet: Colluvium; sandy silt with some clay (20 percent fine sand, 5 to 10 percent clay), dark brown (10YR3/3) to dark yellowish brown (10YR3/4). Logged from auger cuttings.
	5.0	5.0								5 6 7 8 9	ML	5.0 to 10.0 feet: Colluvium (as above); very dark brown (10YR2/2). Logged from auger cuttings.
	10.0									0 1 2 3 4 5 6 7 8 9 0	CL	10.0 to 11.0 feet: Colluvium; clayey silt with some fine sand (30 to 40 percent clay, 5 to 10 percent fine sand), dark brown (10YR3/3) to dark yellowish brown (10YR3/4), contains some root fragments, non-plastic, medium hard, dry to slightly moist.
SS	10.0	12.0	12 16 20 35	2.0/2.0	1450						CL	11.0 to 12.0 feet: Colluvium (as above); contains numerous weathered sandstone fragments ranging from 1/4 inch to 1/2 inch in diameter, subrounded.
SS	12.0	14.0	15 15 30 40	2.0/2.0	1505	1.2					CL	12.0 to 18.0 feet: Colluvium; clayey silt with sandstone and quartzite fragments, (30 percent clay, 10 percent fine sand), dark yellowish brown (10YR4/4 to 10YR4/6); rock fragments range from 1/8 inch to 1 inch in diameter, subrounded to subangular; hard, slightly moist, 16.0-to 18.0-foot interval is dry to slightly moist, no hydrocarbon contamination apparent.
SS	14.0	16.0	20 30 30 30	2.0/2.0	1515	3.4						SB04-01 (16.5-16.8) collected at 1345 SB04-01 (16.8-17.0) collected at 1345
SS	16.0	18.0	15 20 30 35	2.0/2.0	1545		X					
SS	18.0	20.0	15 20 25 30	2.0/2.0	1552						CL	18.0 to 20.0 feet: Colluvium; clayey silt with some fine sand, brown (10YR5/3) to yellowish brown (10YR5/6), contains minor sandstone fragments ranging from 1/8 inch to 1/4 inch in diameter, moderately hard to hard, dry to slightly moist.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB04-01
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/15/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
ss	20.0		30	1.0/2.0	1600							20.0 to 22.0 feet: Colluvium (as above); dry, no apparent hydrocarbon contamination.
			50							1		
		22.0										Total Depth (refusal) at 20.0 feet. Split spoon driven from 20.0- to 22.0-feet.
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		
										1		
										2		
										3		
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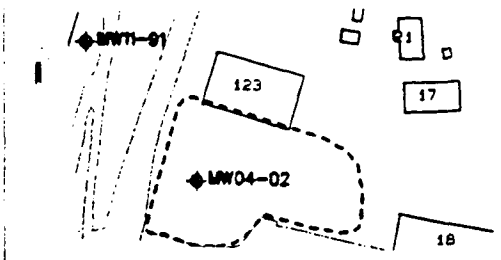
										7		
										8		
										9		
										0		

LOCATION OF BOREHOLE



PROJECT NO.:	044-0248	BOREHOLE DESIGNATION:	SB04-02
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt. Molate	DEPTH TO WATER:	27.0'
SUBSITE:	Area 4	LOGGED BY:	A. E. Ortelli
DRILLING CO.:	Bayland	DRILLING DATE(s):	07/27/94
DRILLING PERSONNEL/METHOD:	75 CME 5' CME Sampler, 7 7/8" auger. Slagle/Marting		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
									Concrete	Concrete slab was removed prior to HSA drilling.
CME	0.5	4.5	1.6/4.5	1500						Upper 0.25' of interval consists of coarse sand beneth the concrete slab. Colluvium, silty-fine sands, ~20-30% silt with some clay, 10YR 5/6-5/8 yellowish brown, soft, slightly moist, with phyllite cobbles, and sandstone cobbles (~ 1" diameter, subrounded).
	5.0	10.0	0.75/5.0	1510				5		Colluvium; disturbed material, ~ 3" subrounded quartzite cobble was plugged inside the sample barrel, moist to wet colluvium, soft consistancy.
	10.0	15.0	2.5/5.0	1520				10		Weathered bedrock, large (~ 3" diameter, subrounded), quartzite (?) cobble at top of interval. Phyllite mudstone, extensively fractured, 10YR 3/1, very dark grey, hachly fractured; yellowish brown (10YR 5/6) silty fine sands, fracture partings wet on weathered bedrock.
	15.0	20.0	2.7/5.0	1540				15		Weathered Phylytic Bedrock; as described in 10.0-15.0' interval. Extensively weathered zone at 16.0-17.0', silty clay, 10YR 3/1, very dark gray, mottled 10YR 5/6, yellowish brown, soft, wet, with numerous mudstone fragments throughout the clayey matrix.
	20.0	25.0	4.0/5.0	1555				20		Extensivley Weathered Bedrock; silty clay with fragements of siltstone, 10YR 3/1, very dark gray, soft, wet.
	25.0	30.0	5.0/5.0	1620				25		Silty clay with fragmental fine grained sandstone, 10YR 3/1, very dark gray, soft, wet.
									OL	Organic Silty Clay with numerous roots/rootlets, 10YR 2/1-2/2, blac to very dark brown, very soft, wet to saturated, slight plastic.
								30	SM	Silty sands, very fine sands with ~ 20-30% silt, 10YR 4/2-4/3, dark grayish brown to dark brown, soft, saturated.
	30.0	35.0	5.0/5.0	1645						Silty sands, fine sands with ~ 30% silt, 10YR 5/4-5/6, yellowish brown, mottled 5YR 4/3-4/4, reddish brown to 3/3-3/4 dark reddish brown; numerous fragments of

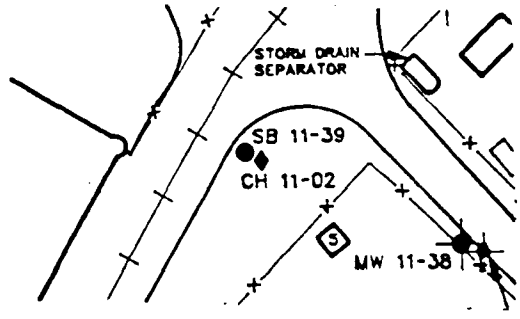
TREATMENT PONDS

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	COREHOLE DESIGNATION: CH11-02
CLIENT: U. S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO SATURATION: NONE
SUBSITE: RECOVERY PLANT AREA	LOGGED BY: ROB BARRY
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): MARCH 4, 1992

DRILLING PERSONNEL/METHOD:

TIM QUICK, RICK COOPER, BRUCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

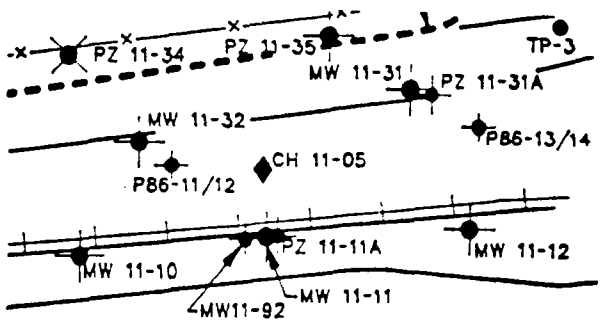
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER IN SOIL BORING SB11-39 TO REFUSAL IN BEDROCK AT 18 FT.
									24		
HQ	70			90				0816			24 TO 25 FEET: SLOUGH
									25		
	67				75-80			0855			SLOUGH: PEBBLES AND ROCK FRAGMENTS IN A CLAYEY SILT OR SILTY CLAY MATRIX UPPER 0.5 FT.; WEATHERED YELLOW (10YR7/8); SANDSTONE BEDROCK IN LOWER 0.5 FT., FINE TO COARSE GRAINED, MODERATELY TO POORLY SORTED, ROUNDED TO SUBANGULAR, SOME SILT, DENSE, DRY, CONTAINS OCCASIONAL LARGE (6MM) QUARTZ PEBBLES OR FRAGMENTS.
									26		
									27		25 TO 29.4 FEET: SANDSTONE
									28		SANDSTONE: HIGHLY BROKEN, WEATHERED, SOFT, SLIGHTLY FRIABLE, FINE TO MEDIUM GRAINED, MODERATELY SORTED, MOSTLY QUARTZ WITH FELDSPAR (20-30%), SOME MICA (MUSCOVITE); BROWNISH-YELLOW (10YR 6/6) ON FRESH SURFACES WITH PATCHES OF PALE GREENISH-GRAY UNWEATHERED ZONES (PHOTO #16); HIGHLY OXIDIZED WITH ORANGE AND YELLOW-ORANGE (IRON) STAINING ALONG NUMEROUS MICROFRACTURES, SEAMS OF PALE GREENISH GRAY TO WHITE (5Y 8/1) OR GRAYISH-BROWN CLAY AND CLAYEY SAND ALONG FRACTURES; FRACTURES ALSO CONTAIN ANGULAR (TABULAR) FRAGMENTS OF QUARTZ (UP TO 7 MM); SOME FRACTURES ARE HEALED, FRACTURE ORIENTATION IS ABOUT 75-80 DEGREES FROM HORIZONTAL.
									29		
	92							0930			
									30		
									31		UPPER 0.1 FT. OF THIS INTERVAL CONTAINS GRAY (10YR4/1) CLAYSTONE LENSES STRATIFIED IN SILTY MATRIX, BROWNISH-YELLOW (10YR6/8); SANDSTONE AND MUDSTONE (OR CLAYSTONE) IN UPPER 0.7 FT. IS HIGHLY BROKEN, PROBABLY DUE TO DRILLING.
									32		29.4 TO 33.3 FEET: SANDSTONE/MUDSTONE
									33		SANDSTONE/MUDSTONE (TURBIDITE): LIGHT YELLOWISH-BROWN (10YR6/4) SANDSTONE ABOVE GRAY (10YR5/1) TO PALE BROWN (10YR6/3) MUDSTONE, SIMILAR TO 25-29.4 FT. INTERVAL.
									34		SANDSTONE BROKEN AND FRACTURED; BROKEN DUE TO DRILLING AT TOP AND BOTTOM OF INTERVAL (PHOTO #18 AND #20).
											SANDSTONE IS PREDOMINANTLY QUARTZ WITH 20-35% FELDSPAR, FINE TO MEDIUM GRAINED, MODERATELY SORTED, LITHIC FRAGMENTS INCREASE (0.1-0.8 MM) NEAR CONTACT WITH MUDSTONE.
											MUDSTONE IS SOFTER, FRACTURED; MOST FRACTURES ARE HEALED WITH LIMONITE OR WHITE QUARTZ IN VEINS UP TO 1.5 CM THICK (PHOTO #17), ONE HEALED FRACTURE CONTAINS MASSIVE, VUGGY QUARTZ EXHIBITING BANDED COLORS (GRAY AND WHITE) PARALLEL TO THE VEIN SURFACE (PHOTO #19); MUDSTONE EXHIBITS RELICT BEDDING AND ASSOCIATED STRUCTURES (NOW HIGHLY CONTORTED), NO FINING UPWARD SEQUENCE OR RIP-UPS NEAR THE CONTACT WITH THE SANDSTONE ABOVE.
											TOTAL CORED DEPTH = 33.3 FEET.
											NOTE: PACKER TEST PERFORMED IN 28 TO 33.3 FOOT INTERVAL FOLLOWING CORE DRILLING.

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	**COREHOLE DESIGNATION:** CH11-05
CLIENT: U. S. NAVY	**SURFACE ELEVATION:** NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	**DEPTH TO SATURATION:** ~15 FT.
SUBSITE: TREATMENT PONDS AREA	**LOGGED BY:** ROB BARRY
DRILLING CO.: LAYNE-WESTERN	**DRILLING DATE(S):** MARCH 6, 1992

DRILLING PERSONNEL/METHOD:

TIM QUICK, RICK COOPER, BRUCT HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

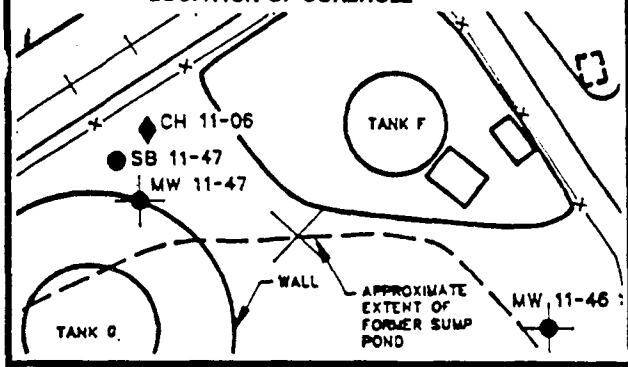
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER TO REFUSAL IN BEDROCK AT 65.5 FEET.
									64		64 TO 69 FEET: SANDY SILT WITH MINOR CLAY
HQ				90							SANDY SILT WITH MINOR CLAY: VERY FINE GRAINED, OLIVE (5Y4/3), MOTTLED YELLOWISH-BROWN (10YR 5/6) TO STRONG BROWN (7.5YR 5/6).
									65		
									66		69 TO 73.3 FEET: SANDY SILT, MUDSTONE, SANDSTONE
								0800			
									67		SANDY SILT (UPPER 1.3 FT.): VERY FINE GRAINED CONTAINING WHITE QUARTZ (50-60 %), FELDSPAR (20-35%), LITHICS (2-10%) AND MINOR CLAY; MOTTLED ORANGISH -YELLOWISH-BROWN, OLIVE, AND DARK GRAY; CONTAINS LARGE (0.5 X 4 CM) SANDSTONE FRAGMENT; WEATHERED AND FRACTURED, FRACTURES ARE HEALED WITH VUGGY WHITE QUARTZ (1-6MM THICK).
									68		
									69		AT 70.3 TO 71 FEET SANDY SILT IS MORE WEATHERED AND BROKEN INTO SMALL FRAGME AND PEBBLES, POSSIBLY REPRESENTING HIGHLY WEATHERED BEDROCK (SAPROLITE).
	85								70		MUDSTONE: GRADING TO SHALE (SLIGHTLY METAMORPHOSED), BLACK (5Y2.5/1); TRANSITIONAL DEPOSITION TO SANDSTONE (GRADING TO QUARTZITE), DARK GRAY (5Y4/2) AND LIGHT OLIVE-BROWN (2.5Y5/4); MODERATE TO WELL-SORTED QUARTZ (60-70%), FELDSPAR (10-20%), AND MINOR LITHICS; GRADATION FROM MUDSTONE TO QUARTZITE IS SMOOTH, QUARTZITE EXHIBITS A GREENISH-GRAY (5Y5/1) WEATHERING RIND ALONG FRACTURES (UP TO 1 CM THICK).
									71		
								0825			
									72		73.3 TO 78.3 FEET: QUARTZITE: GRADES FROM OLIVE (2.5Y5/3) TO (BLUISH-GREENISH) GRAY (5Y5/1); BLUEISH-GREENISH COLOR DUE TO CHLORITIC ALTERATION AND/OR GLAUCONITE; CONTAINS WHITE QUARTZ (60-70%), FELDSPAR (10-25%), AND LITHICS (15-20%); CRYSTAL AND GRAIN SIZE INCREASE WITH DEPTH (UP TO 2MM); MODERATELY FRACTURED WITH INCONSISTENT FRACTURE ORIENTATION, BECOMING LESS FRACTURED AND WEATHERED WITH DEPTH; MOST FRACTURES ARE HEALED WITH VUGGY, WHITE QUARTZ; WEATHERING RIND EXHIBITED ALONG FRACTURES SIMILAR TO 70 TO 73 FT. INTERVAL; BEDDING AND OTHER SEDIMENTARY STRUCTURES ARE NOT EVIDENT; ROCK IS SIMILAR TO OUTCROP AT THE SOUTH END OF DRUM LOT NO.1.
									73		
	97								74		
									75		TOTAL CORED DEPTH = 78.3 FEET.
									76		NOTE: PACKER TEST PERFORMED IN 74 TO 78.3 FOOT INTERVAL FOLLOWING CORE DRILLING.
								0920			
									77		
									78		
									79		

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	COREHOLE DESIGNATION: CH11-06
CLIENT: U. S. NAVY	SURFACE ELEVATION: ~20.5 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO SATURATION: ~ 6 FT.
SUBSITE: TANK G AREA	LOGGED BY: ROB BARRY & DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): MARCH 6, 1992

DRILLING PERSONNEL/METHOD:

TIM QUICK, RICK COOPER, BRUCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

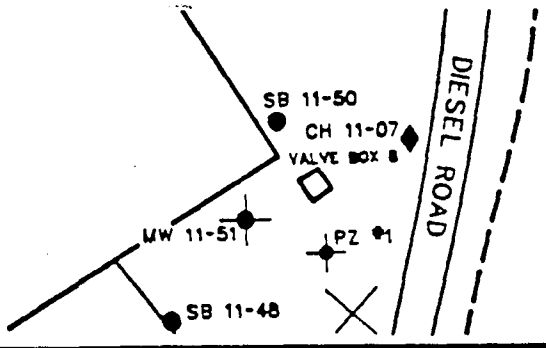
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER TO REFUSAL IN BEDROCK AT 48 FEET; COREHOLE LOCATED ABOUT 16 FEET SOUTH OF SOIL BORING SB11-47.
									48		
HQ	68			90	20,45 80			1430			48 TO 52 FEET: SANDSTONE
									49		SANDSTONE: SLIGHTLY METAMORPHOSED, PALE OLIVE (5Y6/3), COMPOSED OF WHITE, GRAY, AND CLEAR QUARTZ (40-65%), FELDSPAR (20-30%), AND LITHICS (2-5%): MODERATELY SORTED TO SUBANGULAR GRAINS; FRACTURING IS COMMON, ORIENTATION AT 20°, 45°, AND 80° FROM HORIZONTAL; WEATHERING ALONG FRACTURES PREDOMINANTLY LIMONITE, SOME FRACTURES CONTAIN (GREENISH) WHITE (5Y5/1) CLAY; VERY SPARSE MUDSTONE CLASTS (1 x 4MM) AND SOME VUGS.
									50		
									51		UPPERMOST 0.3 FT. IS HEAVILY WEATHERED SAPROLITE CONSISTING OF SANDY SILT WITH MINOR YELLOWISH-BROWN CLAY.
									52		
	100							1602			52 TO 54.3 FEET: SANDSTONE
									53		SANDSTONE, SLIGHTLY METAMORPHOSED, PALE OLIVE (5Y6/3), AS ABOVE, INCREASE IN THE NUMBER OF FRACTURES.
									54		
	100							1630			54.3 TO 59.4 FEET: QUARTZITE
									55		FRACTURED QUARTZITE, UNIFORM AND HARD, COLOR AND COMPOSITION AS SANDSTONE ABOVE; FRACTURES NUMEROUS BUT CLOSED (HEALED) WITH IRON-OXIDE OR LIMONITE, WEATHERING RIND EVIDENT ALONG FRACTURES, APPROXIMATELY 1 TO 2MM THICK. SEE PHOTO 6-6 IN PHOTO LOG. TOTAL CORED DEPTH = 59.4 FEET.
									56		
									57		NOTE: PACKER TEST PERFORMED IN COREHOLE AT 50 TO 59.4 FOOT INTERVAL.
									58		
									59		
									60		

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	**COREHOLE DESIGNATION:** CH11-07
CLIENT: U. S. NAVY	**SURFACE ELEVATION:** NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	**DEPTH TO SATURATION:** NONE
SUBSITE: VALVE BOX 8 AREA	**LOGGED BY:** ROB BARRY & DAVE WEST
DRILLING CO.: LAYNE-WESTERN	**DRILLING DATE(S):** MARCH 7, 1992

DRILLING PERSONNEL/METHOD:

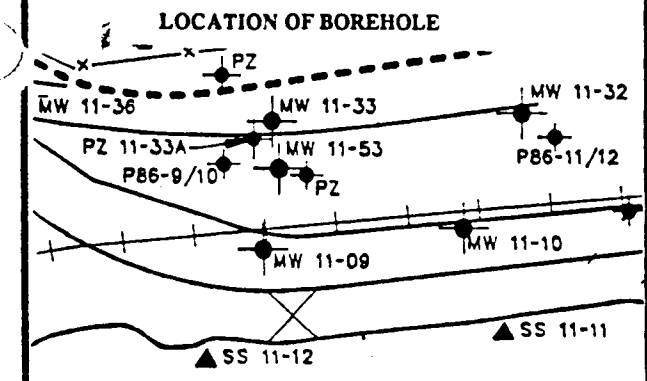
TIM QUICK, RICK COOPER, BRUCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER TO REFUSAL IN BEDROCK AT 28.8 FEET; COREHOLE LOCATED ABOUT 50 FEET SOUTHWEST OF SOIL BORING SB11-50. SEE PHOTO 6-7 IN PHOTO LOG.
									32		32 TO 35.2 FEET: SANDSTONE, MUDSTONE
HQ	91			90				0813			
									33		SLOUGH CONSISTING OF CLAY AND PEBBLES IN UPPER 0.5 FT.
					60?, 45						SANDSTONE: LIGHT BROWNISH YELLOW (10YR6/6), MEDIUM TO FINE GRAINED; WHITE, GREY, AND CLEAR QUARTZ (50-65%), FELDSPAR (15-30%), LITHICS AND CLAYS (2-8%); BEDDING AND SEDIMENTARY STRUCTURES NOT EVIDENT; FRACTURING IS COMMON, FRACTURES HEALED WITH DARK (RUST-COLORED) LIMONITE AND/OR WHITE QUARTZ; SHARP BUT IRREGULAR CONTACT WITH THE UNDERLYING MUDSTONE.
									34		
									35		
	95							0852			MUDSTONE IS VERY DARK GRAY(7.5YR3/0); EXHIBITS ABUNDANT HEALED MICROFRACTURES CONTAINING LIMONITE AND/OR QUARTZ; FRACTURE PATTERN IS IRREGULAR, ALTHOUGH SOME MAY BE PARALLEL TO RELICT BEDDING (60° FROM HORIZONTAL); SEDIMENTARY BANDING IS EVIDENT AND MAY BE A REMNANT BEDDING PLANE (NOW AT 45° FROM HORIZONTAL).
									36		
									37		
	90				45?, 85?			0929			35.2 TO 37.5 FEET: QUARTZITE
									38		QUARTZITE: LIGHT YELLOWISH-BROWN; FINE TO MEDIUM GRAINED, BECOMING PREDOMINANTLY MEDIUM GRAINED FROM 36.4 TO 37.5 FEET; WELL TO MODERATELY WELL SORTED; SUBROUNDED TO MINOR SUBANGULAR; COMPOSED PREDOMINANTLY OF QUARTZ, FELDSPAR (< 15%), AND LITHICS (< 10%); UPPER 0.6 FT. CONTAINS QUARTZ-FILLED FRACTURES (UP TO 3 MM); WEATHERING RIND DIRECTLY RELATED TO FRACTURE PATTERN (PHOTO #7); SLICKENSIDES (1-2 CM) ALSO EVIDENT.
									39		
									40		AT 35.8 TO 36.4 FT., MUDSTONE MATRIX WITH CLASTS OF HIGHLY BROKEN SAND.
									41		37.5 TO 41.5 FEET: INTERBEDDED MUDSTONE AND QUARTZITE
									42		UPPER 0.3 FT. IS DARK GRAY MUDSTONE: CONTAINS NUMEROUS FRACTURES AND MICROFRACTURES HEALED WITH LIMONITE AND QUARTZ; SEDIMENTARY BANDING INDICATIVE OF RELICT BEDDING NEAR 38 FEET; FOLLOWED BY HIGHLY FRACTURED AND BROKEN, LIGHT GRAY (10YR7/2) TO VERY PALE BROWN (10YR7/3) QUARTZITE; ALL FRACTURES CONTAIN LIMONITE OR WHITE QUARTZ (UP TO 6MM THICK) AND ARE VUGGY; 0.5 FT. VERY BROKEN MUDSTONE WITH SANDY RIBBONS; A WEDGE OF DARK GRAY MUDSTONE INTERBEDDED IN QUARTZITE IN THIS INTERVAL MAY EXHIBIT THE HIGH-ENERGY REGIME OF A SUBMARINE SLUMP (PHOTO #9), BRECCIATED CLASTS AND FLAME STRUCTURE ALSO EVIDENT. SEE PHOTO 6-9 IN PHOTO LOG.
											1.7 FT. OF QUARTZITE: COARSER GRAINED THAN ABOVE (MEDIUM GRAINED), PATCHES OF WEATHERED QUARTZITE, CONTAINS NON-WEATHERED FELDSPAR AND LITHIC FRAGMENTS; LESS LIMONITIC STAINING THAN QUARTZITE ABOVE.
											NOTE: PACKER TEST PERFORMED IN 35 TO 41.5 FOOT INTERVAL FOLLOWING CORE DRILLING.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-09
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.95 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.3 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/27/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			1.8/5.0	0852	0				1		0.0 to 5.0 feet: Fill Material (asphalt at surface); upper 1.2 ft. is sandy silt with rock fragments, brown (10YR 5/3), nonplastic, moist, containing small weathered pods of decomposed sandstone and hard clasts of siltstone with black limonite coating; lower 0.6 ft. is silty sand, well sorted fine- to very fine-grained sand, light brownish gray (2.5Y 6/2), moist, loose.
										2		
						0				3		
										4		
		5								5		5.0 to 10.0 feet: Fill Material; upper 1.0 ft. is silty sand (as above), with lens of very coarse sand about 5 mm thick; lower 1.4 ft. is sandy silt with rock fragments, brownish yellow (10YR 6/8) mottled brown (10YR 5/3).
CME	5			2.4/5.0	0930	1-2				6		
						4-5				7		
										8		
										9		
		10								10		10.0 to 15.0 feet: Fill Material, silty sand above oil-saturated rock rubble; upper 1.4 ft. is silty sand, poorly sorted very fine- to very coarse-grained sand, olive gray (5Y 5/2), moist, loose; color change at 11.4 ft. from olive gray through a 2-inch yellowish-brown (10YR 5/4) to greenish-gray zone; lower 1.0 ft. consists of large angular bedrock fragments coated with free oil, sample SB11-09(11.0-11.5) collected at 1000, headspace on sample is 1-2 ppm.
CME	10			2.3/5.0	0945	4.5		■		11		
						6				12	▽	
						14				13		
										14		
		15								15		15.0 to 19.0 feet: Fill Material, oil-saturated rock rubble; dark greenish gray, sample is about 90% rock fragments, bedrock sandstone, siltstone and quartzite, silty film on rock fragments, oil sheen on water in spoon; 2.2 ft. of fill material was retrieved in 15-20 ft. sample interval, sample SB11-09(15.5-16.0) collected at 1005, headspace in sample is 10-15 ppm.
CME	15			2.2/5.0	1002			■		16		
						15 (HS)				17		
										18		Alluvium; contact at 19.0 feet. is interpolated from nearby borings. 19.0 to 21.2 feet: Alluvium; silty sand (SM), medium grained, well sorted, dark greenish gray, grades to coarse- and very-coarse sand (SP) at 20.4 ft., samples SB11-09(21.0-22.0) and duplicate sample DP11-09 (21.0-22.0) were collected at 1040 in alluvium .
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-09
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			3.2/5.0	1025	5-6				21		21.2 to 25.0 feet: Bay Mud with rock fragments (GC); dark greenish gray, saturated, matrix is mostly fluid, most rock fragments concentrated in upper foot.
										22		
										23		
										24		
		25								25		25.0 to 30.0 feet: Bay Mud; sandy silt (ML), dark greenish gray, slightly plastic, saturated at top, moist below, very soft, sand is v fine grained; large brittle shell fragments (clam shells), very pale brown (10YR 8/3); sample SB11-09(27.5-28.0) collected at 1105, headspace in sample is 8-10 ppm.
CME	25			2.2/5.0	1040	13				26		
						7.5				27		
										28		
						8-10 (HS)				29		
		30								30		30.0 to 35.0 feet: Bay Mud; 1.5 ft. of saturated bay mud (slough) above 3.0 ft. of bay mud, bay mud is silty sand (ML), as above, clam shells, peaty lenses in matrix.
CME	30			3.0/5.0	1100					31		
										32		
										33		
										34		35.0 to 38.0 feet: Reworked Intertidal Sediments; clayey sand (SC) grading to clayey gravel (GC), glauconitic, sand is very fine grained, dark greenish gray, poorly sorted; small (<5 mm) angular to subangular bedrock fragments and small (<2 mm) subrounded quartz pebbles; grades to clayey gravel at 36.2 ft., dark greenish gray, poorly sorted, gravel coarsens with depth to a maximum of 20-25 mm at bottom contact; sample SB11-09(37.0-38.0) collected at 1135, headspace in sample is 4-5 ppm.
		35								35		
CME	35			4.3/5.0	1125					36		
										37		
						4-5 (HS)				38		38.0 to 40.0 feet: Colluvium; sandy silt, olive gray (5Y 5/2) mottl light olive brown (2.5Y 5/6), slightly plastic; some heavily weathe bedrock fragments, max. size is <10mm with a vertical 10 mm th clay seam, clay in seam is gray (2.5Y 5/1), plastic.
										39		
		40								40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

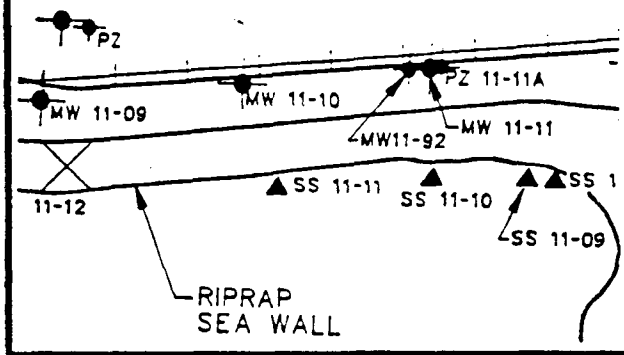
JOB NO.:	BOREHOLE DESIGNATION: SB11-09
CLIENT:	SURFACE ELEVATION:
SITE:	DEPTH TO WATER:
SUBSITE:	LOGGED BY:
DRILLING CO.:	DRILLING DATE(S):
DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	40			5.0/5.0	1150					41, 42, 43, 44		40.0 to 45.0 feet: Colluvium; clayey silt, olive (5Y 5/4) becoming mottled gray (5Y 5/1) at depth, some bedrock fragments, less weathered (have distinct edges); matrix grades to silty clay at 43.0 ft., rock fragments increase to 50% of sample, distinct edges, most are 1-2 mm, max. size is 5 mm, oxidized yellowish red (5YR 4/6); silty clay matrix changes to gray at 44.0 ft. then strong brown (7.5YR 5/8); bedrock fragments (max. size = 25 mm) increase to 75% of sample, fragments are angular to subangular, oxidized yellowish red (5YR 4/6).
		45								45		45.0 to 50.0 feet: Colluvium; silty clay, as above but rock fragments decrease to 10-30% of sample; clayey silt at 46.2 ft., mottled yellowish brown (10YR 5/4) and gray (10YR 5/1), dark yellowish brown (10YR 4/4), soft, limonite is absent; clayey horizon from 48.4 to 48.8 ft.; bedrock fragments increase to 50% of sample at 49.0 ft.
CME	45			5.0/5.0	1200					46, 47, 48, 49		
		50								50		50.0 to 55.0 feet: Colluvium; sandy clay with rock fragments, becoming less weathered with depth; gray (10YR 5/1) mottled olive yellow(2.5YR 6/6), slightly plastic, moist, stiff, fragments are sandstone and siltstone, sandstone is weathered sand pods at top; distinct fragments increase to 75% of sample with depth, oxidized yellowish red (5YR 5/8), black limonite fills voids from 52.5 to 53.0 ft.; gray clay layer from 53.0 to 53.3 ft.; matrix color change at 53.3 ft. to strong brown (7.5YR 4/6) with yellowish red and red oxidized clasts giving material a "speckled" appearance; matrix becomes a tight gray clay at 55.5 ft.; photo #2 is a close-up of limonitic fracture fill; photos #3 and #4 of colluvuim at 54.5 feet.
CME	50			5.0/5.0	1210					51, 52, 53, 54		
		55								55		55.7 to 56.0 feet: Bedrock; sandstone, well sorted, fine to very fine grained, brownish yellow (10YR 6/8) mottled dark gray (10YR 4/1) where clay is deposited in seams along fracture/bedding planes, plastic clay has disseminated into bedrock adjacent to clay seams.
CME	55			1.5/1.0	1245					56		
		56										TD (refusal) at 56.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-10
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.60 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 11.9 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/27/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			2.0/5.0	1410	5 (HS)				1		0.0 to 5.0 feet: Fill Material (asphalt roadbed gravel at surface); silty sand, light olive gray (5Y 6/2), poorly sorted, moist, loose, headspace on material is 5 ppm.
		5								5		5.0 to 10.0 feet: Fill Material; sand (as above), interlayered with rock fragments in a sandy silt matrix, rock fragments are bedrock sandstone, siltstone, and quartzite.
CME	5			1.2/5.0	1420	5-6 (HS)				6		
		10								10		10.0 to 15.0 feet: Fill Material; oil-saturated rock rubble and other fill materials; upper 0.5 ft. consists of weathered rock fragments in a silt matrix, light olive gray (5Y 6/2), yellow (10YR 7/6), mottled, similar to colluvium; followed by 0.3 ft. of oil-saturated rock rubble; followed by 0.7 ft. of oil-saturated silty sand, fine grained, well sorted; followed by 1.0 ft. of oil-saturated rock rubble; all layers below 15 ft. are dark greenish gray, contain free oil, and have strong hydrocarbon odor; sample SB11-10(12.0-13.0) collected at 1435 in oil-saturated sandy material, headspace on sample is 15-20 ppm.
CME	10			3.0/5.0	1430	60 30 20 (HS)				11 12	▽	
		15								15		15.0 to 19.3 feet: Fill Material; oil-saturated rock rubble with silty-sand matrix, rock rubble is 75% of sample, matrix is very dark greenish gray; headspace on water sample collected from spoon is 45 ppm; 2.5 ft. of fill material was retreived in the 15-20 ft. sample interval.
CME	15			2.5/5.0	1442					16		
		20								17 18 19 20		Alluvium; contact at 19.3 feet. was interpolated from nearby borings. 19.3 to 22.3 feet: Alluvium; stratified sand layers, becoming coa with depth, well-sorted medium-grained sand (SP) followed by moderately-sorted coarse to very coarse-grained sand (SP) followed by poorly-sorted sandy gravel (GW), all layers are dark greenish gray, saturated, and have a strong hydrocarbon odor.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

JOB NO.:	BOREHOLE DESIGNATION: SB11-10
CLIENT:	SURFACE ELEVATION:
SITE:	DEPTH TO WATER:
SUBSITE:	LOGGED BY:
DRILLING CO.:	DRILLING DATE(S):
DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			3.5/5.0	1500	35				21		
						25				22		22.3 to 37.0 feet: Bay Mud; sandy silt (ML), dark greenish gray, slightly plastic, saturated, very soft, sand is very fine grained, micaceous, large clam shells randomly distributed; sample SB11-10(22.3-22.5) collected at 1505 in very dark gray band at top of bay mud, headspace is 6-7 ppm.
						6-7 (HS)				23		
										24		Split spoon samples SB11-10(25.5-26.0) and SB11-10(26.0-26.5) collected for physical analyses at 1515; these samples were collected as duplicates in uniform bay mud.
	25									25		
S	25		2	2.0/2.0	1510					26		SB11-10(25.5-26.0) was classified as a lean clay (CL) and had the follwing characteristics: saturated hydraulic conductivity = 7.7 E-8 cm/sec (falling head test); initial moisture content = 45.7% (gravimetric) or 56.8% (volumetric); density = 1.24 g/cm3; calculated porosity =53.0%.
			2									
			2									
	27		3							27		
CME	27			3.0/5.0	1525	5 (HS)				28		SB11-10(26.0-26.5)(duplicate) was classified as a sandy silt (ML) and had the following characteristics: saturated hydraulic conductivity = 9.4 E-8 cm/sec (falling head test); initial moisture content = 45.7% (gravimetric) or 56.8% (volumetric); density = 1.29 g/cm3; calculated porosity = 51.3%.
										29		
										30		
										31		
	32									32		
CME	32			3.0/5.0	1535					33		Chemical sample SB11-10(33.5-34.0) collected in bay mud at 1545. This sample was collected to confirm absence of oil contamination although slight (6-7 ppm) PID readings were noted for headspace; results of chemical analyses indicate 26 mg/kg bunker fuel and 53 mg/kg unknown hydrocarbons.
						6-8 (HS)				34		
										35		
										36		
	37									37		37.0 to 38.7 feet: Reworked Intertidal Sediments; sandy silt with gravel (ML), matrix as above but contains large quartzite gravel near bottom contact, gravel has maximum size of 2-3 mm from 37.0 to 38.0 ft., 30-40 mm from 38.0 to 38.7 ft., subangular to subrounded; quartzite is fine-grained sand, and has dark green tint on a fresh surface (glauconitic); photos #5 and #6 taken of contact between reworked intertidal sediments and colluvium at 38.7 ft.; photo #6 is a close-up of the grayish brown transition zone. See Photo 2-6 in photo log.
CME	37			5.0/5.0	1608					38		
										39		
										40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

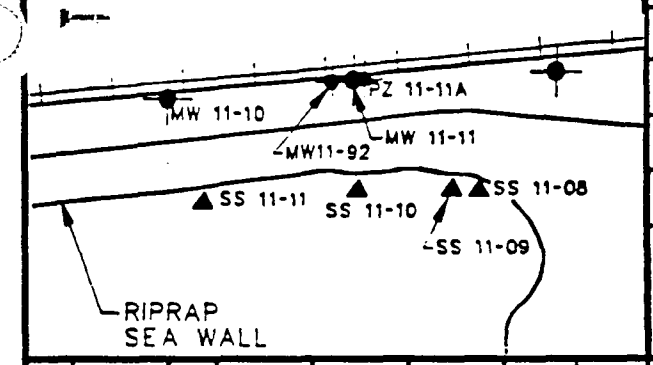
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-10
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	37									41		38.7 to 42.0 feet: Colluvium; plastic clay, olive gray (5Y 5/2), mottled light olive brown (2.5Y 5/6), moist, no rock fragments; clayey silt at 39.3 ft., mottled light olive brown (2.5Y 5/4) and brownish yellow (10YR 6/6), mottled, slightly plastic, moist, soft, some rock fragments oxidized to dark reddish brown (5YR 3/3), some quartz pebbles, black limonite fills voids in matrix; sandy silt with rock fragments at 41.5 ft., brown (10YR 5/3), nonplastic, moist, distinct rock fragments increase to 25% of sample.
		42								42		
SS	42		23	1.3/1.3	1630							
			50							43		
		43.3	50									
			4							44		42.0 to 43.3 feet: Split spoon drive; physical sample SB11-10(42.8-43.3) collected in colluvium at 1645. Sample is classified as a fat (plastic) clay with silt (CH) and had the following characteristics: saturated hydraulic conductivity = 7.1 E-9 cm/s (falling head test); initial moisture content = 14.6% (gravimetric) 28.0%(volumetric); density = 1.91 g/cm3; calculated porosity = 27.8%.
												TD at 43.3 feet. (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-11
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.70 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.5 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/28/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, contiuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			1.7/5.0	0810					1		0.0 to 5.0 feet: Fill Material (silt and gravel at surface); sandy silt, light yellowish brown (2.5Y 6/4), loose, moist, interlayered with weathered bedrock fragments in a silty matrix.
										2		
										3		
										4		
		5								5		5.0 to 10.0 feet: Fill Material (as above).
CME	5			2.7/5.0	0820					6		
										7		
										8		
										9		
		10								10		10.0 to 15.0 feet: Fill Material (as above), wet, strong hydrocarbon odor.
CME	10			0.2/5.0	0830					11		
										12	▽	
										13		
										14		
		15								15		15.0 to 19.0 feet: Fill Material; oil-saturated rock rubble with clayey film, greenish gray, rock rubble constitutes about 90% of sample, free oil in sample from 15.3 to 16.2 ft., estimated product thickness of 0.9 ft.; 2.6 ft. of fill material was retrieved in 15-20 ft. sample interval, photo #7 of oil saturated fill material at water table (15-15.5 ft.). See Photo 2-7 in photo log.
CME	15			2.6/5.0	0835					16		
										17		
										18		Alluvium contact at 19.0 feet. was interpolated from nearby borings. 19.0 to 23.5 feet: Alluvium; sand, gravel and cobbles, fining upwards, dark greenish gray, saturated, medium to coarse-grained sand (slough), followed by 0.9 ft. of gravel (GP), followed by 1.2 ft. of cobbles with silty matrix (GW).
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-11
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			2.3/5.0	0848					21		
										22		
										23		
										24		23.5 to 25.0 feet: Bay Mud; silty sand (SM), black banded, only 0.2 ft. of bay mud was retrieved in the 20-25 ft. sample interval, an upper contact is assumed at 23.5 ft., sampler may have been partial plugged in overlying cobble layer, allowing retrieval of some bay m but preventing full recovery.
		25								25		
CME	25			4.1/5.0	0855					26		
										27		25.0 to 30.0 feet: Bay Mud; sandy silt (ML), very dark gray (5Y 3/1), slightly plastic, moist, very soft, micaceous, some clam shells (<5% of sample), faint hydrocarbon odor at top of sample.
										28		
										29		
		30								30		30.0 to 35.0 feet: No sample recovery.
CME	30			0.0/5.0	0907					31		
										32		
										33		
										34		
		35								35		35.0 to 37.8 feet: Bay Mud (as above), with peaty streaks.
CME	35			3.7/5.0	0925					36		
										37		
										38		37.8 to 40.0 feet: Bay Mud; clay, dark greenish gray, plastic, very soft.
										39		
		40								40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

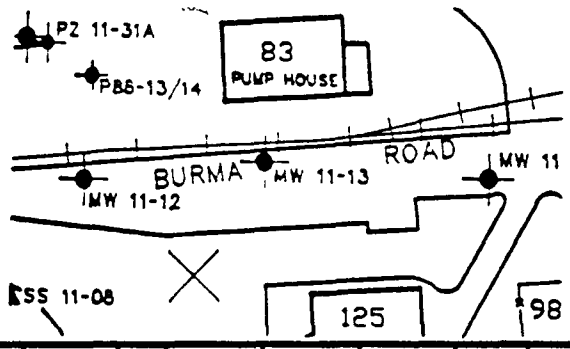
JOB NO.:	BOREHOLE DESIGNATION: SB11-11
CLIENT:	SURFACE ELEVATION:
SITE:	DEPTH TO WATER:
SUBSITE:	LOGGED BY:
DRILLING CO.:	DRILLING DATE(S):
DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	40			0.0/5.0	0935							40.0 to 45.0 feet: No sample recovery (Bay Mud).
										41		
										42		
										43		
										44		
		45								45		45.0 to 45.4 feet: Bay Mud; sandy silt (ML), slightly plastic, occasional quartzite gravel; photo #8 taken of contact of bay mud with underlying colluvium noting color change and 0.5 ft. gravelly zone at the top of the colluvium.
CME	45			4.0/5.0	1010					46		
										47		45.4 to 50.0 feet: Colluvium; sandy silt with bedrock fragments, olive (5Y 5/3), wet where matrix is loose, otherwise very slightly moist; fragments are 2-5 mm (max. size = 15 mm), angular to subangular, oxidized to brownish yellow (10YR 6/6), less weathered with depth; matrix is tight from 46.1 to 48.3 ft., brownish yellow (10YR 6/8) mottled light gray (10YR 7/1), some bedrock fragments, max. size 8 mm, oxidized to red (2.5YR 4/6); matrix is very tight from 48.3 to 48.8 ft., yellowish brown (10YR 5/8) mottled gray (10YR 3/1), bedrock fragments as above, black limonitic fill; matrix becomes moderately loose at 48.8 ft., brown (7.5YR 4/4), mottled gray (2.5YR 6/0), rock fragments comprise 25% of sample.
										48		
										49		
		50								50		
CME	50			3.0/3.0	1030					51		
										52		50.0 to 51.3 feet: Colluvium, sandy clay with some bedrock fragments at top, becoming abundant with depth, color grades from brown (10YR 5/3) mottled very dark grayish brown (10YR 3/2) to dark reddish gray (5YR 4/2), clay is plastic.
		53								53		
										54		51.3 to 52.3 feet: Sandy Clay with some bedrock fragments at top, becoming abundant with depth, llight yellowish brown (10YR 6/4) mottled light brownish gray (10YR 6/2), matrix is plastic clay at top, becomes slightly plastic silt with depth.
										55		52.3 to 55.0 feet: Bedrock, sandstone, very fine grained, well sorted, yellow (10YR 7/8), very friable, clay seams along fracture/bedding planes.
												TD (refusal) at 55.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-12
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.87 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.5 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/28/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.5 feet. without sampler.
CME	2.5			2.5/2.5	1250					2, 3		2.5 to 5.0 feet: Fill Material (asphalt at surface); silty sand, fine, light olive gray (5Y 6/2), moderately sorted (some coarse sand), slightly moist, loose.
		5								4		
CME	5			2.7/5.0	1300	0				5, 6, 7		5.0 to 10.0 feet: Fill Material; rock rubble interlayered with silty sand, yellow (10YR 7/6) and brown (10YR 5/3), rubble is quartzite gravel and cobbles.
						0				8, 9		
		10										
CME	10			1.5/5.0	1310					10, 11		10.0 to 15.0 feet: Fill Material; oil-saturated rock rubble, sample is 75% rock rubble, saturated, free oil on rock surfaces; sample SB11-12(13.0-14.0) collected at 1315 in oil-saturated gravelly fill; headspace in sample is 19 ppm.
										12	▽	
						19(HS)				13, 14		
		15										
CME	15			3.0/5.0	1320					15, 16		15.0 to 20.0 feet: Alluvium; fining upwards, silty sand (SM) from 17.0 to 18.5 ft., medium grained, moderately sorted, banded gray (2.5Y 6/0) over dark grayish brown (2.5Y 4/2) over gray (2.5Y 6/0) over very dark grayish brown (2.5Y 3/2); gravel and cobbles with clay matrix (GC) from 18.5 to 20.0 ft., matrix is greenish gray, free oil on rock surfaces; sample SB11-12(17.0-18.0) collected at 1330, headspace in sample is 38 ppm; photographs #10 and # 11 show saturated zones in 15-20 ft. sample interval. See Photo 2-10 in photo log.
						5 16				17		
						45 38(HS)				18, 19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-12
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			2.0/2.0	1335					21	SW	20.0 to 24.0 feet: Sand and Gravel; medium-grained silty sand (SM) above poorly-sorted sandy gravel (GW), saturated, dark greenish gray; 1.5 ft. of alluvium was retrieved in the 20-25 ft. sample interval, lost sample may be due to flowing sands or due to gravel plugging sampler.
										22	GW	
										23		
										24		24.0 to 25.0 feet: Bay Mud; sandy clay with rock fragments, dark greenish gray, saturated.
		25								25		
CME	25			4.3/5.0	1350					26		25.0 to 30.0 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, moist to wet, very soft, shells, occasional small peaty streaks, micaceous.
										27		
										28		
										29		
		30								30		
CME	30			5.0/5.0	1405					31		30.0 to 34.5 feet: Alluvium; sand (SW), predominantly very coarse grained, poorly sorted (very fine to coarse) but no gravel sized clasts or pebbles, saturated, loose, sand is subangular quartz, slight hydrocarbon odor; sample SB11-12(33.5-34.0) collected in coarse sand at 1410.
										32		
										33		
										34		34.5 to 35.0 feet: Bay Mud; sandy silt (ML), slightly plastic, moist, very soft, micaceous, no hydrocarbon odor.
		35								35		
CME	35			2.5/5.0	1415	0				36		35.0 to 40.0 feet: Bay Mud; sandy silt with clay (ML), greenish gray, slightly plastic, moist, very soft, micaceous, clam shells decrease with depth.
										37		
						0				38		
										39		
		20								40		

FIELD BORELOG

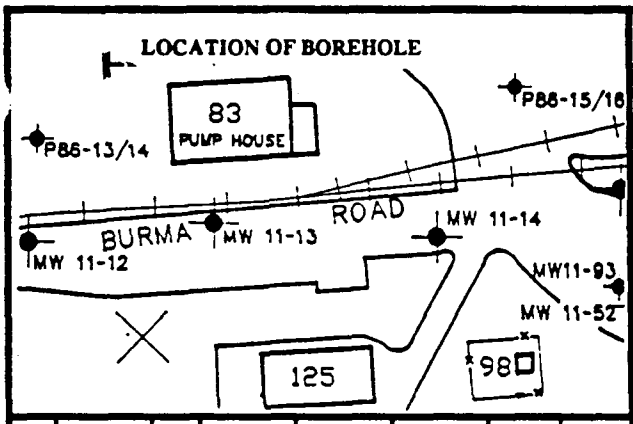
PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-12
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	40			5.0/5.0	1430					41		40.0 to 45.0 feet: Bay Mud; sandy clay (CH), greenish gray, moderately plastic to plastic, moist, dispersed organic matter, occasional clam shell fragments; small (1mm) quartz pebbles (rounded) at 42.0 ft. but sparse quartz pebbles increase in size (2-5 mm) and frequency with depth.
										42		
										43		
										44		
		45								45		45.0 to 46.5 feet: Reworked Intertidal Sediments; gravelly clay grading to clayey gravel (GC), dark greenish gray, glauconitic, increase in sand, very coarse grained and larger quartz pebbles are present throughout interval; gravel consists of poorly-sorted green quartzite, subangular to round, (coarse sand to 50mm).
CME	45			5.0/5.0	1440					46		
										47		46.5 to 50.0 feet: Colluvium; loose sandy silt (ML) grading to tight silty clay with abundant bedrock fragments (CL) around 49.0 ft., color is olive gray (5Y 5/2) at top, grading to light olive brown (2.5Y 5/4) mottled gray (2.5Y 6/0) and becoming predominantly gray (10YR 5/1) at 49.0 ft., sparse bedrock fragments increase to 50% at 49.0 ft. Photo #12 of color zonation at 45.0 to 50.0 feet shows transition from bay mud to greenish-gray colluvium to yellowish-brown colluvium.
										48		
										49		
		50								50		
CME	50			5.0/5.0	1510					51		50.0 to 54.0 feet: Colluvium; tight clay, as above to 51.5 ft.; sandy clay with bedrock fragments from 51.5 to 54.0 ft., soft, wet to saturated, matrix is gray (10YR 6/1); bedrock fragments are sandstone and siltstone, sandstone appears to have decomposed to pods and sandy zones, yellow (10YR 6/8), siltstone is distinct clasts, oxidized red (2.5YR 4/8).
										52		
										53		
										54		54.0 to 55.0 ft: Saprolite; clayey sandstone, very fine grained, appears to have weathered in-place to clayey sand mottled gray (10YR 6/1) and brownish yellow (10YR 6/8); material lacks randomly oriented bedrock fragments and oxidized clasts.
		55								55		
												TD (refusal) at 55.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-13
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.08 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.2 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/28/92 to 1/29/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
												0.0 to 1.5 feet: Augered through 1.5 ft. of asphalt and fill.
CME	1.5			2.5/2.5	1650					1		1.5 to 4.0 feet: Fill Material; silty sand above rock rubble; upper 2.0 ft. is silty sand, light olive gray (5Y 6/2), poorly sorted (very fine to coarse grained sand), moist, loose; lower 0.5 ft. is rock rubble consisting of bedrock sandstone, siltstone, and quartzite; matrix is sandy silt, brown (10YR 5/3), moist.
										2		
										3		
		4										
CME	4			3.5/5.0	1710					4		4.0 to 9.0 feet: Fill Material; sandy silt with rock rubble, brown (10YR 5/3), alternating horizons with loose and tight matrix, bedrock fragments as above, max. size is 60 mm.
										5		
										6		
										7		
										8		
		9										
CME	9			2.4/5.0	1720					9		9.0 to 14.0 feet: Fill Material; rock rubble with silt matrix, matrix is light olive brown (2.5Y 5/4) mottled grayish brown (2.5Y 5/2); lower 0.6 ft. of sample is oil-saturated, oil sheen on lower 1.8 ft. of spoon indicating the apparent top of oil saturation at 12.2 ft.
										10		
										11		
						50				12	▽	
						103				13		
		14										
CME	14			3.0/5.0	0748					14		14.0 to 19.0 feet: Alluvium; sand with silt (SW), oil-saturated very coarse-grained sand, poorly sorted (very fine to very coarse), loose, free oil on sample from 15.0 to 16.0 ft., sample is dark greenish gray below free oil; sample SB11-13(16.5-18.5) collected at 0750, headspace on sample is 440 to 460 ppm, same PID reading on open sample CME barrel.
										15		
										16		
										17		
						440 - 460						
						(HS)				18		19.0 to 24.5 feet: Alluvium; sand with silt (SW), as above, dark greenish gray, stained black at top, saturated, loose, free oil at top of sample, oil sheen below, material in sampler may be slough.
		19								19		
CME	19			2.3/5.0	0800					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-13
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19											
										21		
										22		
										23		
		24										
CME	24			3.3/5.0	0807					24		24.5 to 32.3 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, micaceous, occasional peaty streaks, faint hydrocarbon smell at top.
										25		
										26		
										27		
										28		
		29										
CME	29			5.0/5.0	0815					29		
										30		
										31		
										32		32.3 to 34.3 feet: Bay Mud; sandy silt with clay (ML), slightly plastic, peaty streaks increase but not abundant, clam shells are present but not abundant.
										33		
		34										
CME	34			3.7/5.0	0835					34		34.3 to 40.8 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, peaty streaks and disseminated organics, clam shells present but not abundant, sparse below 39.0 ft.
										35		
										36		
										37		
										38		
		39										
CME	39			5.0/5.0	0850					39		
										40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

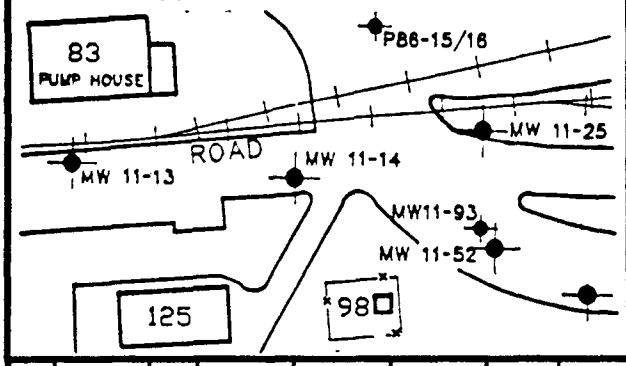
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-13
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANALYS PHYS	ANALYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	39									41		40.8 to 42.3 feet: Bay Mud; gradual transition from sandy clay (CH) to clayey sand (SC).
										42		42.3 to 46.2 feet: Bay Mud; clayey sand, fine-grained sand, matrix is about 50% sand and 50% fines, dark greenish gray, shells include about 5% of sample at 44.0 ft., grading to a dense shell fragment horizon where they comprise about 20% of sample; photo #15 of bay mud just above contact with reworked intertidal sediments at 46.2 feet.
		44								43		
CME	44			5.0/5.0	0900					44		
										45		
										46		46.2 to 46.4 feet: Reworked Intertidal Sediments; clayey gravel, dark greenish gray, glauconitic, gravel (quartzite) comprises 75% of sample; photo #14 of colluvium at 46.4 ft.; photo #15 taken of bay mud just above contact; sandy silt with clay, olive (5Y 5/3), slightly plastic, soft, some quartzite gravel, becomes tight at 46.9 ft., color grades to brownish yellow (10YR 6/6), light gray (10YR 6/1) 10 mm thick vertical clay seam black limonite streak, distinct rock fragments (max. size = 10mm) 25% of sample, oxidized to yellowish red (5YR 5/6) and black, lower 0.2 ft. has looser texture; photo #16 taken of clay seam and limonite streaks in clayey colluvium at about 48.0 ft.; photo #17 taken of weathered sandstone fragments embedded in light gray clay matrix. ıtos 2-14, 2-16, and 2-17 in photo log.
										47		
										48		
		49								49		
CME	49			4.5/5.0	0925					50		
										51		
										52		49.0 to 54.0 feet: Colluvium; sandy silt from 49.0 to 50.5 ft., brown (10YR 5/3), some rock fragments, max. size is <2 mm, black limonite in matrix voids; sandy clay from 51.3 to 52.5 ft., white (10YR 7/6) to brownish yellow (10YR 6/6), no distinct bedrock fragments; angular sandstone fragments in clay matrix from 52.5 to 54.0 ft., matrix as above, fragments are yellow (10YR 7/6) to brownish yellow (10YR 6/6), weathered; at 53.7 ft. fragments become smaller and are oxidized to red (2.5YR 4/6), matrix becomes sandy nd colors blend to reddish yellow (7.5YR 6/8), very tight.
										53		
		54								54		TD (refusal) at 54.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-14
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.51 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.4 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/29/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0											0.0 to 4.5 feet: Augered without sampler.
										1		
										2		
										3		
										4		4.5 to 9.5 feet: Fill Material; poorly-sorted silty sand interlayered with rock rubble in silty sand matrix, sand is olive (5Y 5/3) with olive yellow (2.5Y 6/8) streaks; rubble consists of angular rock fragment-
CME	4.5	4.5		2.7/5.0	1055					5		
										6		
						5				7		
						25				8		
						200				9		9.5 to 13.0 feet: Fill Material; rock rubble in silt matrix over oil-saturated fine sand; 2.2 ft. of fill material was retrieved in the 10-15 ft. sample interval.
CME	9.5	9.5		3.0/5.0	1130					10		Contact between Fill Material and Alluvium is estimated at 13.0 ft., lost sample from 10-15-foot sample interval may be due to sampler plugging off in cobbly fill or fine sand dropping out of sampler.
										11		
										12		
						15				13		13.0 to 14.5 feet: Alluvium; sand (SP), fine grained, moderately sorted, trace coarse and very coarse sand, banded dark gray and black; 0.8 ft. of alluvium was retrieved in the 10-15 ft. sample interval, bottom 0.3 ft. of this sand layer is oil saturated.
						65				14	▽	
CME	14.5	14.5		3.4/5.0	1138	90				15		14.5 to 17.6 feet: Alluvium; sand (SW), poorly sorted, 80% fine to medium grained, 20% coarse to very coarse grained, oil saturated, banded as above, becomes greenish gray stained with black at 16.6 ft.; sample SB11-14(14.5-17.5) collected at 1145 in oil-saturated, poorly- sorted sands at 1145.
										16		
										17		
						145				18		17.6 to 19.5 feet: Alluvium; clayey sand (SC), fine grained, moderately sorted (trace coarse sand), greenish gray, saturated, ti no free oil.
						15				19		
CME	19.5	19.5				20				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-14
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
						20				21		19.5 to 24.5 feet: Alluvium; sand (SW),predominantly medium to coarse sand, some fine to very-fine sand is present, moderately sorted, trace fines, dark greenish gray, saturated, hydrocarbon odor, sample SB11-14(20.5-21.0) collected in less contaminated sand at 1155.
						30				22		
										23		
CME	24.5	24.5		3.5/5.0	1205					24		24.5 to 26.0 feet: Alluvium; clayey sand (slough) and sandy clay (SC), sand as above but in a wet clay matrix, dark greenish-gray, saturated.
										25		
										26		26.0 to 32.4 feet.: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, very soft, micaceous, clam shell fragments, peaty streaks, sample SB11-14(26.5-27.0) collected at top of bay mud at 1215.
										27		
										28		
SS	29.5	29.5		2.0/2.0	1300					29		Split spoon sample collected in bay mud from 29.5 to 31.5 ft. for physical analyses; material at 31.0 to 31.5 ft. was characterized as a clayey sand (SC), saturated hydraulic conductivity = 3.5 E-7 cm/sec (falling head), initial moisture content = 32.9% (gravimetric) or 48.5% (volumetric), density = 1.47 g/cm3, calculated porosity = 44.4%.
										30		
CME	31.5	31.5		3.0/3.0	1310					31		
										32		
										33		32.4 to 33.9 feet: Bay Mud; sandy silt with clay (ML), saturated, large subangular quartzite pebbles (max. size = 40 mm).
										34		
CME	34.5	34.5		3.6/5.0	1326					35		33.9 to 34.5 feet: Bay Mud; sandy clay with shell fragments (CH), dark greenish gray, moderately plastic to plastic, soft, moist, some quartzite pebbles (max. size = 15 mm), no peat, shell fragments are smaller, more fragmented, comprise about 10% of sample.
										36		
										37		36.5 to 41.6 feet: Reworked Intertidal Sediments; gravel and cobbles in clayey sand matrix (GW), quartzite up to 50 mm, saturated, color change to yellowish brown (10YR 5/6) at 40.0 ft., material otherwise as above.
										38		
										39		
CME	39.5	39.5		3.6/5.0	1335					40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

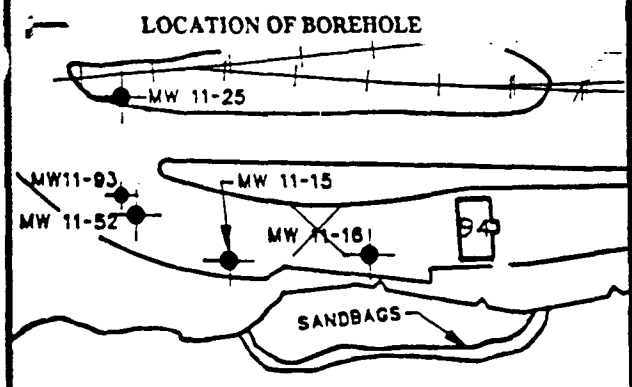
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-14
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
				29.5						41		41.6 to 44.5 feet: Reworked Intertidal Sediments; clayey sand (SC), occasional quartzite clasts (max. size = 20-25 mm), shell fragment concentrations, fragments are generally <5 mm; matrix has similar appearance as colluvium; sample SB11-14(43.5-44.0) collected at 1345.
										42		
										43		
								■		44		44.5 to 46.3 feet: Reworked Intertidal Sediments; clayey sand (SC), occasional quartzite clasts (10-30 mm), shell fragment concentrations including gastropod shell (1 mm); saturated from 44.8 to 45.3 ft.
		44.5										
CME	44.5			2.5/2.5	1335					45		
										46		46.3 to 47.0 feet: Bedrock; siltstone, yellowish brown (10YR 5/6 laminated, hard, blocky fracture, fracture surfaces oxidize to reddis. brown (5YR 4/4), very dusky red (2.5YR 2.5/2) and black; clay seams not present.
										47		
		47										TD (refusal) at 47.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 2



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-15
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.64 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.5 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/3/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0.5	1.5		1.0/1.0	0830					1 2 3 4		0.0 to 1.5 feet: Fill Material; sandy silt with rock fragments, brown (10YR 5/3) mottled brownish-yellow (10YR 6/6), nonplastic, slightly moist, stiff, rock fragments are 25% of sample, randomly oriented and distributed, very difficult to penetrate with CME sampler so borehole was augered without sampler to 5.0 ft.
CME	5	10		2.8/5.0	0848	1-3				5 6 7 8 9 10		5.0 to 10.0 feet: Fill Material; sandy silt with rock fragments, as above, upper 1.8 ft. is dark brown (10YR 4/3), lower 1.0 ft. is yellow (10YR 7/6), contact is sharp, sample is 75% rock fragments comsisting of bedrock sandstone, siltstone and quartzite.
										10 11 12		10.0 to 12.5 feet: Augered without sampler to 12.5 ft.
CME	12.5	15		2.0/2.5	0910	30 350 108(HS)				13 14 15	▽	12.5 to 15.0 feet: Alluvium; silty fine to medium sand (SM), hydrocarbon-saturated, and color change to gray (2.5Y 6/0) banded very dark gray (2.5Y 3/0) below 13.0 ft, strong hydrocarbon odor, fuel is more volatile than bunker fuel; sample SB11-15(13.0) collected at 0910, headspace is 108 ppm. Photo #24A of contact of clean alluvium over hydrocarbon-saturated alluvium.
CME	15	20		3.8/5.0		750				16 17 18 19 20		15.0 to 19.3 feet: Alluvium; clayey sand (SC), hydrocarbon saturated, very dark gray (2.5Y 3/0), few rock fragments; sample SB11-15(16.0-17.5) collected at 0930. 19.3 to 20.0 feet.: Bay Mud; clayey sand (SC), dark greenish gray, slightly plastic, very soft, black banding at 19.7 ft. with bands 5 mm in thickness; free oil in sample, light gray, may be JP-5 or diesel.

FIELD BORELOG

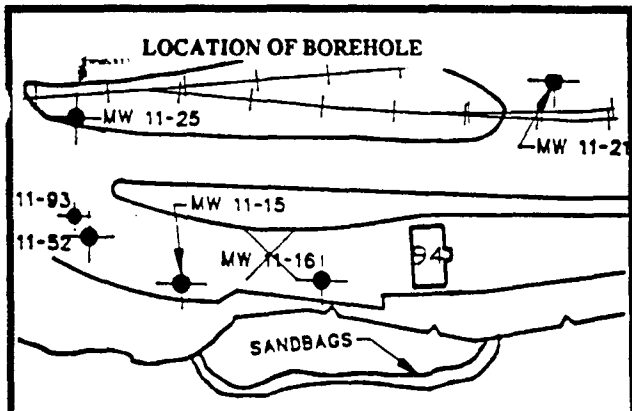
PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-15
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			3.0/5.0	0930							20.0 to 25.0 feet: Bay Mud; 0.3 ft. of clayey silt (ML), followed by 1.0 ft. of silty sand (SM) above 1.7 ft. of sandy clay (CL) with abundant shell fragments, all layers have slight plasticity and are moist; sample SB11-15(22.5-23.0) collected in relatively "clean" bay mud at 0945, headspace in sample is 40 ppm.
										21		
						40 (HS)				22		
										23		
										24		
		25								25		25.0 to 27.5 feet: Reworked Intertidal Sediments; sandy silt with abundant rock fragments (GM), greenish-gray, glauconitic, saturat rock fragments are >50% of sample and consist of bedrock sandstone, siltstone and quartzite, poorly-sorted (all sizes up to 50 mm), quartzite is subrounded, siltstone and sandstone are angular to subrounded.
CME	25			2.5/2.5	0950							
										26		
										27		
		27.5										
CME	27.5			0.3/0.3	1005					28		27.5 to 28.0 feet: Bedrock; quartzite, consisting of slightly metamorphosed quartz sand (very fine-grained) and decomposed serpentinite, yellowish-brown (2.5Y 6/4) speckled with small green (glauconitic?) minerals, very hard.
		28										TD (refusal) at 28.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-16
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.11 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.0 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/3/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8"OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0											0.0 to 4.5 feet.: Augered without sampler.
										1		
										2		
										3		
										4		4.5 to 10.2 feet.: Fill Material; upper 2.0 ft. is sandy silt, light olive brown (2.5Y 5/4), loose, slightly moist; lower 0.9 ft. is sandy silt with rock fragments, light olive brown (2.5Y 5/4) mottled yellow (2.5Y 7/8).
CME	4.5	4.5		2.9/5.0	1315					5		
										6		
										7		
										8		
										9		
CME	9.5	9.5		2.8/5.0	1320					10		10.2 to 16.5 feet.: Alluvium; silty sand (SM), moderately sorted, fine to medium grained, light yellowish brown (2.5Y 6/4) grading to greenish black, saturated; sample SB11-16(13.0) collected at 1325 in oil saturated sands at water table, headspace is 170 ppm; sample SB11-16(16.0) collected at 1340 in oil saturated sands, headspace is 1,300.
										11		
										12		
						520				13	▽	
						170(HS)				14		
CME	14.5	14.5		4.2/5.0	1330					15		
						1800-1900				16		16.5 to 18.0 feet.: Alluvium; sand with rock fragments (SW), poorly sorted, coarse to very coarse grained, dark greenish gray, sample SB11-16(17.5-18.0) collected at 1335, headspace is 12 to 15 ppm.
						1300 (HS)				17		
										18		18.0 to 19.5 feet.: Bay Mud; clayey silt (ML), some very fine sand, dark greenish gray with black banding, no rock fragments.
						12-15 (HS)				19		
CME	19.5	19.5								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

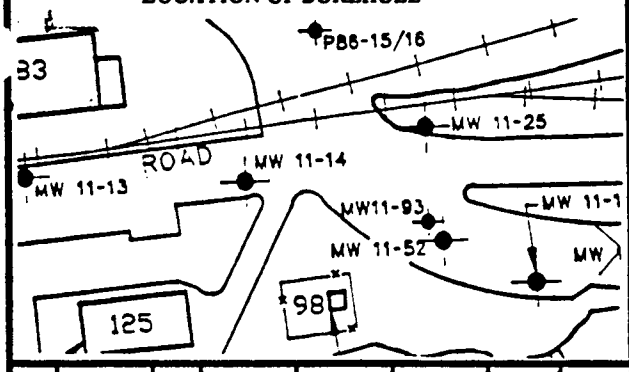
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-16
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5					20-25				21		19.5 to 24.5 feet.: Bay Mud; sandy silt with clay (ML), dark greenish gray, slightly plastic, moist, very soft, abundant flat-lying clam shells; chemical sample SB11-16(21.0-24.0) collected for MS/MSD.
						20-25				22		
										23		
										24		24.5 to 29.5 feet.: Bay Mud; sandy silt with clay (ML), dark greenish gray, dense shell fragment zones with clam shells and small purple (mussel?) shells, one gastropod shell (20 cm); some quartzite, both angular and rounded, max. size is 50 mm.
CME	24.5	24.5		5.0/5.0	1335	10				25		
										26		
										27		
						10				28		
										29		29.5 to 34.5 feet.: Bay Mud; sandy clay from 31.5 to 32.4 ft., wet to saturated; sandy silt with clay from 32.4 to 33.9 ft., saturated, large subangular quartzite pebbles (max. size is 40 mm); sandy clay (CH) from 33.9 to 34.5 ft., dark greenish gray, plastic, soft, some quartzite gravel.
CME	29.5	29.5		5.0/5.0	1408					30		
										31		
										32		
										33		
										34		
CME	34.5	34.5		2.2/3.5	1420					35		34.5 to 38.0 feet.: Reworked Intertidal Sediments; wet bay mud and bedrock rubble matrix (GC), bedrock is very fine-grained sandstone, very hard, light olive brown (2.5Y 5/4) to green (serpentinite or glauconite), fractured faces are weathered to dark brown (7.5YR4/2).
										36		
										37		TD (refusal) at 38.0 feet.
		38								38		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-25
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.35 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.7 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/7/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Jack Johnson, Rick Cooper / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.5 feet.
CME	2.5			1.2/2.5	1445					2, 3		2.5 to 5.0 feet.: Fill Material; bedrock fragments in sandy clay matrix, light yellowish brown (10YR 6/4), angular quartzite and sandstone bedrock fragments comprise 75% of sample, matrix is slightly plastic, moist, loose.
		5.0				18-24				4		5.0 to 8.4 feet.: Fill Material; 1.8 ft. clay, mottled brown (10YR 5/3) and yellow (10YR 8/6), tight, contains highly weathered (but still distinct) bedrock sandstone, siltstone, and quartzite; sandstone is angular, max. = 15 mm, this material resembles colluvium - may be a fragment of intact colluvium in the fill.
CME	5.0			3.4/5.0	1500					5, 6		
										7		8.4 to 12.6 feet.: Fill Material; 1.6 ft. silty sand, dark yellowish brown (10YR 4/6), moderately-sorted fine sand (50%) and silt (50%) mixture; sparse granule-sized siltstone, trace coarse sand, sharp color change to gray (10YR 6/1) at 9.5 ft. grading to brown (10YR 5/3) and dark greenish gray at 12.1 ft.; becoming sandier with depth. See Photo 3-15 in photo log.
		10.0								8, 9		12.6 to 13.7 feet.: Fill Material; bedrock fragments in clay matrix, olive gray (5Y 5/2), bedrock fragments comprise 75% of sample, angular, matrix is tight, moist, strong JP-5 or diesel odor; degraded piece of red rubber tube found at upper contact; bedrock fragments decrease to about 50% below 13.7 ft., occasional olive yellow streaks.
CME	10.0			3.8/5.0	1510					10, 11		
						90				12		13.7 to 15.5 feet.: Alluvium; sand (SP), dark greenish gray, well sorted, medium grained, some very coarse sand, saturated; clay with bedrock fragments as in 12.6-13.0 ft. at bottom of sampler (14.8-15.0 ft.); photo #14 of 10-15 ft. interval showing oil-stained interval from 12-15 ft.; photo #15 is a close-up of upper oil contact at 12 ft.
						270				13		
						480				14	▽	
		15.0								15		15.5 to 19.2 feet.: Alluvium, sandy gravel (GW), dark greenish gray, very poorly sorted, 50% granule-sized angular bedrock fragments (2-3 mm), 50% sand (all grain sizes) and silt; oil-saturated (free oil) from 18.8 to 19.2 ft.; samples SB11-25(16.0-16.5) collected in brass sleeve for chemical analysis at 1530; sample SB11-25(18.8-19.2) collected in oil-saturated interval at 1547; photo #16 of this interval. See Photo 3-16 in photo log.
SS	15.0		5, 5, 7, 9	1.3/2.0		190		■		16		
		17.0								17		
CME	17.0			3.0/3.0		500						19.2 to 19.8 feet.: Alluvium; clayey sand (SC), well sorted, very fine grained.
						1600				18		
								■		19		19.8 to 20.0 feet.: Reworked Intertidal Sediments; bedrock fragments in sandy clay matrix (GC), very dark gray, sparse chert; bedrock fragments are angular; photo #17 of this interval.
						2140						
		20.0				240				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

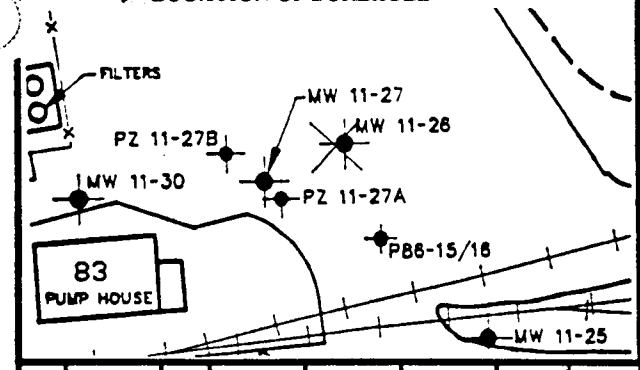
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-25
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20.0			2.6/5.0	1553	320				21		20.0 to 23.7 feet.: Reworked Intertidal Sediments; bedrock fragments in sandy clay matrix (GC), very dark gray, saturated; bedrock fragments are angular to subangular, mostly quartzite, matrix is wet and has bay mud appearance. Photo #18 taken of 20.0- to 24.0-foot interval shows fractured bedrock which resulted in refusal at 24.0 feet. See Photo 3-17 in photo log.
						150				22		
										23		
	24.0					20				24		23.7 to 24.0 feet.: Bedrock; quartzite, light olive gray (5 Y 6/2) or pale olive (5 Y 6/4), speckled appearance (medium-grained quartz sand and dark minerals), subangular clasts, black oxidation on fractures. 3-18 in photo log.
												TD (refusal) at 24.0 feet.
												Note: Older monitoring well was removed near this soil boring location. See Photo 3-13 in photo log.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-26
CLIENT: U.S. NAVY	SURFACE ELEVATION: 16.74 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.7 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/10/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Rick Cooper / Mobil B-61 rig, 7 7/8" OD, 4 1/4' ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet without sampler.
CME	2.0			2.2/2.5	0817	1.5				2		2.0 to 4.5 feet: Fill Material or Colluvium; sandy silt with bedrock fragments, brownish yellow (10 YR 6/6), nonplastic, moist, loose; bedrock fragments comprise 10-20% of sample, angular to subangular sandstone and quartzite.
										3		
										4		
CME	4.5	4.5		3.3/5.0	0833	3.8				5		4.5 to 13.8 feet: Fill Material or Colluvium; sandy silt with bedrock fragments, matrix is mottled grayish brown (10 YR 5/2), and gray (10 YR 5/1), nonplastic, soft; bedrock fragments are yellow (10 YR 7/6) friable sandstone and hard quartzite with black oxidized coating; matrix color change to greenish gray with depth, matrix becomes clayey at 12.0 ft., bedrock fragments increase to 75-90% of sample at 12.7 ft., saturated at 12.7 ft.; sample SB11-26(13.0-13.5) collected at 0905; photo #22 of color change to dark greenish gray. See Photo 3-22 in photo log.
										6		
										7		
										8		
										9		
CME	9.5	9.5		3.0/5.0	0833	75				10		
										11		
										12		
						100				13	▽	
						400 200				14		13.8 to 14.5 feet: Alluvium; coarse sand with bedrock fragments (SW), some clay, poorly-sorted sand; bedrock fragments are angular, brownish yellow (10 YR 6/6) and greenish gray.
CME	14.5	14.5		2.4/5.0	0916	40				15		14.5 to 17.7 feet: Alluvium; flowing sand (SP), olive, medium-grained well-sorted sand, subrounded.
										16		17.7 to 18.7 feet: Alluvium; gravel with sand (GW), greenish gray, cobble-sized quartzite composed of medium- to coarse-grained sand and abundant black minerals; matrix is subrounded quartz sand; sample SB11-26(18.0-18.5) collected at 0922.
										17		
										18		18.7 to 19.5 feet: Alluvium; clayey sand with bedrock fragments (SC), poorly sorted medium- to coarse-grained sand, bedrock fragments (20% of sample) are light yellowish brown (10 YR 6/4) and greenish gray.
CME	19.5	19.5		2.0/5.0	0933					19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

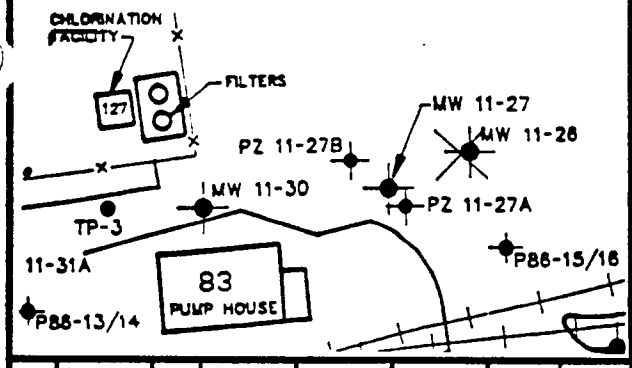
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-26
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5					5-6				21		19.5 to 24.5 feet: Alluvium; sand with abundant bedrock fragments (SW), dark greenish gray; sand is poorly sorted (very fine- to coarse-grained), subrounded quartz with trace (5%) dark minerals; bedrock fragments are very dark gray, hard, siltstone and greenish gray quartzite, 5-20 mm; 0.7 ft. of olive flowing sand slough at top of sampler, 4-5ppm headspace in flowing sand.
						5-6				22		
										23		
										24		
CME	24.5	24.5		3.2/5.0	0950					25		24.5 to 29.5 feet: Alluvium; sand with clay and bedrock fragments (SW), dark greenish gray; sand exhibits bimodal sorting, medium- to coarse-grained quartz sand and granule-sized greenish-black rock fragments (metamorphic), chert pebbles, wood fragments, roots; large black microcrystalline rock with calcite vein at 28.0 to 28.5 ft., matrix becomes compact at 28.8 ft; photo #23 taken of wood fragments at appproximately 28 ft. See Photo 3-23 in photo log.
										26		
										27		
										28		
										29		
CME	29.5	29.5		5.0/5.0	1004					30		29.5 to 34.0 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, moist, soft, micaceous, purple (mussel?) shell fragments concentrated in pockets and lenses throughout sample, sparse chert pebbles (1-2 mm); bedrock fragments increase with depth, consisting of large (30-60 mm) subangular sandstone (very fine-grained), siltstone (oxidized to dusky red), and quartzite.
										31		
										32		
										33		
										34		34.0 t0 35.0 feet: Reworked Intertidal Sediments; bedrock fragments, mostly subrounded to subangular sandstone (very fine-grained) 10-30 mm, olive (5Y 4/3) and dark olive; also small (1-2 mm) siltstone pebbles and a 20 mm elongated chert pebble.
	34.5	34.5		0.2/0.5	1025					35		
		35.0										TD refused at 35.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-27
CLIENT: U.S. NAVY	SURFACE ELEVATION: 16.89 FT.
SITE: POINT MOLATE DEPOT	DEPTH TO WATER: 12.8 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/10/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANALYS PHYS	ANALYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	1.5	4.5		2.7/3.0	1415	1-2				1 2 3		1.5 to 4.5 feet: Colluvium or Fill Material; sandy silt with bedrock fragments, mottled brown (10YR 5/3) and yellow (10 YR 8/6), nonplastic, moist, stiff; bedrock fragments are poorly sorted and have random orientation; color change at 2.9 ft. to brownish yellow (10 YR 6/6).
						2-4				4		
CME	4.5	9.5		5.0/5.0	1428					5 6 7		4.5 to 7.5 feet: Colluvium or Fill Material; sandy silt with bedrock fragments, as above, mottled yellow (10YR 7/8), and grayish brown (10YR 5/2), clayey zones, strong brown (7.5YR 5/8) "root-like" structures (not actual roots); color change at 6.5 ft. to yellowish red (5YR 5/8), material is loose, sandy, mottled, with large (4-6 cm diameter), subspherical greenish-gray zones that appear clayey.
CME	9.5	14.5		3.0/5.0	1440	5.5 13				8 9 10 11		7.5 to 11.1 feet: Colluvium or Fill Material; sandy silt with bedrock fragments, mottled very dark gray (5Y 3/1), dark gray (5Y 4/1), and olive gray (5Y 5/2), matrix as above with large (6 cm) sandstone fragments.
						500				12 13	▽	11.1 to 14.5 feet: Alluvium; flowing sands, oil-saturated; silty fine-grained sand (SM) to 12.2 ft., about 50% very fine- to fine-grained sand, 50% silt, dark gray to dark greenish gray, wet; medium-grained sand with gravel (SW) to 14.5 ft., bimodal sorting (medium-grained sand, granule-sized gravel), saturated, sand is quartz, gravel is dark green and black (metamorphic); grades to moderately-sorted, medium-grained sand (SP), sparse gravel (max. = 1 mm) with depth; oil film on sampler at 12.8 ft.; sample SB11-27 (12.5-13.0) collected at 1445 in coarse oil-saturated flowing sand; sample collected in brass sleeve. Photo #24 of oil-saturated alluvial sand in this interval. See Photo 3-24 in photo log.
SS	14.5	16.5		0.7/2.0	1445					14 15		14.5 to 16.5 feet: Alluvium; oil-saturated flowing sand (SP), medium grained, well sorted, dark greenish gray, saturated; sand is quartz, subrounded, sparse small calcitic crystals; sample SB11-27(15.0-15.5) collected at 1500 in brass sleeve.
CME	16.5	19.5		3.0/3.0	1458	380				16 17		16.5 to 19.5 feet: Alluvium; oil-saturated flowing gravelly sand (SW), gravel is about 25-35% of sample, bimodal sorting; sand is medium-grained quartz, gravel is granule-sized up to 20 mm, angular or platy; sparse very thin, fragile, transparent rock fragments with lineations, probably immature metamorphics, sparse chert pebbles (max. = 20 mm); medium-grained quartz sand at 19.0 ft., moderately sorted, sparse gravel.
						250 120				18		
CME	19.5			3.0/5.0	1538	40				19 20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

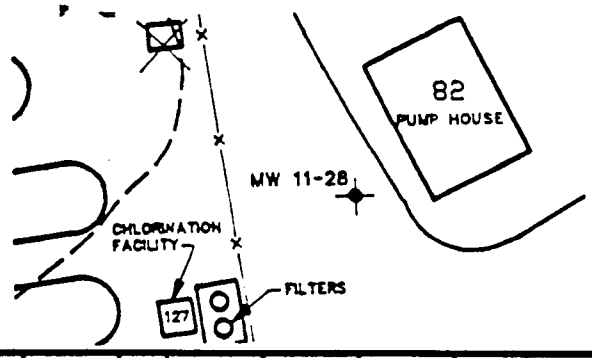
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-27
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5									21		19.5 to 24.5 feet: Alluvium; oil-saturated flowing gravelly sand (SW), bimodal sorting as above, dark greenish gray, constituents are quartz sand and metamorphics, gravel lens from 21.2 to 21.8 ft.
										22		
										23		
										24		24.5 to 29.5 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, moist, soft, micaceous, large (10-50 mm) shell fragments (clam), randomly distributed and flat-lying, sm- (<2 mm) purple shell fragments (mussel?) disseminated througho sample and concentrated in peaty lenses; pebble zone from 28.2 28.5 ft.; sand increases below 28.2 ft.; sample SB11-27(25.0-25.2 collected at top of bay mud at 1540, headspace = 18.7 ppm (42 ppm on sample in open spoon).
cme	24.5	24.5		5.0/5.0	1548					25		
						19(HS)						
						50				26		
						25				27		
						20				28		
										29		29.5 to 34.5 feet: Bay Mud; sandy clay (CH), as above to 31.3 ft.; shell fragments and peaty lenses decrease greatly at 31.3 ft., remaining shell fragments are less than 1 mm; shell fragments increase again at 32.0 ft., becomes shell rubble zone at 34.0 ft.
cme	29.5	29.5		5.0/5.0	1605	8				30		
						1.5				31		
										32		
										33		
										34		
		34.5								35		TD at 34.5 feet, bedrock not encountered

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-28
CLIENT: U.S. NAVY	SURFACE ELEVATION: 16.86 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 11.1 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/11/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered without sampler to 5.0 feet.
										2		
										3		
										4		
CME	5.0			1.6/5.0	1120					5		5.0 to 9.0 feet: Colluvium or Fill Material; sandy silt with bedrock fragments, brown (10YR 5/3) and yellow (10YR 6/8) decomposed bedrock fragments and hard, laminated, dark gray (5Y 4/1) siltstone clasts (max. = 60 mm); matrix is tight, nonplastic, moist, banded olive (5Y 5/3) and dark gray (5Y 4/1) at 9 ft.; hydrocarbon odor at 9.0 ft.; PID reading in open spoon 295 ppm.
										6		
										7		
										8		
	9.0					19 295				9		9.0 to 14.4 feet: Alluvium; fining-upward, gravelly clay (CL) from 10.7 to 11.2 ft., greenish gray, slightly plastic, moist; gravel consists of weathered sandstone, green, angular to subangular, max. = 30 mm; gradual transition to sandy clay with gravel from 11.2 to 12.0 ft., grayish-green, angular sandstone as above, abundant plant stems up to 13 mm in diameter; oil-saturated clayey fine sand (SC) at 12.0 ft., moderately sorted (no gravel), saturated, rooted zone with vertical in-place roots (max. length = 20 mm); grades to poorly-sorted gravelly sand (SW), bimodal sorting (fine- to very fine-grained quartz sand and coarse- to very coarse- grained metamorphic fragments), some large sandstone and siltstone fragments (max. = 30mm); band of oil on sampler from 12.8 to 13.1 ft., sample headspace from 12.8 to 13.1 ft. is 80 ppm, oil has consistency of bunker fuel; photo #1 of bunker fuel in sandy channel material.
CME	9.0			2.4/5.0	1132	190 (HS)				10		
										11	▽	
										12		
										13		
						80 (HS)				14		
CME	14.0			2.1/5.0	1155	135(HS)				15		14.4 to 15.0 feet: Alluvium; well-sorted medium-grained sand (SP), 80-90% medium sand, 10% very coarse-grained metamorphic gravel, trace fines; sample SB11-28(14.5-15.0) collected at 1212 above alluvium/bay mud contact, headspace = 135 ppm.
										16		
										17		15.0 to 21.0 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, moist, soft, micaceous, sharp upper contact, small shell fragments randomly distributed and oriented throughout bay mud, shell fragment layer at 15.3 ft. has 30-40 mm-long flat-lying shells, peaty material not evident; sample SB11-28(15.3-15.8) collected at 1215 below alluvium/bay mud contact.
										18		
CME	19.0			4.0/3.0	1215	2-4				19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

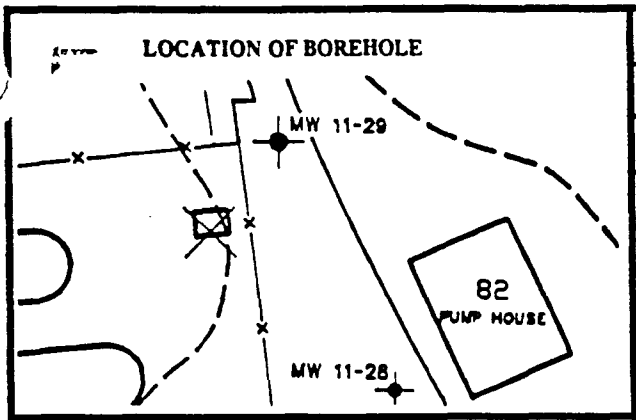
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-28
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.0					2-4						
										21		21.0 to 22.0 feet: Reworked Intertidal Sediments, clayey sand (SC), has appearance of bay mud but sandier, abundant wood fragments at 21.7 ft., pulpy masses of wood fibers; siltstone bedrock at 22.0 ft., dark gray (5 Y 4/1), laminated, hard, oxidized to dark brown (7.5 YR 3/4) on fracture faces.
	22.0									22		TD (refusal) at 22.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-29
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.53 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 8.6 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/12/92

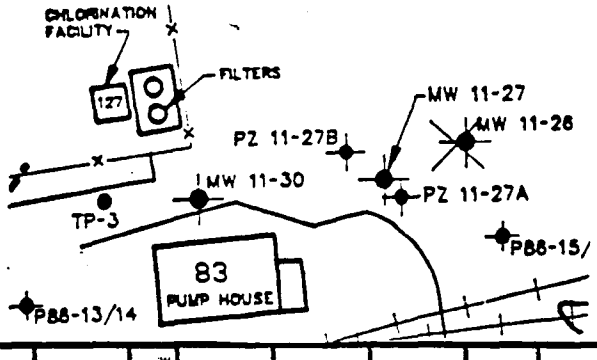
DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA ; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drives.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 3.5 feet. without sampler.
										2		
										3		
CME	3.5			3.7/5.0	0945					4		3.5 to 8.5 feet: Colluvium; silt, faintly mottled, pale brown (10YR 6/3) and yellow (10YR 8/6), nonplastic, slightly moist, tight, hard, some highly weathered bedrock fragments; abundant thick wood fragments from 6.7 to 7.2 ft.; organic silt from 7.2 to 7.8 ft., dark brown (10YR 3/3), nonplastic, moist, tight, very hard, some angular bedrock fragments; sandy silt from 7.8 to 8.5 ft., very dark gray (10YR 3/1), moist, loose, strong hydrocarbon odor, sand is very fine-grained, sparse granule-sized rock fragments (siltstone and sandstone).
										5		
										6		
										7		
										8		
CME	8.5	8.5		3.8/5.0	1005	510				9	▽	8.5 to 11.0 feet: Alluvium; poorly-sorted gravelly sand (SW), some silt, bimodal sorting (very fine- to fine-grained quartz sand and granule-sized metamorphic gravel), matrix is dense, oil- and water-saturated; gravel is 30% of sample, angular to subangular; sample SB11-29(10.2-10.7) collected at 1010 in oil-saturated sand, headspace = 90 ppm.
						250 175				10		
						160(HS)		■		11		11.0 to 13.5 feet: Bedrock; sample is 90% fractured bedrock rubble, angular siltstone and sandstone. sandstone is very fine-grained; sample SB11-29(11.5-12.0) collected in rubble at 1015, headspace = 160 ppm; photo #4 taken of heavy oil in rubble, oil appears to be mixture of bunker fuel and diesel. See Photo 4-4 in photo log.
						90(HS)		■		12		
										13		
CME	13.5	13.5		2.0/1.5	1020					14		13.5 to 15.0 feet: Bedrock; fractured bedrock is very fine-grained massive sandstone (quartzite) interbedded with thinly bedded siltstone, both are dark gray (5 Y 4/1) and hard (low-grade metamorphism), heavy oil found in freshly broken bedding plane fractures, photo #5 shows oil-contaminated interval from 8.5 to 13.5 feet and 13.5 to 15.0 feet.
						60-75				15		
												TD (refusal) at 15.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-30
CLIENT: U.S. NAVY	SURFACE ELEVATION: 16.65 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.9 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE - WESTERN	DRILLING DATE(S): 2/12/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered without sampler to 2.0 feet.
CME	2.0			1.0/2.5	1250					2		2.0 to 4.5 feet: Fill Material; sandy silt with bedrock fragments, brownish yellow (10YR 6/8), nonplastic, moist, soft.
										3		
										4		
CME	4.5	4.5		1.3/5.0	1305					5		4.5 to 9.5 feet: Fill Material; clayey silt with bedrock fragments, some sand, dark grayish brown (10YR 4/2) mottled very dark gray (10YR 4/1) and green; nonplastic, wet, tight; bedrock fragments ar 10% of sample, siltstone oxidized to dusky red (2.5YR 3/2), highl weathered sandstone, contamination indicated by sweet odor (solvents?) and high readings (550-1,500 ppm) on microtip; sample SB11-30(4.5-9.5) collected at 1310.
										6		
										7		
										8		
						550-1500				9		
CME	9.5	9.5		1.5/5.0	1332					10		9.5 to 14.5 ft: Fill Material; silty clay, very dark gray (10YR 3/1), slightly plastic, moist, stiff, sample appears to be from horizon above water table; water table at 12.9 ft. as indicated by level of oil on spoon, oil has appearance of bunker fuel.
										11		
										12		
										13	▽	Contact between fill and underlying alluvium may be at water table (alluvial sands are assumed to have dropped out bottom of spoon).
										14		
CME	14.5	14.5		0.0/5.0	1343					15		14.5 to 19.5 feet: Slough consisting of sand and gravel (alluvial); fine-grained quartz sand and granule-sized metamorphic gravel, dark greenish gray, saturated.
										16		
										17		
										18		
										19		
CME	19.5	19.5		5.0/5.0	1350					20		(description given on next page)

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

JOB NO.:	BOREHOLE DESIGNATION: SB11-30
CLIENT:	SURFACE ELEVATION:
SITE:	DEPTH TO WATER:
SUBSITE:	LOGGED BY:
DRILLING CO.:	DRILLING DATE(S):
DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5									21		19.5 to 24.5 feet: Bay Mud; sandy clay (CH), plastic, dark greenish gray, micaceous, occaisional shell fragments, 10 mm flat-lying clam shells (tan to off-white) randomly distributed throughout sample interval, small purple shell fragments (mussel?) appear at 23.0 ft., no gravel or coarse sand, occasional peaty streaks and lenses; headspace on sample is 0 ppm at 22.0 ft.
										22		
						0(HS)				23		
										24		
CME	24.5	24.5		5.0/5.0	1400					25		24.5 to 29.5 feet: Bay Mud; sandy silt with minor clay, shell fragments become sparse.
										26		
										27		
										28		
										29		
CME	29.5	29.5		5.0/5.0	1405					30		29.5 to 34.5 feet: Bay Mud; as above, peaty lenses 2-4 mm thick with concentrations of mica and medium-grained sand, shell fragments are very sparse except for one lens at 34.0 ft.
										31		
										32		
										33		
										34		
CME	34.5	34.5		5.0/5.0	1410					35		34.5 to 39.5 feet: Bay Mud; as above, decrease in sand content.
										36		
										37		
										38		
										39		
CME	39.5	39.5		5.0/5.0	1430					40		39.5 to 41.0 feet: Bay Mud; as above.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

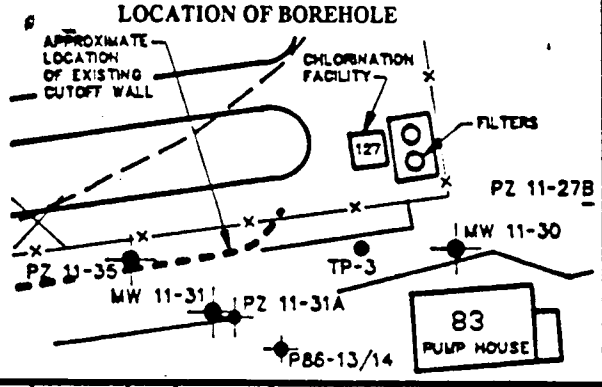
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-30
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	39.5									41		41.0 to 41.9 feet: Reworked Intertidal Sediments; gravel with silt (GP-GM), dark greenish gray, 80-90% granule-sized to 40 mm gravel, saturated; granules are predominantly dark (green to black) subangular metamorphics, also some chert clasts (1-2 mm); sedimentary clasts range from 2-3 mm subrounded siltstones to 40 mm subangular sandstones (green, very fine-grained), some shell fragments (purple and off-white).
										42		
										43		
										44		41.9 to 45.0 feet: Colluvium; sandy silt with bedrock fragments, mottled, light olive brown (2.5Y 5/6) and gray (5Y 5/1) grading to yellowish brown (10YR 5/4) and gray (5Y 6/1) mottling, very slightly plastic, moist, stiff, about 20% bedrock fragments; fragments are decomposed at 41 ft., distinct below 43.5 ft., most fragments are 2-3 mm in size (max = 8 mm), angular, yellowish red (7.5YR 6/8) to yellow (10YR 7/6), some coated with black limonite; matrix becomes grayish brown (10YR 5/2) mottled with brownish yellow (10YR 6/6) below 44.5 ft.; photo #6 shows contact between colluvium and overlying intertidal sediments and bay mud; photo #7 shows closeup of contact. See Photo 4-6 in photo log.
	44.5									45		
CME	44.5			2.8/1.5	1451					46		
												45.0 to 47.0 feet: Weathered Bedrock; sandstone, very fine-grained, 80% brownish yellow (10YR 6/6) sand, 20% gray (10YR 6/1) sandy clay; slightly plastic, soft, clay appears to be concentrated along relict fracture/bedding plane surfaces.
												47.0 to 47.3 feet: Bedrock; siltstone, gray (5Y 5/1) with white laminations (1mm-thick).
												TD (refusal) at 46.0 feet. (1.3 ft. discrepency with logged depth).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-31
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.27 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 8.8 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/12/92 to 2/13/92

DRILLING PERSONNEL/METHOD:
Bruce Horst , Rick Cooper, Anthony Lombardo / Mobile B-61, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 4.0 feet.
										2		See Photo 4-17 in photo log (showing repaired 6-inch PVC waste oil line damaged during initial soil boring).
										3		
CME	4.0			3.4/5.0	1625					4		4.0 to 6.6 feet: Fill material; sandy silt with bedrock fragments, mottled, very dark gray (5Y 3/1) and light olive gray (5Y 6/2), nonplastic, moist, stiff, bedrock fragments are poorly sorted and randomly oriented.
										5		
										6		6.6 to 9.0 feet: Organic-rich Fill Material; black (5Y 2.5/1), plastic, moist-to-wet, very soft, sharp upper contact, contains wood fragments and large (50 mm) angular siltstone and subangular sandstone fragments near upper contact; wood and rock fragments decrease with depth, abundant tubular plant stems (resemble present vegetation at site) throughout sample interval; grades to sandy silt (ML) below contact zone; sample SB11-31(8.4-8.8) collected at 1635, this material may have been dredged from the sump pond, it is only found at SB11-31 and SB11-32.
						200				7		
										8		
		9.0				250(HS)				9		
SS	9.0			1.0/2.0	1655					10		9.0 to 11.0 feet: Organic-rich Fill Material; sandy silt as above; sample SB11-31(10.0-10.5) collected in brass sleeve at 1700 for physical analysis, results as follows: material is classified as a lean clay with silt (CL); saturated hydraulic conductivity = 8.1 x 10 E -8 cm/sec (falling head); initial moisture content = 22.5% (gravimetric) or 37.0% (volumetric); density = 1.65 g/cm3; calculated porosity = 37.8%; total organic carbon = 2.75%.
		11.0								11		
CME				2.6/3.0	1707					12		
										13		11.0 to 14.0 feet: Organic-rich Fill Material; sandy silt as above, angular bedrock fragments at 13.8 ft. consist of green very fine-grained sandstone and gray medium- to coarse-grained quartzite, max size = 60 mm.
		14.0								14		
SS	14.0			1.0/2.0	1712					15		
		16.0								16		16.0 to 19.0 feet: Alluvium; oil-saturated gravelly sand (SW) slough at top; silty sand (SM) from 16.0 to 16.8 ft., about 50% fine- to medium-grained sand and 50% fines with some small rock fragments, stained black by oil (bunker fuel); sandy gravel (GW) from 17.8 to 19.0 ft., bimodal sorting (60% granule-sized metamorphic rock fragments, 40% medium-grained quartz sand); Sample SB11-31 (17.8-18.3) collected at 1730.
CME				3.2/3.0	1720					17		
					1730					18		
		19.0								19		19.0 to 22.0 feet: Alluvium; clayey sand (SC), very fine grained, very dark gray (5Y 3/1), abundant wood fragments.
CME	19.0			1.0/5.0	2/13 0736					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

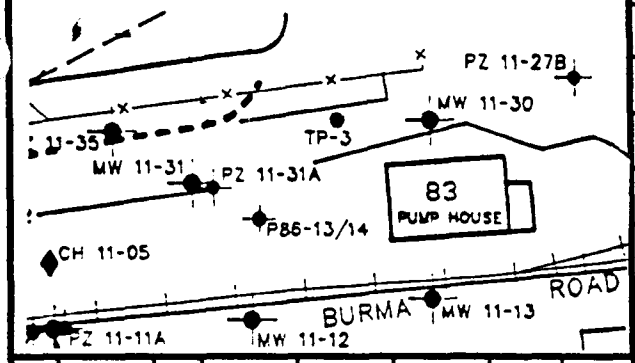
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-31
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5									21		
										22		Wood fragments prevent recovery of sample near contact with bay mud; alluvium/bay mud contact assumed to be at 22.0 ft. based on log from SB11-31A.
										23		
		24.0								24		
CME	24.0			0.0/5.0	0717					25		24.0 to 29.0 feet: No sample recovered, large wood fragments in sampler.
										26		
										27		
										28		
		29.0								29		
CME	29.0			0.5/5.0	0800					30		29.0 to 34.0 feet: Bay Mud (slough), small shell fragments.
										31		
										32		
										33		
		34.0								34		
												TD at 34.0 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143RRISC	BOREHOLE DESIGNATION: SB11-31A
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.13 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 9.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/17/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig. 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (SS) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
												0.0 to 1.0 feet: Augered through road base material.
CME	1			3.5/3.5	1600					1, 2, 3, 4		1.0 to 4.5 feet: Fill Material; sandy silt, yellowish brown (2.5Y 6/6) with some mottling, contains weathered bedrock fragments varying from small (3-5 mm) to large (30-50 mm), friable; sharp color change at 4.0 feet to olive green (5Y 5/2) fill, increase in bedrock fragments, saturated.
CME	4.5	4.5		2.6/5.0	1605	15				5, 6, 7, 8, 9	▽	4.5 to 9.5 feet: Fill Material; sandy silt with clay, olive green (5Y 5/2), numerous small (3-5 mm) and one large (65 mm) bedrock fragment, plant stems, nonplastic, saturated near 9.0 ft.
CME	9.5	9.5		0.0/5.0	1612					10, 11, 12, 13, 14		9.5 to 14.0 feet: No sample recovered, large bedrock fragment in CME sampler shoe.
SS	14	14								15		14.0 to 16.0 feet: No sample recovered, bedrock fragment in CME sampler shoe.
CME	16	16		2.0/4.0	1625					16, 17		16.0 to 17.5 feet: Fill Material; sandy silt with clay, large piece of bedrock (7.5 cm) at 17.5 ft.
		20				550				18, 19, 20		17.6 to 20.0 feet: Alluvium; oil-saturated sand (SP), moderately-sorted medium- to very fine- or fine-grained quartz, subangular; sample SB11-31A(18.1-18.4) collected at 1635 in interval exhibiting high Microtip (PID) readings (550 ppm); photo #12 shows oily sheen on wet, fuel-saturated sand and rock fragments.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

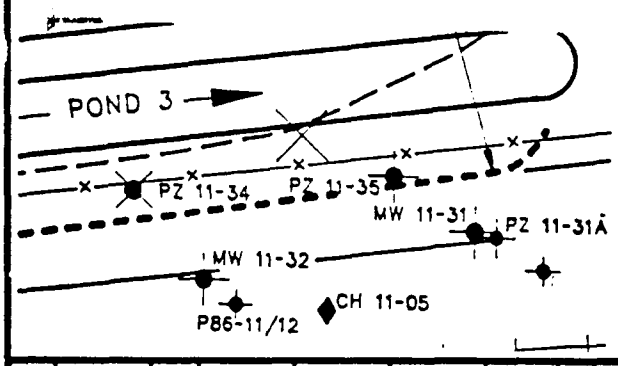
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-31A
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20			0.5/2.0	1637					21		20.0 to 22.9 feet: Alluvium; sand (SW), oil-saturated, contains numerous small (3-5 mm) angular bedrock fragments; organic-rich sludge at top of sample, sludge (with oily sheen) also found at 22.0 ft.; biochemical sample SB11-31A(20.0-22.0) collected at 1700, results as follows: heterotrophic plate count = 5,900 cfu/g, BOD = 120 mg/kg. Photo #12 shows an oily sheen on wet fuel-saturated sand and rock fragments in this interval.
		22								22		
CME				3.0/3.0	1648					23		
										24		22.9 to 25.0 feet: Bay Mud; large rotting piece of wood at upper contact with alluvium, no obvious hydrocarbon odor; sample SB11-31A(23.0-23.5) collected at 1700; photo #13 exhibits the very sharp contact of fuel-saturated alluvial sand above the bay mud at 22.9 feet, noting the clean appearance of the bay mud. See Photo 4-13 in photo log.
		25								25		
												TD at 25.0 feet., bedrock not encountered.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143RRISC	BOREHOLE DESIGNATION: SB11-32
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.48 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 10.4 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/13/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobile B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered through surficial fill to 2.0 feet.
CME	2.0			2.8/2.5	1140					2		2.0 to 4.5 feet: Fill Material; sandy silt with bedrock fragments, light yellowish brown (10YR 6/4), slightly moist.
										3		
CME	4.5	4.5		1.1/2.0	1150					4		4.5 to 6.5 feet: Alluvium; sandy silt, very dark gray (5Y 3/1), slightly plastic, becoming saturated, very soft, rock fragments sparse but some large (5-6 cm) quartzite fragments, tubular plant stems/vines found throughout, well-sorted medium-grained sands laminated (2mm thick) at 5.5 ft., greenish tint.
										5		
										6		
SS	6.5	6.5		0.6/2.0	1155	17-20				7		6.5 to 8.5 feet: Alluvium; sandy silt as above, rock fragments increase to 10-20% of sample, increase in plant stems; split spoon drive attempted - poor sample recovery, bore hole augered from 8.5 to 9.0 ft. with CME sampler (overdrilled split spoon drive from 6.5 to 8.5 ft).
										8		
CME	9.0	8.5		2.0/0.5	1310					9		9.0 to 11.0 feet: Alluvium; sandy silt as above, sparse bedrock fragments, max size = 3mm; split spoon sample SB11-32(10.0-10.5) collected in brass sleeve at 1320 for biochemical analysis, results as follows: heterotrophic plate count = 6,000 cfu/g, BOD = 180 mg/kg.
SS	9.0			1.0/2.0	1318					10	▽	
CME		11.0		3.0/3.0	1330					11		11.0 to 14.0 feet: Alluvium; sandy silt, dark greenish gray, slightly plastic, moist, soft, very fine-grained sand 20-40% of sample, very fine-grained, sparse bedrock fragments; oil level at 10.4' on sampler; this 3-foot sample description is from a 5-foot CME run which overdrilled the split spoon drive (9.0 to 11.0 feet).
										12		
										13		
SS	14.0	14.0		0.0/2.0	1340					14		14.0 to 16.0 feet: No sample recovered; attempted split spoon drive plugged by rock.
										15		
SS	16.0	16.0		0.0/2.0	1356					16		16.0 to 18.0 feet: No sample recovered; however viscous oily sludge in split spoon.
										17		
CME		18.0		0.0/5.0	1400					18		18.0 to 19.0 feet: No sample recovered; viscous oily sludge in CME sampler (overdrilled split spoon drive from 14.0 to 18.0 feet) equipment blank collected from CME sampler at 1406 designated as SB11-32(EB).
CME	19.0	19.0		0.7/5.0	1427					19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

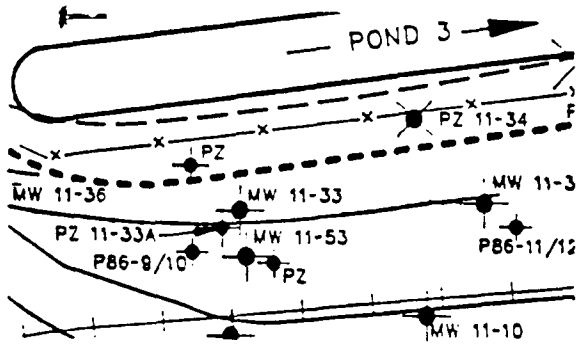
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-32
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.0											20.0 to 24.0 feet: No recovery; probably bay mud, based on log from nearby boring SB11-34 which shows bay mud contact at 18.5 ft.
										21		
										22		
										23		
		24.0								24		
CME	24.0			1.5/5.0	1445							
										25		24.0 to 29.0 feet: Bay mud; sandy silt (MH), dark greenish gray, moderately plastic to plastic, moist, soft, micaceous, shell fragmer
										26		
										27		
										28		
		29.0								29		
												TD at 29.0 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-33
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.72 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 6.8 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/14/92

DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sample with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 2.0 feet: Augered through road base material.
CME	2			2.0/2.5	0855	0				2, 3		2.0 to 4.5 feet: Fill Material; silt and clay matrix, yellow brown (10 YR 5/6) with yellow (10YR 7/6) and olive (5YR 5/3) mottling, scattered small (3 to 5 mm) and larger (30 to 40 mm) bedrock fragments (laminated siltstone); sand content of fill matrix increases at 3.5 feet, color change to gray (5Y 5/2) at 4.0 feet, moist.
CME	4.5	4.5		2.5/5.0	0907	0				4, 5		4.5 to 9.5 feet: Fill Material; as above, sandy silt, small (3-5 mm) and large (25-50 mm) weathered angular bedrock fragments, friable; clay matrix increases at 9.5 feet.
										6, 7, 8, 9		
CME	9.5	9.5		2.8/5.0	0915					10, 11, 12, 13, 14		9.5 to 14.5 feet: Fill Material; as above, sandy silt, yellowish brown (10YR 5/6), scattered bedrock fragments and occasional rubble (25 mm) in clayey matrix; entrained bunker fuel at 14.0 feet.
CME	14.5	14.5		3.6/5.0	0925					15		14.5 to 17.3 feet: Fill Material; silty clay matrix.
										16		17.3 to 17.5 feet: Peat; concentrated organic layer with very fine-grained quartz sand at upper contact, black (2.5Y 2/0).
										17		17.5 to 17.8 feet: Peat; organic silt.
										18, 19		17.8 to 19.5 feet: Bay Mud; sandy silt, greenish gray to olive gray (5YR 5/2) with occasional small (<10mm) dark gray to black patches, sparse mica; photo #8 of bunker fuel above bay mud; photo #9 shows both the 15- to 20- and 20- to 25-foot sample intervals. See Photos 4-8 and 4-9 in photo log.
		19.5								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

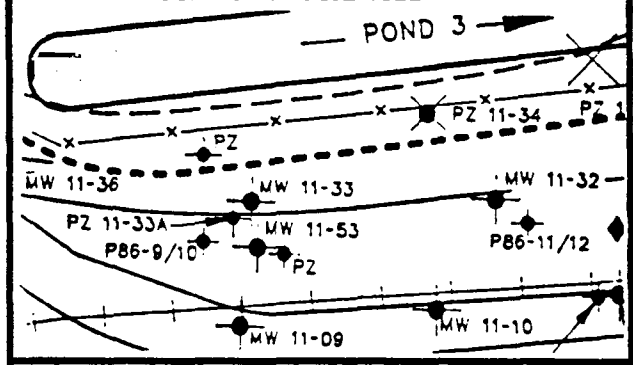
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-33
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	19.5			5.0/5.0	0940							19.5 to 24.5 feet: Bay Mud; as above, silty clay, uniform gray with scatered dark gray to black areas (<10 mm), sparse mica, shells at 22.0 to 22.5 feet, sparse shell fragments throughout remaining sample; headspace reading at 22.5-23.0 feet is 10 to 12 ppm.
						10-12 (HS)				21		
										22		
										23		
										24		
		24.5								25		TD at 24.5 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-33A
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.71 FT.
SITE: POINT MOLATE FULE DEPOT	DEPTH TO WATER: 4.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/18/92

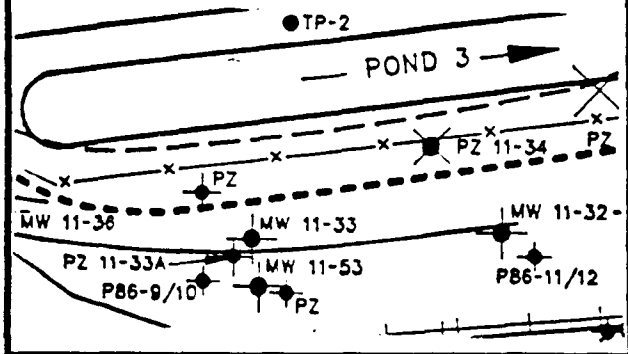
DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0				1005					1		0.0 to 2.0 feet: Augered through road base material.
CME	2	2		2.3/3.0	1010	3				2, 3, 4	▽	2.0 to 5.0 feet: Fill Material; sandy silt, yellowish brown (2.5Y 5/6) with black (2.5Y 2/0) mottling (organic appearance), no hydrocarbon odor, contains small (3-5 mm) angular pieces of weathered bedrock, nonplastic, friable; sharp color change at 4.8 feet to olive green and dark gray (5Y 4/1), moist.
CME	5	5		3.0/5.0	1015	7				5, 6, 7, 8, 9		5.0 to 10.0 feet: Fill Material; as above, sandy silt with clay, olive gray to dark gray (5Y 4/1), contains green to gray (5Y 6/1) clasts of weathered bedrock (siltstone), nonplastic, moist.
CME	10	10		2.3/5.0	1025	25				10, 11, 12, 13		10.0 to 15.0 feet: Fill Material; as above, silty sand with clay, olive gray (5Y 4/2), contains green to light gray (5Y 6/1) fragments of weathered bedrock (siltstone) ranging from 5 to 7 mm up to 5 to 7.5 cm, nonplastic, moist, plant stems; bottom 0.5 ft. of sample has strong hydrocarbon odor and visible bunker fuel (measured depth 15.0 ft.)
		15				55				14		15.0 to 18.0 feet: Attempted biochemical sample with 2-foot split spoon, no recovery.
SS	15			0.0/3.0	1033					15, 16, 17		18.0 to 19.3 feet: Alluvium; sand (SP), moderately sorted, medium- to fine- and very fine-grained quartz, black (2.5YR 2/0); fuel-saturated, fill at top of sample, may have plugged sampler through the 15-18 ft. interval; contact with bay mud at bottom of alluvium at 18.0 ft. is based on nearby boring SB11-33 (17.3 ft.).
		18								18		19.3 to 20.0 feet: Bay Mud; sandy silt, dark gray (2.5Y 4/0), mica, strong hydrocarbon odor; biochemical sample SB11-33A(19.0-19.5) collected at 1050 at alluvial sand/bay mud contact, results as follows: heterotrophic plate count = 9,000 cfu/g, BOD = 150 mg/kg.
SS	18			1.5/2.0	1045					19		TD at 20.0 feet (bedrock not encountered).
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-34
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.32 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 3.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/17/92

DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	1	4		3.0/4.0	0800					1, 2, 3	▽	1.0 to 4.0 feet: Fill Material; silty sand, brownish yellow (10YR 6/6), contains weathered oxidized bedrock fragments up to 5 cm, friable, color change at 3.6 ft. to olive gray (5Y 5/2), moist.
CME	4	6		1.0/2.0	0813	2-5 ppm				4, 5, 6		4.0 to 6.0 feet: Fill Material; silty sand with bedrock fragments (greenish) olive gray (5Y 5/2), numerous small rock fragments (2-5 mm) in silty sand matrix with occasional larger (5 cm) weathered sandstone fragments throughout 2-foot interval, larger rock fragments are siltstone; moist, slight hydrocarbon odor.
SS	6	8		.25/2.0	0818					6, 7		6.0 to 8.0 feet: Fill Material; as above, attempted 2-foot split spoon drive with brass sleeves for collection of biochemical sample, no sample collected due to limited recovery.
CME	8	9.5		1.0/1.5	0822	25-30				8, 9		8.0 to 9.5 feet: Fill Material; as above, sandy silt with clay, numerous small (2-5 mm) and occasional large (up to 5 cm) bedrock fragments, olive gray (5Y 5/3), free oil (bunker fuel).
CME	9.5	14.5		1.5/5.0	0830	35(HS) 13				10, 11, 12, 13		9.5 to 14.5 feet: Fill Material; as above, sandy silt with clay, olive gray to gray (5Y 5/1), abundant small (2-5 mm) and occasional large (2.5 to 5 cm) bedrock fragments (weathered siltstone); bedrock fragments appear weathered along fracture planes, fragments are angular; sand in matrix is predominantly very fine- to fine-grained and some medium-grained, subrounded to subangular quartz and some feldspar; bunker fuel present, sample SB11-34(9.0-14.0) collected at 0845.
SS	14.5	16.5		.5/2.0	0845					14, 15		14.5 to 16.5 feet: Fill Material; as above, limited recovery due to sandy rock fragments in split spoon sampler shoe.
CME	16.5	20		3.0/3.5	0854	4 (HS)				16, 17, 18, 19, 20		16.5 to 18.5 feet: Fill Material; sandy silt with weathered bedrock fragments, olive gray to gray (5Y 5/1), could be slough; entrained bunker fuel throughout this interval, concentrated at bottom, sharp contact with bay mud below. 18.5 to 19.0 feet: Bay Mud; sandy clay (CH), greenish gray to very dark gray (5Y 3/1), moderately plastic to plastic, sample SB11-34(18.0-18.5) collected at 0912. 19.0 to 20.0 feet: Bay Mud; silty sand (SM), very fine-grained, black (2.5Y 2/0), nonplastic, possibly organic, no hydrocarbon odor.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

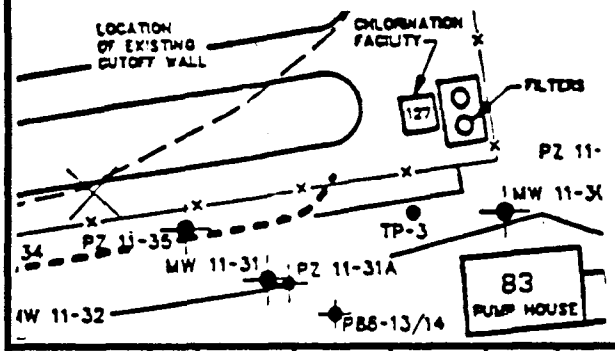
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-34
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			5.0/5.0	0908					21		20.0 to 25.0 feet: Bay Mud; silty sand (SM), very fine-grained, greenish gray to very dark gray (5Y 3/1), contains mica and shell fragments, mica becomes more abundant toward 25 feet, shell fragments are flat and mostly small (3-5 mm) with some larger (25 to 50 mm), uniform texture, very low plasticity.
										22		
										23		
										24		
	25									25		TD at 25.0 feet. (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143/RRISC	BOREHOLE DESIGNATION: SB11-35
CLIENT: U.S. NAVY	SURFACE ELEVATION: 16.98 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 4.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/17/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 3.0 feet: Augered through surficial soil.
										2		
										3		3.0 to 5.0 feet: Fill Material; grass at top of sample, sandy silt, light olive brown (2.5Y 5/4), bedrock fragments in silty clay matrix, friable, saturated at 4.0 feet, size of fragments increases (up to 7.5 cm) at 4.0 feet.
CME	3			1.8/2.0	1235					4	▽	
		5								5		5.0 to 10.0 feet: Fill Material; as above, sandy silt with clay, brownish yellow (10YR 6/8) and mottled layers of olive brown (2.5Y 4/4), weathered bedrock fragments small (under 10 mm); color changes to dark gray (2.5Y 4/0) at 9.0 ft., fragments increase in to maximum 7.5 cm, saturated, some hydrocarbons.
CME	5			2.7/5.0	1255					6		
										7		
										8		
										9		
		10								10		10.0 to 12.0 feet: Fill Material; as above, sandy silt with minor clay, brownish yellow (10YR 6/8) grading to dark gray/olive gray (5Y 4/1), nonplastic, moist, weathered bedrock fragments; biochemical sample SB11-35(11.0-11.5) collected at 1315 with brass sleeve, results as follows: heterotrophic plate count = 5,200 cfu/g, BOD = 120 mg/kg.
SS	10				1305					11		
		12								12		
CME	12			4.0/5.0	1314					13		12.0 to 14.0 feet: Fill Material; sandy silt with clay, mottled dark gray (5Y 4/1) to olive (5Y 4/4), plant stems, numerous weathered bedrock fragments ranging from 3-5 mm up to 5 cm.
										14		14.0 to 14.2 feet: Peat; organic layer with angular bedrock fragments, entrained bunker fuel.
		15								15		14.2 to 18.0 feet: Alluvium; sand (SP), oil-saturated, moderately-sorted, mostly medium-grained with some very fine- to fine-grained quartz sand, dark gray (2.5Y 4/0); quartz grains are subangular to subrounded, contains angular bedrock chips (3-5 mm); sample SB11-35(17.0-17.5) collected at 1325; photo #10 shows alluvial sand saturated with fuel in 15- to 20-foot interval; photo #11 is a closeup of fuel-saturated sand and rock fragments at 14 feet. See Photos 4-10 and 4-11 in photo log.
CME	15			2.8/3.0	1322					16		
										17		
		18								18		
SS	18			0.0/2.0	1335							18.0 to 20.0 feet: Plant roots and wood in split spoon sampler sh no recovery, attempted biochemical sample with brass sleeves, auger over split soon interval with CME, no recovery.
				0.0/2.0	1345					19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

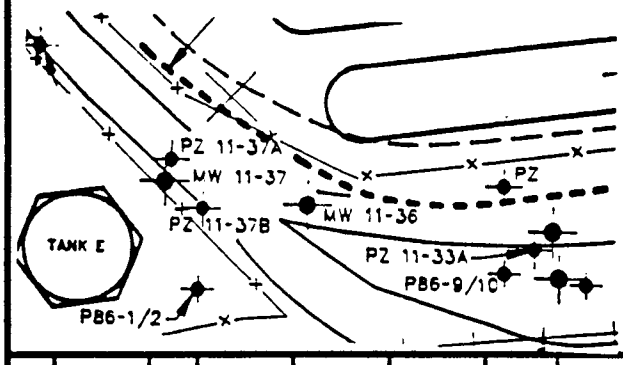
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-35
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20			0.0/2.0	1355					21		20.0 to 22.0 feet: Attempted split spoon sample with brass sleeves for biochemical analysis, no recovery due to chunk of wood plugging sampler shoe, wood is rotting and fibrous.
CME		22		0.4/0.0	1410					22		22.0 feet: Wood in shoe, refusal at 22.0 ft., free fuel in sampler but no recovery. TD (refusal) at 22.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143RRISC	BOREHOLE DESIGNATION: SB11-36
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.68 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/18/92

DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			2.3/5.0	1255					1		0.0 to 3.0 feet: Road base and Fill Material; road base comprises upper 0.5 ft.; fill at 0.5 ft. consists of gravel and sandy silt, yellowish brown, contains small (3-5 mm) and large (2.5-5 cm) clasts of weathered and oxidized bedrock dark reddish brown (5YR 3/3) bedrock, difficult drilling at 3.0 ft. - asphalt in shoe.
		3								2		
										3		
										4		3.0 to 6.5 feet: Augered without sampler to 6.5 ft., Very difficult drilling.
										5		
										6		
CME	6.5			2.8/3.0	1320					7		6.5 to 9.5 feet: Fill material; as above, sandy silt, yellowish brown (10YR 5/6), friable, roadbed gravel at 8.0 ft., color change at 8.5 ft. to olive green and light gray (5Y 7/1), nonplastic, slightly moist.
										8		
										9		
		9.5										
CME	9.5			1.7/5.0	1328					10		9.5 to 14.0 feet: Fill material; cobbly sand, olive green to light gray (5Y 6/1), numerous angular large (1-6.5 cm) clasts of weathered bedrock (siltstone), bunker fuel at approximately 12.0 feet, one large bedrock fragment (12.5 cm) at bottom; presence of sand indicates that fill/alluvium contact has been penetrated because loose sand is not typical of fill material, large cobbles likely plugged off above contact and pushed through, sand then flowed into sampler while sampler was being withdrawn.
										11		
										12	▽	
										13		
						85				14		Fill/alluvium contact estimated at 14.0 ft.
		14.5										
CME	14.5			1.9/5.0	1335					15		14.0 to 19.7 feet: Alluvium; slough above oil-saturated sand and cobbly fill at 14.5-19.5 ft., olive gray to light gray (5Y 6/1); cobbles include weathered bedrock fragments (to 10 cm), (entrained bunker fuel in the sandy silt matrix), cobbles probably pushed down from fill material; sand, slough retrieved in the 19.5 to 24.5 ft. interval is olive to light gray (5Y 7/1).
						60				16		
										17		
										18		
										19		
		19.5										
CME	19.5			1.4/5.0	1343					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

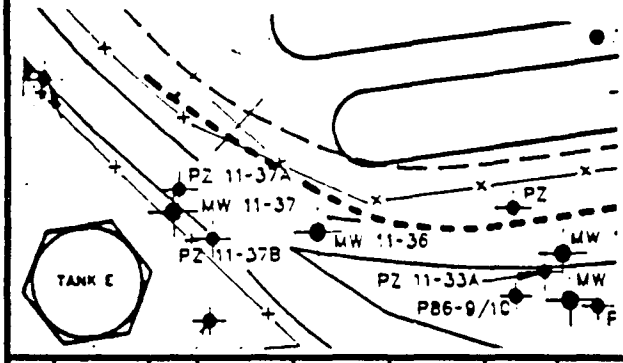
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-36
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5											Alluvium/bay mud contact estimated at 19.7 ft. based on borings SB11-37 and SB11-33A.
										21		
										22		19.7 to 26.6 feet: Bay Mud; sandy silt, dark gray (2.5Y 4/0), micaceous, 19.5 to 24.5 ft. interval contained flowing sand (oil-saturated) above cobbly fill and bay mud, materials described are probably slough from above.
										23		
										24		
		24.5										
CME	24.5			3.8/5.0	1352					25		
										26		
										27		26.6 to 30.0 feet: Colluvium; silty sand, mottled dark yellowish brown (10YR 4/6) and dark red (2.5YR 3/6), weathered bedrock fragments.
										28		
										29		TD at 30.0 feet. (bedrock not encountered).
		29.5								30		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-37
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.37 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 9.5 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRANINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/19/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Rick Cooper / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 2.5 feet: Augered through asphalt.
CME	2.5			2.5/2.5	0805					2		2.5 to 5.0 feet: Fill Material; sandy silt, yellowish brown to light olive brown (2.5Y 5/6), friable fragments of bedrock (3-5 mm), nonplastic; distinct color change at 3.4 ft. to (discolored) very dark gray (5Y3/1) mottled with light olive green seams and more clay, no hydrocarbon odor, also contains oxidized siltstone bedrock fragments (5-7 mm); colluvial fill at 4.0 ft., yellowish brown to light olive brown (2.5Y 5/6), red-orange clasts of bedrock.
						6				3		
										4		
		5								5		
CME	5			2.3/4.0	0820					6		5.0 to 10.0 feet: Colluvial Fill; as above, sandy silt with clay, dark yellowish brown to light olive brown (2.5Y 5/6) with weathered yellow (2.5Y 7/8) sandy seams; fill changes to rock rubble with concrete fragments (to 7.5 cm) at 7.7 ft., color changes at 7.7 ft. very dark gray (5Y 3/1) with light olive green sand layers, moist, wood fragments at 9.0 ft.
										7		
										8		
										9	▽	
		10								10		
CME	10			0.0/4.5	0835					11		10.0 to 14.5 feet: No recovery, bunker fuel observed on outside of core barrel, hard drilling.
										12		
										13		
		14.5								14		
CME	14.5			1.0/5.0	0842					15		14.5 to 19.5 feet: Alluvium; flowing sand above cobbly oil-saturated fill; sand is olive gray (5Y 4/2) with numerous small (2mm) fragments of weathered bedrock, shells, and small pieces of wood; fuel-saturated cobbly fill at 18.5 ft, dark olive gray (5Y 3/2) with weathered bedrock (siltstone) up to 7.5 cm, plant stems and entrained bunker fuel in sandy silt matrix; cobbly fill probably plugged off in sampler above fill/alluvium contact; contact estimated at 18.5 ft.
										16		
										17		
										18		
										19		
		19.5										
SS	19.5			1.0/2.0	0855					20		19.5 to 20.0 feet: Alluvium; sand, oil-saturated.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

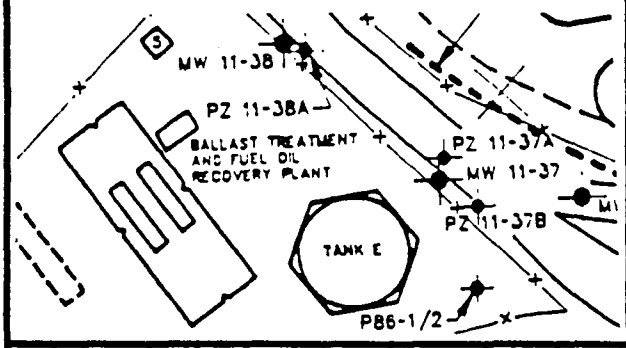
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-37
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	19.5									21		20.0 to 24.0 feet: Bay Mud; sandy silt, dark gray (2.5Y 4/0), plant stems, no entrained oil, numerous small (2mm) bedrock fragments from 21.5 to 22.0 ft., micaceous, shell fragments from 22.5 to 23.0 ft.; biochemical sample SB11-37(21.0-21.5) collected at 0900; results as follows: heterotrophic plate count = 4,100 cfu/g, BOD = 120 mg/kg.
		21.5										
CME	21.5			3.3/3.5	0905					22		
										23		
										24		
		25								25		24.0 to 30.0 feet: Colluvium; sandy silt with clay, color change at contact from olive gray and very dark gray (5Y 3/1) to brownish yellow (10YR 6/6) mottled light gray (10YR 6/1); sandy zones and numerous small (3-5mm) weathered/oxidized (red-orange) clasts of bedrock from 25.0 to 27.0 ft., mottled olive yellow (2.5Y 6/8) with red (2.5Y 4/6) clasts; photo #18 shows significantly fewer bedrock fragments from 27.0 to 28.0 ft., but fragments increase at 28.0 to 29.5 ft., occasional bedrock fragments from 29.5 to 30.0 ft., some wood, tight.
CME	25			4.8/5.0	0915					26		
										27		
										28		
										29		
		30								30		
CME	30			5.0/5.0	0930					31		30.0 to 37.8 feet: Colluvium; as above, sandy silt with clay, olive yellow (2.5Y 6/8), upper 1-foot is finer-grained with few bedrock fragments, remaining interval contains numerous small (3-5 mm) red-orange oxidized bedrock clasts; sand is moderately-sorted quartz, mostly fine and very fine grained with some medium grains, subrounded.
										32		
										33		
										34		
		35								35		
CME	35			4.3/3.8	0955					36		37.8 to 39.0 feet: Bedrock; sandstone, weathered, mottled brownish yellow (10YR 6/8) with light greenish gray (5Y 7/2) banding; sand is poorly-sorted medium-grained quartz with some fine and very fine grains, subrounded, greater recovery than driven length because sampler retrieved some colluvium as slough.
										37		
										38		
		38.8								39		TD (Refusal) at 39.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-37B
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.11 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 10.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: ROB BARRY, DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/25/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 5.0 feet: Not sampled.
										2		
										3		
										4		
										5		5.0 to 10.0 feet: Fill Material; 0.9 feet of silty sand with pebbles of weathered bedrock, sand is poorly sorted, fine to coarse, yellowish brown (10YR 5/4), nonplastic to slightly plastic, medium dense, damp, no hydrocarbon odor; above 0.7 feet of rotted wood and shell fragments, black (5Y 2.5/1), very loose, dry, heavy organic rotting wood odor; above 0.9 feet silty sand, sand is poorly sorted, fine to coarse, grayish green to dark gray (5Y 4/1), slightly plastic, medium dense, moist, strong hydrocarbon odor (PID = 95 ppm).
CME	5			2.5/5.0	0916	0				6		
						10				7		
						95				8		
										9		
		10								10	▽	10.0 to 13.0 feet: Fill Material; rock fragments with silty sand matrix, sand is very poorly sorted, very fine to coarse, grayish green to dark gray (5Y 4/1), slightly plastic, medium dense, saturated with water/bunker fuel mixture, strong hydrocarbon odor.
CME	10			0.3/3.0	0928	20				11		
										12		13.0 to 15.0 feet: No recovery with 2-foot split spoon (PID = 50 ppm from bunker fuel/water mixture).
		13								13		
SS	13			0.0/2.0	0943	50				14		15.0 to 17.8 feet: Fill material; 0.5 feet slough, pebbley to silty sand, as above, strong hydrocarbon odor, 2.0 ft. of missing sample attributed to sampler plugging off in coarse fill.
		15								15		
CME	15			3.0/5.0	1003	40				16		17.5 to 20.0 feet: Bay Mud; 0.5 ft. of discolored bay mud, silty sand (SM); color grades from black (5Y 2.5/1) to greenish gray and very dark gray (5Y 3/1) at 18.0 ft., well sorted, very fine- to fine-grained, medium dense, wet, no hydrocarbon odor, micaceous, shell fragments, discolored zone may be due to former fuel contamination, however no PID readings; chemical sample SB11-37B(17.8-18.1) collected at 1005 of bay mud just below the fill contact; photo # [illegible] contact between fuel- saturated fill and bay mud, also showing thickness of discolored zone.
										17		
						(0) HS				18		
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

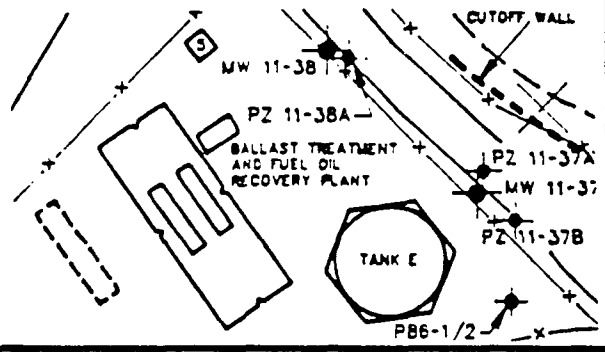
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-37B
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20			2.0/2.0	1019					21		20.0 to 25.0 feet: Bay Mud; as above, no hydrocarbon odor; biochemical sample SB11-37B(21.0-21.5) of bay mud collected at 1015, results as follows: heterotrophic plate count = 510 cfu/g. BOD = 190 mg/kg.
		22								22		
CME				3.6/5.0	1023	0				23		Physical sample SB11-37B(20.5 - 21.0) collected at 1016, results as follows: material classified as gravelly fat clay with sand (CH); saturated hydraulic conductivity = 6.2 x 10 E-7 cm/sec; initial moisture content = 40.75% (gravimetric) or 53.35% (volumetric); density = 1.31 g/cm3; calculated porosity = 50.60%.
										24		
		25								25		
CME	25			1.7/1.8	1049	0				26		25.0 to 25.3 feet: Reworked Intertidal Sediments, silty sand with gravel (SW), sand is very poorly sorted, fine to coarse, subangular to subrounded, gravel to 2.0 cm, greenish gray to dark gray (5Y 4/1), nonplastic, loose, saturated.
		26.8								27		
SS	26.8			0.7/2.0	1110	0				28		25.3 to 26.8 feet: Colluvium; silty sand, very fine to medium grained, some remnant pebbles of weathered bedrock, brownish yellow (10YR 6/8), moderately to poorly sorted, nonplastic, dense, damp to dry, no hydrocarbon odor, color is greenish gray to gray (5Y 5/1) within 2.0 cm of contact with overlying sediments.
		28.5								29		
												27.0 to 27.5 feet: Colluvium; physical sample collected from 27.0 to 27.5 ft., results as follows: material is classified as clayey sand (SC); saturated hydraulic conductivity = 9.3 x 10 E-8 cm/sec (falling head); initial moisture content = 18.21% (gravimetric) or 32.98% (volumetric); density = 1.81 g/cm3; calculated porosity = 31.67%.
												TD - drilled to 26.8 feet, sampled to 27.5 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRSC	BOREHOLE DESIGNATION: SB11-38
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.85 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 8.9 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYEN-WESTERN	DRILLING DATE(S): 2/20/92

DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4 " ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	1.5			3.3/3.5	0917					1		0.0 to 1.5 feet: Augered through road base material.
										2		1.5 to 5.0 feet: Fill Material; sandy silt, yellow to light olive brown (2.5Y 5/6), oxidized bedrock fragments (up to 4 cm), color change at 3.5 ft. through 4.0 ft. to very dark gray (2.5Y 3/0), with peaty dark reddish-brown (2.5 YR 2.5/4) streaks, no hydrocarbon odor; colluvial fill at 4.0 ft., weathered clasts of bedrock in fill, sample has no visible hydrocarbons.
										3		
						1-2				4		
		5								5		5.0 to 7.0 feet: Augered without sampler to 7.0 ft., due to hard drilling.
										6		
										7		7.0 to 8.6 feet: Fill Material (as above), highly variable.
CME	7			2.8/3.0	0937					8		
										9	▽	8.6 to 10.0 feet: Fill Material (Bay Mud), sandy silt with peaty streaks and abundant shell fragments, numerous small (<3mm) angular fragments of bedrock, friable, rounded quartzite pebble (25 mm) found in peaty zone.
		10								10		
SS	10			0.5/2.0	0945					11		9.8 to 12.0 feet: Fill Material, fuel-saturated cobbly fill; wood in sample shoe (only partial recovery), entrained bunker fuel visible.
		12								12		12.0 - 15.0 feet: Fill Material (rock fragment slough); fuel saturated, minimal recovery, wood fragments and cobbly fill in sample shoe.
CME	12			0.3/3.0	0955					13		
										14		
		15								15		
	15			0.0/5.0	1005					16		15.0 to 20.0 feet: No recovery, free oil noted, wood fragments and cobbles in sample shoe.
										17		
										18		
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-38
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			1.5/5.0	1018					21		20.0 to 25.0 feet : Colluvium; sandy silt, yellowish brown (10 YR 5/6) with small (3-5mm) orange red to red (2.5YR 4/8) weathered clasts of bedrock, sand is, moderately sorted medium-grained quartz with some fine-to very-fine grains; colluvium contains small (1mm) veins of light gray (10YR 7/1) clay (seams), also contains small pockets of dark gray material with hydrocarbon odor (18 ppm on Microtip PID) possibly entrained bunker fuel; wood fragments throughout core are aligned parallel to core barrel.
										22		
										23		
						18				24		
	25									25		
CME	25			4.2/2.5	1035					26		25.0 to 28.0 feet : Bedrock; sandstone, weathered, decomposed, friable, yellow(2.5Y 7/6), moderately-sorted medium-grained quartz sand with some fine to very fine grains, subangular; pockets of light grayish green to white (5Y 8/2) clay in bedrock; additional recovery may be attritable to retrieval of material in previous runs.
	27.5									27		
										28		TD (refusal) at 28.0 feet.

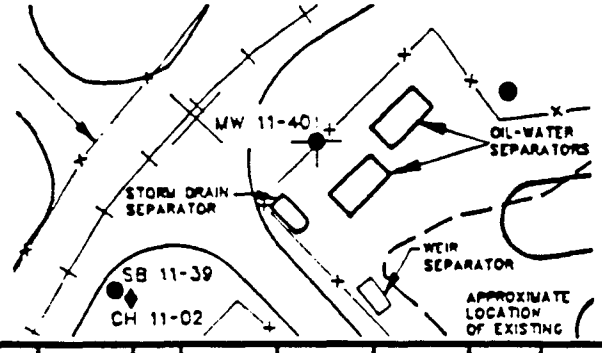
Note: Borehole reamed with 10-inch augers for well installation; screened interval will bracket 10 to 20 feet, where very little sample recovery was encountered.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRIRSC	BOREHOLE DESIGNATION: SB11-39
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: RECOVERY PLANT AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/20/92

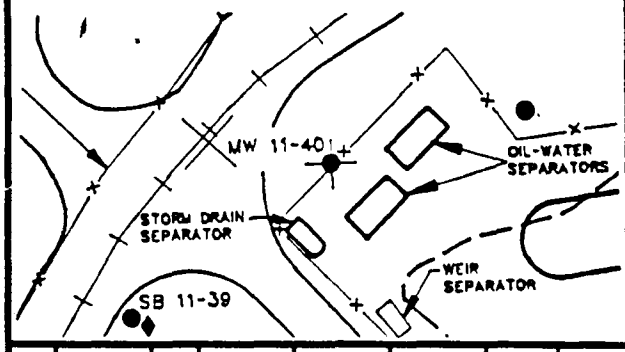
DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM.	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 2.0 feet: Augered through surficial material.
CME	2			3.0/3.0	1505					2		2.0 to 5.0 feet: Fill Material; sandy silt with clay, brownish yellow (10YR 6/8), contains numerous small (3-5 mm) weathered/oxidized fragments of bedrock and occasional larger (25 mm) pieces of bedrock (siltstone) containing some pinkish gray (5YR 6/2) clay seams (2 mm thick), moisture content of fill increases at 4.5 ft.
						7				3		
										4		
		5								5		5.0 to 10.0 feet: Fill Material; sandy silt, dark yellowish brown (10YR 4/6), numerous small (3mm) and some larger (35 mm) fragments of bedrock; distinct color change at 7.5 feet to dark gr (2.5Y 3/0) mottled (greenish) gray (5Y 6/1), possibly remnant hydrocarbon staining (no hydrocarbon odor), clayey silt, with some small (2mm) angular bedrock fragments, plant stems, moist, nonplastic.
CME	5			4.3/5.0	1605					6		
										7		
						10				8		Note: CME sampler did not retrieve and had to be fished out; sampler shoe came off during this attempt, so core was pulled from barrel.
										9		
		10								10		
CME	10			5.0/4.0	1622					11		10.0 to 13.0 feet: Fill Material; dark yellowish brown (10YR 4/4) as above, grades to dark grayish brown (2.5Y 4/2), more clay-rich fill at 12.1 ft., possible hydrocarbon staining.
										12		
										13		13.0 to 17.6 feet: Colluvium; sandy silt, yellowish orange to yellow (10YR 8/8) with light greenish gray to white (2.5Y 8/0) mottling in clay seams (2mm thick), contains small orange red clasts of weathered bedrock, color change to olive yellow (2.5Y 6/8) at 14.0 ft.; photo #22 (roll #4) of hydrocarbon-stained contact with colluvium; photos #23 and #24 of clay seams in coluvium.
		14								14		
CME	14			5.0/4.0	1637					15		
										16		
										17		
		18								18		17.6 to 18.0 feet: Colluvium; silty clay, light olive green to white(2 Y 8/0), tight.
												TD (refusal) at 18.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-40
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.67 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 7.0 FT.
SUBSITE: ORS AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/20/92 and 2/21/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" IID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
					1640					1		0.0 to 3.0 feet: Augered through surficial material without sampling, one interval of hard drilling.
										2		
										3		3.0 to 6.2 feet: Fill Material; sandy silt, light olive brown (2.5Y 5/4), some small (3-5mm) red oxidized bedrock fragments, angular, moist, nonplastic.
CME	3			2.0/2.0	0735	1-2				4		
		5								5		
CME	5			5.0/5.0	0747					6		6.2 to 10.0 feet: Fill Material; clayey silt, dark gray (5Y 4/1), bunker fuel entrained in fill from 6.2 to 9.0 ft., wood fragments and plant stems also present; becomes tighter, more uniform clayey silt at 9.0 ft.; sample SB11-40(7.0-7.5) collected at 0755.
		VB								7	▽	
						110(HS)				8		
										9		
		10								10		10.0 to 15.4 feet: Fill Material; sandy silt with clay, mottled greenish gray to white (5Y 8/1) and olive green to light gray (5Y 7/1), angular small (3-5 mm) bedrock fragments, sand is fine to very-fine quartz with sparse medium-grained sand; becomes clayey silt near 15.0 ft.; tight and dark gray (5 Y 4/1) below 15.0 ft.; sample SB11-40(11.0-11.5) collected at 0815.
CME	10			5.0/5.0	0756					11		
						0(HS)				12		
										13		15.4 to 15.8 feet: Alluvium; sandy fuel-saturated zone, sample SB11-40(15.4-15.7) collected at 0825 in black fuel-saturated sand. Photos #1, #2, and #3 show contact between colluvium and alluvium. See Photo 5-3 in photo log.
										14		
		15								15		**15.8 to 16.3 feet: Colluvium; one quartzite fragment, olive green at top of contact, no hydrocarbon odor, colluvium is yellow (2.5Y 7/8), with orange red clasts of bedrock, pebbly.**
CME	15			5.0/5.0	0812	95(HS)				16		16.3 to 16.8 feet: Colluvium; clayey silt, light gray to white(2.5Y8/0), tight.
										17		
		C..								18		16.8 to 17.8 feet: Colluvium; abundant pebbles.
										19		17.8 to 21.0 feet: Colluvium; silty clay, light gray (2.5Y 7/0), tight, similar to light gray tight clay from 17.6-18.0 ft. in SB11-39.
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

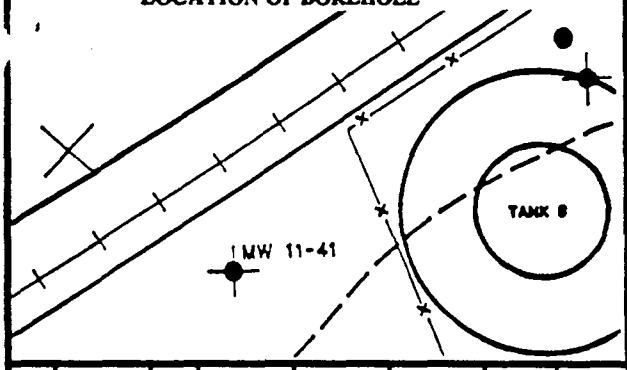
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-40
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO..	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			2.0/2.0	0830					21		21.0 to 22.0 feet : Colluvium; sandy silt, yellow(2.5Y 7/8) with light gray (2.5Y 7/0) clay seams, contains small (3-5mm) orange red clasts of weathered bedrock.
		22								22		TD (refusal) at 22.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143/RRISC	BOREHOLE DESIGNATION: SB11-41
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.38 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 4.6 FT.
SUBSITE: TANK G AREA	LOGGED BY: LORRAINE ALCOTT
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/21/92.

DRILLING PERSONNEL/METHOD:
Rick Cooper, Bruce Horst / Mobil B-61 rig, 7 7/8"OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANALYS PHYS	ANALYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			3.0/4.5	1020					1 2 3		0.0 to 4.8 feet: Fill Material; sandy silt, olive yellow (2.5Y 6/6), numerous small (3-5mm) and occasional larger (12.5 cm) fragments of bedrock, smaller fragments increase at 5 feet, friable, no moisture; resistant rock encountered at 3.0 ft.; description is based on 0.0 to 3.0 ft. interval.
CME	4.5	4.5		5.0/5.0	1055	26 55 45(HS)				4 5 6 7 8		4.8 to 9.5 feet: Fill Material; sandy silt, light olive brown (2.5Y 5/4), saturated, 0.2 foot very dark gray (5Y 3/1) interval at 5.8 ft., becomes olive to light green gray (5Y 7/1) at 6.0 ft.; entrained bunker fuel in fill material at 4.8 feet and intermitently thereafter, large (7.5cm) bedrock fragment at 9.5 ft.; sample SB11-41(7.0-7.5) collected at 1100 in fill with entrained fuel; photo #4 of fill/fuel-saturated fill contact at 4.8 ft.; photo #5 of oil entrained in fill.
CME	9.5	9.5		4.5/5.0	1105					9 10 11 12 13 14		9.5 to 14.5 feet: Fill Material; upper 0.4 ft. is cobbly fuel-saturated fill, at 9.9 ft. becomes yellow greenish gray to pale olive (5Y 6/4), clay increases, saturated, cohesive, no entrained oil, plant roots; fill material resembles intact colluvium beginning at 13.6 ft., brownish yellow to olive yellow (2.5Y 6/8) with minor orange red clasts and fragments of bedrock, also contains some tight, light gray to white (2.5Y 8/0), clay seams. 14.5 to 15.3 feet: Fill Material; cobbly fill with some entrained fuel from 14.5 to 14.9 ft., increase in clay content at 14.9, light gray (2.5Y 8/0).
CME	14.5	14.5		5.0/5.0	1115					15 16 17 18 19 20		15.3 to 16.1 feet: Peat/Alluvium; peaty sand contains silty sand with weathered siltstone bedrock fragments, some rounded, very dark gray (2.5Y 3/0), possible zone of JP-5 or diesel contamination; sample SB11-41(15.8-16.1) collected at 1125 of peaty (fuel-saturated) zone. 16.1 to 19.5 feet: Colluvium; sandy silt, yellowish brown (10YR 5/6), upper 0.2 ft. is serpentine green; photo #6 shows entire interval from 16.1 to 19.5 feet, photos #7 and #8 are closeups of contact of peaty fuel-saturated zone and colluvium at 16 feet, photo #9 shows both the 14.5- to 19.5- and 19.5- to 24.5-foot sample intervals. See Photo 5-7 in photo log.
CME	19.5	19.5										

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

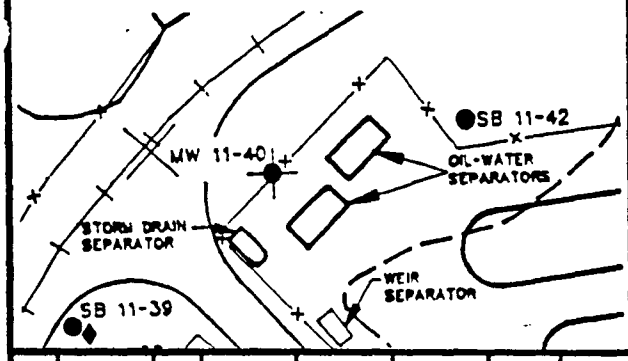
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-41
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	19.5			5.0/5.0	1122							19.5 to 24.5 feet: Colluvium; sandy silt, yellowish brown (10YR 5/6), upper 0.4 foot is friable, becomes saturated at 19.9 ft.; cobbly colluvium, at 22.0 ft. followed by sandy silt with olive green to light gray (5Y 7/1) clay seams (2-4 mm thick), 5 cm bedrock fragment at top of sandy silt colluvium; small (3-5 mm) bedrock fragments scattered throughout sample but abundance of fragments increases with depth.
										21		
										22		
										23		
										24		
	24.5											
CME	24.5			5.0/5.0	1142							24.5 to 29.5 feet: Colluvium; as above, sandy silt, yellowish brown (10YR 5/6) with numerous small (3-5mm) red fragments of bedrock and orange red clasts of bedrock; bedrock fragments increase with depth; at 26.6 ft. colluvium is soft and moist, back to tighter m[illegible] at 26.9 ft.
										25		
										26		
										27		
										28		
										29		
	29.5											
CME	29.5			5.0/5.0	1155							29.5 to 35.0 feet: Colluvium; as above, sandy silt, yellowish brown (10YR 5/6), numerous small (3-5 mm) oxidized bedrock fragments and orange red clasts throughout sample increasing with depth, abundant at 35.0 ft.; at 32.0 ft. small (2 mm thick) olive gray to light gray (2.5Y 7/0) clay seams are evident and continue through 35.0 ft.
										30		
										31		
										32		TD at 35.0 feet.
										33		Note: The peaty sandy fuel-saturated interval noted from 15.3 ft. to 16.1 ft. is similar to the horizon noted from 15.4 ft. to 15.8 ft. in SB11-40.
	35									34		
										35		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-42
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 15.0 ft.
SUBSITE: OIL-WATER SEPARATORS	LOGGED BY: ROB BARRY
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/11/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet without sampling.
CME	2.0			3.0/3.0	1043					2		2.0 to 3.8 feet: Fill Material; sandy silt with rock fragments, brownish yellow (10YR 6/6), very poorly sorted, rock fragments are 7.5 cm and greater, nonplastic, damp.
										3		
						33				4		3.8 to 12.2 feet: Fill Material; sandy silt with rock fragments, dark gray to olive (5Y 4/3), very poorly sorted, nonplastic, moist, hydrocarbon odor, scrap metal in cuttings and in sampler shoe, metal may have plugged sampler resulting in poor recovery from 5.0 to 10.0 feet; sample SB11-42(6.0-7.0) collected to characterize gray staining and hydrocarbon odor; split spoon attempted from 10.0 to 12.0 feet for biochemical sample, only 0.2 ft. recovered as a result of rock fragment plugging sampler, hard drilling from 10.0 to 12.0 feet with CME sampler.
	5.0					22				5		
CME	5.0			1.9/5.0	1059							
										6		
						28				7		
						(22) 32						
										8		
										9		
	10.0									10		12.2 to 15.0 feet: Fill Material; silty sand, olive (5Y 5/3), trace fines, sparse rock fragments, very poorly sorted, moist, gray staining decreases with depth.
SS	10.0			0.2/2.0	1113							
										11		15.0 to 18.1 feet: Fill Material; silty sand with rock fragments, twigs and straw; fuel saturated (bunker fuel), black (5Y 2.5/1), very poorly sorted, trace clay; sample SB11-42(16.0-16.5) collected at 1148 in brass sleeve to characterize fuel-saturated fill; biochemical sample SB11-42(16.5-17.0) collected in fuel-saturated fill in brass sleeve, results as follows: heterotrophic plate count = 22,000 cfu/g, BOD = 310 mg/kg; SB11-42(17.5-18.0) collected at 1204 in fill material above fill/bay mud contact.
	12.0					50				12		
CME				3.4/5.0	1130							
						15				13		
						3 1						
										14		
	15.0									15		18.1 to 18.4 feet: Bay mud; silty sand (SM), black (2.5Y 2/0), very fine-grained, moderate to well sorted, wet, trace clay, trace shell fragments, faint hydrocarbon odor.
SS	15.0			0.9/2.0	1138							
										16		18.4 to 18.7 feet: Reworked Intertidal Sediments; silty sand with gravel (SM-SW), very dark gray (2.5Y 3/0), very poorly sorted, wet to saturated, gravel is 5-15% of sample, rounded, some flat and elongated, max. size is 15 mm (long axis), gravel consists of siltstone, quartzite and chert; sample SB11-42(18.4-18.6) collected at 1207 in reworked intertidal sediments.
	17.0									17		
CME				3.5/5.0	1153							
										18		
										19		Photos #12, #13, and #14 show 15- to 20-foot interval and contacts between lithologic units. See Photo 6-12 in photo log.
	20.0									20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

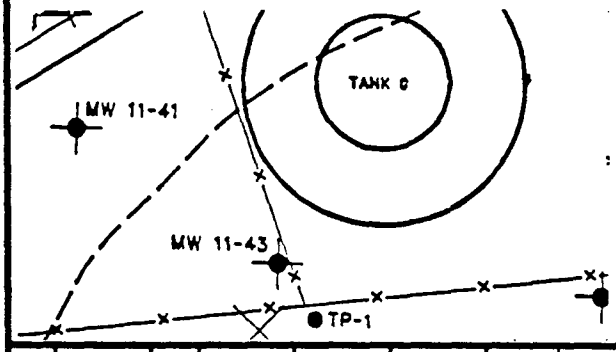
LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-42
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO..	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20.0			0.9/2.0	1209					21		18.7 to 22.0 feet: Colluvium; silty sand, damp, dense, trace clay, sparse bedrock fragments, poorly sorted, green to orange, max = 5 mm; physical sample SB11-42(21.5-22.0) collected to assess anticipated low-conductivity in this tight material,results as follows: material classified as clayey sand (SC); saturated hydraulic conductivity = 9.1 x 10 E-9 cm/sec (falling head); initial moisture content = 18.03% (gravimetric) or 32.92% (volumetric); density = 1.83 g/cm3; calculated porosity = 31.12%.
		22.0								22		TD at 22.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-43
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.63 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 4.8 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: ROB BARRY
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/11/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4"ID HSA; continuous smpling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet.
CME	2.0			1.5/3.0	1445					2		2.0 to 10.0 feet: Fill Material; sandy silt with gravel and rock fragments, rusty orange mottled with (turquoise) green and gray to olive gray (5Y 4/2), very poorly sorted, nonplastic, damp, hydrocarbon odor, rock fragments up to 6 cm in size; gray mottling increases with depth, becomes dominant color at 5.0 ft.; sample SB11-43(9.7-10.0) collected at 1510 to characterize upper horizon of discolored fill.
										3		
										4		
		5.0				42 55					▽	
CME	5.0			0.9/5.0	1501					5		
										6		
										7		
										8		
										9		
		10.0								10		
SS	10.0			1.5/2.0	1520					11		10.0 to 13.3 feet: Fill Material; silty clay, dark gray to black, plastic, moist to wet, trace sand, mica present, visible (free phase) oil, may be sump pond material; sample SB11-43(10.5-11.0) collected at 1522 for chemical analysis of black mud; sample SB11-43(11.0-11.5) collected at 1525 for biochemical analysis of black mud, results of biochemical analysis as follows: heterotrophic plate count = 19,000 cfu/g, BOD = 210 mg/kg.
		12.0								12		
CME				3.8/5.0	1535					13		
										14		13.3 to 15.0 feet: Fill Material; silty sand with gravel and rock fragments, gray to black (5Y 2.5/1), very poorly sorted, nonplastic, moist to wet; gravel is subrounded to angular, rock fragments are gravel-sized.
		15.0								15		
CME	15.0			4.4/5.0	1558					16		15.0 to 17.2 feet: Fill Material; silty sand with gravel, greenish gray to olive (5 Y 4/3), very poorly sorted, abundant wood fragments, trace fine (glauconitic?) sand (turquoise green), hydrocarbon odor.
										17		
										18		17.2 to 21.4 feet: Bay Mud; clayey silt, micaceous, whole shells (clam) and shell fragments, trace sand, faint hydrocarbon odor, 20mm-thick shell horizon (clam) at 21 ft.
										19		
		20.0								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

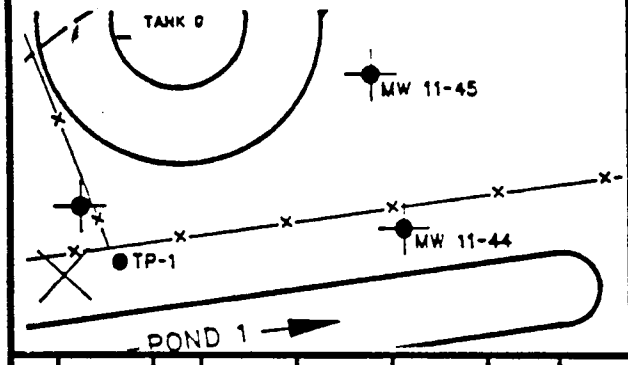
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-43
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20.0			5.0/5.0	1621					21 22 23 24 25		21.4 to 21.9 feet: Colluvium; clayey silt with sand, greenish olive to olive gray (5Y 5/2). 21.9 to 25.0 feet: Colluvium; silty sand with clay, orange brown to brownish yellow(10YR 6/6), weathered bedrock fragments are oxidized to bright red, clay-rich zone from 22.8 to 23.8 ft. is mottled gray with pale brown (10YR 6/3) and contains decomposed bedrock fragments; photo #15 shows 20-25 ft. interval; photo #16 shows contact between bay mud and colluvium. TD at 25.0 feet.
		25.0										

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-44
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.90 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 7.0 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: ROB BARRY
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/12/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo / Mobile B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet.
										2		
CME	2.0	3.0		1.4/1.0	0947					3		2.0 to 7.0 feet: Fill Material; silty sand, orange to dark gray (2.5Y 4/0), very poorly sorted, damp, dense, trace clay, sparse rock fragments (40 mm max.- long axis), band of olive to gray (5 Y 5/1) material between 4.5 and 5.0 feet, noticeable hydrocarbon odor at 4.5 ft., becomes strong at 5.0 ft.
CME	3.0			1.2/2.0	1036					4		
		5.0								5		
SS	5.0			0.6/2.0	1046					6		
		7.0								7	▽	7.0 to 8.0 feet: Fill Material; silty sand as above, greenish gray or olive, wet to saturated.
CME		8.0		0.0/1.0	1053					8		8.0 to 12.8 feet: Fill Material; silty sand, greenish gray to olive, saturated (flowing), visible (free-phase) bunker fuel between 11.2 and 12.8 ft. where fill material is stained gray; biochemical sample SB11-44(9.5-10.0) collected at 1105 to characterize fuel saturated flowing sand, results of biochemical sample at 9.5 to 10 ft. as follows: heterotrophic plate count = 9,100 cfu/g, BOD = 110 mg/kg; sample SB11-44(12.3-12.7) collected at 1136 at the base of bunker fuel-saturated horizon.
SS	8.0			0.5/2.0	1104					9		
		10.0								10		
CME	10.0			2.8/4.0	1130					11		
										12		
										13		12.8 to 14.0 feet: Fill Material; silty sand, orange brown to light olive brown (10YR 5/6), faint hydrocarbon odor, free-phase bunker fuel is absent.
		14.0								14		
CME	14.0	15.0		0.0/1.0	1158					15		14.0 to 15.3 feet: Fill Material; silty sand as above, free-phase bunker fuel is present.
CME	15.0			4.3/4.5	1230	400 1210				16		15.3 to 17.6 feet: Fill Material ; silty sand as above, abundant peat-rich lenses (<10 mm- thick); sample SB11-44(16.8-17.2) collected to characterize free-phase bunker fuel above bay mud contact; sample SB11-44(17.1-17.3) collected for additional analyses above bay mud contact.
						150(HS) 1300				17		
						250(HS) 1000				18		17.6 to 23.0 feet: Bay Mud; sandy silt, very dark gray (5Y 3/1), moderate to well-sorted, sand is very fine-grained, micaceous, trace clay, sparse shell fragments (clam), wet, faint hydrocarbon odor.
		19.5								19		
SS	19.5			2.0/2.0	1221					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

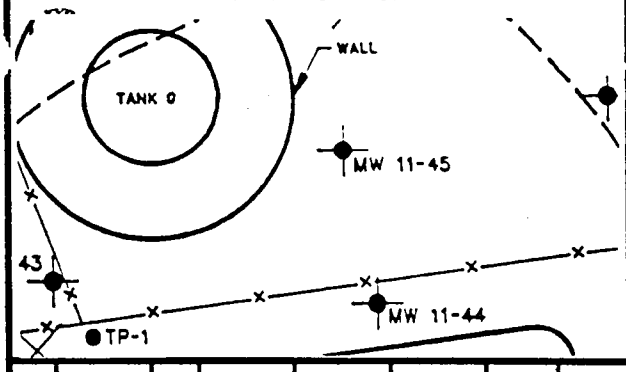
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-44
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	21.5	21.5		4.0/4.5	1237					21, 22, 23		17.6 to 23.0 feet: Buy Mud (see description on page 1 of 2); sample SB11-44(20.0-20.5) collected in brass sleeve at 1234 for physical analyses, results as follows: material classified as fat clay with sand (CH); saturated hydraulic conductivity = 5.3 E -8 cm/sec (falling head); initial moisture content = 43.93% (gravimetric) or 55.06% (volumetric); density = 1.25 g/cm3; calculated porosity = 52.71%. Sample SB11-44(20.5-21.0) collected in brass sleeve at 1235 for biochemical analysis, results of biochemical analysis as follows: heterotrophic plate count = 1,150 cfu/g, BOD = 140 mg/kg.
CME	24.5	24.5		1.7/2.0	1259	0 (HS)				24, 25		23.0 to 27.8 feet: Reworked Intertidal Sediments; silty sand with gravel (SM-SW), very dark gray (5Y 3/1), gravel is round to subrounded, max. size = 12 mm, consisting of mudstones and quartzite; sand is white quartz, very fine to coarse, round; contact 23.0 ft. is sharp but same color as material above 23 ft.; photo #18 of 26.5-30 ft interval; photo #19 is close-up of reworked sediments.
CME	26.5	26.5		3.0/3.5	1311	0 (HS)				26, 27		
										28		27.8 to 28.0 feet: Peat horizon. (Photo #19)
										29, 30		28.0 to 30.0 feet: Colluvium; silty sand with bedrock fragments, mottled grayish green, gray (5Y 5/1), orange brown, and browish yellow (10YR 6/6) with pods of dusky red to dark reddish brown (2.5YR 3/4); sand is very fine to fine grained, nonplastic, damp to dry, medium dense to dense; bedrock fragments are weathered, (turquoise) green (glauconitic?); photo #19 shows the contact between peat-rich sediments and colluvium. See Photo 6-19 in photo log. TD at 30.0 feet.
		30.0										

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-45
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.55 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 8.0 FT.
SUBSITE: TANK G AREA	LOGGED BY: ROB BARRY
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/12/92-3/13/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet: without sampler.
										2		
CME	2.0			3.0/3.0	1807					3		2.0 to 8.0 feet: Fill Material; silty sand with gravel; orange brown to reddish brown (2.5YR 4/4) with greenish gray and dark gray (2.5Y 4/0) horizons, poorly-sorted very fine- to coarse-grained sand, dry, dense; gravel is subrounded to angular; biochemical sample SB11-45(6.0-6.5) collected at 0750 to characterize upper fill material, results as follows: heterotrophic plate count = 1,400 cfu/g, BOD = 140 mg/kg.
										4		
		5.0								5		
CME	5.0			0.8/1.0	0730 3/13							
		6.0								6		
SS	6.0			0.5/2.0	0750							
										7		
		8.0								8		
CME	8.0			2.0/2.0	0755							
										9		8.0 to 10.0 feet: Fill Material; silty sand with gravel, greenish black to very dark gray (5Y 3/1), saturated (flowing) with bunker fuel; chemical sample SB11-45(9.5-10.0) collected at 0755 to characterize fuel-saturated zone; blind duplicate sample SB11-45(18.5-19.5) also collected; headspace = 90ppm.
		10.0				90 (HS)				10		
SS	10.0			0.0/2.0	0805							
										11		10.0 to 12.0 feet: No recovery.
		12.0								12		
CME				0.5/3.0	0810							
										13		12.0 to 15.0 feet: Fill Material; silty sand with gravel, (greenish) olive gray (5Y 5/2), fuel/water saturated, medium dense.
										14		
		15.0								15		
CME	15.0			0.3/5.0	0832							
										16		15.0 to 20.0 feet: Fill Material; silty sand with gravel, (greenish) olive gray (5Y 5/2), 10 mm-thick black peat lenses, 10 cm bedrock fragment identified as sublitharenite.
										17		
										18		
										19		
		20.0								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

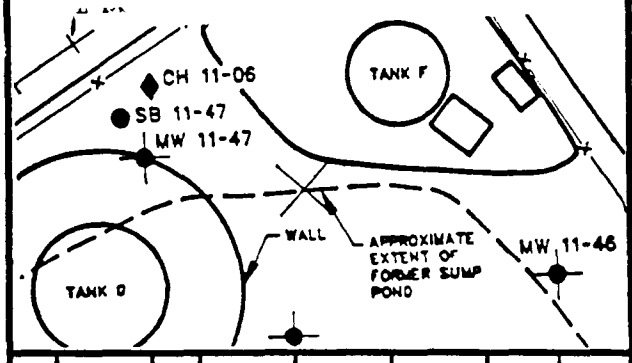
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-45
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20.0			4.7/5.0	0843							20.0 to 21.8 feet: Bay Mud; sandy silt (ML), very dark gray (5Y 3/1), slightly plastic to moderately plastic, medium dense, poor to moderate sorting, wet, micaceous, trace clay, sparse gravel, round, max. size = 20 mm, upper contact with fill material is inferred.
										21		
										22		21.8 to 22.4 feet: Reworked Intertidal Sediments; silty sand and gravel (SW-SM), dark gray (5Y 4/1), poorly sorted, wet to saturated; max. size of gravel is 6 cm, occasional black (5Y 2.5/1) peat lenses up to 30 mm-thick.
						0						
										23		
						10						
										24		22.4 to 28.6 feet: Colluvium; clayey silt with bedrock fragments, dark gray (5Y 4/1), poor to moderate sorting, wet, dense; bedrock fragments are pebble-sized and weathered, subrounded to subang color of fragments varies from orange to dusky red to dark reddis brown (2.5YR 3/4) to (turquoise) green (glauconitic); chemical sa SB11-45(22.9-23.2) collected at 0935 to assess whether gray discoloration in colluvium may be due to hydrocarbons.
	25.0											
SS	25.0			1.5/2.0	0858					25		
						0				26		
	27.0											
CME				3.6/5.0	0913					27		28.8 to 29.2 feet: Colluvium; silty sand with gravel, very dark gray (5Y 3/1), very poorly sorted, saturated, gravel is round; photo #20 shows sandy zone separating gray and orange colluvium.
						0				28		
										29		
	30.0									30		28.2 to 30.0 feet: Colluvium; clayey silt with bedrock fragments, orange brown, otherwise same as from 22.4 to 28.8 feet
												TD at 30.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-46
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.52 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 7.8 FT.
SUBSITE: TANK F AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/16/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Jack Johnson / Mobil B-61 rig,7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0	1.5								1		0.0 to 1.5 feet: Not sampled.
CME	1.5			3.5/3.5	1009					2		1.5 to 5.0 feet: Fill Material; silty sand with pebbles and gravel, brown, very dark grayish brown (2.5Y 3/2) or black (2/5Y 2/0), poorly sorted, nonplastic, dry, medium dense.
										3		
		5								4		5.0 to 8.0 feet: Fill Material; gravelly sand with rock fragments (max. = 10 cm), dusky red (2.5YR 3/2), dark brown, or black (2.5Y 2/0), very poorly sorted, damp to wet, dense.
CME	5			1.7/3.0	1013					5		8.0 to 10.0 feet: Fill Material; silty sand, sparse gravel; poorly-sorted fine- to medium-grained sand, (greenish) gray (5Y 5/1), moderately plastic, saturated, strong hydrocarbon odor, poor recovery using 2-foot by 2-inch driven split spoon.
										6		
		8								7		
SS	8			1.0/2.0	1017					8	▽	10.0 to 12.0 feet: Fill Material; silty sand, sparse gravel (max. = 8 cm); very-fine to coarse moderately-sorted, (greenish)-gray (5Y 5/1), saturated, loose, subrounded to subangular, strong hydrocarbon odor; physical sample SB11-46(11.0-11.5) classified as clayey sand; saturated hydraulic conductivity = 2.1 x 10 -6 cm/sec (falling head); initial moisture content = 20% (gravimetric) or 35% (volumetric); density = 1.74 g/cm3; calculated porosity = 34%.
		10								9		
SS	10			1.2/2.0	1037					10		Biochemical sample SB11-46(11.5-12.0) collected at 1040 in sand entrained with bunker fuel, results of biochemical analyses as follows: heterotrophic plate count = 6,600 cfu/g, BOD = 1,700 mg/kg.
		12								11		
CME				2.4/3.0	1048					12		12.0 to 17.5 feet: Fill Material; as above, rock fragments (max. size = 10 cm), saturated with bunker fuel; chemical sample (and blind duplicate) SB11-46(12.5-14.5) collected at 1050 composited in stainless steel bowl; blind duplicate designated as SB11-46(22.5-24.5) collected at 1135.
										13		
										14		
		15								15		Chemical sample SB11-46(16.8-17.1) collected at 1125 in lower fill material.
CME	15			4.2/5.0	1115					16		17.5 to 18.1 feet: Bay Mud; silt (ML), trace sand, very dark gray (5Y 3/1) to black (5Y 2.5/1), moderate to well sorted, organic rich, mica present; chemical sample SB11-46(17.5-17.7) collected at 1127 in bay mud.
										17		
										18		18.1 to 18.2 feet: Reworked Intertidal Sediments; sand with gravel (SW), moderate to poorly-sorted fine to coarse sand, (greenish) gray (5Y 5/1), glauconitic, saturated, loose; gravel is subangular to round, white quartz and meta-sediments; small (<5 mm) white and purple shell fragments, slight hydrocarbon odor.
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

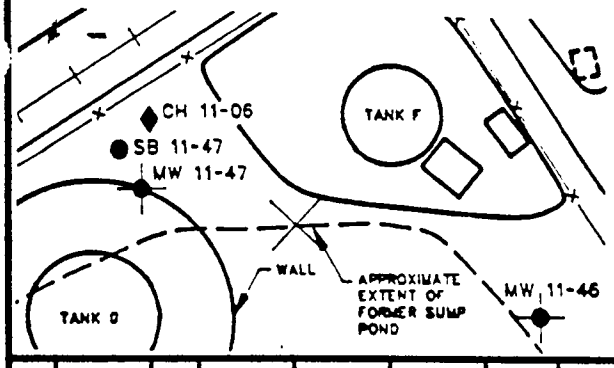
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-46
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO..	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
		20										18.2 to 20.0 feet: Colluvium; clayey silt with rock fragments, trace sand, brownish yellow(10YR 6/8), poorly sorted, nonplastic to slightly plastic, damp to moist; rock fragments are subangular to angular; dark gray limonite in fractures/voids, no hydrocarbon odor; discolored saprolite horizon (0.5 cm thick) at upper contact, remaining saprolite consists of clayey sand with rock fragments, some silt, sand is poorly sorted very fine to medium, (greenish) gray (5Y 5/1), wet to saturated, medium dense; photo #22 of dark gray to black bay mud, colluvium, and bedrock fragments; photo #23 of 15 to 20 foot sampling interval. TD at 20.0 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 0440143IRRISC	BOREHOLE DESIGNATION: SB11-47
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.55 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 4.3 FT.
SUBSITE: TANK G AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/16/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Jack Johnson / Mobil B-61 rig, 7 7/8 " OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0									1		0.0 to 2.0 feet: Augered without sampler.
		2								2		
CME	2			2.3/3.0	1407					3		2.0 to 5.0 feet: Fill Material; sandy silt, trace clay, sparse rock fragments (max. =30 mm), color varies from yellowish brown (10YR 5/4) to gray (5Y 5/1) to light gray (10YR 6/1) at 5.0 feet, moderate to poorly sorted, damp to saturated, no hydrocarbon odor.
										4	▽	
		5								5		
CME	5			1.0/3.0	1416					6		5.0 to 8.0 feet: Fill Material; as above, light gray (5Y 6/1), poorly sorted, rock fragments about 20% by volume, angular to subangular, metamudstone, saturated with globules of bunker fuel in interstices.
										7		
		8								8		
CME	8			0.1/2.0	1423					9		8.0 to 13.5 feet: Fill Material; as above, saturated, visible bunker fuel; sample SB11-47(12.5-13.0) collected at 1435 in fuel-saturated fill; photo #24 of 12.5-13.0 ft. sample interval. See Photo 6-24 in photo log.
		10								10		13.5 to 13.8 feet: Alluvium; sand with silt and abundant wood fragments (SW), sparse gravel; sand is very fine, moderate to poorly osrted, dark grayish green to dark gray (5Y 4/1), wet, 50% black wood fragments by volume.
CME	10			3.0/4.0	1432					11		
						(22)				12		13.8 to 14.0 feet: Alluvium; gravelly sand with silt (SW); sand is fine to coarse very poorly sorted, subangular to rounded, greenish gray to dark gray (5Y 4/1), saturated with water/fuel mixture; gravel is rounded.
										13		14.3 to 14.4 feet: Alluvium; peaty organic-rich sand lens (OL); black to very dark gray (5Y 3/1).
		14								14		
SS	14			2.0/2.0	1449					15		14.4 to 15.0 feet: Alluvium; sand (SP); moderatetly sortd very fine to fine, greenish gray to dark gray (5Y 4/1), wet, medium dense.
		16								16		15.0 to 16.0 feet: Colluvium?; clayey silt, brownish yellow (10YR 6/6), resembles weathered bedrock; possibly artificially placed colluvium as fill material.
CME	16			4.4/5.0	1458					17		
										18		16.0 to 17.1 feet: Reworked Intertidal Sediments; sand with gravel (SW), trace silt, dark greenish gray to dark gray(5Y 4/1); very poorly sorted, fine to coarse sand, loose, subrounded to rounded; max. size of gravel = 40 mm; saturated with bunker fuel/water mixture; sample SB11-47(16.0-16.5) collected at 1500 in reworked sediments. (description of colluvium from 17.1 to 20.0 feet on next page)
		20								19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-47
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

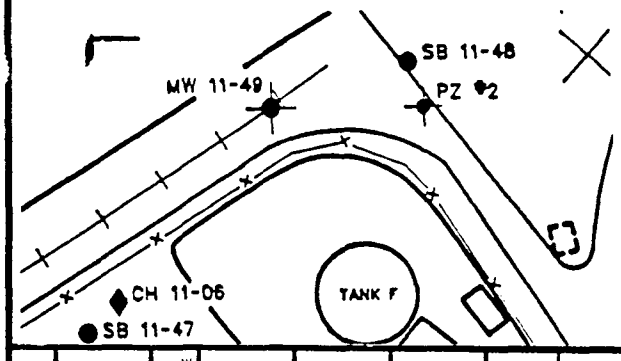
SAMPLER TYPE	SAMPLE DEPTH TOP BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20										17.1 to 20.0 feet: Colluvium or Saprolite; fine sand, locally silty, mottled reddish yellow(5YR 6/8) and pinkish gray (7.5YR 6/2), moderately sorted, damp. TD at 20.0 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143RRISC	BOREHOLE DESIGNATION: SB11-48
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: VALVE BOX 8 AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/17/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4 " ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selcted 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME				0.8/5.0	1231							0.0 to 5.0 feet: Hand augered, not sampled, but cuttings appear to be fill material.
										1		
										2		
										3		
										4		
										5		5.0 to 10.0 feet: Colluvium; silty sand with gravel, sand is very poorly sorted very fine to coarse with unweathered bedrock remnants (clastic), dark yellowish brown (10YR 4/4) with dusky red to red (2.5YR 4/8), yellow (2.5Y 7/8), and black mottling, medium plasticity, wet to moist, dense, no hydrocarbon odor.
CME	5			4.2/5.0	1246	0						
										6		
										7		
										8		
										9		
		10								10		10.0 to 15.0 feet: Colluvium; as above, no hydrocarbon odor or evidence of any contamination.
CME	10			5.0/5.0	1259	0						
										11		
										12		
										13		
										14		
		15								15		TD at 15.0 feet.

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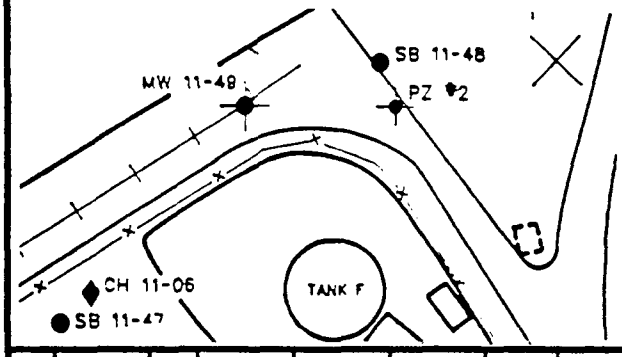
FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-49
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.86 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 2.4 FT.
SUBSITE: TANK F AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/17/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Jack Johnson, Anthony Lombardo / Mobile B-61 rig , 7 7/8"OD, 4 1/4 " ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

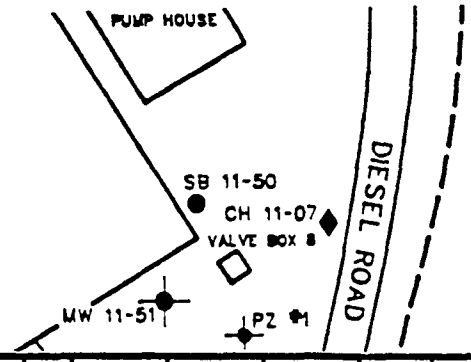
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			0.0/5.0	1644					1		0.0 to 3.0 feet: Not sampled, hand augered, cuttings appear to be fill material.
										2	▽	
										3		3.0 to 5.0 feet: Fill material; heterogeneous mixture of silt, sand, and gravel, gray (5Y 5/1), very poorly sorted, saturated with bunker fuel and water below 3.9 feet, loose; gravel is subrounded to angular.
										4		
		5								5		5.0 to 10.0 feet: Colluvium; silty sand with clay, sand is very poorly sorted very fine to medium with trace coarse sand; color grades from black (5Y 2.5/1) to very dark gray (2.5Y 3/0) at 5 to 7 ft., chang abruptly to greenish gray or dark gray (2.5Y 4/0) for 0.25 ft. the grades to olive yellow (2.5Y 6/6) at 7.5 to 9.5 ft; medium plastic to nonplastic with depth, medium dense to dense, wet to moist, no hydrocarbon odor; chemical sample SB11-49(06.8-07.2) collected at 1705 to evaluate if discoloration of colluvium is due to hydrocarbon contamination.
CME	5			4.0/5.0	1659	(2-4)		■		6		
										7		
										8		
										9		
		10								10		TD at 10.0 feet (bedrock not encountered).

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-50
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: VALVE BOX 8 AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/18/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Jack Johnson / Mobile B-61 rig, 7 7/8"OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0			0.1/5.0	1038							0.0 to 5.0 feet: Hand augered, not sampled, at 5.0 feet CME collects slough consisting of bedding sand and fill; fuel-saturated sand has diesel (F-76) or bunker fuel odor; poorly sorted fine to coarse with gravel, (green) gray (5Y 5/1), moist to wet where saturated with fuel, loose.
NA										1		
										2		
										3		
CME										4		
						>25						
		5								5		
CME	5			0.3/2.0	1049	65		■				5.0 to 7.0 feet: Sand; saturated with fuel (possibly diesel or bunker fuel), minor silt, poorly-sorted fine to coarse sand with gravel (up to 2cm), gravel and coarse sand are subangular, olive green to gray (5Y 5/1), wet where saturated with fuel, loose; chemical sample SB11-50(05.0-05.5) collected at 1050 to characterize fuel-saturated sand.
										6		
		7								7		

TD at 7.0 feet - cease drilling after encountering terra cotta cuttings thought to be water or sewer pipe.

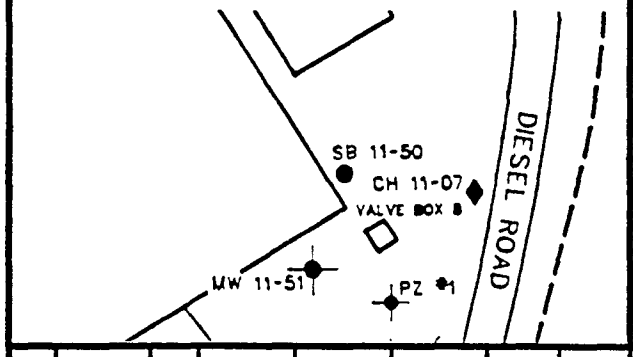
Note: Borehole was excavated to expose subsurface pipelines. Terra cotta cuttings were not associated with any pipes, and were in placed as part of fill material. Three fuel pipelines were exposed, however, each of which had fuel-saturated pipe bedding. Samples of the bedding were collected and designated as test pit (TP) samples TP11-50A, B, or C. See Photos 7-9, 7-10, 7-16, and 7-17 in photo log.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-51
CLIENT: U.S. NAVY	SURFACE ELEVATION: 23.79 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 8.3 FT.
SUBSITE: VALVE BOX 8 AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/18/92 and 3/19/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
				NA		NA				1		0.0 to 5.0 feet: Hand augered, not sampled.
										2		
										3		
										4		
CME	5			5.0/5.0	1404	0				5		5.0 to 10.0 feet: Colluvium; silty sand, very fine to coarse with minor clay and pebbles of weathered (clastic) bedrock fragments (1cm in size), dark grayish brown (10YR 4/2) to light brownish gr (2.5Y 6/2); damp, dense to medium dense, subangular to subroun pebbles and sand; weathered fragments brownish yellow (10 YR 6/8), dusky red to red (2.5YR 4/6), and dark brown (7.5YR 3/2), poorly sorted; no hydrocarbon odor.
										6		
										7		
										8		
										9		
		10								10		10.0 to 12.0 feet: Colluvium; as above. Biochemical sample SB11-51(11.0-11.5) collected at 1432, results as follows: heterotrophic plate count = <100 cfu/g, BOD = < 40 mg/kg.
SS	10			2.0/2.0	1425	0				11		Physical sample SB11-51(11.5-12.0) collected at 1435, results as follows: initial moisture content = 17.68% (gravimetric) 32.36% (volumetric); density = 1.83 g/cm3; calculated porosity =30.9%; saturated hydraulic conductivity = 8.2 E -9 cm/sec (falling head).
		12								12		
	12			NA		NA				13		12.0 to 15.0 feet: Not sampled (Colluvium); water measured at 14.5 feet after drilling to 15.0 feet.
										14		
		15								15		15.0 to 18.0 feet: Not sampled (Colluvium).
	15			NA		NA				16		
										17		
		18								18		Total depth at 18.0 feet.

Note: Water measured at 8.3 feet on 3/19/92 a.m.

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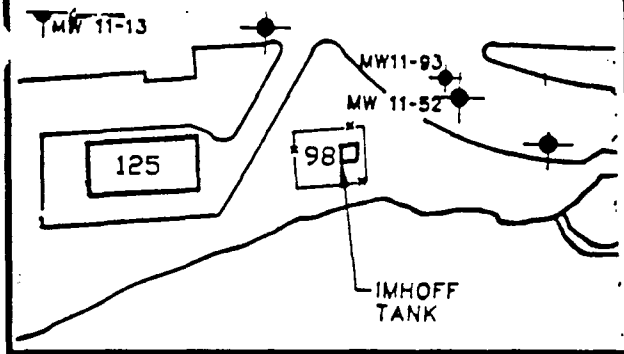
FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-52
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.22 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.9 FT.
SUBSITE: SW TREAT. PONDS AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/23/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Anthony Lombardo / Mobil B-61 rig, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
NA					1045	NA				1 2 3 4		0.0 to 5.0 feet: Not sampled, cuttings consist of fill material, silty sand with rock fragments.
CME	5			1.5/2.0	1129	0				5 6		5.0 to 7.0 feet: Fill Material; rock fragments with silty sand, sand is very poorly sorted fine to coarse, brown (10YR 5/3) grading to yellowish brown (10YR 5/4) over several centimeters, damp to dry, loose, fragments (some larger than 10 cm) are dominately bedded siltstone/mudstone and metasandstone.
		7										
CME	7			1.0/3.0	1141	0				7 8 9		7.0 to 10.0 feet: Fill Material; (as above), olive brown (2.5Y 4/4) with yellow (10YR 7/8) pebbles and weathered sediments.
		10										
CME	10			1.1/2.0	1155	0				10 11		10.0 to 12.0 feet: Alluvium; silty sand (SM), moderately sorted fine to coarse, olive gray (5Y 5/2), moist, loose, round to subangular, one large (>15cm) rock fragment (very dark gray microcrystalline quartzite).
		12										
SS	12			0.0/2.0	1203					12 13		12.0 to 14.0 feet: No sample recovery, with 2-foot split spoon drive.
		14									▽	
CME	14			1.0/1.0	1215	300				14		14.0 to 15.0 feet: Alluvium; silty sand (SM as above), blueish gray-green to gray(5Y 5/1), wet, hydrocarbon odor.
		15										
SS	15			1.0/2.0	1231	300				15 16		15.0 to 19.0 feet: Alluvium; (as above) flowing sand; saturated with fuel (diesel).
		17										
CME	17			1.0/3.0	1242	1200				17 18		
						63				19		19.0 to 20.0 feet: Bay Mud; silty clay (CH), trace sand (fine to very fine), greenish black to very dark gray(5Y 3/1), wet, moderately plastic, medium dense, abundant mica (muscovite).
		20				30				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

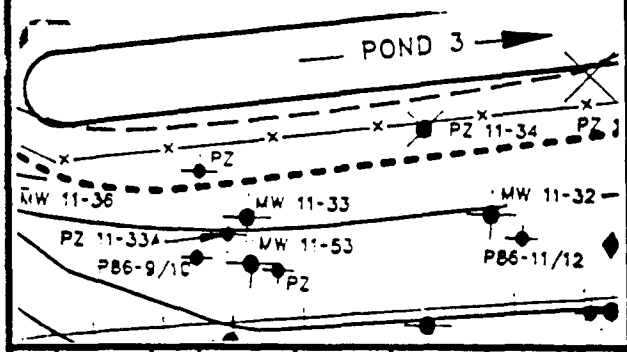
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-52
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20			0.0/2.0	1249							20.0 to 22.0 feet: No sample recovery, with 2-foot split spoon drive.
										21		
		22										
										22		22.0 to 24.5 feet: Slough, flowing sand (as above); this 20.0-24.5 ft. interval may consist of reworked intertidal sediments above bedrock; lack of cohesive fine-grained material probably accounts for lost sample.
CME	20			0.0/2.5	1325							
										23		
										24		
		24.5										Total depth (refusal) at 24.5 feet.
										25		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-53
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.62 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 11.84 FT.
SUBSITE: TREATMENT PONDS AREA	LOGGED BY: ROB BARRY AND DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 3/24/92

DRILLING PERSONNEL/METHOD:
Bruce Horst, Jack Johnson, Anthony Lombardo / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 5.0 feet: Augered without sampler.
										2		
										3		
										4		
										5		5.0 to 10.0 feet: Fill Material; clayey sand with rock fragments (max. size = 8 cm), 1.0 ft. thick, very dark grayish brown (2.5Y 3/2) with yellow (2.5Y 7/8) weathered pebbles; followed by 0.9 ft. of moderately sorted very fine to coarse sand, loose, fuel-saturated, greenish to very dark gray (5Y 3/1), subrounded to angular, may be bedding sand for nearby outfall discharge line.
CME	5			1.9/5.0	0908					6		
										7		
						0				8		2-foot drive sample with split spoon at 10.0 to 12.0 ft.
						4						
						20				9		10.0 to 12.0 feet: Fill Material; sand (as above), chemical sample SB11-53(10.5-11.0) collected at 0926 in fuel-saturated fill; biochemical sample SB11-53(11.0-11.5) collected at 0925 also in fuel-saturated fill, results of biochemcial analyses as follows: heterotrophic plate count = 6,900 cfu/g, BOD = 220 mg/kg.
		10				40				10		
SS	10			1.8/2.0	0920	40				11		
						60				12	▽	12.0 to 15.0 feet: Fill Material; sand (as above) wiht rock fragments; rock fragments (most are 3-5 cm, max. = 8 cm), subangular to angular; silty sand matrix saturated with bunker fuel (sludge at 7.0 to 8.0 feet on outside of core barrel).
		12										
CME				1.0/3.0	0931	80				13		
						60				14		Equipment blank EB11-53(10.0-15.0) collected at 1010 for CME sampler used in this 10- to 15-foot interval; chemical sample SB11-53(12.5-13.5) collected at 0937 from fuel-saturated fill; photo #4 of fuel-saturated fill (bunker fuel) and possible bedding sand. See Photo 7-4 in photo log.
		15										
CME	15			1.0/5.0	0947	60				15		15.0 to 17.5 feet: Fill material; clayey sand with rock fragments; rock fragments (up to 10 cm) are angular to subangular; sand is very poorly sorted fine to coarse, saturated with water/bunker fuel greenish gray to dark gray (5Y 4/1); photo #5 of fuel-saturated fill. (bunker fuel)
										16		
										17		
										18		Buy Mud contact at 17.5 ft. was interpolated from nearby borelogs SB11-33 and SB11-33A.
										19		17.5 to 20.0 feet: Bay Mud; no sample recovery, upper contact is estimated.
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-53
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS CME	20			2.0/3.0	1033 1044					21		20.0 to 23.0 feet: Bay Mud; silty sand (SM), very fine to fine, dark gray (5Y 4/1), nonplastic, loose to stiff, some shell fragments, abundant mica; no recovery using split spoon, 20.0 to 23.0 ft. interval re-sampled with CME.
										22		
		23								23		
SS	23			2.0/2.0	1103					24		23.0 to 25.0 feet: Bay Mud; silty sand (SM), very fine to fine, dark (greenish) gray to dark gray (5Y 4/1), slightly plastic, medium stiff, abundant mica, shell fragments, occasional coarse sand fragments consisting of white quartz and mudstone.
		25								25		

Biochemical sample SB11-53(23.5-24.0) collected at 1105 in bay mud, results as follows: heterotrophic plate count = <100 cfu/g, BOD = 210 mg/kg.

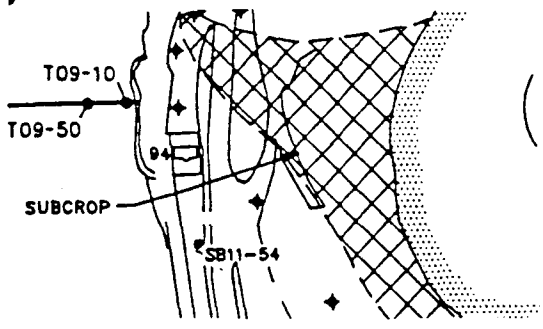
Physical sample SB11-53(24.0-24.5) collected at 1110 in bay mud, classified as fat clay with sand (CH); saturated hydraulic conductivity = 1.5 E -7 cm/sec; initial moisture content = 45% (gravimetric) or 54% (volumetric); density = 1.21 g/cm3; calculated porosity = 54%.

Total depth at 25.0 feet, bedrock not encountered.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB11-54
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 12.59 FT. 2/18/94
SUBSITE: TREATMENT PONDS	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/14/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, Mark Brooke/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; logged from auger cuttings.
										1		
										2		
										3		
										4		
		5.0										
SS	5.0		5	2.0/2.0	1414					5	ML	5.0 to 8.5 feet: Fill Material; clayey silt with some fine sand and quartzite fragments, grayish brown (10YR5/2) to brown (10YR5/3), quartzite fragments range from 1/4 inch to 1.5 inches, angular to subangular; moist at top of interval, becomes dryer with depth.
			9									
		7.0	10							6		
			10									
SS	7.0		5	1.8/2.0	1435					7		
			8									
			5							8	SM	8.5 to 10.5 feet: Alluvium; fine sand with some silt, dark brown (10YR4/3) to dark yellowish brown (10YR4/6); soft, moist.
		9.0	6									
SS	9.0		5	1.8/2.0	1448					9		
			7									
			3							0		
		11.0	5									
SS	11.0		5	2.0/2.0	1455	502		X		1	SP	10.5 to 13.0 feet: Alluvium; fine to medium sand, obvious hydrocarbon staining and odor, wet.
			8			ppm		X				
			8					X				SAMPLE SB11-54 (11.5-12.0) collected at 1455.
		13.0	8							2		
SS	13.0		7	2.0/2.0	1505	889						SAMPLE SB11-54 (12.0-13.0) collected at 1450.
			9			ppm				3	SP	13.0 to 15.0 feet: Alluvium; medium to coarse sand, very strong hydrocarbon (diesel) staining and odor; soft, loose, wet to saturated.
			8									
		15.0	7							4		
SS	15.0		6	1.8/2.0	1527							
			5							5	SP	15.0 to 17.0 feet: Alluvium (as above); at 16.0 feet, clayey sand, up to 20 percent clay, wet to saturated.
			7							6		
		17.0	11									
SS	17.0		5	1.8\2.0	1535					7	SP	17.0 to 19.0 feet: Alluvium; coarse sand, less hydrocarbon staining than above; some quartzite cobbles at 18.0 feet ranging from 1/2 inch to 1.5 inches in diameter, angular to subangular, wet to saturated.
			6									
			7							8		
		19.0	9									
SS	19.0		5	2.0\2.0	1542					9		
			6							0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-54
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/14/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
			7									
	21.0		9							1	SP	19.0 TO 22.5 feet: Alluvium; coarse sand and gravel, some hydrocarbon odor, gravel is 1/8- to 1/2-inch in diamter, some quartzite cobbles range from 1 inch to 1.5 inches in diameter, saturated.
SS	21.0		5	2.0/2.0	1550							
			6							2		
			2									22.5 to 23.0 feet: Bay Mud; clayey silt, very dark brown (10YR2/1) to black (10YR 2/2), plastic, wet to saturated.
	23.0		2							3	ML	
SS	23.0		1	1.6/2.0	1600			X				SAMPLE SB11-54 (23.5-24.0) collected at 1600.
			1							4		
			1									SAMPLE SB11-54 (24.5-25.0) collected at 1600.
	25.0		1					X		5	ML	23.0 to 25.0 feet: Bay Mud; clayey silt as above, upper 1.0 feet alluvial sand (slough). Sample SB11-54 (23.5-24.0) and SB11-54 (24.5-24.5) collected.
										6		
										7		
										8		Total Depth at 25.0 feet.
										9		
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
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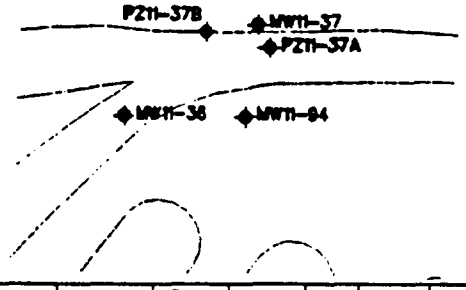
										9		
										0		

LOCATION OF BOREHOLE

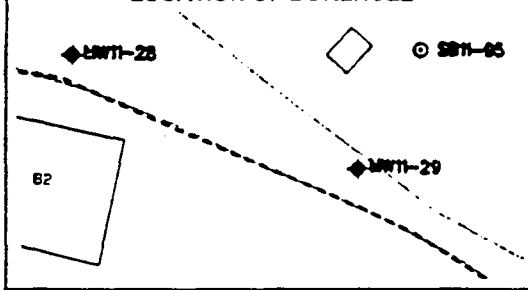


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-94
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	
SUBSITE:	Treatment Ponds Area	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/12/99

DRILLING PERSONNEL/METHOD:
CME 850 Track
HSA 8" OD, 4 1/2" ID; CME sampler 5.1'x2.5" ID
Eric/Francisco/Chico

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	2.0/5.0	0942					Fill	Fill; olive yellow (2.5YR 6/6) silty clay sand with rock fragments up to 40mm, 70% sand 25% fines, 5% rock fragments, sand is fine-medium grained, poorly graded, rock fragments are angular, dark grayish, brown sandstone.
CME 2.5"ID	5.0	7.0	0.5/2.0					5	Fill	Very hard drilling, rock fill, fragments up to 50mm, olive brown (2.5YR 4/3) silty sand with rock fragments up to 50mm. No hydrocarbon staining or odor.
CME 2.5"ID	7.0	10.0		1007						Using split spoon, 8 blows/18".
Split Spoon	10.0	12.0		1012				10	Fill	Strong hydrocarbon odor and staining, minimal free product. Wet, capillary fringe.
CME 2.5"ID	12.0	15.0	1.5/5.0	1020					GW	Measured no free product in boring with interface probe, saturated, probe not fuctioning. Fine sand - gravel and rock fragments up to 15mm. Coarse rock fragments and no sand or gravel. Rock fragments up to 50mm at 15'. Saturated.
CME 2.5"ID	15.0	20.0	2.0/5.0	1030				15	GW	Same as above, rock fragments up to 50mm, angular, brownish green sandstone, weakly metamorphosed, grains of quartz, feldspar, magnetite. TD at 20', very hard drilling.

LOCATION OF BOREHOLE



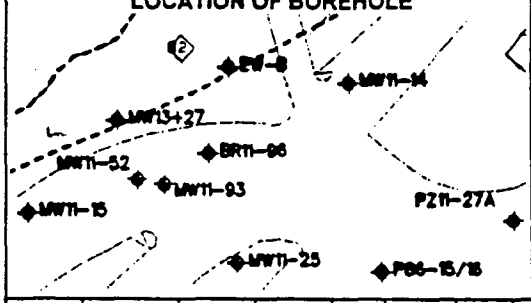
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-95
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	4.5-5.0' (While Drilling)
SUBSITE:	Treatment Ponds Area	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/07/99

DRILLING PERSONNEL/METHOD: CME 850 Track
HSA 8" OD, 4 1/2" ID; CME sampler 5.1'x2.5" ID
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.2/5.0	0845	N/A		CL	Fill; silty clay, brown to brownish gray with mudstone fragments up to 2"; wet at 4.5-5.0'; product first visible at 10'; entire 10-15' interval saturated with bunker fuel (PID not working).
CME 2.5"ID	5.0	10.0	2.7/5.0	0900	N/A			
CME 2.5"ID	10.0	15.0	2.5/5.0	0915	N/A	■		
CME 2.5"ID	15.0	20.0	2.0/5.0	0930	N/A		CL	Fill; as above grading from brownish gray to olive (greenish) gray, product still present in center of sampler material (i.e. not due to sampler sidewall contamination).
CME 2.5"ID	20.0	22.5	2.0/2.5	0945	N/A	■	ML	Fill; fine silt (saturated) with mudstone cobbles up to 3"; no product visible but distinct odor still present in sample material; color gray to greenish gray.
CME 2.5"ID	22.5	25.0	2.3/2.5	1000	N/A		CL	Colluvium (?); may be fill but similar to colluvium at higher elevations; silty clay, yellowish brown (10YR 5/6), with yellow mottling; mudstone/sandstone fragments up to 1/8"; fragments angular to subangular.
CME 2.5"ID	25.0	30.0	3.4/5.0	1015	N/A		Weathered Bedrock	Sandstone, weathered, bunker fuel present; some pieces rounded (fill ?); most angular to subangular and indicative of weathered sequence.
							Weathered Bedrock	Sandstone, less weathered, fairly competent, though fractured with mudstone seams, no product visible, sandstone tan to reddish tan, fine grained, dry. TD = 30'

DEPTH (ft.): 5, 10, 15, 20, 25, 30

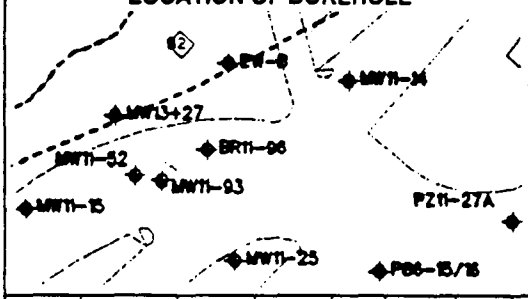
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-96
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	14.5'
SUBSITE:	Treatment Ponds Area	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/09/99
DRILLING PERSONNEL/METHOD:	CME 850 Track HSA 8"OD to bedrock E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	1.0/5.0	1300	N/A			SM	Fill; light olive brown, silty sand, very loose, fine-medium grained sand, 75% poorly graded. No odor or staining, grades into fill with fragments up to 2" diameter.
CME 2.5"ID	5.0	10.0	1.0/5.0	1305	N/A		5	SM-GW	Mixture of rock fragments of greenish gray siltstone (soft) with fine sand matrix (yellow). Weak to moderate efferveses with cold HCL. No odor or staining, fragments 90%, sand matrix. 10% oxidized with trace iron oxide fragments.
CME 2.5"ID	10.0	15.0	2.1/5.0	1315	N/A		10	SW	Moisture of rock fragments, greenish gray calcareous siltstone with minor fractures, weak iron oxides on fractures and calcite in fractures, finer grained matrix is a poorly graded medium-coarse, sub-well rounded sand, olive to olive gray, no odor or staining. Grades into an olive gray poorly graded fine-medium grained silty sand with no rock fragments. At 6" above shoe, silty sand turns gray-blackish gray, has moderate to strong hydrocarbon odor, sample is damp from above the water table (capillary fringe)
CME 2.5"ID	15.0	20.0	3.0/5.0	1350	N/A		15	SW	Dark grayish green with strong hydrocarbon odor and staining, well graded, fine sand to gravels up to 3mm, angular, matrix is fine-medium sand 80% and 20% granules, saturated.
CME 2.5"ID	20.0	25.0	2.0/5.0	1410	N/A		20	SW	1 foot of dark grayish green, well graded fill (?) or colluvium as described above.
								CH	Lower 1 foot is dark gray mud (bay mud) with minor shell fragments, weak to moderate efferves with HCL, shell fragments up to 10mm, well preserved.

LOCATION OF BOREHOLE

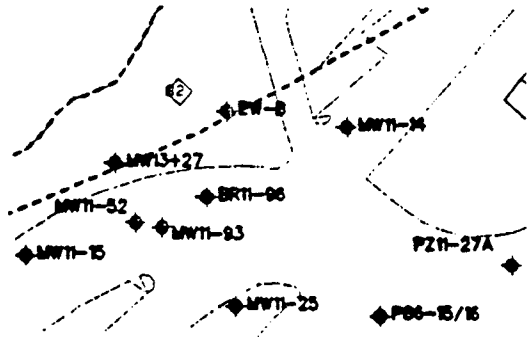


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-96
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	14.5'
SUBSITE:	Treatment Ponds Area	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/09/99

DRILLING PERSONNEL/METHOD: CME 850 Track
HSA 8"OD to bedrock
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	25.0	30.0	2.0/5.0	1420	N/A		30	CH	Upper 17" is dark gray mud (bay mud) with only trace shell fragments (smaller than 20-25'), moderate hydrocarbon odor/staining. Bottom 7" of recovery has large angular fragments (up to 45mm) of yellowish brown sandstone.
CME 2.5"ID	30.0	35.0	4.0/5.0	1440	N/A		35 40 45	Weathered Bedrock	Drilling is more difficult. Brownish yellow, weathered sandstone with minor iron oxides as blebs and granules, weathered to clays with sand, weak hydrocarbon odor, no staining, odor is probably from water in hole. Moderately well indurated brownish yellow sands, fine to medium grained, poorly graded, no hydrocarbon odor or staining. Stopped HSA and switched to core BR11-96. Fractures at 25-30 degrees to core axis. Grains of primarily quartz and feldspar, trace muscovite and biotite and magnetite, local iron oxide on fractures.

LOCATION OF CORELOG



PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR11-96
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: 14.5'
SUBSITE: Treatment Ponds Area	LOGGED BY: D. Janney
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 02/09/99

DRILLING PERSONNEL/METHOD:
CME 850 Track, HSA 8"OD
Core Bedrock (HQ 3 7/8" OD). Core w/water & EZ mud; recirculate
E. Sandoval, F. Sandoval, C. Macio

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION-DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME
HQ	2.5/2.5	N/A	N/A	N/A	20-40	N/A	N/A	1600
HQ	2.0/2.0	N/A	N/A	N/A	0-10, 20-40	N/A	N/A	—
HQ	4.5/4.5	N/A	N/A	N/A	30-50	N/A	N/A	1630
HQ	0.0/0.0	N/A	N/A	N/A	—	N/A	N/A	—
HQ	5.0/5.0	N/A	N/A	N/A	30-60, 10-20, 40-60	N/A	N/A	1700

DEPTH: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95

LITHOLOGY/GRAPHIC LOG: Weathered Bedrock; Weathered Bedrock; Weathered Bedrock; NR; Mudstone Bedrock

Well Info.

ROCK DESCRIPTION

On borelog SB11-96.

Light yellowish brown sandstone, fine to medium grained, poorly graded, angular-subrounded, primarily quartz and feldspars, fractures at 20-40 degrees, filled with clay and iron oxides, minimal blebs of iron oxides, not effervescent with HCL, no odor or staining.

3" seam of gray green mudstone at 45-50 degree orientation.

Light yellow-brown sandstone as described above, bedding 40-50 degrees locally with moderate to strong iron oxides on preferential beds, and fractures in 0-10 and 20-40 degree orientation.

Light yellow-brown, oxidized sandstone, weakly metamorphosed, poorly graded subangular-rounded, fine to medium grained, primarily quartz and feldspars, abundant iron oxides on some fractures, clay filling other fractures, no odor or stainig. Interbedded gray mudstones, strongly fractured.

No information.

Gray mudstone, localized fracturing.

Light yellow brown sandstone, brecciated and healed, not effervecent with HCL.

Gray mudstone, bedding at 30-50 degrees to core axis, local fracturing on bedding, last 1 foot is back into interbedded sandstone and mudstone.

TD = 49.5'

BOREHOLE LOG

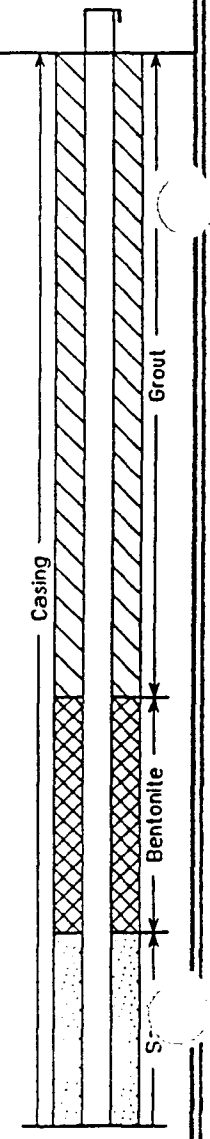
PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: MW13+27 Borehole Designation: SB13+27
Client: U.S. NAVY Surface Elevation: 17.2
Site: NFD PT MOLATE Subsite: SITE 3 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-12-96 Well Installation Date (s): 9-12-96

Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5'X 3" CME CORE BARREL SAMPLER
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10.02 TO 20.17 Filterpack Interval: 8.2 TO 20.17 Bentonite Seal: 6 TO 8.2
Grout Interval: 0 TO 6 Protective Cover: STOVE PIPE Elevation of TOC: 19.64
Latitude: 533470.3 Longitude: 1446652.0

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
			0915					Auger to 5 feet without sampler.
							NS	
5		1.8/5.0	0928				SC GC	Clayey Sand with Numerous Rock Fragments: Rock fragments gravel-size (up to 2-inches), 50% rock fragments, from 5.0 to 5.8 color is brown (10YR 4/3) and slightly moist, from 5.8 to 6.8 is brownish yellow (10YR 6/6) and dry.
								No Recovery
							NR	
10		2.7/5.0	0935				SC	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-12-96

Well Designation: MW13+27
Subsite: SITE 3

Borehole Designation: SB13+27
Surface Elevation: 17.2
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-12-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	WELL DIAGRAM
							SC	Clayey Sand: Dark grayish brown (10YR 4/3), rock fragments (25%) to 1/4-inch.	Screen and Endcap; Sand
							SW GW	Fine Sand with Rock Fragments: 50% rock fragments, yellow (10YR 7/6), cohesive (some clay), rock fragments mostly competent and friable sandstone.	
							GP		
							GP		
							SP	Sandstone Fragment: Dry.	
							NR	Mudstone Fragment: Fissile, dry, dark gray.	
								Sand: Medium, dark greenish gray (5BG 4/1), strong fuel odor, free product on outside of sampler.	
15		2.1/5.0	0945					No Recovery	
							SP	As from 12.3 to 12.8 feet, free product throughout.	
								No Recovery	
20								Total Depth Drilled 20 feet.	
25									

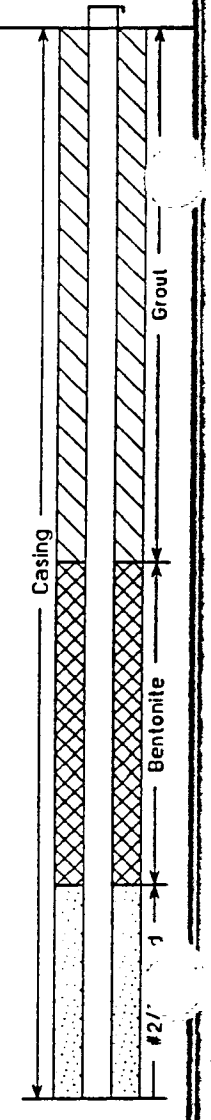
BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-030C0204 Well Designation: MW16+25 Borehole Designation: SB16+25
Client: U.S. NAVY Surface Elevation: 17.6
Site: NFD PT MOLATE Subsite: SITE 3 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-11-96 Well Installation Date (s): 9-11-96
Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: 9-11-96
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10 TO 20.2 Filterpack Interval: 8 TO 20.2 Bentonite Seal: 6 TO 8
Grout Interval: 0 TO 6 Protective Cover: STOVE PIPE Elevation of TOC: 20.8
Latitude: 533638.1 Longitude: 1446863.1

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		1.9/5.0	1403				SW GW	Fine Sand with Gravel-Size Rock Fragments: Brownish yellow (10YR 6/6), loose.
							NR	No Recovery
5		1.7/5.0	1407				SW GW	Fine Sands and Gravel: As above, 75% gravel, dry, loose.
								Fine Sand and Bedrock Fragments: Bedrock fragments include fissile (slightly) mudstones, loose, dry, yellowish brown (10YR 5/6).
							NR	No Recovery
10		1.2/5.0	1418	17			SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-030C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-11-96

Well Designation: MW16+25
Subsite: SITE 3

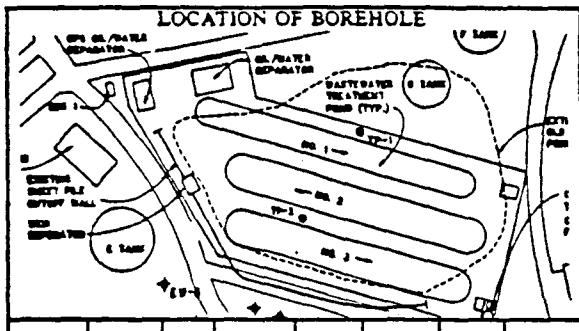
Borehole Designation: SB16+25
Surface Elevation: 17.6
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-11-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	WELL DIAGRAM
							SW GW	As Above from 5.9 to 6.7 feet.	Screen and Endcap; #2/12 Sand
							GC	Clayey Gravel: Rock fragments to 2-inches, very dark gray (N3/), strong fuel odor, cohesive, saturated.	
							NR	No Recovery	
15		0.9/5.0	1428				SC GC	Clayey Sand and Gravel: Very dark gray, saturated with water and bunker fuel, cohesive and "gooey."	
							NR	No Recovery	
20								Total Depth Drilled 20 feet.	
25									

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: TP-1
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 8 ft
SUBSITE: Treatment Ponds	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/21/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/Mobil B-57, 4 1/4"	
ID/7 7/8" OD HSA, continuous split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Pb, Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										Auger 0 to 2.5 ft; surface fill consisting of coarse, angular, subrounded gravels and yellowish brown silt.
								1		
								2		
								3	GC	2.5 to 4 ft: Upper 0.8 ft is slough: gravelly silt/clay, brownish yellow, followed by: silty clay or silt/clay, dark yellowish brown (10YR4/4), weathered brownish yellow (10YR6/6), nonplastic, dry, crumbly; grades immediately into stained gravelly clay with hydrocarbon odors, fractured siltstone gravel up to 10mm, plastic, gray (10YR5/1), moist, medium stiff.
Mod. (2.5")	2.5 - 4.0	8/6/5	1.5/1.5	1455	0-2			4		4.0 to 7 ft: Slough, surficial gravels and silt. Slough in upper 0.3 ft followed by: gravelly silty clay (silt/clay), dark brownish yellow (10YR3/3) with dark gray (10YR4/1) hydrocarbon staining increasing towards 7 ft, plastic, very moist to wet, loose, gravels are weathered and fractured siltstone; water initially encountered at 6.9 ft. Sample TP-1 (5.5-7.0) collected. HNu headspace (HS) readings to 5 ppm at 6.0 ft.
Calif. (2")	4.0 - 5.5	3/4/5	0.6/1.5	1500	2-4			5	CL/ML	
								6	CL/ML	
Std. (1.5")	5.5 - 7.0	5/6/5	1.0/1.5	1505	5 (HS)					
Mod.	7.0 - 8.5	6/6/7	1.1/1.5	1510	4 (HS)			7		7.0 to 8.5 ft: Gravelly clay, dark grayish brown (10YR4/2) to very dark gray (10YR3/1), plastic, wet, moderately stiff to loose, stained throughout, some free oil noted in pockets; gravel is angular to subangular siltstone up to 40mm. Sample TP-1GW(8) collected.
							▼	8	GC	8.5 to 10 ft: Upper 1 ft is wet slough, followed by gravelly clay as above, gray, wet, spots of free oil noted. Sample TP-1 (8.5-10.0) collected.
								9	GC	
Calif.	8.5 - 10.0	3/5/10	0.5/1.5	1515	5 (HS)			10		10.0 to 11.5 ft: Gravelly silty clay (silt/clay), dark gray (10YR4/1), to black (10YR2/1), plastic, soft to moderately stiff, gravel is subangular, microcrystalline (dense) siltstone 10 to 15mm, numerous shell fragments, some whole.
Std.	10.0 - 11.5	6/6/5	0.8/1.5	1522	6 (HS)			11	CL	11.5 to 13 ft: Silty clay, uniform, very dark grayish brown (10YR3/2) to black (10YR3/1), plastic, shell fragments as above, free oil seeping form sludge-like material. Sample TP-1 (11.5-13.0) collected.
								12	CL	
Mod.	11.5 - 13.0	4/4/4	1.5/1.5	1530	7 (HS)			13		13.0 to 14.5 ft: Silty clay, as above, fewer shell fragments, some smaller siltstone pebbles, free oil noted in partings, small piece of tin foil also noted.
Calif.	13.0 - 14.5	4/5/5	1.5/1.5	1542	6 (HS)			14	CL	14.5 to 16.0 ft: Overdrilled, not logged.
								15		
								16		16.0 to 17.5 ft: Silty clay, as above, less free oil noted but color remains very dark gray to black, some dark brown (10YR3/3) organic peat noted, very few shell fragments. Sample TP-1 (16.0-17.5) collected.
Std.	16.0 - 17.5	4/5/6	1.3/1.5	1552	4 (HS)			17	CL	17.5 to 19.0 ft: As above.
								18		
Mod.	17.5 - 19.0	3/3/4	1.5/1.5	1600	2 (HS)			19		19.0 to 20.5 ft: As above, uniform very dark brown to black silty clay, shell fragments noted, free oil noted in pockets (photo #29). Sample TP-1 (19.0-20.5) collected.
	19.0 - 20.5	3/4/4	1.5/1.5	1606	2 (HS)			20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

JOB NO: 044-0010 IRSIFW

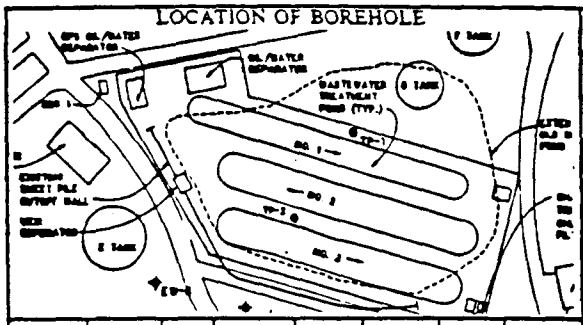
BOREHOLE DESIGNATION: TP-1 Continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVER	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21	CL	20.5 to 22.5 ft: Clayey silt as above, black to very dark brown, plastic, moist, soft, contains abundant mica flakes, shell fragments absent, sample TP-1 (20.5-22.5), duplicate soil sample collected and labeled as TP-10 (0-2) with artificial sample time as 1730.
Std.	20.5 - 22.5	2 / 3 / 4 / 4	2.0 / 2.0	1612	2 (HS)			22		
								23	CL/ML	22.5 to 24.0 ft: Upper 0.3 ft clayey silt as above, black to very dark brown, plastic, very moist, soft, mica; followed by 0.2 ft organic peat, dark yellowish brown (10YR3/4); followed by 0.5 ft silty clay, mottled olive (5YR5/3) to yellowish brown (10YR5/6), dry, dense, crumbly with 1-2mm granules and a 1 to 2 inch lense of coarse quartz sand and gravel, gravels are 3-4mm, rounded, crystalline hard siltstone.
Mod.	22.5 - 24.0	5 / 10 / 14	1.5 / 1.5					24		
Calif.	24.0 - 25.5	11 / 18 / 19	1.3 / 1.5	1626	0 (HS)			25		24.0 to 25.5 ft: Silty clay, mottled light brownish gray (2.5Y6/2) and yellowish brown (10YR5/6), slightly plastic, moist, with occasional large subangular pebbles of crystalline siltstone, weathered reddish brown (2.5YR4/1), also reddish brown weathered granules.
								26		25.5 to 27.5 ft: Silty clay, mottled, as above. Sample TP-1 (25.5-27.5) collected.
Std.	25.5 - 27.5	11 / 14 / 19	0.7 / 2.0		0 (HS)			27	CL/ML	
		26						28		TOTAL DEPTH = 27.5 FT

FIELD BOREHOLOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW

BOREHOLE DESIGNATION: TP-2

CLIENT: U.S. Navy

SURFACE ELEVATION:

SITE: Point Molate Naval Fuel Depot

DEPTH TO WATER: 9.75 ft

SUBSITE: Treatment Ponds

LOGGED BY: David West

DRILLING CO: Layne Environmental

DRILLING DATE(S): 9/24/90

DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/CME - 75; 3 1/4" ID/7 7/8" OD HSA, continuous split spoon drives.

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
Mod.	0.0 - 1.5	9/16/10	1.5/1.5	1026						0.0 to 1.3 ft: Surficial gravel and silt - road bed 1.3 to 1.5 feet: gravelly silt, yellowish brown (10YR5/8)
								1	GM	
Calif.	1.5 - 3.0	4/3/4	1.1/1.5	1028						1.5 to 2.2 ft: Slough-gravelly silt, followed by: clay with some silt and poorly sorted gravel (~ 15% gravel) dark brown (10YR3/3), some dark gray (10YR4/1) pods of stained clay; gravels are granule sized to 20 mm, subrounded rock fragments (siltstone).
								2	GM	
								3		3.0 to 4.5 ft: 0.7 feet of slough
Std.	3.0 - 4.5	4/3/3	0.7/1.5	1031				4		
								5	GC	4.5 to 6.0 ft: Wet gravelly slough, grayish brown (10YR5/2) followed by gravelly silty clay (60-70% gravel); very dark gray (10YR3/1) pockets of hydrocarbons in stained dark grayish brown matrix of silty clay, slightly plastic, moist, moderately stiff, gravels are angular and subangular siltstone up to 50 mm. Sample TP-2 (4.5-6.0) collected. Sample TP-2 GW(6) collected.
Calif.	4.5 - 6.0	3/6/5	1.3/1.5	1042	3-4 (HS)			6		6.0 to 8.0 ft: Wet gravelly and sandy slough followed by 0.2 ft of gravel (as above) with some silty clay, grayish brown (10YR5/2), moist; gravels are angular siltstone (bedrock)
Std.	6.0 - 8.0	4/3/6/6	1.2/2.0	1045				7		
								8	GC	8.0 to 9.5 ft: Gravelly clay (over 60 % gravel), yellowish brown (10YR5/4) plastic, moist to wet, soft, angular dark gray siltstone rock fragments up to 40mm; moderately sharp contact with: stained gravelly clay, olive gray (5YR5/2) with mottled (weathered) silty clasts, olive yellow (2.5YR6/6); w... 9.75 ft. Sample TP-2 (8.0-9.5) collected.
Mod.	8.0 - 9.5	7/23/15	1.5/1.5	1055	3-5 (HS)			9		
								10	GC	9.5 to 11 ft: Gravelly clay as above with 0.4 ft slough, followed by: clay, yellowish brown (10YR5/4) or dark gray (10YR4/1), not mottled; pebbles of gray, angular, siltstone up to 30-40mm and yellowish brown, subrounded crystalline quartzite.
Calif.	9.5 - 11.0	1/3/3	0.9/1.5	1057				11		11.0 to 13 ft: 0.9 ft wet gravelly slough followed by: gravelly clay mottled gray (10YR5/1) and yellowish brown (10YR5/6), contains yellowish brown silty clasts; lower 0.1 ft is gravelly clay and some silt, greenish gray.
Std.	11.0 - 13.0	4/3/4/3	1.2/2.0	1059				12	GC/GM	
								13		13.0 to 14.5 ft: Gravelly/silty clay, like above, grayish brown (2.5Y5/2), plastic in upper 0.7 ft, wet; sharp contact with: silt/silty clay, some gravel, dark gray (2.5YRN/5 to 5YR4/1) with greenish gray (weathered) clasts, non plastic, moist, crumbly. Sample TP-2 (13.0-14.5) collected.
Mod.	13.0 - 14.5	2/2/3	1.4/1.5	1108	0-1 (HS)			14	GM/ML	14.5 to 16.0 ft: Silty clay as above with increasing hydrocarbons at 16 ft., less gravel but free oil noted along fractured siltstone surfaces.
								15	ML	
Calif.	14.5 - 16.0	1/1/3	1.4/1.5	1117				16		16.0 to 18.0 ft: 0.8 ft wet slough with free oil, followed by sand, medium to coarse, stained very dark greenish gray (10YR3/1) well sorted, wet, free oil. Sample TP-2 (16.0-18.0) collected.
Std.	16.0 - 18.0	1/1/1		1123				17	SP	
								18		18.0 to 19.5 ft: Gravelly silty clay, dark gray (5YR4/1) with greenish gray (weathered) silty clasts, grades into: silty clay, very dark gray to black (2.5N/3-N/2), 0.2 ft sand lense, abundant mica (as in TP-1 silty clays), shell fragments, hydrocarbon odors, photo #33. Sample TP-2 (18.0-19.5) collected.
Mod.	18.0 - 19.5	1/1/1		1133				19	CL	19.5 to 21.0 ft: Silty clay, very dark gray (2.5YN/3 to N/2), slightly plastic, moist, soft, uniform, few shell fragments but one whole mussel shell, no gravel.
								20		
Calif.	19.5 - 21.0	0/0/0		1140						

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010 IRSIFW

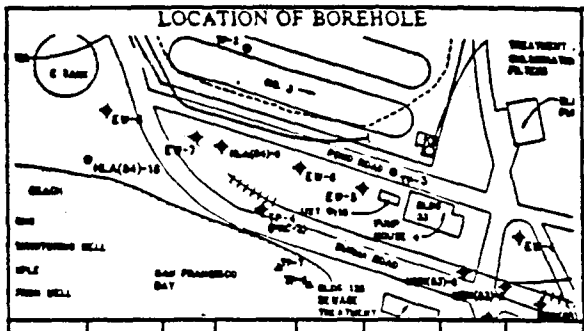
BOREHOLE DESIGNATION: TP-2 Continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Pb, Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21	CL	21.0 to 23 ft: Split spoon dropped to 23 ft, weight of rods only.
		0 0 0						22		
								23	ML/CL	23.0 to 24.5 ft: Silty clay as above, uniform dark gray silt/silty clay, occasional white shell fragments.
Mod.	23.0 - 24.5	2 2 5	1.5 / 1.5	1210				24		24.5 to 28 ft: Split spoon advanced to 28 ft. weight of rods only; silty clay as above, dark gray 10YR4/1. Sample TP-2(24.5-28.0) collected.
								25		
	24.5 - 28.0	0 0 0	1.5 / 3.5	1215				26		
		0 0 0						27		
		0						28		TOTAL DEPTH = 28 FT

FIELD BOREHOLOG

PRC ENVIRONMENTAL MANAGEMENT, IN(

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: TP-3
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 6 ft
SUBSITE: Treatment Ponds	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/24/90 - 9/25/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/CME - 75; 3 1/4" ID/7	
7/8" OD HSA, 1.5-foot split spoon, continuous sampling	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										Auger through road asphalt to 0.5 ft.
Mod. (2.5")	0.5 - 2.0	4/6/8	0.9/1.5	1609				1		0.5 to 2.0 ft: Slough followed by: silty clay with moderately sorted gravel (about 25-30%), silty clay is mottled yellowish brown (10YR5/4) and very dark gray (10YR3/1) with yellowish brown streaks, low plasticity, slightly moist, olive green weathered clasts and pebbles of tight siltstone and quartz.
Calif. (2")	2.0 - 3.5	3/4/3	1.1/1.5	1611				2	CL	2.0 to 3.5 ft: Similar to above, silty clay mottled yellowish brown (10YR5/8); reddish brown (5YR5/3) and light olive brown (2.5Y5/4) gravels are subrounded tight (crystalline) siltstone.
								3		3.5 to 5.0 ft: Gravels and some clay, gravels are fractured siltstone pebbles; clays are silty, olive (5YR5/4), slightly plastic, slightly moist, one wet zone (0.3 ft thick).
Std. (1.5")	3.5 - 5.0	1/3/5	0.7/1.5	1615				4	GC	
Mod.	5.0 - 6.5	9/5/3	0.7/1.5	1621	2-3 (HS)		▼	5		5.0 to 6.5 ft: Gravel and silty clay similar to above, abundant gravel is angular to subrounded siltstone or quartzite up to 40mm. Silty clay is mottled olive (5YR5/3) and light olive brown (25Y5/4), wet, cohesive; water encountered. Sample TP-3 (5.0-6.5) collected.
								6	GC	6.5 to 8 ft: Clay and less gravel, mottled dark gray (5YR4/1) and olive gray (5YR4/2), low plasticity, moist, crumbly, slight hydrocarbon odors, siltstone pebbles are subangular to 10mm, oily sheen in water.
Calif.	6.5 - 8.0	1/4/11	1.3/1.5	1640				7		
Mod.	8.0 - 9.5	2/5/3	1.3/1.5	1642				8		8.0 to 9.5 ft: Silty clay, some gravel, light olive brown (2.5Y5/4), nonpla- very slightly moist, crumbly, tight subrounded siltstone pebbles to 35mm, followed by silty clay with minor pebbles, mottled very dark gray (2.5Y olive (5Y4/3), slightly moist, crumbly, strong hydrocarbon odors.
								9	CL	9.5 to 13 ft: Silty clay, dark gray (5Y4/1), plastic, slightly moist, soft, uniform, some emerald green mottling, slight hydrocarbon sheen and hydrocarbon odors, no gravel, split spoon to 13 ft under weight of rods. Sample TP-3 (9.5-13.0) collected.
Calif.	9.5 - 13.0	0/0/0	1.3/3.5	1646	≥ 20 (HS)			10		
		0/0/0/0						11	CL	
								12		
								13		13.0 to 14.5 ft: Clayey gravel, dark gray (5Y4/1), wet, oil saturated, gravel is fractured angular siltstone and quartzite up to 50mm, oil saturated between fractures, fractures from drilling. Sample TP-3 (13.0-14.5) collected.
Mod.	13.0 - 14.5	8/6/8	0.9/1.5	1650	20 (HS)			14	GC	14.5 to 16.0 ft: Slough, gravels similar to above.
								15		
Calif.	14.5 16.0	3/3/2	0.7/1.5	1653				16		16.0 to 18.0 ft: Slough, contains oily water.
Std.	16.0 - 18.0	0/1/3	0.3/2.0	1656				17		
		3						18		End 9/24/90 - Start 9/25/90. 18.0 to 19.5 ft: Gravel and some clay, gravels are fractured tight siltstone including large angular rock fragments, oil stained and saturated, clays are dark gray (10YR4/1), low plasticity, slightly moist, about 10-20%.
Mod.	18.0 - 19.5	12/14/9	0.8/1.5	1010				19	GC	19.5 to 21 ft: Gravelly clay, similar to above, siltstone gravel is very dark gray on fresh fracture surfaces, oil saturated with black sludge, clay is greenish gray to very dark gray (2.5YN/4), slightly plastic, slightly moist. Sample TP-3 (19.5-21.0) collected.
Calif.	19.5 - 21.0	5/4/2	1.4/1.5	1017	7 (HS)			20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010 IRSIFW

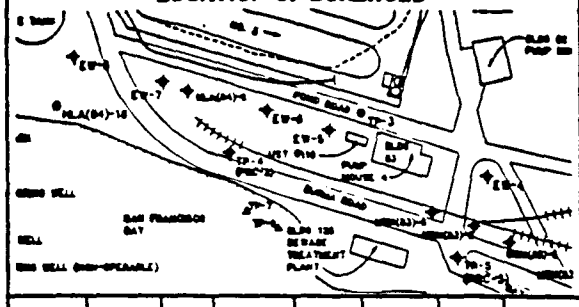
BOREHOLE DESIGNATION: TP-3 continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVER	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21	SC/CL	21.0 to 24.0 ft: Sandy clay, also very dark gray (2.5YN/3), moderately sorted, medium to coarse-grained sand to well sorted, fine to medium sand grains, also oil saturated and occurring in 0.1 to 0.5 ft. lenses; less gravel at 22 ft., followed by silty or sandy clay and very fine sand, very dark gray (2.5YN/3) plastic, moist, soft, abundant mica (possible bay mud); silty clay with sandy lenses and abundant gravel at 23.0 to 24.0 ft, gravels are fractured siltstones in blocky fragments; followed by uniform silty (sandy) clay as above, dark gray (2.5YN/3), less oil saturated, stained?. Sample TP-3 (22.5-24.0) collected.
Std.	21.0 - 22.5	1 / 1 / 1	1.5 / 1.5	1020				22		
								23	CL	
Mod.	22.5 - 24.0	3 / 3 / 4	1.5 / 1.5	1032	10 (HS)			24		24.0 to 25.5 ft: Weight of rods 24.0 to 25.5 ft. Silty (very fine sand) clay as above, very dark gray (2.5YN/3), plastic, wet, soft, micaceous, occasional angular quartzite rock fragments 15 to 20mm.
Calif.	24.0 - 25.5	0 / 0 / 0	1.2 / 1.5					25		25.5 to 27.0 ft: No recovery.
								26		
Calif.	25.5 - 27.0	3 / 2 / 1	0 / 1.5	1036				27	CL	27.0 to 30.5 ft: Weight of rods only, mostly slough (0.8 ft) but contains very fine sandy clay as above.
Mod.	27.0 - 30.5	0 / 0 / 0	0.8 / 3.5	1118				28		
		0 / 0 / 0						29	CL	
								30		30.5 to 35.0 ft: Sampler from 30.5 to 35.0 ft under weight of rods only, no sample obtained.
Mod.	30.5 - 35.0	0 / 0 / 0	0 / 4.3	1129				31		
		0 / 0 / 0						32		
		0 / 0 / 0						33		
								34		
Mod.	35.0 - 37.0	1 / 1 / 1	1.5 / 2.0	1140	0-1 (HS)			35	CL	35.0 to 37.0 ft: Sandy clay, as above, sand is very fine grained (nearly silt), very dark gray (2.5YN/3), plastic, moist to wet, micaceous, occasional subangular quartzite rock fragments up to 40mm, no significant hydrocarbon odors, HNu (headspace) only 0-1 ppm, sample overdriven 0.5 ft. Sample TP-3 (35.0-37.0) collected.
		1						36		
Calif.	37.0 - 40.5	0 / 0 / 0	0 / 3.5					37		37.0 to 40.5 ft: Sampler from 37.0 to 40.5 ft under weight of rods only, no samples obtained.
		0 / 0 / 0						38		
		0						39		
								40		
Mod.	40.5 - 42.5	4 / 4 / 4	1.5 / 2.0	1158				41	CL	40.5 to 42.5 ft: Sandy clay, as above, micaceous, no visible hydrocarbons or odors, numerous 1 to 2mm brownish white shell fragments.
		0						42		
Calif.	42.5 - 44.5	5 / 16 / 20	1.5 / 2.0	1208				43	CL	42.5 to 44.5 ft: Some sandy clay as above, followed by clay (silty), weathered (mottled) yellowish brown (10YR5/4 - 5/8) or grayish brown (2.5Y5/2) with yellowish red (5YR5/4) and dark reddish brown (5YR3/2) weathered clasts or pebbles, very slightly plastic, slightly moist, dense, occasional 3-5mm pebbles of siltstone, oxidized red, photo #5 (fugichrome), sample overdriven 0.5 ft.
		32						44		TOTAL DEPTH = 44.5 FT
								45		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: TP-4
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 13 ft
SUBSITE: Treatment Ponds	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/26/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/CME-75; 4 1/4" ID/7 7/8" OD HSA, 1 1/2 ft. split spoon continuous sampling.	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										Auger to 3 ft.; begin sampling at 3 ft.; surficial gravels and sand (railroad base material)
								1		
								2		
								3		
Mod. (2.5")	3.0 - 4.5	4/11/9	1.5/1.5	1030					GP/SP	3.0 to 4.5 ft: 0.2 ft. slough, followed by sand, clean, well sorted medium to coarse, light olive brown (2.5Y5/6), slightly moist, moderately dense, minor gravel but abundant chips of dark gray shale.
								4		4.5 to 6 ft: Sand as above, occasional large rock fragments of tight crystalline quartzite (bedrock fragment), fill material.
								5		
Calif. (2")	4.5 - 6.0	4/6/3	0.9/1.5	1032					SP	
Std. (1.5")	6.0 - 7.5	4/3/6	0.7/1.5	1036				6		6.0 to 7.5 ft: Mostly gravelly slough; 0.2 ft. coarse sand and shale/siltstone chips and fractured rock fragments, similar to above.
								7		
								8	GP/SP	7.5 to 9 ft: Gravelly sand (similar to above), light olive brown (2.5Y5/6), well sorted medium to coarse sand, slightly moist, gravels contain abundant 2 to 10mm fractured siltstone chips and some larger (>40mm) subangular crys quartzite rock fragments with white quarts veins.
Mod.	7.5 - 9.0	10/13/11	0.6/1.5	1042						
Calif.	9.0 - 10.5	12/10/8	0.2/1.5	1046				9		9.0 to 10.5 ft: Mostly slough, some cohesive clayey sand, slightly moist to wet, also light olive brown, water table encountered?
								10		10.5 to 12.5 ft: No recovery.
								11		
	10.5 - 12.5	5/6/5/4	0.0/2.0	1050				12		12.5 to 14.0 ft: Gravel sand slough with some dark gray clay, similar to above but slight hydrocarbon odor. Sample TP-4 GW(13) collected.
								13		
Mod.	12.5 - 14.0	8/6/4	0.2/1.5	1055				14		14.0 to 15.5 ft: Clayey and sandy gravel (mostly slough), dark gray (2.5YN/4) oil stained; Depth to product = 12.96 (below ground); Depth to water = 12.83 (below ground) measured with interface probe. Sample TP-4 (14.0-15.5) collected.
Calif.	14.0 - 15.5	3/5/4	0.9/1.5	1102	15-20			15	GC	15.5 to 17.5 ft: Clayey gravels, oil saturated, fractured siltstone and shale rock fragments, saturated between some fractures, dark grayish brown (2.5Y4/2) to very dark gray (2.5YN/4) where stained with oil, unstained rock fragments are dark grayish brown and weathered light olive brown (2.5Y5/6).
								16		
Std.	15.5 - 17.5	1/3/4	1.3/2.0	1107				17		17.5 to 19 ft: Clayey gravel as above, wet and oil saturated, rock fragments are fractured siltstone/quartzite, subrounded to subangular; clays are gray (10YR5/1) plastic, wet, soft; photo #6. Sample TP-4 (17.5-19.0) collected.
		3						18	GC	
Mod.	17.5 - 19.0	3/7/9	0.9/1.5	1126	14-15			19		19.0 to 20.5 ft: As above with some sand, poorly sorted subangular fractured quartzite, ranging from rock fragments to 2 to 3mm chips; sand and clay stained olive gray (5Y4/2) to gray (5Y5/1)
Calif.	19.0 - 20.5	3/3/3	0.8/1.5	1130				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010 IRSIFW

BOREHOLE DESIGNATION: TP-4 continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										20.5 to 22.5 ft: Gravel (>50%), sand (~30%), and clay (~10-20%), graded, dark gray (10YR4/1), wet, no visible oil but sand contains oily sheen, fractured siltstone is yellowish brown (10YR5/4) on clean surfaces.
Std.	20.5 - 22.5	2 3 5 4	1.1 / 2.0	1137				21	GC	
								22		22.5 to 24.0 ft: Silty clay/sandy clay, very dark gray (2.5YN/3), slightly plastic, slightly moist, soft, uniform, micaceous, small white shell fragments, sand is rounded very fine quartz; hydrocarbon odors not evident; bay mud?, followed by sandy clay/clayey sand as above, uniform, moist, bay mud? Sample TP-4 (22.5-24.0) collected.
Mod.	22.5 - 24.0	7 3 5 0	1.5 / 1.5	1212				23	SC/CL	
Calif.	24.0 - 27.5	0 0 0 0 0 3 2	1.5 / 1.5	1220				24		24.0 to 27.5 ft: Sampler to 26.5 ft under weight of rods, clayey very fine sand as above, very dark gray (2.5YN/3), slightly plastic, moist, soft, uniform, micaceous, white shell fragments, bay mud?
								25		
								26	SC/CL	
								27		27.5 to 29.0 ft: Clayey very fine sand as above; shell fragments more abundant and larger (up to 25mm).
								28		
Mod.	27.5 - 29.0	2 1 3	1.5 / 1.5	1228				29		29.0 to 32.5 ft: Clayey very fine sand as above, fewer shell fragments, micaceous; split spoon to 31 ft. under weight of rods, soft bay muds?
Calif.	29.0 - 32.5	0 0 0 0 1 1 1	1.3 / 1.5	1232				30		
								31		
								32		32.5 to 41 ft: Clayey very fine sand as above; split spoon to 39 ft under weight of rods, soft bay muds?
								33		
Mod.	32.5 - 41.0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0	1.1 / 1.5	1310				34		
								35	SC/CL	
								36		
								37		
								38		
								39		
								40		
								41		
Calif.	41.0 - 42.5	3 3 5	1.5 / 1.5	1317				42	SC/CL	41.0 to 42.5 ft: Clayey very fine sand as above, very dark gray (2.5YN/3), some white shell fragments (3-5mm) and whole shells, bay mud? Sample TP-4 (41.0-42.5) collected.
								43		TOTAL DEPTH = 42.5 FT

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

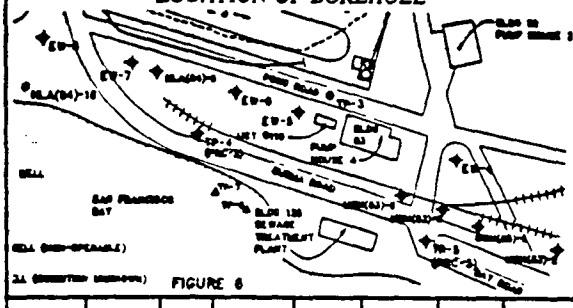


FIGURE 6

JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: TP-5
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 14 ft
SUBSITE: Treatment Ponds	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/26/90 - 9/27/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/ CME-75 and Mobil	
B-61, 4 1/4" ID/7 7/8" OD HSA, 1 1/2 ft continuous split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
										Auger through asphalt surface to 2 feet.
								1		
								2		2.0 to 3.5 ft: Clayey sand with some gravel, grayish brown (2.5Y5/2), well sorted medium to coarse quartz sand, very slightly moist, occasional subrounded quartzite pebbles up to 25mm.
Mod. (2.5")	2.0 - 3.5	8/8/5	1.4/1.5	1538					SC	
								3		3.5 to 5.0 ft: Clay and gravels, yellowish brown (10YR5/6), slightly moist, subangular siltstone and quartzite gravel up to 35mm with brownish yellow (10YR6/8) weathered siltstone fragments, no apparent hydrocarbons, clean fill material.
								4		
Calif. (2")	3.5 - 5.0	4/6/10	0.9/1.5	1541					SC/GC	
Std. (1.5")	5.0 - 6.5	2/4/4	0.2/1.5	1544				5		5.0 to 6.5 ft: Slough only, light gray (10YR6/1), quartzite pebble >4cm lodged in split spoon, yellowish brown (10YR5/8) speckles and weathered faces.
								6		6.5 to 8.0 ft: Clayey sand, grayish brown (2.5Y5/2), well sorted, medium to coarse quartz sand (over 85%), uniform, small 1-2mm chips of siltstone.
Mod.	6.5 - 8.0	5/6/8	1.5/1.5	1554				7	SC	
Calif.	8.0 - 9.5	3/3/5	0.6/1.5	1556				8	SC/GC	8.0 to 9.5 ft: Gravelly clayey sand, similar to above, light olive brown (2.5Y5/4), tight siltstone and quartzite is very dark grayish brown (10YR3/ very dark gray (10YR3/1) on fresh fractures, conchoidal fractures.
								9		9.5 to 11.5 ft: Clean sandy gravel fill as above.
Std.	9.5 - 11.5	2/2/2/4	0.8/2.0	1558				10	GC/GP	
								11		11.5 to 13 feet: Sandy gravel fill as above, light olive brown (2.5Y5/4), 0.8 ft followed by sand, well sorted, medium to coarse grained, stained very dark grayish brown (10YR3/2) to very dark gray (10YR3/1) with hydrocarbons, moist, strong hydrocarbon odors at 13 ft.
Mod.	11.5 - 13.0	10/7/5	1.3/1.5	1606	10-15			12	SP	
Calif.	13.0 - 14.5	4/4/4	1.3/1.5	1608	15-20			13		13.0 to 14.5 ft: Sand and rock fragments, sand like above stained uniformly very dark gray (10YR3/1), moist becoming wet, saturated with hydrocarbons but no free oil, occasional subrounded siltstone or quartzite up to 25 mm. Sample TP-5 (13.0-14.5) collected. Sample TP-5GW(14) collected.
								14		14.5 to 16.5 ft: Sand and clayey sand, stained very dark gray as above, clay <10%, wet and oil saturated with free oil noted.
								15	SP	
Std.	14.5 - 16.5	3/3/2/4	2.0/2.0	1610				16		16.5 to 18.0 ft: Clayey gravel slough and well sorted sand/clayey sand as above, <5% clay, moist and oil stained with hydrocarbons.
								17		
Mod.	16.5 - 18.0	7/9/8	1.5/1.5	1613				18	SP	18.0 to 21.5 ft: Sand (1.3 ft) stained, very dark gray (2.5YN/3) with hydrocarbons, well sorted medium to coarse quartz grains, moist, uniform; followed by 0.2 ft very fine clayey sand, very dark gray (2.5YN/3), moderately plastic, moist, soft, (bay mud?). Sample TP-5 (18.0-21.5) collected.
Calif.	18.0 - 21.5	1/1/1/0	1.5/1.5	1619				19		
								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

JOB NO: 044-0010 IRSIFW

BOREHOLE DESIGNATION: TP-5 Continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECV'D / DRIVEN	TIME	PID READING	ANLYS Phy Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21		
Mod.	21.5 - 23.0	2 / 3 / 5	0 / 1.5	1630				22		21.5 to 23.0 ft: No recovery.
								23		
Calif.	23.0 - 24.5	7 / 7 / 6	0.4 / 1.5	1644				24		23.0 to 24.5 ft: Slough, wet, subangular quartzite to 4cm and sandy clay, dark gray (5Y4/1).
								25		24.5 to 26.5 ft: Slough, wet clayey and sandy gravel with fractured sandstone; sandstone is weathered light yellowish brown (10YR6/4); subangular quartzite up to 4cm; clay and sand is dark gray (10YR4/1). End 9/26/90 - Driller had to demob CME rig.
Std.	24.5 - 26.5	3 / 4 / 4 / 6	0.3 / 2.0	1647				26		
								27		Start 9/27/90 - Overdrill 0.5 ft to 27 ft.
Mod.	26.5 - 28.5	27 / 50	0 / 1.5	0940				28		27.0 to 28.5 ft: Refusal after 27/6 and 50/6 blow counts, 6cm quartzite rock prevents collection in spoon, some olive yellow (2.5Y6/6) weathered quartz sandstone, soft and crumbly.
		—						29		28.5 to 30.0 ft: No recovery, 100/2 (bedrock?) redriven 27/32/50, 1.3 ft wet gravelly slough, 0.2 ft light olive brown (2.5Y5/6) weathered quartz sandstone (bedrock?).
Calif.	28.5 - 30.0	100 / —	0.2 / 1.5	0945				30		30.0 to 31.5 ft: 100 blow counts for 0.1 ft, 1.4 ft wet gravelly slough, gray; 0.1 ft sandstone, olive yellow (2.5Y6/6), as above, weathered, soft, crumbly, oxidized with brownish yellow (10YR6/8) specs throughout, medium to coarse grained subrounded to subangular quartz, bedrock.
Std.	30.0 - 31.5	100	0.1 / 0.1	1006				31		
								32		TOTAL DEPTH = 31.5 FT

SHORELINE AREAS

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location downgradient of VB-1 — W.O. Number 469.06, 469.07

Boring # B-1 — Well Number MW-1 — Total Depth 25' 10" / 24' 7" — Diameter 6" / 10"

Surface Elevation _____ — Water Level: First detected ~17' 24-hrs. _____

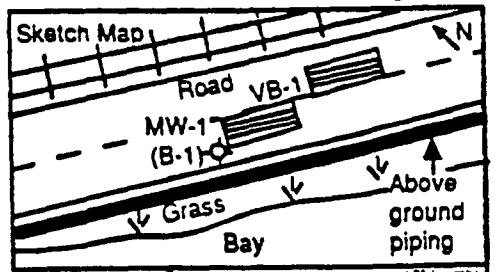
Screen: Dia. 4" — Length 10' — Slot Size 0.01'

Casing: Dia. 4" — Length ~14' — Type PVC

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/1-2/90

Sketch Map



Notes: Used the CA-modified split spoon sampler (18" length) for upper 8 ft. of hole - had difficulties with recovery using this method. Changed to 5' continuous sampler at 7' depth.

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0					Surface: Asphalt = 11" thick
1				3	(Fill)
			rec 6"	1	SAND, coarse-grained, and GRAVEL, loose soil, reddish-brown, dry, well-graded, no odor detected
2				0	SAND, a.a.
3			rec 3"	0	
4				0	SAND, a.a.
			rec 6"	0	
5				0	SAND, a.a.
6	GW		rec 6"	0	
7				0	SAND, a.a., occasional SILT lenses (out of place due to sampling difficulties) with clay and gravel throughout the upper 8 feet, medium hardness, medium strength, broke into blocky fragments, gray with orange staining
			rec 4"	0	
8				0	
			rec 8"	0	
9					
10				0	
11				0	
				0	CLAY, silty, brown with red-orange mottling (orange patches are SAND, medium-grained, subrounded to subangular), occasional angular pebbles up to 2" diameter, most pebbles appeared to be bedrock, some quartzite, moist, medium stiffness, slight plasticity, medium strength
12	CL			0	
			rec 3.5'	0	

Drilling Log

Environmental Resources Management

Project Pt. Molate — Client Navy

Location beneath VB-1 — W.O. Number 469.06, 469.07

Boring # B-1

Well Number MW-1 — Total Depth 25' 10" / 24' 7" — Diameter 6" / 10"

Surface Elevation ____ — Water Level: First detected ~17' 24-hrs. ____

Screen: Dia. 4" — Length 10' — Slot Size 0.01'

Casing: Dia. 4" — Length ~14' — Type PVC

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/1-2/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				0	plasticity increases with depth, orange mottling decreases with depth
14	CL				CLAY, a.a.
15					TEH = 1,900 mg/kg
16				0.8	
				8	water first detected at 17' (14:15)
17				2	CLAY, a.a., wet
				20	
18			rec. 1-1/2'	2	GRAVEL, angular bedrock pebbles up to 4" diameter, most < 1" diameter, wet, odor detected, visible oily residue, black globules on surface of pebbles
				10	
19	GP				
20				20	
				18	
21				10	(Bay Mud) CLAY, with silt and fine sand, gray, medium stiffness, angular pebbles, wet, plastic, low strength, some black staining, and streaking. Only recovered 1/2 foot of clay in sampler, from 22-22.5', contacts est. from drill cuttings
				5	
22	CH			18	
				13	
23				5	
				15	
24				10	(Bedrock) SILTSTONE, visible as angular pebbles similar to gravel observed above Bay Mud layer
		TD	rec. 6'	3	
25	BOH			3	overdrilled with 10" auger and set well at 24'7"

BOH = 25'10" (refusal in bedrock - 6" auger)

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy

Location downgradient of VB-2 | W.O. Number 469.06, 469.07

Boring # B-2 | Well Number MW-2 | Total Depth 18'5" 19'6" | Diameter 6" 10"

Surface Elevation _____ | Water Level: First Detected 4.5' | 24-hrs. _____

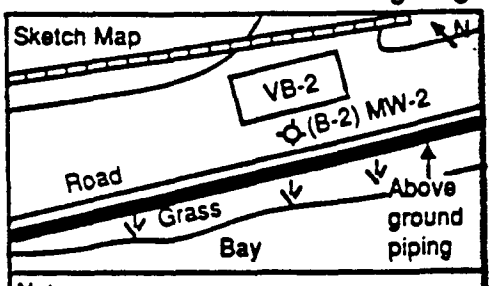
Screen: Dia. 4" | Length 5' | Slot Size 0.01"

Casing: Dia. 4" | Length ~14' | Type PVC

Drilling Company Spectrum | Drilling Method HSA

Driller Rav/Brian | Log By JAQ | Date Drilled 3/6/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0					SURFACE: Asphalt ~7" thick
1					Note: Twisted metal caught in nose piece prevented total recovery
2	GW				
3				0.4	(Fill)
			rec 2'	0.3	
4				0.3	GRAVEL, well-graded (clay to large cobbles >3" length), abundant coal or tar chunks, moist, unconsolidated, no odor
					water first detected at 4.5' (9:45)
5					
6					
7					Note: Sample very wet; slipped out of sampler
8	SC				
9			rec 2'	0	SAND, clayey, poorly graded, medium-grained, some coal or tar chunks, occasional pebbles < 2" diameter, saturated, fluid texture, brown
10					
11					increasing clay content with depth
				0	
12				0	
	CH			0	CLAY, with silt and sand, red-brown, highly mottled with orange and green (green = medium-grained sand), saturated, plastic, soft

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy

Location beneath VB-2 | W.O. Number 469.06, 469.07

Boring # B-2 | Total Depth 18'5" | Diameter 6"

Well Number MW-2 | Total Depth 19'6" | Diameter 10"

Surface Elevation _____ | Water Level: First Detected 4.5' | 24-hrs. _____

Screen: Dia. 4" | Length 5' | Slot Size 0.01'

Casing: Dia. 4" | Length ~14' | Type PVC

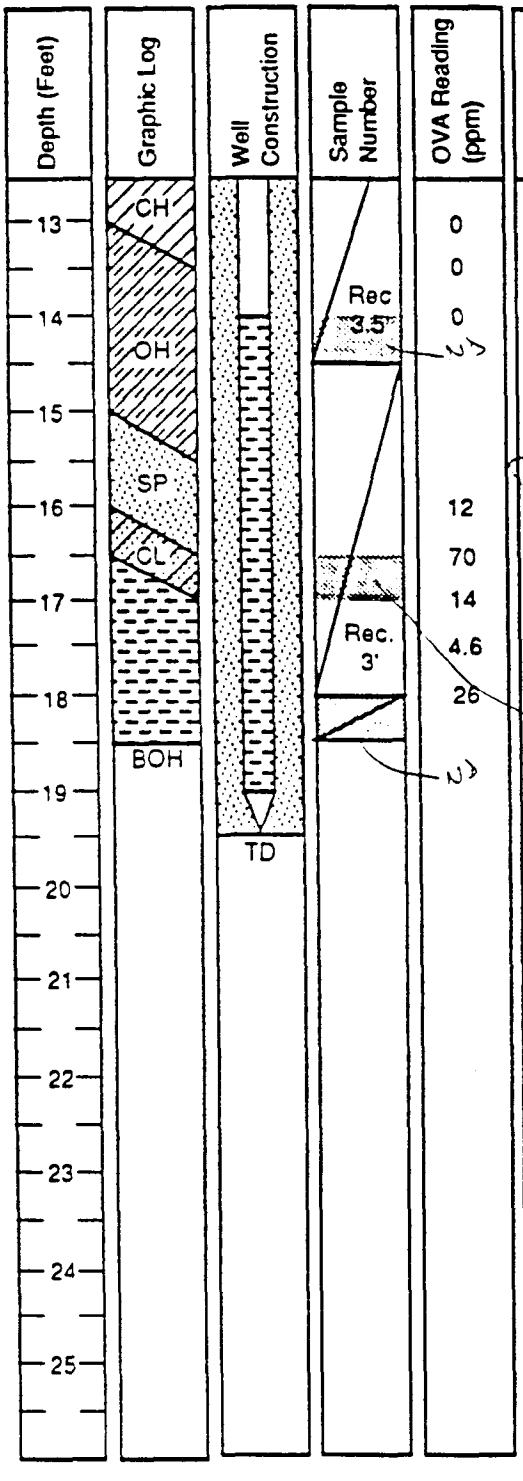
Drilling Company Spectrum | Drilling Method HSA

Driller Ray/Brian | Log By JAQ | Date Drilled 3/6/90

Sketch Map

See page 1

Notes



Description/Soil Classification (Color, Texture, Structures)

(Dredge Spoils? Fill-Bay Mud interface?)

CLAY, with silt and sand, gray-green, plastic, soft, saturated, orange and lighter yellow green mottling, strong hydrocarbon odor (degraded bunker?)

SAND, gray-green, balls of clay at upper contact, shell fragments, saturated, coarse-grained with subrounded pebbles (< 3" diameter), rounded to subrounded, unconsolidated, poorly graded, odor detected

CLAY, sandy, light gray, moist, orange mottling in medium-grained, sandy patches, organic odor

(Highly weathered BEDROCK)

SILTSTONE, highly fractured, wet at upper contact, moisture decreases at depth, coherent at TD, unconsolidated rock fragments at upper contact

750 mg/kg

Refusal at 18'5" in bedrock (6" auger)

For well installation, overdrilled with 10" auger to refusal at 19'6"

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location beside VB-26 — W.O. Number 469.06

Well Number B-48/MW-3 — Total Depth 29.5'/19.6' — Diameter 6"/10"

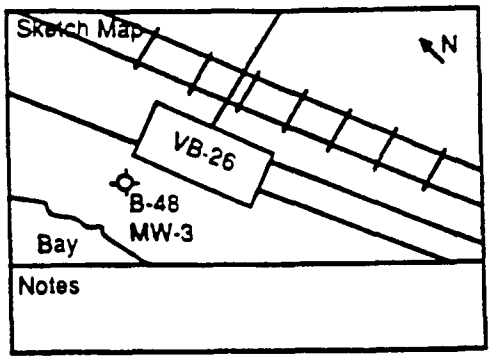
Surface Elevation ____ — Water Level: First Detected 14' — 24-hrs. ____

Screen: Dia. 4" — Length 5' — Slot Size .01'

Casing: Dia. 4" — Length 15.5' — Type PVC

Drilling Company Spectrum — Drilling Method HSA

Driller Bay/Brian — Log By JAQ/SR — Date Drilled 3/26/90 7/2/90



Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0					SURFACE: grass, weed and blackberry cover
1	GC				GRAVEL, clayey, slightly moist, low plasticity, red-brown, orange mottling near gravel, gravel < 2" diameter, no odor, grades into
2					CLAY, gravelly, moist, low plasticity, red-brown, gravel < 2" diameter, no odor
				0.1	
3	CL			0.3	
				0.1	
4			rec 2.5'	0	
5					
6	GW				GRAVEL, sandy, very slightly moist, non-cohesive, well-graded, (sand to pebbles < 2" diameter), gray to red-tan, no odor
7				0	
				0	
8				0.3	
				0.1	
9			rec 3"	0	CLAY, gravelly and sandy, low strength (easily crumbled), red-brown with light gray and orange mottling, no odor
10	CL				ND
11				0.2	
12				0.5	gravel content decreases with depth, medium strength, stiff
				0.5	

Environmental Resources Management

Drilling Log

Project Pt Molate | Client Navy
Location beside VB-26 | W.O. Number 469.06
Well Number B-48/MW-3 | Total Depth 29.5'/19.6' | Diameter 6"/10"
Surface Elevation | Water Level: First Detected 14' | 24-hrs.
Screen: Dia. 4" | Length 5' | Slot Size .01'
Casing: Dia. 4" | Length 15.5' | Type PVC
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/26/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Well Construction	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL			0.3	
				0.1	
14			rec 3.5'	0	appearance of dark gray mottling, slight sulfur-like odor grades into
15	CL				CLAY, silty, occasional gravel, green-gray and red-brown mottled, some light green mottling, saturated, strong odor (mixture organic-sulfur and hydrocarbon), plastic, soft
16				0.8	
	SP			1000+	
17				1000+	
				60	SAND, poorly graded (medium-grained), saturated, strong hydrocarbon odor, dark green-gray grades into red-brown with depth
18				27	
				8	
19	CL		rec 4'	5	CLAY, silty and gravelly, red-tan with gray mottling and orange mottling around gravel, wet, hydrocarbon odor (ranges from slight at top to moderate throughout the rest of the unit)
20		TD		1.8	
				13	
21				24	
				15	
22				16	
				36	
23				39	
				36	
24			rec 5'	25	grades into
25	CL			8	CLAY, sandy (medium-grained to fine-grained), wet, medium strength, no odor, red-brown, stiff, some light gray and orange mottling
				2	

Drilling Log

Environmental Resources Management

Project Pt. Molate — Client Navy

Location beside VB-26 — W.O. Number 469.06

Well Number B-48/MW-3 — Total Depth 29.5'/19.6' — Diameter 6"/10"

urface Elevation _____ — Water Level: First Detected 14' — 24-hrs. _____

Screen: Dia. 4" — Length 5' — Slot Size .01'

Casing: Dia. 4" — Length 15.5' — Type PVC

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/26/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL		9	
			8	
27			6	SAND, clayey, wet, no odor, poorly graded (fine- to medium-grained), red-tan with gray mottling and some light gray mottling, slightly cohesive but easily crumbled
			11	
28	SC		20	
			18	
29		rec 5'	40	
	BOH			
30				BOH = 29.5 feet
31				
32				
33				
34				
35				
36				
37				
38				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location near VB-1 — W.O. Number 469.06

Well Number B-55 — Total Depth 16' — Diameter 6"

Surface Elevation ____ — Water Level: Initial None — 24-hrs. ____

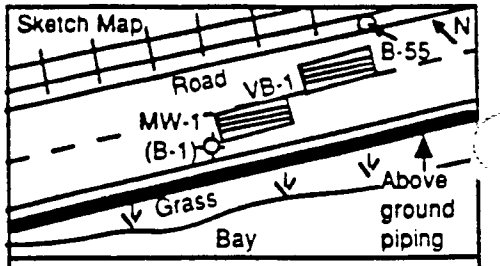
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Doug/John — Log By SB — Date Drilled 5/14/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: fill dirt
1				
2	ML			
3				
4			0	(Loose Fill Dirt) SILT, gravelly, brown, dry to slightly moist, NEHC, brown to slightly orange in tip
		rec 1.5'	0	
5				
6				
7	GM			GRAVEL, silty, brown to slightly orange, slightly moist, 1/4" - 1" diameter grades to SILT, gravelly - a.a.
			0	
8	CL		0	CLAY, gravelly and silty, dense, slightly moist, gravel is small (1/4" - 1/2") in diameter Grades into
			0	
9			0	
		rec 3'	0	
10	GM			GRAVEL, silty- a.a.
11				
12			20	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location near VR-1 W.O. Number 469.06

Well Number B-55 Total Depth 16' Diameter 6"

Surface Elevation ____ Water Level: Initial None 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By SR Date Drilled 5/14/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			20	(Bedrock) SILTSTONE, weathered, fractured bedrock, dry, dark hydrocarbon staining on fracture faces, some iron-staining
			56	4,100
14			16	30
		rec 2.5'	15	
15			16	SILTSTONE, dry, gray, competent bedrock, iron-stained faces, NEHC weathered, fractured bedrock, dark hydrocarbon staining, Fe-staining, a.a.
		rec 1'	18	2,200
16				BOH = 16' (refusal in bedrock) NEHC - tip is jammed with rock fragment
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location near VB-2 — W.O. Number 469.06

Well Number B-56 — Total Depth 24' — Diameter 6"

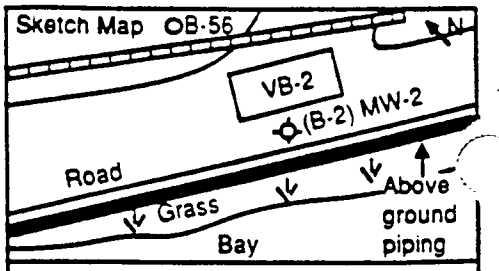
Surface Elevation ____ — Water Level: Initial 9.5' — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Doug/John — Log By SR — Date Drilled 5/14/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE - 0.5' asphalt
1				
2	GC			
3			0	GRAVEL, clayey, well-graded, brown with some iron-staining in clay, gravel is pale gray
			0	
4			0	
		rec 2.5'	0	CLAY, dark gray, green, orange mottled, slightly moist, dense
5	CL			
6				
7	ML			
8			0	SILT, moist, brown with slight, gray/green/orange mottling, grades into 1' of CLAY, a.a., but silty
			0	
9			0	ND
		rec 2.5'	0	
10	SP			SAND, 1/2' thick - gray, medium-grained, well-sorted, wet, a few 1/2" pieces of gravel
11				
12			0	

Drilling Log

Environmental Resources Management

Project Pt. Molate Client U.S. Navy

Location near VB-2 W.O. Number 469.06

Well Number B-56 Total Depth 24' Diameter 6"

Surface Elevation ____ Water Level: Initial 9.5' 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA - 6"

Driller Doug/John Log By SR Date Drilled 5/14/90

Sketch Map

See page 1

Notes

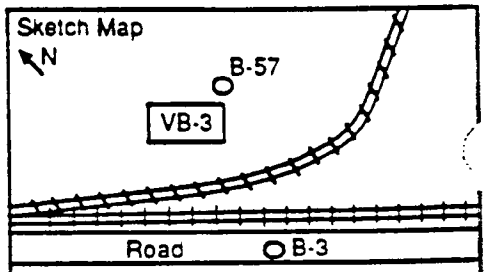
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			2	SILT to highly weathered SILTSTONE, tan to orange, slightly moist, some competent pieces of siltstone with iron-stained faces, white mineralization along fracture planes
			0	
14			0	
		rec 3'	0	
15				
16				
17				
			0	SILT and highly weathered SILTSTONE, a.a., clayey and organic in top 1/2', pale green tint, increased clay content with depth
18			0	
			2	
19			4	
		rec 3'	6	
20				
21				
22				
			0	SILTSTONE, weathered, iron-stained, high clay content, clay is pale green to white
23			0	
		rec 2'	0	
24				BOH = 24' (refusal in bedrock)
25				

Environmental Resources Management

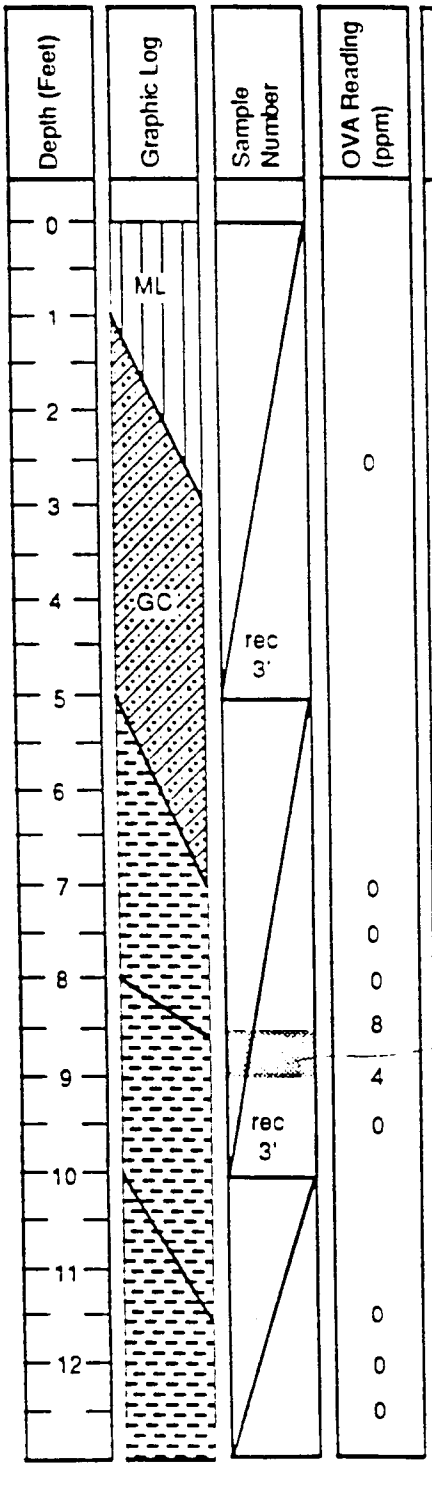
Drilling Log

Project Pt. Molate | Client U.S. Navy
Location near VB-3 | W.O. Number 469.06
Well Number B-57 | Total Depth 18.5' | Diameter 6"
Surface Elevation ____ | Water Level: Initial ____ | 24-hrs. ____
Screen: Dia. ____ | Length ____ | Slot Size ____
Casing: Dia. ____ | Length ____ | Type ____
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By SR | Date Drilled 5/14/90

Sketch Map



Notes



Depth (Feet)	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0		SURFACE: dirt, grass
1		(Fill) SILT, dark brown, dry, fill dirt with shell fragments, increasing gravel with depth
2	0	
3		
4		GRAVEL, angular to rounded, 1" diameter with silty and clayey matrix, very crumbly, numerous, very small shell fragments, slightly moist, very fine-grained, sandy at base
5		
6		
7	0	SILTSTONE, gray to tan, fractured, many tube-size pieces (2 1/2" diameter), dry, competent, but broken
	0	
8	0	
	8	
9	4	SILTSTONE, weathered, very crumbled, fracture planes are coated with hydrocarbons, 0.5', dark black, pale green to white mineralization, some iron-staining
	0	
10		
11		SILTSTONE, tan, fractured, tube-shaped pieces, competent, not very broken, iron-stained fracture planes
	0	
12	0	
	0	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location near VB-3 — W.O. Number 469.06

Well Number B-57 — Total Depth 18.5' — Diameter 6"

Surface Elevation ____ — Water Level: Initial ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Doug/John — Log By SR — Date Drilled 5/14/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	
			0	
14			3	
		rec 4'	4	SILTSTONE, gray, very crumbled, angular pieces, (1/8" to 1" diameter), dry
15				
16			0	(Bedrock)
			0	SILTSTONE, clayey, fractured, weathered, clay is mottled dark gray and orange, moist
17			0	
			0	(Bedrock) SILTSTONE, gray, very finely laminated, iron-staining on fracture planes
18		rec 2.5'	0	
				BOH = 18.5' (refusal in bedrock)
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location upgradient from VB-26 W.O. Number 469.06

Well Number B-62 Total Depth 30' Diameter 6"

Surface Elevation ____ Water Level: First Detected 20' 24-hrs. ____

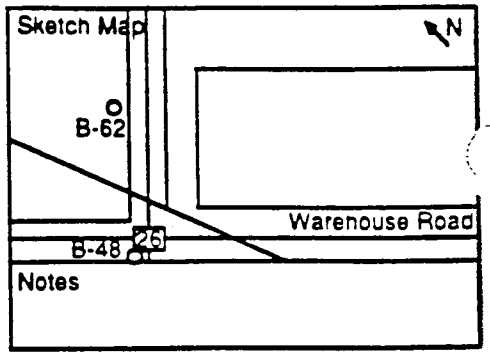
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/16/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW			SURFACE: asphalt
				SAND/GRAVEL mixture, moist, red-brown, subangular
1				(Bay Mud)
2	OH		0	CLAY, gravelly with silt, dark green-gray with red-orange mottling, rootlets, gravel (< 1" diameter), subangular fragments, moist, low plasticity, medium strength and stiffness, organic odor
			0	
3			0	
	CH		0	
4		rec 3.5'	0.6	CLAY, silty, occasional gravel, black with some green mottling, moist, plastic, no odor, medium strength, medium stiff
			0	
5				CLAY, silty and gravelly, with sand, red-brown with orange mottling, low strength, low plasticity, easily crumbled, moist, no odor
6	CL			
7				
8			0	
			0.2	
9			0.8	
		rec 2.5'	0	
10				
			0	CLAY, silty and gravelly, minor sand, tan with abundant orange mottling, high strength, stiff, moist, low plasticity, no odor
11	CL		0	
			0	
12			0	
			0.6	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location upgradient from VB-26 | W.O. Number 469.06
Well Number B-62 | Total Depth 30' | Diameter 6"
Surface Elevation | Water Level: First Detected 20' | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By JAQ | Date Drilled 5/16/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		0	
			0	
14		rec 5'	0	
			0	
15				
16				
17	ML			SILT, sandy, with clay, red-brown, low strength (easily crumbled), low plasticity, moist, no odor
18				
			0	
19		rec 2'	0	
			0	
20				Water first detected @ 20 feet (12:10)
			0	
21	CL		0	CLAY, silty and gravelly, red-brown, saturated, low strength, plastic, no odor, abundant orange mottling
			0	
22			0	
			0	
23			0	
			0	gray mottling increases with depth
24			0	
		rec 5'	0	
25	ML			SILT, clayey and gravelly, with minor fine sand, red-brown low plasticity, stiff, high strength, orange and gray mottling abundant, wet, no odor
	GC		0	GRAVEL, clayey, saturated, loose, < 1/2" diameter, no odor

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location upgradient from VB-26 | W.O. Number 469.06
Well Number B-62 | Total Depth 30' | Diameter 6"
Surface Elevation | Water Level: First Detected 20' | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By JAQ | Date Drilled 5/16/90

Sketch Map

See page 1

Notes

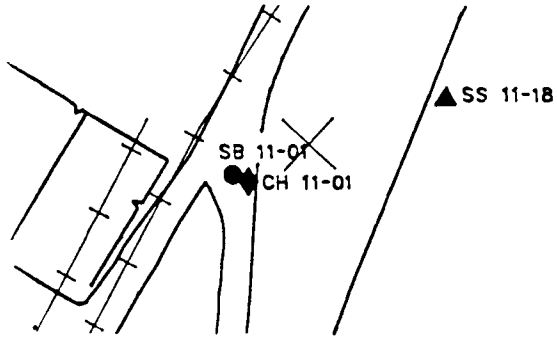
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GC		1.6	
			0	
27			0	
			0	CLAY, silty and gravelly, gray with abundant orange mottling, occasional black organic fragments, moderate strength, stiff, wet, occasional sandy lenses, plastic, no odor
28	CL		0	
			0	
29			0	
		rec 5'	0	
30	BOH			BOH = 30 feet
31				
32				
33				
34				
35				
36				
37				
38				

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	**COREHOLE DESIGNATION:** CH11-01
CLIENT: U. S. NAVY	**SURFACE ELEVATION:** NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	**DEPTH TO SATURATION:** NONE
SUBSITE: NORTH SHORELINE	**LOGGED BY:** DAVE WEST & ROB BARRY
DRILLING CO.: LAYNE-WESTERN	**DRILLING DATE(S):** MARCH 3, 1992

DRILLING PERSONNEL/METHOD:

TIM QUICK, RICK COOPER, BRUCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

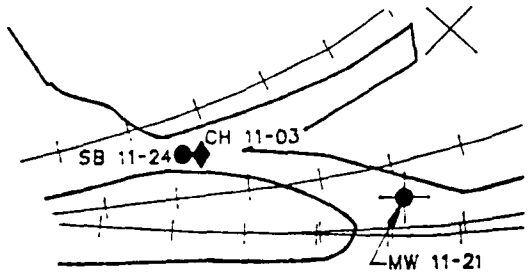
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
HQ	100			90				1025	10		DRILLED WITH HOLLOWSTEM AUGER IN SOIL BORING SB11-01 TO REFUSAL IN BEDROCK AT 10.5 FEET. 10.5 TO 13.2 FEET: SLOUGH, SANDSTONE
									11		CLAYEY SAND/SILT IN UPPER 0.2 FT., RESIDUAL SLOUGH, WET; FRIABLE SANDSTONE IN UPPER 0.15 FT. IS YELLOWISH-BROWN WITH ORANGE OXIDIZED SPECS THROUGHOUT; WELL SORTED, FINE TO VERY FINE GRAINED, MODERATELY ROUNDED TO SUB-ROUNDED; >75% QUARTZ, MINOR FELDSPAR, APPROXIMATELY 5 % SILT; SHARP CONTACT WITH FRACTURED , HARD SANDSTONE BELOW.
									12		
	89				45 80-85			1045	13		SANDSTONE: MEDIUM TO FINE GRAINED; CONTAINS SLIGHTLY OXIDIZED LIMONITIC PATCHES AND STREAKS (~ 1 MM THICK); BOTH OPEN AND CLOSED FRACTURES CONTAIN OXIDIZED BLACK STAIN (LIMONITE); HIGHLY FRACTURED INTERVAL (0.3 FT. THICK) AT 11.0 FT; LIMONITIC OXIDIZED CAVITIES AT 13.0 FT. WITH LIGHT GRAY TO GREENISH GRAY ZONE (WEATHERING RIND) NEAR FRACTURE SURFACE.
	100				20,45 80-85			1125	14		
	100				20,45 80-85			1210	15		QUARTZITE: SLIGHTLY FRACTURED WITH CLOSED LIMONITIC STREAKS (~ 1MM THICK) AND OXIDIZED DEPOSITS ON FRACTURE SURFACES; SOME ASPHALTIC BLACK SLOUGH (ANGULAR FRAGMENTS); FRACTURE ORIENTATION IS AT ~45° AND 80-85° FROM HORIZONTAL.
									16		
									17		14.1 TO 15.8 FEET: SANDSTONE/QUARTZITE
									18		SANDSTONE/QUARTZITE: FRACTURED, HARD, TIGHT, PREDOMINANTLY QUARTZ WITH MINOR LITHIC FRAGMENTS (BLACK) AND MINOR FELDSPAR (OPAQUE TO WHITE); FRACTURE SETS ARE 20°, 45°, AND 80-85° FROM HORIZONTAL; FRACTURE SURFACES ARE DARK GRAYISH- BROWN, DARK ORANGE-BROWN, TO BLACK (LIMONITIC); SLICKENSIDES NOTED ON SOME FRACTURE SURFACES, ALSO OXIDIZED WHITE TO ORANGE ON SOME FRACTURE SURFACES; VERY FINE QUARTZ CRYSTALS ON ONE HEALED FRACTURE SURFACE; PHOTO #10.
									19		15.8 TO 19.0 FEET: QUARTZITE QUARTZITE: CONTAINS MINOR LITHIC FRAGMENTS (VERTICALLY ALIGNED BLACK MINERALS AND LIMONITIC STREAKS) AND FELDSPAR; FRACTURED; TRACE GREEN MINERAL (GLAUCONITE); SOME RESIDUAL PATCHES OF UNWEATHERED, LIGHT GREENISH-GRAY, QUARTZITE.; MOST FRACTURES ARE CLOSED, SOME ARE HEALED WITH HIGHLY OXIDIZED BLACK TO ORANGE-BROWN COATINGS; FRACTURE ORIENTATION SIMILAR TO ABOVE INTERVALS. (PHOTO #11, #12, #13) SEE PHOTOS 5-12 AND 5-14 IN PHOTO LOG. TOTAL CORED DEPTH = 19 FEET. NOTE: PACKER TEST PERFORMED IN 16 TO 19 FOOT INTERVAL FOLLOWING CORE DRILLING.

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	**COREHOLE DESIGNATION:** CH11-03
CLIENT: U. S. NAVY	**SURFACE ELEVATION:** NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	**DEPTH TO SATURATION:** NONE
SUBSITE: N. DRUM LOT. 1 AREA	**LOGGED BY:** DAVE WEST & ROB BARRY
DRILLING CO.: LAYNE-WESTERN	**DRILLING DATE(S):** MARCH 4, 1992

DRILLING PERSONNEL/METHOD:

RICK COOPER, TIM QUICK, BURCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

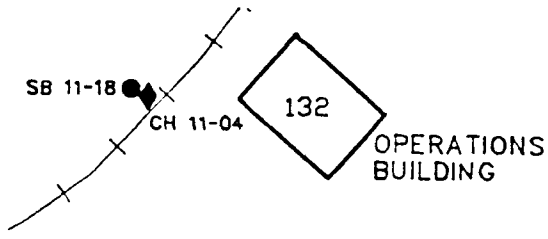
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER IN SOIL BORING SB11-24 TO REFUSAL IN BEDROCK AT 14 FEET (PHOTO #23).
									16		
HQ	98			90				1350			16 TO 20 FEET: INTERBEDDED QUARTZITE AND MUDSTONE
									17		QUARTZITE: HIGHLY FRACTURED, GRAYISH-BROWN (2.5Y5/2) TO LIGHT GRAYISH-BROWN (2.5Y6/2) ON FRESH SURFACES.
									18		MUDSTONE: FRACTURED, DARK GRAY (2.5YN/4) ON FRESH SURFACES, BLACK TO REDDISH-YELLOW (7.5Y6/8) AND VERY DARK GRAY (7.5YN/3) LIMONITIC STAINING ALONG FRACTURES; HARD, TIGHT; CONTAINS VUGS FILLED WITH SECONDARY QUARTZ.
									19		
									20		RELICT SEDIMENTARY STRUCTURES ARE EVIDENT, SOME PARALLEL TO FRACTURE ORIENTATION; FRACTURE ORIENTATION MAY BE SAME AS RELICT BEDDING PLANE (PHOTO #21); SEDIMENT' STRUCTURES INCLUDE SANDY CLASTS (ELONGATED AND PARALLEL TO FRACTURE ORIENTATION), RELICT BEDDING, AND SOFT SEDIMENT DEFORMATION (FLAME STRUCTURE PARTICULARLY APPARENT AT 19.5 FT. (PHOTO #22). SEE PHOTO 5-22 IN PHOT
	68				45			1436			
									21		SLICKENSIDES EVIDENT FROM 10 TO 16.5 FT. ALONG MANY FRACTURE SURFACES.
									22		20 TO 23.8 FEET: QUARTZITE AND MUDSTONE
									23		INTERBEDDED METASEDIMENTS AS ABOVE, EXCEPT MORE BROKEN AND HIGHLY FRACTURED. MUDSTONE GRADES TO SHALE; POSSIBLE RELICT ORIENTATION ON BEDDING AT 45°, FRACTURE ORIENTATION AT 45° IN OPPOSITE DIRECTION, POSSIBLE SLICKENSIDES ON THE SECOND FRACTURE ORIENTATION.
									24		TOTAL CORED DEPTH = 23.8 FEET.
											NOTE: PACKER TEST PERFORMED IN 18.5 TO 23.8 FOOT INTERVAL FOLLOWING CORE DRILLING.

FIELD CORE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF COREHOLE



JOB NO.: 044-0143 IRRISC	**COREHOLE DESIGNATION:** CH11-04
CLIENT: U. S. NAVY	**SURFACE ELEVATION:** NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	**DEPTH TO SATURATION:** NONE
SUBSITE: DRUM LOT NO. 1	**LOGGED BY:** DAVE WEST & ROB /BARRY
DRILLING CO.: LAYNE-WESTERN	**DRILLING DATE(S):** MARCH 5, 1992

DRILLING PERSONNEL/METHOD:

TIM QUICK, RICK COOPER, BRUCE HORST / CME 850 TRACK RIG; HSA TO REFUSAL, CORE WITH HQ (2 7/16-INCH ID, 3 3/4-INCH OD) DIAMOND BIT INSIDE HSA.

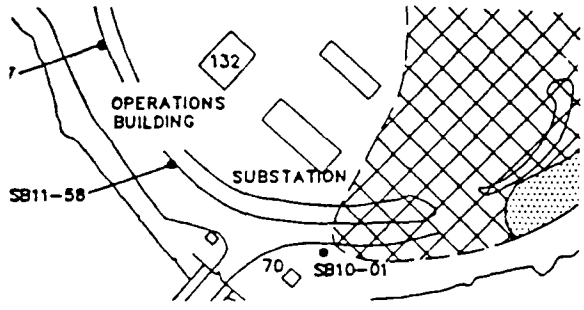
CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL DESIG. (RQD)	COREHOLE ORIENTATION (° from horizon.)	FRACTURE ORIENTATION - DEGREES (°)	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY / GRAPHIC LOG	ROCK DESCRIPTION
											DRILLED WITH HOLLOWSTEM AUGER IN SOIL BORING SB11-18 TO REFUSAL IN BEDROCK AT 22 FEET.
									24		
HQ	98			90	45-60 90			1015			24 TO 28.3 FEET: QUARTZITE
									25		QUARTZITE: SLIGHTLY FRACTURED, LIGHT, BROWNISH-GRAY (2.5Y6/2) TO OLIVE GRAY (5Y5/2) IN UPPER 0.1 FT., CONSTITUENTS INCLUDE FELDSPAR (10-20%), LITHIC FRAGMENTS (3-10%), AND SPARSE MICA; FRACTURE ORIENTATION IS ~90° AND 45-60 ° TO HORIZONTAL, HEALED FRACTURES CONTAIN SOFT, CREAMY-WHITE CLAY; OPEN FRACTURES CONTAIN LIMONITIC STAINING; SLICKENSIDES NOTED ON FRACTURE SURFACES.
									26		
									27		SEDIMENTARY STRUCTURES SUCH AS BEDDING ARE DIFRCULT TO RECOGNIZE, HOWEVER, THERE IS SOME ALIGNMENT OF LITHIC FRAGMENTS AT 20° FROM HORIZONTAL WHICH SUGGEST THE ORIGINAL (RELICT) BEDDING.
	100				45 90			1045	28		
									29		28.3 TO 32.9 FEET: QUARTZITE
									30		QUARTZITE: SLIGHTLY FRACTURED, AS ABOVE; UNIFORM AND HARD; FRACTURE ORIENTATION AT 45° AND 90° FROM HORIZONTAL; MOST FRACTURES ARE HEALED AND CONTAIN LIMONITE AND MINOR PALE YELLOWISH-WHITE CLAYEY DEPOSITS; ONE FRACTURE CONTAINS QUARTZ (1-2MM) (PHOTO #24). SEE PHOTO 5-24 IN PHOTO LOG.
									31		TOTAL CORED DEPTH = 32.9 FEET.
									32		NOTE: PACKER TEST PERFORMED IN 27 TO 32.9 FOOT INTERVAL FOLLOWING CORE DRILLING.
									33		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-01
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: SOUTH SHORELINE	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/9/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ Central Mining Equipment (CME) 75 drill rig, 6 3/4-inch outer diameter (OD), 3 7/8-inch inner diameter (ID) hollow stem auger (HSA), continuous sampling with 2-foot by 2-inch ID split spoons (ss).

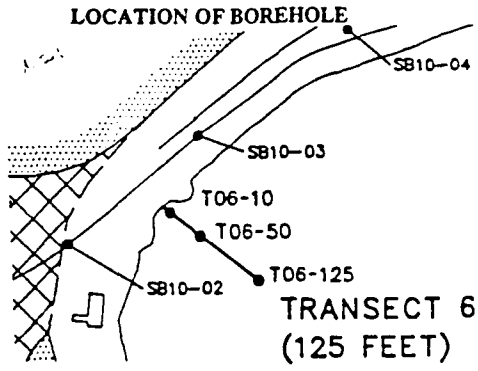
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										SM	0.0 to 5.0 feet: Fill Material; silty sand, yellowish brown (10YR5/6), contains quartzite rock fragments up to 3 cm in diameter, angular.
										1		
										2		
										3		
										4		
SS	5.0	5.0	3, 6, 6	2.0/2.0	1612					5	SM	5.0 to 7.0 feet: Fill Material; sandy silt, brownish yellow (10YR6.8) contains gray (10YR5/1) quartzite rock fragments, up to 4 cm in diameter; angular, loose, dry to 6.8 feet, 6.8- to 7.0-foot interval is damp.
										6		
SS	7.0	7.0	7, 6, 9, 7	1.5/2.0	1620					7	SM	7.0 to 8.0 feet: Filll Material (as above).
										8	SM	8.0 to 9.0 feet: Fill Material; unweathered quartzite rock fragments up to 2 inches in diameter, angular; some large (6 inches in diameter) rock fragments (possibly rip rap) in auger cuttings.
SS	9.0	9.0	20, 14, 16, 12	1.5/2.0	1636					9		
										0		9.0 to 10.0 feet: No sample recovery.
SS	11.0	11.0	6, 8, 16, 18, 38	1.5/2.0	1640					1	SM	10.0 to 11.0 feet: Fill Material; silty sand, dark yellowish brown (10YR4/4) with abundant rock fragments of gray (10YR6/8) quartzite up to 4 cm in diameter, saturated.
		13.0						X		2		11.0 to 11.5 feet: No sample recovery.
										3	SM	11.5 to 12.5 feet: Fill Material (as above); rock rubble up to 2 cm in diameter, saturated, slight hydrocarbon odor.
										4	SM	12.5 to 13.0 feet: Fill Material (as above); dark gray (10YR4/1), saturated, hydrocarbon staining and coating rock fragments.
										5		SAMPLE SB10-01(12.5-13.0) collected at 1640.
										6		Total Depth (refusal) at 13.0 feet, split spoon driven from 11.0- to 13.0-foot interval.
										7		
										8		Note: No headspace measurements obtained, PID malfunctioning.
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



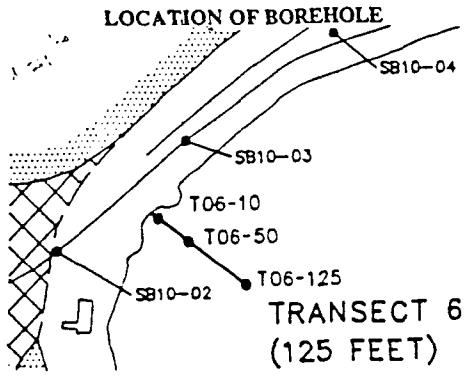
JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-02
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 7.02 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI/D. WEST
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/1/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continous sampling with 1.5-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0										FILL	0.0 to 5.0 feet: Fill Material; asphalt cover and dry rock rubble. Logged from auger cuttings.
										1		
										2		
										3		
										4		
		5								5		
	5	6.5	6 8	1.5/1.5	0930	150				6	SM	5.0 to 6.5 feet: Fill Material; sand and silt matrix with quartzite and siltstone rock fragments, yellowish brown (10YR5/4) rock fragments range up to 1.5 inches in diameter, angular to subangular fragments, dry.
ss	6.5	8.0	20 10 30 26	1.5/1.5	0940	450		X X X X		7	SM	6.5 to 8.0 feet: Fill Material (as above); quartzite rock fragments are dark gray to dark grayish brown (10YR4/1) on clean fracture surfaces with brown, oxidized streaks, Oil saturation at 7.8 feet, possibly diesel or diesel/bunker mixture, wet.
ss	8.0	9.5	25 54	1.5/1.5	0950	180				8		
										9		SAMPLE SB10-02 (6.5-8.0) collected at 0940
ss	9.5	10.5	30 55	0.0/1.5	1005	170		X		0	FILL	8.0 to 9.5 feet: Fill material; quartzite rock rubble to 9.0 feet, yellowish brown (slough). Shale/phyllite rock fragments from 9.0- to 9.5-feet, gray (10YR4/1), fractured, some fractures display dark brown (10YR3/3) iron staining, hydrocarbon staining within fractures.
										1		
										2		SAMPLE SB10-02(9.5-10.3) collected at 1005.
										3	SM	9.5 to 10.5 feet: Fill material; slough to 10.3 feet, quartzite and shale rubble in a sand/silt matrix, yellowish brown (10YR5/4), obvious hydrocarbon staining, strong diesel odor.
										4		Total Depth (refusal) at 10.5 feet.
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-03
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 17.16 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI/D. WEST
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/1/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 1.5-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										0	FILL	0 to 5 feet: Fill Material: asphalt at surface, augered to 5 feet, no drive samples collected.
										1		
										2		
										3		
										4	GM	5.0 to 6.5 feet: Fill Material; unconsolidated rock fragments in sand/silt matrix, brownish yellow (10YR6/6), shale/phyllite rock fragment up to 1.5 inches, rock fragment is mottled dark brown (10YR3/3) and brownish yellow (10YR6/6) with white (calcite?) vu[illegible] damp (slough).
	5.0		3							5		
	5.0		2	1.0/1.5	1107	30						
			3							6	GM	6.5 to 8.0 feet: Fill Material; 6.0- to 6.9-foot interval is sand and rock rubble; sand is olive brown (2.5Y4/4) (possibly pipe bedding material), 6.9- to 8.0-foot interval is native material with grayish brown (10YR5/2) quartzite fragments. PID reading of 500 ppm at interface between pipe bedding material and native fill.
	6.5		6									
SS	6.5		6	0.6/1.5	1110	500				7		
	8.0		7									
SS	8.0		4	1.2/1.5	1118	70				8		
			6								SW	8.0 to 9.5 feet: Fill Material; 8.0- to 8.5-foot interval is sand, olive brown, damp to wet (possible slough interval); 8.5- to 9.5-foot interval is siltstone and sandstone rock fragments, sandstone is tight and contains orange (weathered) specks, slight amounts of hydrocarbons in lower 0.2 feet, fresh fractures exhibit wet zones with possible hydrocarbon staining.
	9.5		6							9		
SS	9.5		5	1.1/1.5	1120	70		X				
			6							0		
	11.0		10					X				
SS	11.0		6		1130	160		X		1		
			6								GM	9.5 to 11.0 feet: Fill Material; upper 0.4 feet is silt matrix with rock fragments, yellowish brown, dry. 9.9- to 11.0-foot (slough) interval is silty rock rubble, mottled dark gray, orange, and olive green, rock fragments consist of soft (weathered) quartzite and metamorphosed mudstone, abundant hydrocarbons throughout (black oil or degraded diesel). PID reading (headspace) 70 ppm.
	12.5		12									
SS	12.5		6	1.2/1.5	1142	30		X		2		
			6							3		
	14.0		7									
SS	14.0			1.5/1.5		250				4		SAMPLE SB10-03 (9.9-11.0) collected at 1120.
	15.5		10							5		11.0 to 12.5 feet: Fill Material; silt, with minor rock fragments, mottled yellow (10YR7/6), dark brown (10YR4/2) and light brownish gray (2.5Y6/2), moist, 11.5- to 12.5-foot interval is dark grayish brown; 12.0- to 12.5-foot interval is dark grayish brown and hydrocarbon stained, slightly moist.
SS	15.5		13	1.5/1.5	1155	140					SM	
			25					X				
	17.0		43					X		6		
SS	17.0		50	0.5/1.5	1205	120		X				
										7		SAMPLE SB10-03 (12.0-12.5) collected at 1130
	18.5											
SS	18.5		50	0.3/1.5						8	SM	12.5 to 14.0 feet: Fill Material; silt, dark grayish brown with numerous granules of shale, and glauconite colored sand; 13.0- to 14.0-foot interval is phyllite and weathered quartzite fragments, abundant hydrocarbon staining.
										9		
	20.0									0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

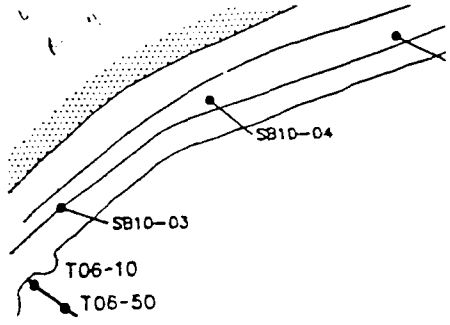
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-03
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/1/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	20.0		50		1230						SM	14.0 to 15.5 feet: Fill Material, silt and fine sand with granules of shale and quartzite, distinct weathering patterns between silt matrix and yellow and green sand patches, slightly damp to wet, free oil (diesel or bunker fuel) in lower 0.5-foot interval in fractured phyllite, phyllite also contains distinct brown (7.5YR4/6) streaks along weatherd laminae.
		21.0								1		
										2		
										3		SAMPLE SB10-03 (15.5-17.0) collected at 1155.
										4	SM	15.5 to 17.0 feet: Fill Material (as above); 15.7- to 17.0-foot interval is weathered bedrock consisting of highly fractured shale and quartzite, yellowish brown (10YR5/6) to olive brown (2.5Y4/4), strong hydrocarbon odor, no free oil visible.
										5		
										6	GM	17.0 to 18.5 feet: Fill material and bedrock fragments; recovered only 0.5 feet from 1.5 -foot interval, mainly slough, silty sand with bedrock fragments of metamorphosed mudstone and quartzite; hydrocarbon odor (JP-5) at depth in highly fractured bedrock rubble.
										7		
										8	GW	18.5 to 20.0 feet: Bedrock fragments; quartzite and phyllite rock rubble, loose, dry.
										9		
										0	GW	20.0 to 21.5 feet: Bedrock fragments; quartzite, gray to blue gray.
										1		Total Depth (refusal) at 21.5 feet.
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-04
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 15.37 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/2/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0										FILL	0.0 to 5.0 feet: Fill Material; logged from cuttings.
										1		
										2		
										3		
										4		
		5.0								5	GC	5.0 to 8.5 feet: Fill Material; Clayey silt with approximately 30 to 40 % rock fragments, yellowish brown (10YR5/6) quartzite rock fragments range from gravel to cobble size, unconsolidated, rock fragments are angular to subangular, moist.
CME	5.0			1.0/3.5	0910							
										6		
										7		
										8		
		8.5									GC	8.5 to 13.5 feet: No sample recovery. Approximately 6 inches of slough (rock fragments as above) in core barrel. Large phyllite cobble plugged CME core barrel.
										9		
CME	8.5			0.0/5.0	0915							
										0		
										1		
										2		
		13.5								3		
CME	13.5			0.0/5.0	0932						GC	13.5 to 18.5 feet: No sample recovery. Approximately 1.0 foot of slough (as above), wet. Core barrel plugged by numerous 2 to 3-inch angular to subangular rock fragments. End of core barrel contains hydrocarbon contaminated sand (pipe bedding material). PID headspace reading of 44 ppm was taken from the sand.
										4		
										5		
										6		
										7		
										8		
		18.5									GC	18.5 to 22.5 feet: Fill Material; Top 1.0 feet is slough, hydrocarbon contaminated pipe bedding sand and quartzite and metamorphosed rock fragments; (continued)
										9		
CME	18.5			3.0/3.5	0947							
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-04
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/2/94
	DRILLING PERSONNEL/METHOD:	

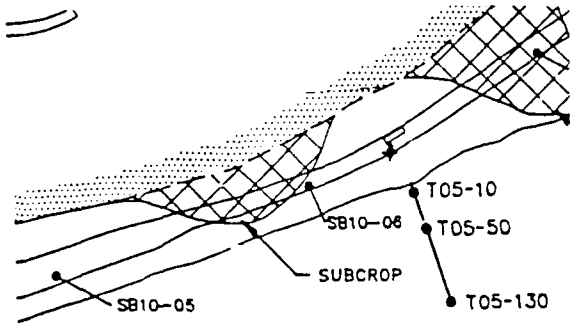
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
						5,000		X			GC	18.5 to 22.5 feet: Fill Material (continued); 19.5- to 22.5-foot interval is fill material consisting of mudstone cobbles in a clayey silt matrix; hydrocarbon contamination apparent at contact between pipe bedding and native fill material; wet to saturated at 20.5 feet.
		22.5										SAMPLE SB10-04 (20.0-20.5) collected at 1000
												PID headspace reading of 5,000 ppm in 18.5 to 22.5 foot interval.
												Total Depth (refusal) at 22.5 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-05
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 15.73 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/2/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

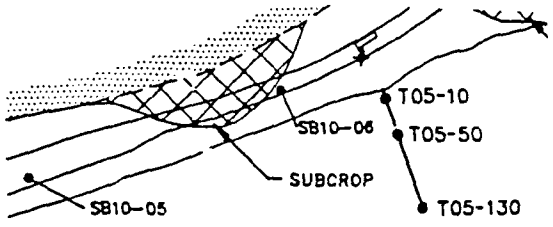
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1 2 3 4	FILL	0.0 to 5.0 feet: Fill Material; unconsolidated, dry. Logged from auger cuttings.
CME	5.0	5.0		0.0/3.5	1410					5 6 7	GM	5.0 to 8.5 feet: Fill Material; no sample recovery; rock fragment plugged core barrel, sample is mainly slough, clayey silt with numerous rock fragments, dry.
CME	8.5	8.5		0.0/5.0	1420					8 9 0 1 2	GM	8.5 to 13.5 feet: Fill Material; no sample recovery, rock fragment plugged core barrel; mainly 2.0 feet of rock fragment slough, fragmented quartzite and phyllite ranging from 2 to 3-inches in diameter, angular to subangular.
CME	13.5	13.5		1.0/5.0	1440					3 4 5 6	GM	13.5 to 18.5 feet: Fill material; top 4 feet is slough; clayey silt with numerous metamorphosed rock fragments; 17.5- to 18.0 foot interval is phyllite rock fragments, dark gray to dark grayish brown (2.5YN3/2), wet to saturated; 18.0- to 18.5-foot interval is pipe bedding consisting of sand with a distinct hydrocarbon staining and odor.
CME	18.5	18.5		1.0/1.5	1450	3,000		X		7 8 9 0	GM	18.5 to 20.0 feet: Fill material and bedrock; top 0.5 foot is wet slough; from 19.0 to 20.0 is fractured phyllite/mudstone, very dark gray to black (2.5YN3/2), extensive conchoidal fracturing, rock fragments range from 1- to 3-inches in diameter; slightly weathered, wet to saturated. SAMPLE SB10-05 (18.0-18.5) collected at 1450.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



TRANSECT 5
(130 FEET)

JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-06
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/3/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID core barrel.

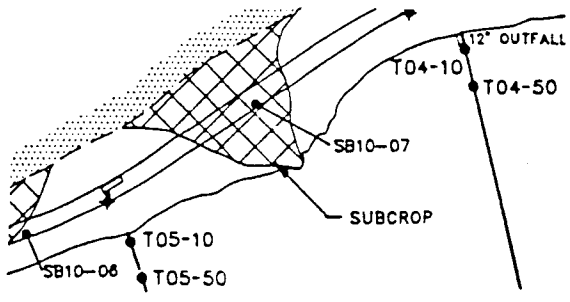
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; logged from auger cuttings.
										1		
										2		
										3		
										4		
		5.0										
E	5.0			2.3/3.5	0920					5	CL	5.0 to 8.5 feet: Fill Material; clayey silt with numerous sandstone and quartzite fragments, brownish yellow (10YR4/4) to dark yellowish brown (10YR4/6), fragments are gravel to cobble size, angular to subangular; loose, moist.
										6		
										7		
										8		
		8.5								9	CL	8.5 to 13.5 feet: Fill Material; clayey silt with approximately 30 to 40 percent quartzite and metamorphosed rock fragments, matrix is brownish yellow (10YR6/6), fragments are olive (5Y5/3); rock fragments predominantly range from 1/4 to 1/2 inch in diameter, some fragments up to 3 inches, angular; loose, slightly moist.
CME	8.5			2.6/5.0	0945					0		
										1		
										2		
		13.5								3		
								X				
CME	13.5			2.2/4.0	1002	250		X		4	GC	13.5 to 17.5 feet: Fill Material and Weathered Bedrock: Upper 1.7 feet is clayey silt with numerous (50%) quartzite fragments, lower 0.5 foot is fractured and weathered quartzite, olive (5Y5/6); fill material is moist; weathered bedrock in unsaturated.
								X				
								X		5		
								X				SAMPLE SB10-06 (13.5-17.5) collected at 1015.
								X		6		
								X				
								X		7		Total Depth (refusal) at 17.5 feet.
		17.5								8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-07
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/3/94

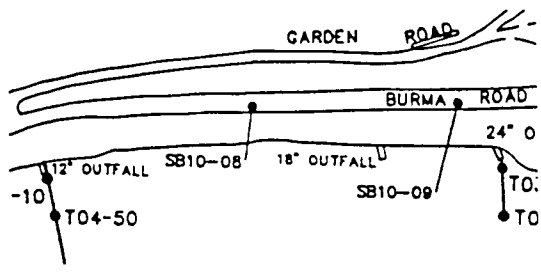
DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; asphalt cover, fill material is mainly very hard, rock rubble; logged from auger cuttings.
										1		
										2		
										3		
										4		
		5.0								5		
CME	5.0			2.0/3.4	1120	100 ppm				6	GM	5.0 to 8.4 feet: Fill Material and Weathered Bedrock: fill material clayey silt with approximately 40 percent quartzite rock fragments dark yellowish brown (10YR4/4), highly fractured, fragments range from 1/4- to 1/2-inch in diameter, some fragments up to 2.5 inches; loose, dry; hydrocarbon odor and staining apparent in relatively tight fractures within larger rock fragments.
										7		
										8		SAMPLE SB10-07 (8.0-8.4) collected at 1120.
		8.4						X		9		Total Depth (refusal) at 8.4 feet.
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-08
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 10.38 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/3/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 4/3-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	FILL	0.0 to 5.0 feet: Fill Material; asphalt cover, logged from auger cutting.
										2		
										3		
										4		
		5.0								5		
CME	5.0			2.3/3.5	1300	0		X		6	SM	5.0 to 8.5 feet: Fill Material; sandy silt with quartzite fragments, brownish yellow (10YR6/6), non-plastic, moderately dense. SAMPLE SB10-08 (5.0-5.5) collected at 1300
										7		
		8.5								8	CL	8.5 to 13.5 feet: Colluvium; clayey and silty sand with weathered angular rock fragments, mottled light yellow and red; iron staining, plastic, tight.
CME	8.5			4.0/5.0	1310					9		
										0		
										1		
										2		
		13.5								3	CL	13.5 to 18.5 feet: Colluvium (as above); less plasticity, rock fragments less weathered, slightly moist.
CME	13.5			3.0/5.0	1325					4		
										5		
										6		
										7		
		18.5								8	CL	18.5 to 23.5 feet: Colluvium (as above); mottled gray, red, and brown, increase in amount of sand; contains weathered quartzite rock fragments, 20.0- to 20.3 and 23.5- to 23.8 foot intervals contain sandy clay and minor carbonaceous fragments.
CME	18.5			3.5/5.0	1340					9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

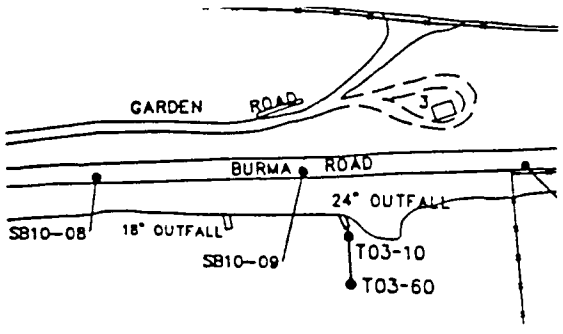
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-08
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/3/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1	GM	23.5 to 28.5 feet: Colluvium; weathered rock fragments in sandy silt matrix, mottled gray and light gray, slightly plastic.
										2		
										3		
	23.5	23.5		3.7/5.0	1410					4		
										5		
										6		
										7		
										8		
	28.5									9		Total Depth (refusal) at 28.5 feet.
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-09
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD PIOINT MOLATE	DEPTH TO WATER: 7.76 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/4/94

DRILLING PERSONNEL/METHOD:
Kust Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; 6 inches of asphalt cover, fill material mainly dark brown rock fragments; logged from auger cuttings.
										1		
										2		
										3		
										4		
	5.5									5		
CME	5.5			1.0/3.0	0915						SM	5.0 to 8.0 feet: Fill Material : silty sand and quartzite rock fragments, yellowish brown (10YR5/4), angular, dry.
										6		
										7	PT	8.0 to 8.5 feet: Peat; black (10YR2/1) to dark brown (10YR2/2), contains weathered rock and shell fragments and one well-rounded quartzite pebble, reddish brown (5YR4/3), 1.5 cm in diameter.
	8.5									8		
CME	8.5			3.5/5.0	0930	39				9	PT	8.5 to 11.0 feet: Peat; dark brown (10YR2/2), loose, spongy, slightly moist in 10.5- to 11.0-foot interval.
										0		SB10-09 (10.1-10.5) collected at 0932
								X		1	ML	11.0 to 13.5 feet: Colluvium; sandy silt and silty clay, contains weathered rock fragments, mottled yellowish brown (10YR6/8) and light yellowish brown (10YR6/4). moderate iron staining, tight.
								X		2		SB10-09 (11.1-11.3) collected at 0936
	13.5									3		
CME	13.5			2.2/5.0	0942					4	SM	13.5 TO 18.5 feet: Colluvium; silty sand with minor clay, yellowish brown (10YR5/6), abundant angular rock fragments consisting of shale and quartzite, slightly plastic, loose, moist.
										5		
										6		
										7		
	18.5									8	SC	18.5 to 19.0 feet: Colluvium and Weathered Bedrock: silty sand with clay, contains weathered bedrock fragments and blue-gray clay partings; plastic.
CME	18.5			2.5/2.5	0953					9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

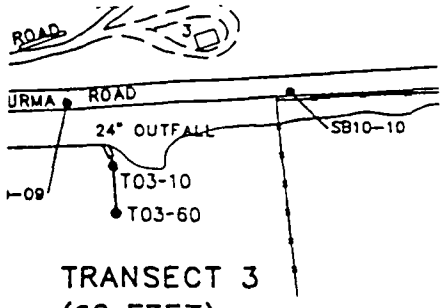
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-09
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/4/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	21.5									GW	19.0 to 21.0 feet: Weathered Bedrock, mudstone/phyllite and quartzite, fine grained, fractured. At 20-foot interval fractures are iron stained and wet.
									1		
									2		Total Depth (refusal) at 21.0 feet.
									3		
									4		
			1						5		
									6		
									7		
									8		
									9		
									0		
									1		
									2		
									3		
									4		
									5		
									6		
			1						7		
									8		
									9		
									0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



TRANSECT 3
(60 FEET)

JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-10
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 6.68 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/4/94

DRILLING PERSONNEL/METHOD:
Kust Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0				1300						FILL	0.0 to 5.0 feet: Fill material; asphalt cover from 0.0 to 3.0 feet; fill material is silty sand, dark brown, with angular rock fragments, logged from auger cuttings.
										1		
										2		
										3		
										4		
		5.0								5		
CME	5.0			2.5/3.0	1330	300 ppm					SM	5.0 to 6.0 feet: Fill Material; silty sand, yellowish brown (10YR5/6), contains abundant quartzite rock fragments; unconsolidated.
										6	SM	6.0 to 8.3 feet: Fill Material; sandy silt with minor clay, dark yellowish brown (10YR3/4), moderate amount of rock fragments, minor peat.
								X		7		SAMPLE SB10-10 (7.0-7.5) collected at 1300
		8.5								8		
CME	8.5			5.0/5.0	1340						PT	8.3 to 8.5 feet: Peat; dark brown (10YR2/2) to very dark brown, contains shell fragments and coarse sand.
										9		
										0	SM	8.5 to 13.5 feet: Colluvium; sandy silt with minor clay, mottled brownish yellow (10YR6/8) and pale brown (10YR6/3), sand is very fine to fine grained, minor amount of subangular, weathered (iron stained) rock fragments; slightly plastic, tight.
										1		
										2		
		13.5								3		
CME	13.5			5.0/5.0	1350							
										4	SM	13.5 to 18.5 feet: Colluvium (same as above); distinct clay partings throughout, partings are mottled light yellowish brown (10YR6/4) to pale brown (10YR6/3).
										5		
										6		
										7		
		18.5								8	SM	18.5 to 21.8 feet: Colluvium (same as above); increase in amount of rock fragments.
CME	18.5			3.5/4.0	1400			X				
										9		
										0		SAMPLE SB10-10 (18.7-19.0) collected at 1410.

FIELD BORELOG

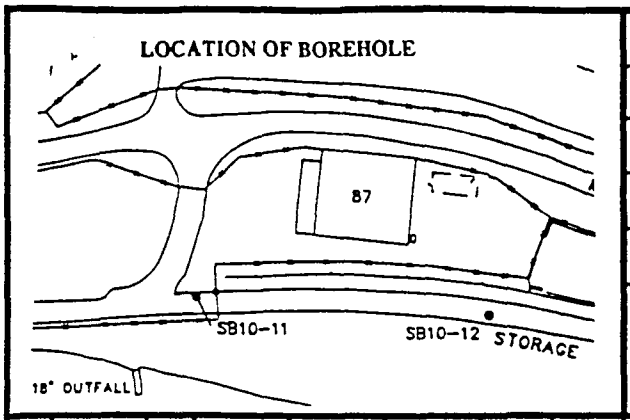
PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-10
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/4/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP BOT.	BLOWS/ 6 IN SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										SM	21.8 to 22.5 feet: Colluvium (as above); abundant weathered bedrock fragments, wet.
									1		
	22.5										Total Depth at 22.5 feet.
									2		
									3		
									4		
									5		
									6		
									7		
									8		
									9		
									0		
									1		
									2		
									3		
									4		
									5		
									6		
									7		
									8		
									9		
									0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-11
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 7.42 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/7/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/34-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	CL	0.0 to 5.0 feet: Fill Material; silty clay, black (10YR2/1), plastic, moist; logged from auger cuttings. SAMPLE SB10-11 (3.5-5.0) collected at 1120.
								X		4		
								X				
		5.0						X		5		5.0 to 8.0 feet: Colluvium; clayey silt with fine to medium sand, mottled olive brown (2.5Y4/4), light olive brown (2.5Y5/6) with grayish brown (2.5Y5/2) clay partings; plastic, moist.
CME	5.0			2.2/3.5	1120			X			CL	SAMPLE SB10-11 (5.0-5.5) collected at 1120.
		8.5								8	SM	8.0 to 8.5 feet: Colluvium; silty sand with weathered quartzite rock fragments, grayish brown (2.5Y5/2) to light olive brown (2.5Y4/4); rock fragments comprise up to 20 percent of sample and are 1- to 2-inches in diameter, angular to subangular.
CME	8.5			4.8/5.0	1130					9		
										0	ML	8.5 to 12.5 feet: COlluvium; silty sand with some clay, light olive brown (2.5Y5/4), non-plastic, loose, slightly moist. 10.5- to 12.5-foot interval contains numerous weathered sandstone rock fragments and gravel, dusky red (2.5YR3/4), angular to subangular.
										1		
										2	ML	12.5 to 13.5 feet: Colluvium; sandy silt with some clay, olive brown (2.5Y4/4), slightly plastic, moist.
		13.5								3		
CME	13.5			5.0/5.0	1145					4	ML	13.5 to 18.5 feet: Colluvium; sandy silt with approximately 20 percent clay, mottled light olive brown (2.5Y5/4) and grayish brown (2.5Y5/2), slightly plastic, moist; 17.0- to 18.0-foot interval contains less clay (approximately 10 percent) and some weathered quartzite and metamorphosed rock fragments, subrounded.
										5		
										6		
										7		
		18.5								8		
CME	18.5			2.4/5.0	1150					9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

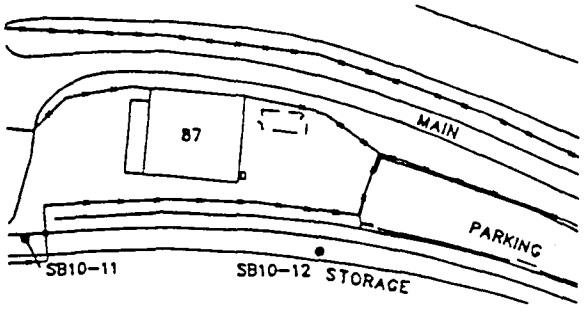
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB10-11
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/7/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO..	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
											ML	18.5 to 23.5 feet: Colluvium; sandy silt with 10 to 20 percent clay, olive brown (2.5Y5/4 to 2.5Y5/6) with gray (2.5YN5) clay partings; 21.5- to 22.5-foot interval is comprised of weathered metamorphosed rock fragments ranging from 1/4- to 1 1/2-inches in diameter, elongate, subangular to angular; this same interval is also wet.
		23.5								3		Total Depth (refusal) at 23.5 feet.
										0		Note: No headspace measurements obtained, PID malfunctioning.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-12
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 1.78 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/7/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

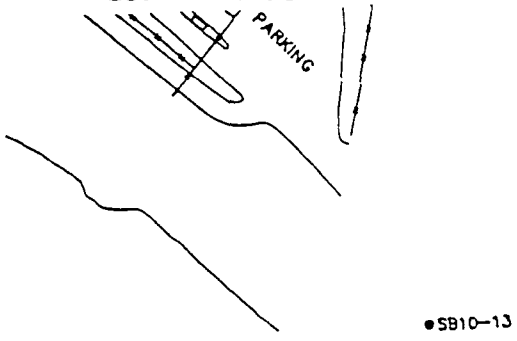
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; dark dray (2.5YN3) to black (2.5YN2), moist; logged from auger cuttings.
										1		
										2		
										3		
										4	CL	5.0 to 8.5 feet: Fill Material; silty clay, very dark gray (2.5YN3) to black (2.5YN2), up to 40 percent silt, also contains from 5 to 10 percent fine sand at 6.5 feet; loose, moist.
CME	5.0	5.0		2.0/3.5	1404					5		
										6		SAMPLE SB10-12 (6.9-7.2) collected at 1410. SAMPLE SB10-12 (8.2-8.5) collected at 1415.
								X		7	CL	8.5 to 10.0 feet: Colluvium; clayey silt with minor fine sand (5 percent), very dark gray (2.5YN3) to black (2.5YN2), plastic to very plastic, moist to wet.
CME	8.5	8.5		5.0/5.0	1420			X		8	CL	10.0 to 11.5 feet: Colluvium; clayey silt with 10 to 15 percent fine sand, mottled grayish brown (2.5Y5/2) to dark grayish brown (2.5Y5/4), slightly plastic, moist.
										9		
										0		SAMPLE SB10-12 (11.3-11.6) collected at 1420.
								X		1	ML	11.5 to 13.5 feet: Colluvium; sandy silt with approximately 30 percent clay, mottled olive brown (2.4Y5/4 to 2.5 Y5/6) and light yellowish brown (2.5Y6/4), non-plastic to slightly plastic, moist.
										2	ML	13.5 to 14.0 feet: Colluvium (as above); non-plastic, moist to wet.
CME	13.5	13.5		5.0/5.0	1431					3	ML	14.0 to 15.0 feet: Colluvium; sandy silt with approximately 10 to 20 percent clay and approximatly 20 percent weathered sandstone fragments ranging from 1/4 inch to 3/4 inch in diameter, angular to subangular, non-plastic, wet to saturated.
										4		
										5	ML	15.0 to 17.5 feet: Colluvium; sandy silt with approximately 20 percent clay partings, mottled light olive brown (2.5Y5/6), olive brown (2.5Y6/6) and gray (2.5N6), slightly plastic, moist.
										6		
										7	ML	17.5 to 18.5 feet: Colluvium; sandy silt, contains approximately 30 to 40 percent fine sand and 5 to 10 percent clay, olive yellow (2.5Y6/8), non-plastic, moist.
		18.5								8		
										9		Total Depth at 18.5 Note: No headspace measurements obtained, PID malfunctioning.
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-13
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/8/94

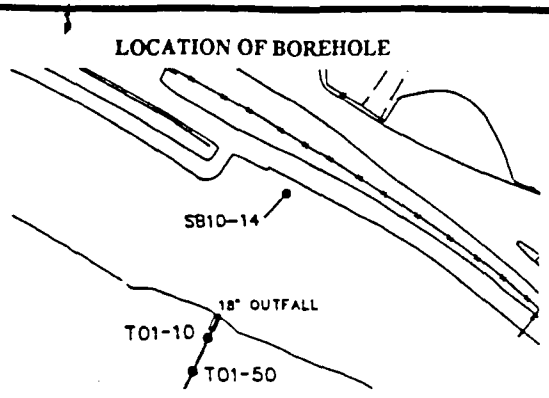
DRILLING PERSONNEL/METHOD:
Kurt Voss, Steve Smith/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	SM	0.0 to 5.0 feet: Fill Material; sandy silt with numerous quartzite rock fragments ranging from 1/2-inch to 3-inches in diameter, angular, matrix is soft, wet; logged from auger cuttings.
										2		
										3		
										4		
	5.0									5	ML	5.0 to 8.5 feet: Fill Material/Railroad Bedding Material; sandy silt, 25 percent fine sand and approximately 10 percent clay, light yellowish brown (2.5Y6.4), loose, soft; 5.0-to 6.5-foot interval is wet, remainder of sample is dry.
CME	5.0			2.9/3.5	1110					6		
								X				SAMPLE SB10-13 (6.0-6.5) collected at 1120.
										7		
	8.5									8	SM	8.5 to 13.5 feet: Fill Material; sandy silt, 10 to 15 percent fine sand with 20 to 25 percent clay, light olive brown (2.5Y5/4), numerous weathered quartzite rock fragments ranging from 1/2 inch to 3 inches in diameter, angular; contain moisture in relatively tight fractures.
CME	8.5			4.5/5.0	1115					9		
										0		
										1		
										2		
	13.5									3		
CME	13.5			3.0/4.0	1130					4	SM	13.5 to 17.5 feet: Fill Material; sandy silt, approximately 20 percent fine sand and 40 percent weathered, highly fractured metamorphosed rock fragments; fragments are light olive brown (2.5Y5/4 to 2/5Y5/6) and dark gray brown (2.5Y4/2) on fresh fractured surfaces; slightly moist to moist.
										5		
										6		
										7		
	17.5											Total Depth (refusal) at 17.5 feet.
										8		Note: No headspace readings obtained, PID malfunctioning.
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-14
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 6.62 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/8/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, Steve Smith/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

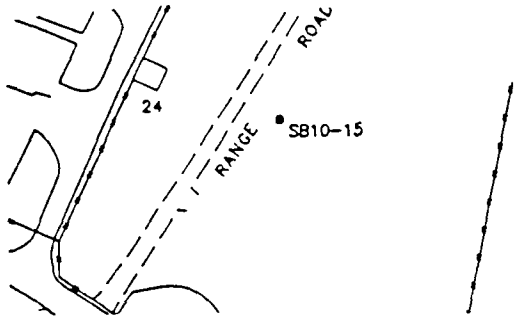
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0											0.0 to 5.0 feet: No sample logged.
										1		
										2		
										3		
										4		
		5.0								5	ML	5.0 to 9.0 feet: Colluvium; clayey silt, approximately 20 percent clay with some fine sand (10 to 15 percent), light olive brown (2.5Y5/4), slightly plastic, moist.
CME	5.0			1.7/4.0	1320							
										6		
										7		
										8		SAMPLE SB10-14 (8.6-9.0) collected at 1320.
		9.0										
CME	9.0			4.4/5.0	1325			X		9	ML	9.0 to 11.5 feet: Colluvium; clayey silt, approximately 20 percent clay with some fine sand, yellowish brown (10YR5/4), slightly plastic, moist.
										0		SAMPLE SB10-14 (11.0-11.5) collected at 1325.
										1		
								X		2	ML	11.5 to 14.0 feet: Colluvium; silty clay, approximately 30 to 40 percent silt, minor fine sand (5 to 10 percent), matrix is mottled yellowish brown (10YR5/4) and grayish brown (10YR5/2); sands are brownish yellow (10YR6/6), weathered; plastic, low to medium stiffness, moist.
										3		
		14.0								4		
CME	14.0			5.0/5.0	1340					5	ML	14.0 to 16.0 feet: Colluvium; clayey silt with some fine sand, approximately 20 percent clay and 10 percent fine sand, dark brown (10YR4/3), numerous metamorphosed rock fragments ranging from 1/16 inch to 1/8 inch in diameter; non-plastic, moist; 15.0- to 16.0-foot interval contains from 30 to 40 percent weathered quartzite, metamorphosed mudstone and sandstone rock fragments ranging from 1/16 inch to 1/2 inch in diameter, moist to wet.
										6		
										7		16.0 to 19.0 feet: Colluvium (as above); increase in fine sand (10 to 20 percent), mottled brownish yellow(10YR6/6 to 10YR6/8); soft, moist.
										8	ML	
										9		Total Depth (refusal) at 19.0 feet.
	19.0									0		Note: No headspace readings obtained, PID malfunctioning.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE

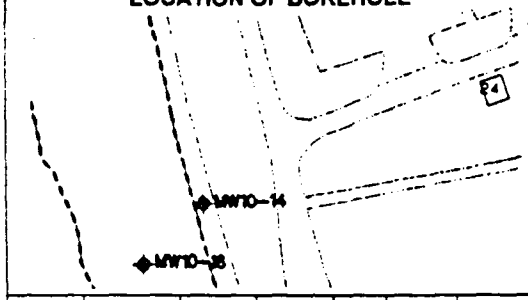


JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB10-15
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 14.86 FT. (2/18/94)
SUBSITE: SOUTH SHORELINE	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/9/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	SM	0.0 to 5.0 feet: Colluvium; sandy silt, yellowish brown (10YR5/6), loose, dry; logged from auger cuttings.
										2		
										3		
										4		
CME	5.0	5.0		3.5/4.0	1125					5	ML	5.0 to 6.2 feet: Colluvium; sandy silt with minor clay, dark grayish brown (10YR4/2), contains abundant organic matter (roots) and highly weathered quartzite fragments or remnant fragments, fragments are iron stained; slightly plastic, dry.
										6		
										7	SM	6.2 to 9.0 feet: Colluvium; sandy silt with 5 percent rock fragments, yellowish brown (10YR5/6), sand is very fine to fine, fragments are up to 3 cm in diameter, angular; 6.0- to 8.0-foot interval is loose, dry; 8.0-to 9.0-foot interval contains very pale brown (10YR7/4) clay partings mottled with yellowish brown (10YR5/6) sandy silt, tight.
CME	9.0	9.0		5.0/5.0	1145					8		
								X		9	ML	9.0 to 12.0 feet: Colluvium; sandy silt with clay partings, mottled yellowish brown (10YR5/6) and light brownish gray (10YR6/2); contains approximately 30 percent rock fragments of angular metamorphosed mudstone and quartzite up to 1 cm in diameter; tight.
										0		
										1		SAMPLE SB10-15 (9.5-10.0) collected at 1145
										2	ML	12.0 to 14.0 feet: Colluvium; sandy clay with silt, 30 percent very fine to fine sand, mottled light gray (10YR7/2) and yellowish brown (10YR5/6), tight, dry.
										3		
CME	14.0	14.0		2.0/2.0	1210					4	GC	14.0 to 16.0 feet: Bedrock; sandstone and quartzite, brownish yellow (10YR6/8), fine grained, weathered, fractured, iron staining and some clay on fracture surfaces, moderately friable to friable, dry.
										5		
										6		Total Depth (refusal) at 16.0 feet.
										7		Note: No headspace readings obtained, PID malfunctioning.
										8		
										9		
										0		

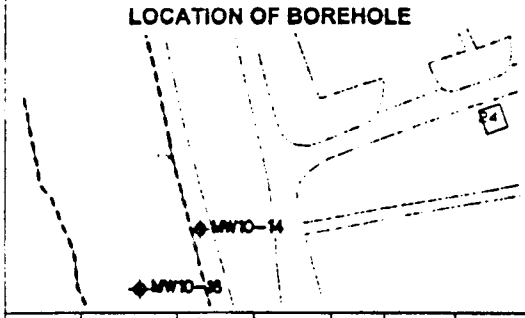
LOCATION OF BOREHOLE



PROJECT NO.:	044-0248	BOREHOLE DESIGNATION:	SB10-16
CLIENT:		SURFACE ELEVATION:	
SITE:	NFD Pt. Molate	DEPTH TO WATER:	
SUBSITE:	Background/PM Park	LOGGED BY:	B. Schuller
DRILLING CO.:	Bayland	DRILLING DATE(s):	
DRILLING PERSONNEL/METHOD:	75 CME 5' CME Sampler, 7 7/8" auger. Slagle/Marting		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
										Fill; Sandy silt; some clay, sand is fine grain, 2.5Y 4/3, some rock fragments to 1" diameter.
CME	0.0	4.0	3.0/4.0	1028						Colluvium; 10YR 6/6, mottled 10YR 6/8, sand, coarse to very fine 75%, silt and clay 20%, 5% pebbles (to 1 cm), some roots.
								5		Colluvium as above to 5.0', then fining to clayey silt with sand; rock fragments increasing (quartzite) in size to 1-3 cm, sand-medium to very fine 30%, silt and clay 50%, other 20% rock fragments.
	4.0	9.0	5.0/5.0	1036						
								10		As above; moist at 11.0', lots of mottling (5YR 4/6 - yellowish red to 2.5YR 6/8 olive yellow).
	9.0	14.0	5.0/5.0	1050						
								15		Colluvium; sandy silt with clay; 10YR 5/6, clay concentrated in partings (10YR 5/6) moist to wet.
	14.0	19.0	5.0/5.0	1120						Colluvium; as above but dry.
										Weathered bedrock; phyllites and quartzites, sandstones (fine grained, friable, 10YR 5/6), clay between fractures, water (wet) between fractures.
								20		Weathered sandstone (?); fine sand with some medium, well sorted, dry, 2.5Y 6/6.
										Weathered phyllite; moist.
	19.0	24.0	4.0/5.0	1155						Same as interval 19.0-20.0', moist to 23.0', dry after 23.0'.
								25		
								30		

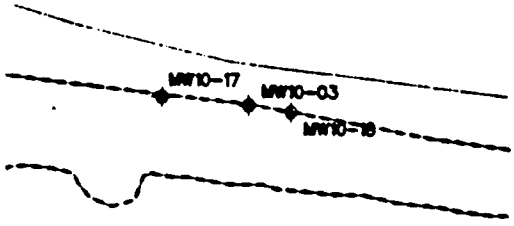
LOCATION OF BOREHOLE



PROJECT NO.:	044-0248	BOREHOLE DESIGNATION:	SB10-16A
CLIENT:		SURFACE ELEVATION:	
SITE:	NFD Pt. Molate	DEPTH TO WATER:	
SUBSITE:	Background	LOGGED BY:	B. Schuller
DRILLING CO.:	Bayland	DRILLING DATE(s):	07/28/94
DRILLING PERSONNEL/METHOD:	75 CME 5' CME Sampler, 7 7/8" auger. Slagle/Marting		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type Graphic Log	SOIL DESCRIPTION
										Fill; Sandy silt, rock fragments; chunk of asphalt, moist at 2.0'.
CME	0.0	5.0	2.0/5.0	1413						
								5		Colluvium, silty sand, fine, 50% fine sand, 30-40% silt and clay, other is rock fragments, weathered sandstones to 2 cm, 10YR 5/6 mottled 10YR 6/8 (some sandstones) and 5YR 5/8, crumbly.
	5.0	10.0	5.0/5.0	1450						
								10		Colluvium as above, crumbly, slightly moist.
	10.0	15.0	5.0/5.0	1505						Colluvium increasing clay content; clayey fine sand, 10YR 5/8, less rock fragments, mottling 5YR 5/8, slight moist.
								15		Colluvium; clayey sand, more weatheredsandstone and quartzite and mudstone fragments than above, moist to very moist.
	15.0	20.0	4.5/5.0	1516						
								20		As above, moist to wet, wet intervals tend to bare more rock fragments.
	20.0	25.0	4.5/5.0	1535						
								25		Colluvium; saturated, gravelly, angular, 10YR 6/4. Sand, some silt and some colluvium, wet, less rock fragments and some clay. Silty clay with fine sand, tight, plastic.
	25.0	30.0	4.5/5.0	1545						TD = 30'.
								30		

LOCATION OF BOREHOLE

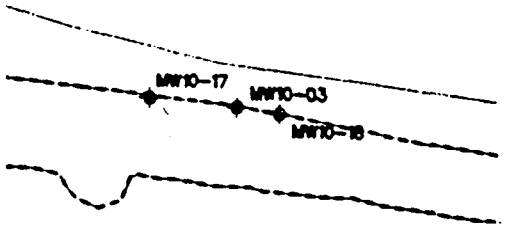


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW10-17
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	15.0' bgs
SUBSITE:	South Shoreline MW10-03 Area	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/10/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	1.5/5.0	1235	N/A				ML	Light olive brown silt with minor fine grained sand and up to 30% rock fragments of sandstone, no hydrocarbon staining or odor.
CME 2.5"ID	5.0	10.0	1.5/5.0	1240	N/A			5	GW-ML	Predominantly fragments of dark grayish green-maroon mudstone, moderately indurated, other fragments are yellowish brown sandstone (weakly metamorphosed), matrix is a sandy silt, no hydrocarbon staining or odor.
CME 2.5"ID	10.0	15.0	2.0/5.0	1250	N/A			10	GW-ML	Same as above, fragments of mudstone and sandstone angular fragments up to 3". This is the largest that will enter the core barrel, damp, weak hydrocarbon odor.
CME 2.5"ID	15.0	20.0	2.0/5.0	1300	N/A			15	GW-ML	(End of sampler is wet). Dark grayish green mudstone and sandstone, subrounded-angular fragments of mudstone and sandstone as above, 80% rock fragments, 20% fine grained matrix, strong black hydrocarbon staining and odor, saturated and very hard to drill, near bedrock at 20.0'
CME 2.5"ID	20.0	21.0	0.1/1.0	1302	N/A			20	Bedrock	A few angular fragments of yellow brown to gray green sandstone, up to 40mm, TD 21.0', refusal.

LOCATION OF BOREHOLE

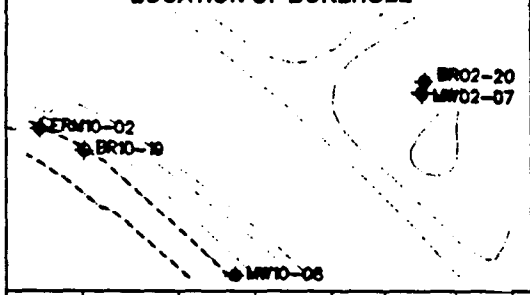


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB10-18
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	15.0' bgs
SUBSITE:	South Shoreline MW10-03 Area	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/10/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rid, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
									Asphalt	Asphalt
CME 2.5"ID	0.0	5.0	1.0/5.0	1520	N/A			5	GC	Fill; road subbase, gray, dry. Clayey gravel, wet at 2.5'. Gravelly silt, dry, pale yellow sandstone in shoe, fine-medium grained, quartz and feldspar, minor iron oxides and mica.
CME 2.5"ID	5.0	10.0	2.0/5.0	1535	N/A			10	Weathered Bedrock	Light olive brown (2.5Y 5/6), weathered, decomposed sandstone and gray-maroon siltstone, this may be fill but it also may be weathered bedrock, dry, no odor or staining.
CME 2.5"ID	10.0	15.0	1.0/5.0	1550	N/A			15	Weathered Bedrock	Same fill or weathered bedrock, very poor recovery, no hydrocarbon odor or staining. (Sharp contact)
CME 2.5"ID	15.0	20.0	2.0/5.0	1608	N/A			20	Bedrock	Angular fragments up to 40mm at the shoe. Sampled interval is product saturated and odorous, this is just above competent bedrock, wet, brown-black. Bedrock is gray-brown, fine-medium grained sandstone. TD = 20', damp at shoe.

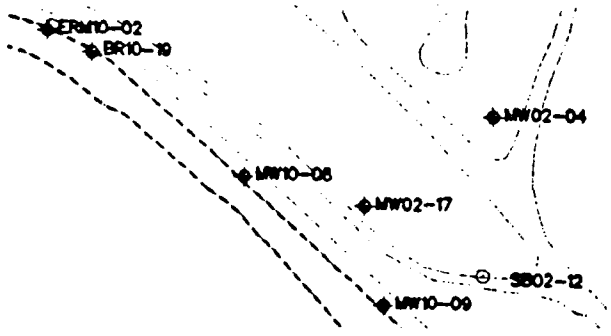
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB10-19
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	S. Shoreline - Site 1 DA	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/03/99
DRILLING PERSONNEL/METHOD:	CME 850 Track HSA 8"OD to bedrock E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME	0.0	5.0	0.5/5.0	1415	N/A			CL	Fill material; negligible recovery, appears to be road bed material; silty clay with mudstone fragments up to 1 1/2", dry.
							5		
CME	5.0	10.0	2.4/5.0	1425	N/A			CL	Fill; yellowish brown silt to silty clay with mudstone fragments up to 2", dry.
							10	CL	Colluvium; brown, silty clay, dry.
									11.0-23.5' description on corelog BR4-2.
							15		
							20		

LOCATION OF CORELOG

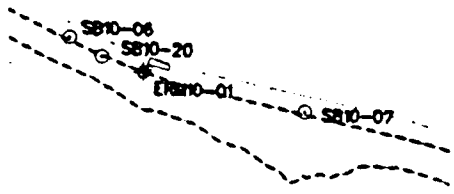


PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR10-19
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: N/A
SUBSITE: S. Shoreline - Site 1 DA	LOGGED BY: T. Faile
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 02/03/99

DRILLING PERSONNEL/METHOD:
CME 850 Track, HSA 8"OD
Core Bedrock (HQ 3/78"OD).
E. Sandoval, F. Sandoval, C. Macio

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY/ GRAPHIC LOG	Well Info.	ROCK DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5, 10	CL		0-11.0' description on borelog SB10-19.
HQ	2.7/3.5	N/A	10%	N/A	—	N/A	N/A	1550		SS Bedrock		Quartzite (?), gray, blocky, very hard, dense, some weathering; white clay infilling in fractures; yellowsih brown sand seam (1/2") at 12'; sandy silt infilling from 12'-13.5'; iron staining on fracture faces.
HQ	4.7/5.0	N/A	60%	N/A	60/120	N/A	N/A	1620	15	Quartzite Bedrock		Quartzite, gray, less weathered, very hard; defined fracture pattern approximately 60 degrees/120 degrees, white clay infilling to 18.5'; quartz seams 20-23'; iron staining on fracture faces (acid test indicates non-carbonate).
HQ	5.0/5.0	N/A	80%	N/A	60/120	N/A	N/A	1700	20			

LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB10-20
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	17-17.5'
SUBSITE:		LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/04/99

DRILLING PERSONNEL/METHOD: CME 850 Track
HSA 8" OD, 4 1/2" ID; CME sampler 5.1'x2.5" ID
E. Sandoval, F. Sandoval, C. Macio

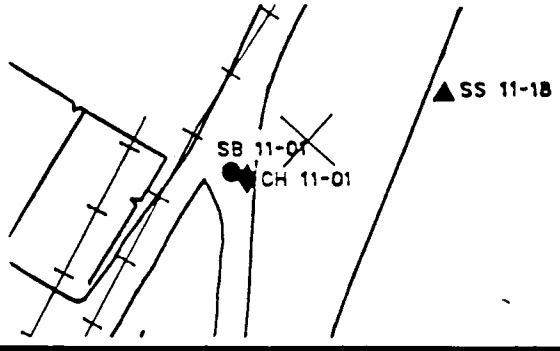
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.2/5.0	1330	N/A			GP	Negligible recovery, appears to be road bed fill, cuttings primarily gravel sized fragments of mudstone and sandstone.
							5		
CME 2.5"ID	5.0	7.5	2.0/2.5	1335	N/A			GP	Fill; silty sand, brownish yellow (10YR 6/6-6/8) with mudstone cobbles up to 3"; mudstone cobbles angular to subangular; dry to slightly moist. Silty clay seam from 10-11'; first thought to be bottom of fill sequence, however fill identified below seam to 16'.
CME 2.5"ID	7.5	10.0	0.3/2.5	1340	N/A				
							10		
CME 2.5"ID	10.0	11.0	0.8/1.0	1345	N/A				
CME 2.5"ID	11.0	15.0	0.1/4.0	1400	N/A				
							15		
CME 2.5"ID	15.0	17.5	1.5/2.5	1410	N/A				
CME 2.5"ID	17.5	20.0	1.5/2.5	1415	N/A			CL	Clay, greenish gray (Chart 1 GLEY, 3/1-4/1), strong petroleum odor, product present from 18-18.5'; appears to be residuum clay.
								Weathered Bedrock	Sandstone weathered, no product present; fine grained, reddish gray with iron staining; white clay infilling in fracture seams.
							20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-01
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/21/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			4.0/4.0	1235					1		0.0 to 4.0 feet: Fill material; surficial gravel and silt above sandy silt, grayish brown to grayish brown (10YR 5/6), nonplastic, slightly moist, grading to clayey silt with bedrock fragments; some fibrous organic matter.
						0				2		
										3		
		4										
CME	4			2.5/2.5	1250					4		4.0 to 6.0 feet: Fill material; silt with clay, very dark grayish brown (10YR 3/2), nonplastic, moist; sparse bedrock fragments.
						0				5		
										6		6.0 to 6.5 feet.: Bedrock; sandstone, very fine-grained, weathered dark brown (10YR 3/3) mottled with various shades of brownish yellow, very friable; sharp upper contact with fill material; hard drilling at 6.5 ft.
		6.5				0				7		
CME	8			2.5/2.5	1448					8		6.5 to 8.0 feet: No sample; augered without sampler.
										9		8.0 to 10.0 feet.: Bedrock; silty sandstone, very fine grained, yellow (10YR 7/6), stained gray along bedding planes, hydrocarbon odor; sample SB11-01(9.0-10.0) collected at 1440, headspace = 13 ppm.
						65 13 (HS)				10		
		10.5				95				11		TD (refusal) at 10.5 feet.

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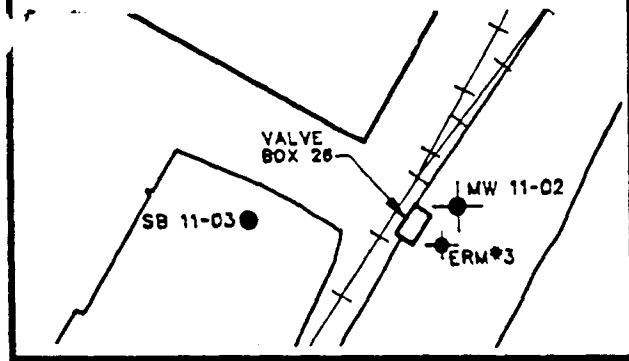
FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-02
CLIENT: U.S. NAVY	SURFACE ELEVATION: 22.43 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 15.5 FT.
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/21/92 to 1/22/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0	4.5		4.5/4.5	1645					1		0.0 to 4.5 feet: Fill Material; surficial silt and gravel above sandy silt with bedrock fragments, yellowish brown(10YR 5/6), slightly moist, nonplastic; some organics including roots and large stems; sand is coarse, subrounded; bedrock fragments are angular sandstone (max. size = 5 cm).
						0				2		
						0				3		
CME	4.5	9.5		4.0/5.0	1705	0				4		4.5 to 9.5 feet: Fill Material; sandy silt with bedrock fragments, as above but dark brown (10YR 3/3); trace organics.
						0				5		
						0				6		
						0				7		
CME	9.5	14.5		5.0/5.0	1720	0.9 1.4				8		9.5 to 15.5 feet: Fill Material; sandy silt with bedrock fragments, (as above), moist with wet zones; bedrock fragments are fine-grained sandstone and siltstone; sandstone is weathered to sandy pods without distinct edges, brownish yellow (10YR 6/6); siltstone is hard clasts with distinct edges, oxidized to reddish brown (2.5YR 4/4); occasional small (2-3 mm) white to light olive-gray (5Y 6/2) clasts, may be weathered or precipitated.
						0				9		
						0				10		
						0				11		
CME	14.5	19.5		5.0/5.0	1745	37 127				12		15.5 to 16.0 feet: Bay Mud; clay (CH), dark greenish gray, plastic, saturated.
						50				13		16.0 to 16.5 feet: Reworked Intertidal Sediments; silty sand with bedrock fragments (SW), very poorly-sorted sand, saturated; sample SB11-02(16.0-16.5) collected at 1740.
						1-2				14		16.5 to 19.5 feet: Colluvium; silty clay with sand, olive yellow (2.5Y 6/6), slightly plastic, moist; trace fine sand in pods, probable weathered sandstone fragments; material appears contaminated at 18.0 ft.
CME	19.5			4.5/5.0	0800					15		
										16		
										17		
										18		
										19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-02
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

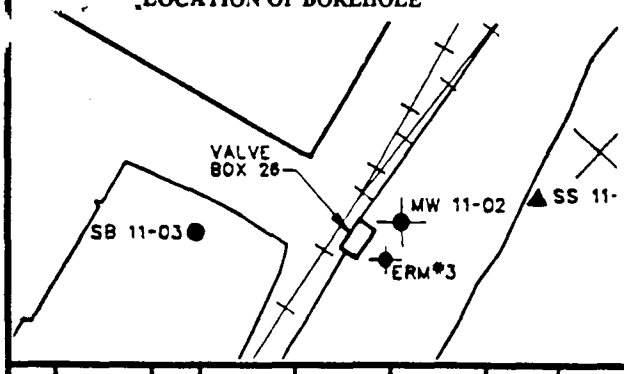
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5					1-4				21		19.5 to 24.5 feet: Colluvium; clayey sand with abundant rock fragments, brownish yellow (10YR 6/6) mottled light brownish gray (2.5Y 6/2), moist; bedrock fragments comprise 10% of sample at top grading to 50% of sample at bottom and consist of very fine-grained sandstone and siltstone; sandstone is weathered, yellow pods without distinct edges; siltstone is hard, tabular, with distinct edges, oxidized to reddish yellow (7.5YR 6/8) and red (2.5YR 4/6); no hydrocarbon staining.
										22		
										23		
										24		
CME	24.5	24.5		4.5/5.0	0820	1-4				25		24.5 to 29.5 feet: Colluvium; bedrock fragments in sand matrix from 24.5 to 26.5 ft., light yellowish brown (2.5Y 6/4), some clay in matriix; rock fragments comprise about 60% of sample, angular to subrounded, maximum size about 5 mm; clayey sand from 26.5 to 29.0 ft., sand is very fine grained, light brownish gray (2.5Y 6/2) mottled with various shades of reddish yellow, moist, very dense, 2 to 5 mm pods of reddish yellow sand may represent decomposed bedrock fragments; sample SB11-02(28.5) collected at 0830 to confirm that this interval is "clean", headspace = 1.5; photo #33 taken of 27 to 29 ft. interval.
										26		
						0				27		
										28		
										29		
CME	29.5	29.5		4.3/4.3	0850	0				30		29.5 to 32.0 feet: Colluvium; clayey sand, sand is very fine grained, light olive brown (2.5Y 5/6) with reddish yellow zones, trace siltstone fragments in upper portion of sample, increasing with depth.
										31		
										32		32.0 to 33.8 feet: Weathered bedrock; silty sandstone, very fine grained, brownish yellow (10YR 6/8) mottled light yellowish brown (2.5Y 6/4), friable, gray clay partings along bedding/fracture surfaces; hard drilling at 32.0 ft.
		33.8				2-5				33		
										34		TD (refusal) at 33.8 feet.

Immiscible phase not detected during water level measurement 1/31/92.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-03
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/22/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			4.0/5.0	1046					1		0.0 to 3.5 feet: Surficial Fill Material; sandy clay, very dark brown (2.5Y 3/2) and brownish yellow (10YR 6/8), slightly moist, contains weathered sandstone pods (max. size 10-15 mm) and siltstone clasts, oxidized to red (2.5 YR 4/8); one large piece of sandstone at 1.5 ft.
						15				2		
						3-5				3		
										4		3.5 to 6.6 feet: Colluvial Soil (weathered colluvium); organic clay, silty, black, slightly plastic, moist; contains some bedrock fragments of sandstone, brownish yellow; trace root hairs throughout interval, easy drilling throughout interval, this interval is interpreted as an organic soil horizon developed at the upper colluvial contact.
		5								5		
CME	5			5.3/5.0	1110	3-5				6		6.6 to 10.0 feet: Colluvial Soil (weathered colluvium); silt with bedrock fragments, light olive brown (2.5 Y 5/6), with black bands 75 mm thick; sandstone and siltstone bedrock fragments (5-50%of sample), angular fragments and tabular clasts, oxidized to varying shades of red and dusky red; abundant roots throughout interval; this interval is interpreted as a weathered horizon developed near the upper contact of the colluvium, may be similar to the olive-colored colluvium that is found immediately below the colluvial contact in borings where alluvium and/or bay mud was deposited on top of colluvium.
										7		
										8		
						3-5				9		
		10										
CME	10			5.0/5.0	1130					10		10.0 to 15.0 feet: Colluvium; clayey silt from 10.0 to 13.8 ft., dark grayish brown (2.5Y 4/2), strongly mottled yellowish brown, brownish yellow and red; sparse bedrock fragments; sandy silt with abundant bedrock fragments from 13.8 to 15.0 ft., strongly mottled brownish yellow (10YR 6/6) and yellowish brown (10YR 6/4), bedrock fragments are 25-50% of sample; matrix is moderately stiff but with a loose aggregated appearance; color change at 14.7 ft. to brownish yellow (10YR 6/6), mottled light brownish gray (2.5Y 6/2) and yellowish red (5YR 5/8), matrix becomes tight.
										11		
						1-5				12		
										13		
						1-5				14		
		15								15		15.0 to 20.0 feet: Colluvium; sandy silt with abundant bedrock fragments, brownish yellow (10YR 6/6), moist; bedrock fragments are angular sandstone and tabular subangular siltstones, comprise up to 50% of sample, random orientation and distribution, matrix has loose, aggregated appearance in places; color change at 18.2 ft. to brownish yellow (10YR 6/8), strongly mottled very pale brown (10YR 7/4) and light gray (10YR 7/1), matrix is tight, sandstone and siltstone fragments comprise about 50% of sample, random orientation and distribution, oxidized to reddish brown (5YR 5/4) and red (2.5YR 5/6); photo #34 taken of 17 to 19 ft. interval.
CME	15			3.8/5.0	1153					16		
						1-5				17		
										18		
						1-5				19		
		20								20		

FIELD BORELOG

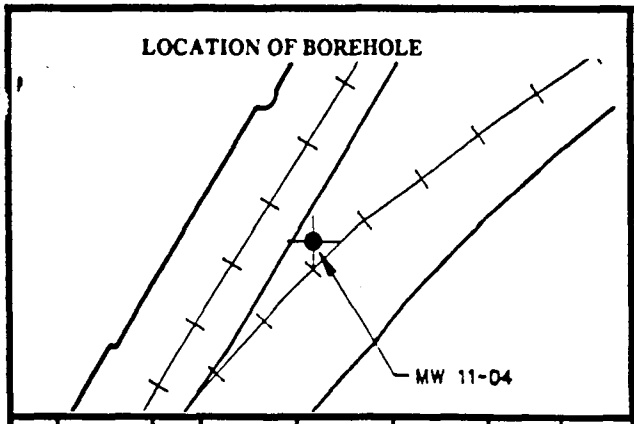
PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-03
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			5.0/5.0	1245							20.0 to 22.3 feet: Colluvium; sandy silt with bedrock fragments, as above, brownish yellow (10YR 6/8) and light gray (10YR 7/1).
						0				21		
						0				22		22.3 to 27.0 feet: Bedrock; sandy siltstone, weathered, brownish yellow (10YR 6/8) light gray (10YR 7/1), sparse red (2.5YR 4/8) streaks, clay partings, slightly moist; sample SB11-03(23.5) collected at 1250 to confirm PID readings in gray-stained zone from 23.2 to 24.0 ft.
										23		
						3				24		
		25								25		
CME	25			2.0/2.0	1300							
										26		
						1-2						
		27								27		TD (refusal) at 27.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-04
CLIENT: U.S. NAVY	SURFACE ELEVATION: 21.49 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 14.0 FT.
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/22/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			4.8/5.0	1500	0			1		0.0 to 5.0 feet: Fill Material; surficial silt and gravel above clayey silt and rock rubble, brownish yellow (10YR 6/6), slightly moist; rock rubble consists of angular bedrock sandstone, siltstone and quartzite.
						0			2		
									3		
									4		
		5				0					
CME	5			5.0/5.0	1515				5		5.0 to 8.8 feet: Fill Material; clayey silt and rock rubble (as above), yellowish brown (10YR 5/8).
						5					
									6		
						5					
						13.5			7		
						12					
									8		
						5					8.8 to 12.3 feet: Fill Material; clayey silt and rock rubble (as above), yellowish brown (10YR 5/8) becoming mottled with varying shades of brown, yellowish brown, and dark brown, moist.
									9		
		10									
CME	10			2.5/5.0	1525				10		
						1-2					
									11		
						1-2					
									12		12.3 to 15.7 feet: Fill Material; clayey silt and rock rubble (as above), moist to wet, sharp color change to greenish gray.
						2-4					
									13		
									14	▽	
		15									
CME	15			4.3/5.0	1551	5			15		15.7 to 16.3 feet: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic, wet.
						6			16		16.3 to 18.8 feet: Reworked Intertidal Sediments; sandy clay with abundant rock fragments (GC), oil saturated at 15.6 ft., sample SB11-04(16.5-18.5) collected at 1550.
						22			17		
						25			18		18.8 to 20.0 feet: Colluvium; silty clay, yellowish brown (10 YR 5/8), low plasticity, moist, tight, sparse rock fragments.
									19		
		20							20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-04
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			5.0/5.0	1600	0				21		20.0 to 25.0 feet: Colluvium; silt with rock fragments, yellowish brown (10YR 5/6), slightly plastic, moist, aggregated structure, resistant rock fragments (siltstones) are oxidized to red (2.5YR 4/8), max. size is 5 mm, no hydrocarbon odor.
						0				22		
										23		
										24		
		25										
CME	25			5.0/5.0	1610	0				25		25.0 to 30.0 feet: Colluvium; silt with rock fragments (as above) light yellowish brown (10YR 6/4), becoming mottled at 27.0 ft. to yellowish brown (10YR 5/8) and light gray (10YR 7/1), resistant fragments are oxidized to red (2.5YR 4/8).
										26		
						0				27		
										28		
										29		
		30										
CME	30			5.0/5.0	1630	0				30		30.0 to 35.0 feet: Colluvium; clayey silt, mottled as above, nonplastic, moist, sparse rock fragments as above, occasional white-orange minerals (feldspar?); matrix grades to silty clay at 33.0 ft, yellowish brown (10YR 5/6) and faintly mottled light gray (10YR 7/1), becomes strongly mottled at 34.5 ft.; horizon of white minerals (noncalcareous precipitate on decomposed feldspars) from 34.5 to 35.0 ft.; matrix becomes tight at 35.0 ft. and contains small (1-3 mm) bedrock clasts, oxidized to red.
										31		
										32		
										33		
						0				34		
		35										
CME	35			1.0/1.0	1640	0				35		35.0 to 36.0 feet: Bedrock; siltstone, dark grayish brown (2.5Y 4/2), moderately weathered (requires some pressure to break apart), no oxodized surfaces visible.
		36								36		

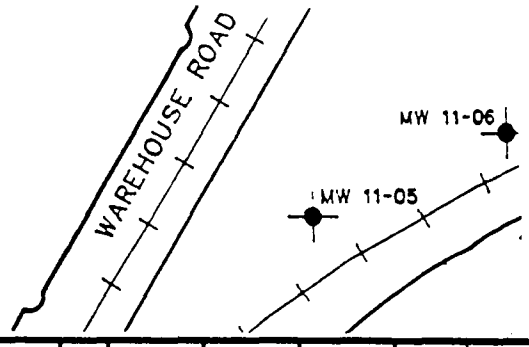
TD (refusal) at 36.0 feet.

Immiscible phase not detected during water level measurement 1/31/92.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-05
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.79 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.8 FT.
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE WESTERN	DRILLING DATE(S): 1/23/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobile B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5' CME (3" ID) and selected 2-foot split spoon drives.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0									1		0.0 to 5.0 feet: Augered without sampler, dry gravelly soil at surface.
										2		
										3		
										4		
		5								5		
CME	5			0.0/5.0	1110					6		5.0 to 10.0 feet: Fill Material; silty slough with rock rubble, very pale brown (10YR 7/3), dry, loose.
										7		
										8		
										9		
		10								10		
CME	10			2.5/5.0	1120					11		10.0 to 16.5 feet: Fill Material; rock rubble in silt matrix, dark brown (10YR 4/3), moist, loose, rock is about 75% of sample, color change at 11.2 ft. to very pale brown (10YR 7/3).
						7.5				12		
						5.4				13		
										14	▽	
		15								15		
CME	15			3.5/5.0	1130					16		Bay Mud Contact at 16.5 feet is interpolated from nearby borings.
										17		16.5 to 19.3 feet: Bay Mud; rock rubble in clay matrix, sample consists of 75-90% rock fragments, oil saturated (free oil in voids and on rock surfaces), rock fragments are believed to have plugged off sampler in overlying fill layer allowing bay mud to flow in and around rock fragments.
						15				18		
						10						
						10				19		19.3 to 20.0 feet: Colluvium; silty clay, brownish yellow (10YR 6/8) stained olive to olive gray (5Y 5/2) at upper contact, moist, tight.
						6						
		20								20		

FIELD BORELOG

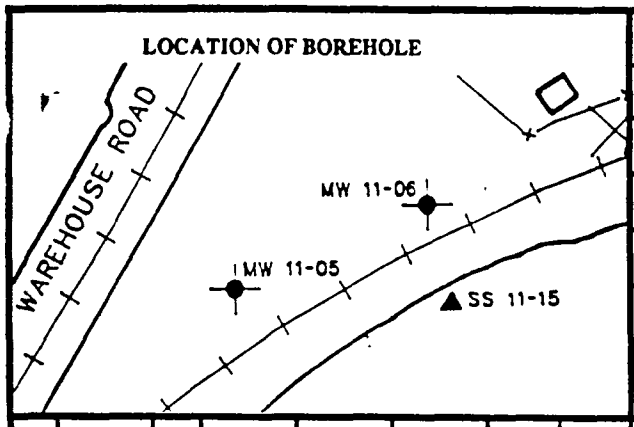
PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-05
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			5.0/5.0	1145							20.0 to 25.0 feet: Colluvium; sandy silt with clay from 20.0 to 22.0 ft., yellowish brown (10YR 5/8) mottled with yellow (10YR 7/8) sandy pods, slightly plastic, moist, some small (2-5 mm) siltstone fragments oxidized to red (10R 4/8); sandy silt from 22.2 to 27.5 ft., yellowish brown (10YR 5/4) mottled as above, some bedrock fragments as above, nonplastic, moist; color change to brownish yellow (10YR 6/8) mottled light gray (10YR 7/1).
						1-2				21		
										22		
										23		
										24		
		25				1-2						
										25		
CME	25			4.5/5.0	1200							
										26		
										27		27.5 to 30.0 feet: Colluvium; sandy clay or clayey sand, mottled colors have blended to light yellowish brown (10YR 6/4), moist, aggregated structure, increase in rock fragments, max. size is 20 mm.
						2						
										28		
						2						
										29		
		30										
										30		30.0 to 33.6 feet: Colluvium; sandy clay, yellowish brown (10YR 5/6) mottled light gray (10YR 7/1), slight plasticity, moist, sparse bedrock fragments near top, increase to about 10-20% of sample at contact with bedrock, fragments are mostly very fine-grained sandstone, oxidized red (2.5 YR 4/8), max. size is 20 mm.
CME	30			5.0/5.0	1255							
										31		
						1-2						
										32		
										33		33.6 to 35.0 feet: Bedrock; weathered, upper 0.6 ft. is siltstone, brownish yellow (10YR 6/8), blocky fracture, with gray (10YR 6/1) clay partings, lower 0.8 ft. is silty sandstone, very fine-grained, brownish yellow (10YR 6/8).
										34		
						1-2						
		35										
										35		35.0 to 36.4 feet: Bedrock; upper 0.8 ft. is siltstone with distinct fractures/bedding planes, weathered, hard, fractured surfaces coated with black limonite, thin (<1 mm) yellow laminations also visible, lower 1.2 ft. is decomposed sandstone.
CME	35			1.4/2.0	1320							
		36.4								36		
										37		TD (refusal) at 36.4 feet.
												Immiscible phase not detected during water level measurement 1/31/92.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-06
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.60 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 14.5 FT.
SUBSITE: NORTH SHORELINE	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/23/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobile B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0			3.0/5.0	1405					1		0.0 to 5.0 feet: Fill Material; surficial silt and gravel above clayey silt and rock rubble, matrix is brownish yellow (10YR 6/6) or grayish brown (10YR 5/2), slightly moist, both compact and loose horizons, rock fragments comprise about 75% of sample.
						0-1				2		
						0-1				3		
										4		
		5								5		5.0 to 10.0 feet: Fill Material; rock rubble (as above), could be slough.
CME	5			1.5/5.0	1415	0				6		
										7		
										8		
										9		
		10								10		10.0 to 15.0 feet: Fill material; rock rubble with sandy silt matrix, matrix is brown (10YR 5/3), moist, loose, free oil on bottom 0.5 ft. of spoon, but not in sample, therefore water table is assumed to be at 14.5 ft., described sample is from higher in this interval.
CME	10			2.0/5.0	1430	5				11		
										12		
										13		
										14	▽	
		15								15		15.0 to 17.5 feet: Fill Material; rock rubble with silty matrix, dark greenish gray, rock fragments comprise 75-90% of sample, free oil visible in voids and on rock surfaces, strong hydrocarbon odor; 1.0 ft. of fill material was retrieved in the 15-20 ft. sample interval, contact at 17.5 ft. is interpolated from nearby boreholes; sample SB11-06(15.0-17.0) collected at 1455, photo #35 taken of 2 ft. recovery in 15-20 ft. sample interval.
CME	15			1.8/5.0	1445					16		
						35				17		
						5				18		17.5 to 20.0 feet: Bay Mud; sandy silt with clay (ML), dark greenish gray, slightly plastic; some fine gravel, subrounded; hydrocarbon odor; 0.8 ft. of bay mud was retrieved in the 15-20 ft. sample interval.
										19		
		20								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

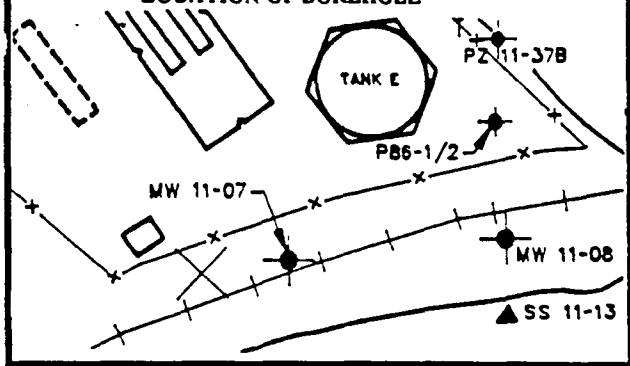
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-06
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	20			2.6/5.0	1512	5				21		20.0 to 21.0 feet: Bay Mud; sandy silt with clay (ML), dark greenish gray, slightly plastic, saturated, very soft, large (40-50 mm) white brittle shell fragments (clams); sample SB11-06(20.0-21.0) collected at 1520.
										22		
										23		21.0 to 25.0 feet: Colluvium; sandy silt with bedrock fragments, color grades from dark greenish gray to olive gray (5Y 5/2) to brownish yellow (10YR 6/8) and mottled very pale brown (10YR 7/4) near upper contact of colluvium, slightly plastic, moist, tight, bedrock fragments comprise 10-20% of sample. Photos #36 and #37 show contact between bay mud and colluvium at 20.0 to 25.0 feet.
										24		
		25								25		
CME	25			2.8/5.0	1530	3				26		25.0 to 30.0 feet: Colluvium; sandy silt with bedrock fragments, brownish yellow to very pale brown (10YR 7/4), slightly moist, tight, clayey horizon from 25 to 26 ft., bedrock fragments are 10-20% of sample, large and small fragments have random orientation and distribution. Photo #1 with Ektar print film of "colluvial wash" at 25.0 to 30.0 feet.
										27		
										28		
										29		
		30								30		30.0 to 32.5 feet: Colluvium; clayey silt with sand; mottled brown to gray (10YR 6/1) grayish brown (10YR 5/2) and yellowish brown (10YR 5/8); slightly plastic, moist, stiff; rock fragments have decomposed to yellowish red (5YR 5/8) pods of sand; occasional white-banded (very hard) minerals, possibly chert.
CME	30			2.5/2.5	1610					31		
										32		
		32.5										
CME	32.5			2.5/2.5	1620					33		
										34		
		35								35		35.0 to 36.0 feet: Bedrock and Saprolite; sandy claystone or clayey sandstone; weathered, dark gray (10YR 4/1) and mottled white (10 YR 8/1), slightly plastic, moist, stiff; contains highly weathered sand pods, pods are elongated in shape, average 20-25 mm in size and are imbricated, this material has the consistency and relict structure characteristic of saprolite.
CME	35			1.5/1.5	1640					36		36.0 to 36.5 feet: Bedrock; sandstone, yellowish brown (10YR 5/[illegible] white (10YR 8/1) clay is deposited in seams that follow sandstone fractures and has stained the adjacent sandstone white. TD (refusal) at 36.5 feet. Immiscible phase not detected during water level measurement 1/31/92.
		36.5										

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-07
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.24 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.9 FT.
SUBSITE: TANK E AREA	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/24/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0									1		0.0 to 2.5 feet: Augered without sampler through surficial rail road bed gravel.
		2.5								2		2.5 to 4.0 feet: Fill Material; sandy silt with rock fragments, silt is grayish brown (2.5Y 5/2), nonplastic, moist, soft.
CME	2.5			1.5/1.5	0800					3		
		4								4		4.0 to 9.0 feet: Fill Material; sandy silt with rock fragments, matrix is brown (10YR 5/3), nonplastic, moist, soft, sandstone fragments are yellow (10YR 7/6), siltstone fragments are oxidized reddish black to very dusky red (2.5 YR 2.5/2).
CME	4			2.3/5.0	0820					5		
										6		
										7		
										8		
		9								9		9.0 to 14.0 feet: Fill Material; (as above) upper 1.0 ft. is brown (10YR 5/3), lower 0.8 ft. is olive gray (5Y 4/2) grading to dark greenish gray.
CME	9			1.8/5.0	0835					10		
										11		
										12		
										13	▽	
		14								14		14.0 to 18.0 feet: Fill Material; rock rubble in a sandy matrix, dark greenish gray, oil saturated, free oil visible in voids and in rock surface, rock rubble comprises 75-90% of sample; 1.2 ft. of fill material was retrieved in the 14-19 ft. sample interval; Bay Mud contact at 18.0 ft. is interpolated from nearby borings.
CME	14			2.0/5.0	0850					15		
										16		
										17		18.0 to 23.5 feet: Bay Mud; sandy silt (ML), dark greenish gray, no coarse sand or gravel, slightly plastic, saturated, very soft, large shell fragments (clams); upper 0.3 ft. of bay mud is oil-saturated, 0.8 ft. of bay mud was retrieved in the 14-19 ft. sample interval; sample SB11-07(19.0-20.0) collected at 0925 in contaminated bay mud; sample SB11-07(22.5-23.5) collected in "cleaner" bay mud.
										18		
		19								19		
CME	19			3.6/5.0	0905					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

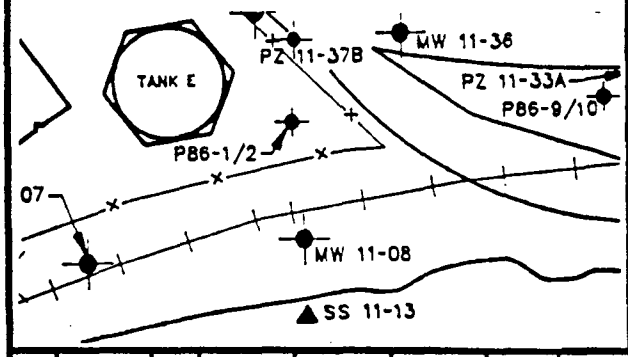
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-07
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										21		
										22		23.5 to 24.0 feet: Colluvium; sandy silt with rock fragments, olive gray (5Y 5/2) mottled olive yellow (5Y 6/8), moist, tight; small rock fragments have random orientation.
										23		
	23.5											24.0 to 25.0 feet: Colluvium; sandy silt with abundant rock fragments, very pale brown (10YR 7/4) and yellow (10YR 7/6), faintly mottled; rock fragments include brownish-yellow (10YR 6/8) weathered sandstone, and sitstone oxidized red (2.5YR 4/8); one foot of sample recovered in 2 ft. Shelby tube (ST) drive.
		24								24		
ST	24			1.0/2.0	0940							
		25								25		
ST	25			1.0/2.0	0952							
		26								26		25.0 to 26.0 feet: Colluvium; as above, one foot of sample recovered in 2 ft. Shelby tube drive.
SS	26		36	0.0/2.0								
			39	3.0/3.0						27		26.0 feet: Split spoon drive from 26 to 28 ft., no sample recovery.
										28		26.0 to 27.7 feet: Colluvium; sandy silt with bedrock fragments from 26 to 27.7 ft., brownish yellow (10YR 5/4) faintly mottled very pale brown (10YR 7/4), moist, bedrock clasts appear imbricated.
		29								29		
CME	29			5.0/5.0	1105							27.7 to 30.8 feet: Colluvium; sandy clay, light olive gray (5Y 6/2) and yellowish brown (10YR 5/4), mottled, slightly plastic, moist, tight, weathered sandstone pods are yellowish brown and oxidized to red (2.5YR 4/8).
										30		
										31		30.8 to 31.9 feet: Colluvium; sandy silt with clay, yellowish brown (10YR 5/4) and gray (10YR 6/1), strongly mottled; some (5%) bedrock fragments, fragments are less decomposed but oxidized as above.
										32		
										33		31.9 to 33.0 feet: Colluvium; sandy clay, brown (10YR 5/3) faintly mottled grayish brown (10YR 5/2), slightly plastic, moist, soft, some (<5%) small (<1-2mm) bedrock fragments.
		34								34		
CME	34			3.5/4.0								
										35		33.0 to 37.2 feet: Colluvium; sandy silt with rock fragments, gray (10YR 6/1) and dark yellowish brown (10YR 4/6), mottled, nonplastic, moist, increase in number and size of rock fragments, less oxidation of fragments (no red coloration), matrix becomes very clayey near bottom contact.
										36		
										37		
		37.5								38		37.2 to 37.5 feet: Weathered bedrock; sandstone, very fine grai olive yellow (2.5Y 6/6), friable, gray clay partings along fractures/bedding planes. TD (refusal) at 37.5 feet.
												Immiscible phase detected at 13.0 ft., estimated to be 0.4 ft. thick.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-08
CLIENT: U.S. NAVY	SURFACE ELEVATION: 18.35 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.2 FT.
SUBSITE: TANK E AREA	LOGGED BY: JIM WULFF, DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 1/24/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0									1		0.0 to 2.5 feet: Augered without sampler; surface gravel and brush, next to railroad tracks.
		2.5								2		2.5 to 4.0 feet: Fill Material; silty sand and rock rubble, yellowish brown (10YR 5/4), sand is fine to medium-grained quartz, loose; rounded dark gray claystone/siltstone fragments, up to 25 mm.
CME	2.5			1.0/1.5	1305					3		
		4								4		4.0 to 9.0 feet: Fill Material; rock rubble and silty sand, 7.5 cm sandstone cobbles cut by spoon, sandstone is iron-stained quartzite, medium grained, well sorted, light olive brown (2.5Y 5/4) to yellowish brown (10YR 5/6), silty sand as above.
CME	4			1.7/5.0	1320					5		
										6		
										7		
										8		
		9								9		9.0 to 18.2 feet: Fill Material; rock rubble and silty sand as above, upper 0.8 ft. is uncontaminated, color as above, lower 1.0 ft. is oil-saturated, dark greenish gray with free oil in voids and on rock surfaces, coating of free oil on lower 2.5 ft. of spoon; 0.7 ft. of fill material retrieved in 15-20 ft. sample interval, it is assumed that 3.5 ft. of this interval was lost because coarse fill plugged the sampler.
CME	9			1.8/5.0	1335					10		
										11		
										12	▽	Immiscible phase detected at 12.2 ft. on 1/31/92.
										13		
		14								14		
CME	14			1.5/5.0	1350					15		
										16		18.2 to 26.2. feet: Bay Mud; silty sand (SM), dark greenish gray, slightly plastic, very soft, micaceous, sand is very fine grained; abundant shell fragments, most shell fragments are white (10YR 8/2); faint hydrocarbon odor near the upper contact; 0.8 ft. of bay mud retrieved in 14-19 ft. sample interval; sample SB11-08(19.5-20.0) collected in "clean" bay mud at 1405; no recovery in Shelby tube drive at 24.0 ft.
										17		
										18		
		19								19		
CME	19									20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-08
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19									21		
										22		
										23		
		24								24		
CME	24			2.6/5.0	1425					25		24.0 to 29.0 feet: Poor sample recovery; 2.2 ft. of bay mud (SM), followed by 0.2 ft. of silty sand with rock fragments (SM-GM) possibly reworked intertidal sediments, followed by 0.2 ft. of colluvium; upper contact of colluvium is placed at 26.4 ft., assum lost sample plugged off in the colluvium.
										26		
										27		
										28		
		29								29		
CME	29			4.0/5.0	1445					30		29.0 to 34.0 feet: Colluvium; sandy silt with bedrock fragments, brownish yellow (10YR 6/6) and yellowish brown (10YR 5/6), mottled gray (10YR 5/1) and light gray (10YR 7/1), nonplastic, moist, very stiff; sand is very fine grained; bedrock fragments up to 30 mm in size comprise 10% to 20% of sample, oxidized red (2.5YR 4/8) and dark reddish brown (2.5YR 2.5/4), rock fragments have random orientation.
										31		
										32		
										33		
		34								34		
CME	34			5.0/5.0	1505					35		34.0 to 40.0 feet: Colluvium; sandy clay with sandy zones, yellow (10YR 7/6) and reddish yellow (7.5YR 6/8), mottled; color change at 38.7 ft. to gray (10YR 6/1) strongly mottled yellowish brown (10YR 5/6); clay is plastic, sand zones interfinger with clay in random pattern; sample SB11-08(36.5-39.0) collected in plexiglass tube at approximately 1510, but not submitted for analysis.
										36		
										37		
										38		
		39								39		
CME	39			5.0/5.0	1530					40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

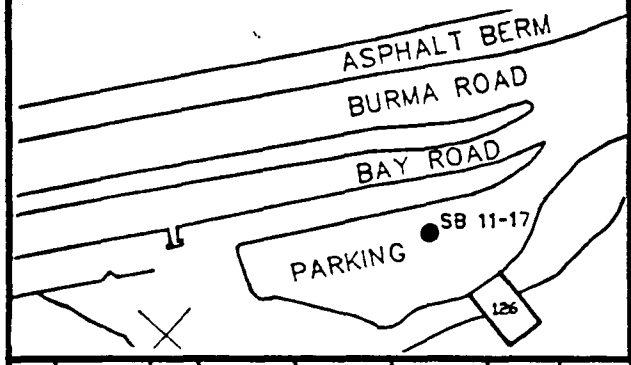
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-08
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET).	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	40									41		40.0 to 44.2 feet: Colluvium; sandy silt with bedrock fragments, light yellowish brown (10YR 6/4), nonplastic, moist, very stiff, highly weathered rock fragments comprise about 10% to 20% of sample, maximum size is 15-20 mm, oxidized red (2.5YR 4/6) and dark red (2.5YR 3/6), rock fragments become abundant (30% to 50% of sample) at 42.6 ft., fragments are angular to subangular, have distinct edges, are oxidized to red (2.5YR 5/8).
										42		
										43		
		44								44		44.2 to 44.6 feet: Colluvium; sandy clay, gray (10YR 6/1), moderately plastic, moist, tight, some weathered bedrock fragments.
CME	44			2.2/2.0	1550							
										45		44.6 to 45.0 feet: Colluvium; bedrock fragments in sandy matrix, brown (10YR 5/3), poorly sorted, moderately loose, fragments are angular to subrounded.
		46								46		45.0 to 45.6 feet: Colluvium; clayey sand, gray (10YR 5/1), highly weathered pods of very fine- to fine-grained sand comprise about 10% of sample, sand is yellowish brown (10YR 5/8).
												45.6 to 46.0 feet: Bedrock; sandstone, sharp upper contact with colluvium, fine grained, well sorted, yellow (10YR 6/6), bedded and/or fractured at approximately 30 degrees with light gray (10YR 7/1) clay seams filling fractures.
												TD (refusal) at 46.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-17
CLIENT: U.S. NAVY	SURFACE ELEVATION: 9.0 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 6.0 FT.
SUBSITE: S. SHORELINE/BOAT RAMP	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/4/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0											0.0 to 4.5 feet.: Augered without sampler.
										1		
										2		
										3		
										4		4.5 to 6.5 feet.: Fill Material; sand with rock rubble, dark grayish brown, loose, saturated at 6.0 ft.
CME	4.5	4.5		2.0/2.0	1000					5		
										6	▽	6.5 to 9.5 feet.: Fill Material; clayey sand with rock rubble, dark greenish gray, saturated, strong hydrocarbon odor, free product in matrix, hydrocarbon odor is from more volatile fuel such as JP-5 or diesel; sample SB11-17(9.0-9.5) collected at 1010 in oil-saturated sandy fill, headspace is 180 ppm, photo #1 taken of oil-contaminated fill.
CME	6.5	6.5		1.6/3.0	1005	25-30				7		
										8		
										9		
CME	9.5	9.5		2.5/5.0	1010 1015	180(HS)				10		9.5 to 14.5 feet.: Fill Material; rock rubble in wet clay matrix, olive gray (5Y 4/2), rock fragments are angular to subangular, comprise 75% of sample.
										11		
										12		
						0				13		
						0				14		
CME	14.5	14.5		3.0/5.0	1030					15		14.5 to 20.9 feet.: Fill Material; 1.0 ft. of sand with rock fragments, poorly sorted (fine to very coarse grains), dark greenish gray, saturated, loose; followed by 1.0 ft. of sandy clay with abundant rock fragments, yellowish brown (10YR 5/6) faintly mottled grayish brown (2.5Y 5/2), moist, stiff; followed by 1.0 ft. of rock rubble with sandy clay matrix, olive (5Y 5/3); sample SB11-17(17.5) collected at 1035 (sample collected at top of sandy clay fill), headspace is 0.0.
						0				16		
					1035	0(HS)				17		
										18		
						0				19		
CME	19.5	19.5			1040					20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-17
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5											20.9 to 27.0 feet.: Alluvium; poorly-sorted sand (SW) from 20.9 to 21.6 ft., mostly coarse grained but all other grain sizes present, 10% to 20% granule sized rock fragments, olive (5Y 5/3); clayey fine to medium-grained sand (SC) from 21.6 to 22.1 ft.; poorly-sorted coarse sand and rock fragments (SW) from 22.1 to 22.6 ft., rock fragments are angular to subangular; flowing sand from 22.6 to 24.5 ft. sample SB11-17 (23.5-24.0) collected at 1043 in flowing sand; sand with rock fragments (SW) from 24.5 to 27.0 ft., sand is fine to medium grained, olive (5Y 5/3), saturated, dense, rock fragments are subangular, max. size is 50 mm.
						0 (HS)				21		
										22		
										23		
					1043			■		24		
CME	24.5	24.5		4.0/5.0	1113					25		
										26		
										27		27.0 to 29.5 feet.: Bay Mud; sandy clay (CH), dark olive gray (5Y 3/2), moderately plastic to plastic, moist, soft, large clam shell fragments, occasional peaty lenses which contain small (<1 mm) shell rubble, no quartz pebbles, slight hydrocarbon odor at top.
						29						
						10				28		
						5				29		
SS	29.5	29.5		4.5/2.0	1125					30		29.5 to 39.5 feet.: Bay Mud; sandy silt with clay (ML), dark greenish gray, slightly plastic, moist, soft, abundant peaty lenses at top but decreasing with depth, peaty lenses contain shell rubble (<5 mm), large (10-30 mm) clam shell fragments are distributed randomly outside of peaty lenses.
										31		
										32		
										33		
										34		
CME	34.5	34.5		5.0/5.0	1133					35		
										36		
										37		
										38		
										39		39.5 to 44.5 feet.: Bay Mud; as above, shell fragments comprise about 10% to 20% of sample, purple (mussel?) shells are common, most <5mm. Photo #3 shows abundant shell "assemblage".
CME	39.5	39.5		4.5/5.0	1145					40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

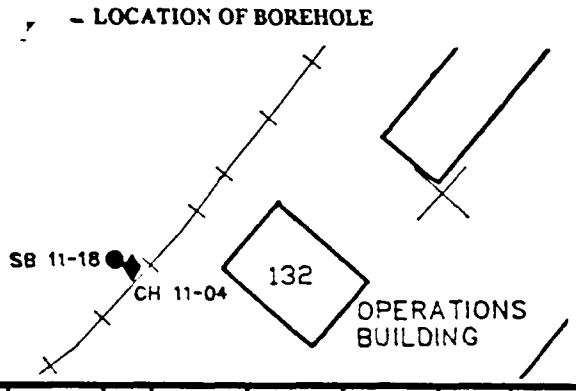
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-17
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	39.5											
										41		
										42		
										43		
										44		44.5 to 48.5 feet.: Bay Mud; sandy silt (ML), slightly plastic, grading to silty sand (SM), shell fragments decrease with depth, wet horizon from 45.3 to 46.0 ft. See Photo 3-5 in photo log.
	44.5											
CME	44.5			5.0/5.0	1200					45		
										46		
										47		
										48		48.5 to 49.5 feet.: Colluvium; sandy silt with highly weathered bedrock fragments, greenish-gray matrix with yellowish-brown (10YR 5/6) pods of sand, nonplastic, moist, stiff. Photos #4 and #5 show colluvium with overlying contact of bay mud at aproximately 48.0 feet exhibiting the tight (confining) nature of the colluvium. See Photo 3-5 in photo log.
	49.5									49		
CME	49.5			2.0/2.5	1337					50		
										51		49.5 to 52.0 feet.: Colluvium; sandy silt with clay, olive (5Y 5/3), yellowish-brown (10YR 5/6), strongly mottled, slightly plastic, moist, tight, weathered sand pods and horizons; color grades to yellowish brown; occasional quartzite clasts, angular to subrounded, max. size is 8 mm; light gray (5Y 7/2) slightly plastic, clay seam at 52 ft., photo #2 taken of iron stained sandy colluvium at 49.5 ft.
	52									52		
												TD (refusal) at 52.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-18
CLIENT: U.S. NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: NONE
SUBSITE: DRUM LOT NO.1/BDG. 132	LOGGED BY: JIM WULFF, DAVE WEST
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/4/92

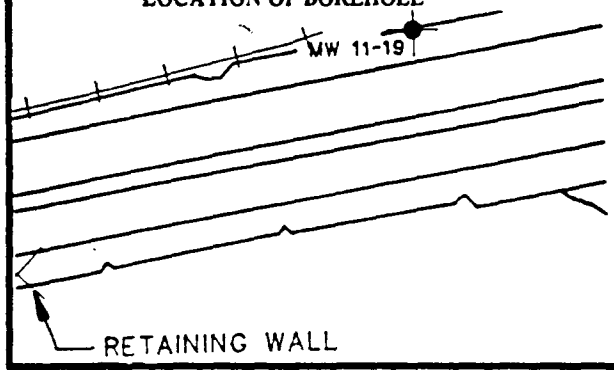
DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4"ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	0.5			1.4/3.5	1515					1		0.5 to 4.0 feet.: Fill Material; sandy silt and rock fragments, dark grayish brown (10YR 4/2), loose, moist, rock fragments are angular to subrounded and comprise 50% of sample.
										2		
										3		
		4								4		No penetration past 4.0 ft. with sampler, may be weathered bedrock.
										5		4.0 to 22.0 feet.: Auger to 22.0 ft. without sampler, slow penetration in dry quartzite rock fragments and sandstone.
										6		TD (refusal) at 22.0 feet.
										7		
										8		
										9		
										10		
										11		
										12		
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-19
CLIENT: U.S. NAVY	SURFACE ELEVATION: 17.64 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 14.0 FT.
SUBSITE: DRUM LOT NO. 1	LOGGED BY: DAVE WEST, JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/4/92 to 2/5/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
CME	1			1.0/1.0	1715					1		1.0 to 2.0 feet.: Fill Material; rock fragments and sand, dark greenish gray, slight hydrocarbon odor, sand is fine to medium grained, quartzite rock fragments; sample SB11-19(1.5-2.0) collected to characterize apparent fuel contamination.
		2								2		
CME	2									3		
		4								4		4.0 to 9.0 feet.: Fill Material; rock fragments (claystone, siltstone) with minor sand in upper 2.5 ft., becoming clayey or silty sand with smaller (2-5 mm) rock fragments at 8.0 ft.; sharp color change at ft. to greenish-gray and dark greenish-gray silty sand with rock fragments, sand is poorly sorted, rock is subangular to subrounded dark greenish-gray quartzite, up to 1-inch; photo #6 of contact at approximately 8.0 ft.
CME	4			3.4/5.0	1730					5		
										6		
										7		
										8		
		9								9		9.0 to 14.0 feet.: Fill Material; silty sand with rock fragments, color is uniform greenish gray, sand is poorly sorted, very coarse sand and gravel comprise 50% to 75% of sample with quartzite pebbles up to 5-10 mm; fragments, subangular to subrounded; stiff, compact, wet at bottom, hydrocarbon odor, sample SB11-19(12.0-12.5) collected at 0745.
CME	9			3.7/5.0	742					10		
						100-120				11		
										12		
						100-120				13		
		14				400-700				14	▽	14.0 to 19.0 feet.: Fill Material; as above but saturated, 7.5 cm quartzite cobble in sampler shoe, composed of white (very fine grained quartz sand), green and dark green (glauconitic?) minerals, cobble has oxidized halo 5 mm thick, dark brown (7.5YR 3/4).
CME	14			0.8/5.0	750	15-20				15		
										16		
										17		
										18		19.0 to 24.0 feet.: Fill Material; as above, sand is poorly sorted, medium grained; rock fragments (max. size is 70-80 mm) increase to 50% of sample, most are quartzite; wood fragments and free oil at 19.9 ft.
		19								19		
CME	19			2.6/5.0	800	20-30				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE		
	JOB NO.:	BOREHOLE DESIGNATION: SB11-19
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19									21		
										22		
										23		
		24								24		
CME	24			0.0/5.0	0815	2-5						24.0 to 29.0 feet.: No recovery (with sand catcher installed), 0.2 ft. of sandy slough, 5-8 ppm on HNU.
	0.8									25		
										26		
										27		
										28		
		29								29		
CME	29			1.1/5.0	0823							29.0 to 32.0 feet.: Alluvium; medium-grained sand (SP), sand is greenish gray, moderately sorted (80% medium grained, 20% very fine to fine grained), trace silt, dense.
										30		
						15-20						32.0 to 34.0 feet.: Bay Mud, clayey silt with sand (ML), dark greenish gray, slightly plastic, very soft, trace coarse sand. Contact at 32.0 ft. with overlying alluvium is interpolated from nearby borings.
										31		
										32		
										33		
		34								34		
CME	34			0.1/5.0	0830							
										35		34.0 to 39.0 feet.: Bay Mud; 0.1 ft. of clayey silt with sand, as above.
										36		
										37		
										38		
										39		39.0 to 44.0 feet.: Bay Mud; clayey silt with sand (CL), dark greenish gray, about 10% sand, slightly plastic, saturated, very soft.
		39										
CME	39			0.8/5.0	0915					40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

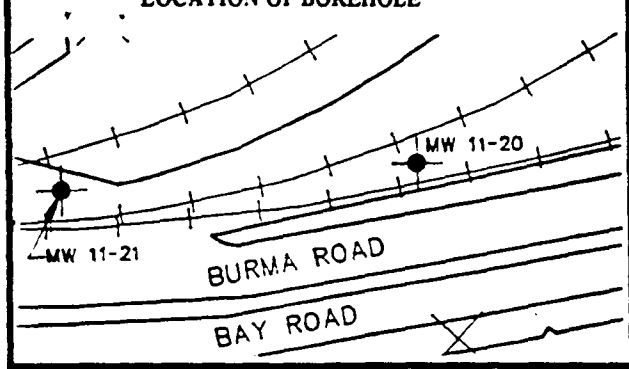
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-19
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	39									41		
										42		
										43		
		44								44		
CME	44			0.3/5.0	0930	0				45		44.0 to 49.6 feet.: Bay Mud; silty clay (CH), moderately plastic to plastic; very few shell fragments, purple, <1 mm.
										46		
										47		
										48		
		49								49		
CME	49			2.4/5.0	0950					50		49.6 to 51.0 feet.: Colluvium; dark greenish gray grading to olive gray, and yellowish brown (10YR 5/6), mottled, tight; sparse (5%) weathered angular rock fragments, dark brown (7.5YR 3/2).
										51		51.0 to 51.4 feet.: Bay Mud; clayey silt with sand (ML), dark greenish gray, slightly plastic, saturated.
										52		51.4 to 57.0 feet.: Colluvium; sandy silt with clay, olive gray (5Y 5/2) mottled yellowish brown (10YR 5/6), slightly plastic, moist, stiff; rock fragments are weathered to sandy pods; distinct bedrock fragments found only at 57 ft., yellowish-brown (10YR 5/8), subrounded quartzite (1.5 mm), green on fresh surfaces, colluvium becomes saturated at bottom.
		54								53		
CME	54			2.0/3.0	1010					54		
										55		TD (refusal) at 57.0 feet.
										56		
		57								57		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-20
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.32 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 14.7 FT.
SUBSITE: DRUM LOT NO. 1	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/5/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA, continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 4.0 feet.: Asphalt at surface, auger (between railroad ties) without sampler to 4.0 ft.
										2		
										3		
		4								4		4.0 to 13.0 feet.: Fill Material; sandy silt with bedrock fragments, brown (10YR 5/3), nonplastic, moist, soft; bedrock fragments are randomly oriented and distributed, poorly sorted with sizes ranging up to 50 mm; color change at 6.7 ft. to dark brown (10YR 3/3) and yellow (10YR 7/6), mottled; rock fragments comprise 50% to 75% of sample from 9.0 to 13.0 ft.
CME	4			2.9/4.0	1322					5		
										6		
										7		
		8								8		
						0				9		
CME	9			3.3/5.0	1405					10		
										11		13.0 to 13.7 feet.: Alluvium; silty sand (SM), very fine-grained grading to fine to medium-grained sand with depth, poorly sorted (some coarse and very coarse sand present), greenish gray, loose, sample SB11-20(13.5) collected at 1405.
										12		13.7 to 14.0 feet.: Alluvium; sandy silt with rock fragments (ML), greenish gray, dense, compact, maximum size of rock fragments is 5 mm.
										13		
						50						14.0 to 14.5 feet.: Alluvium; sand and some silt (SW), fine to medium grained, very poorly sorted (very fine to coarse), saturated, loose.
		14								14		
CME	14			3.0/5.0	1413	5					▽	14.5 to 15.6 feet.: Alluvium; clayey gravel (GC), gravel consists of bedrock fragments and comprises 50% to 75% of sample, greenish gray, saturated, free oil on sample from 15.0 to 16.0 ft.; sample SB11-20(15.0-16.0) collected at 1425, headspace in sample is 500 ppm.
						1000				15		
						500(HS)				16		15.6 to 19.0 feet.: Alluvium; coarse sand (SW), moderately sorted (very fine to very coarse but no gravel), greenish gray, saturated; sample SB11-20(16.0-17.0) collected at 1425.
										17		
										18		19.0 to 20.3 feet.: Alluvium; medium-grained well-sorted sand (SP) from 19.0 to 19.6 ft.; grading to moderately-sorted coarse to very-coarse sand (SW) from 19.6 to 20.3 ft., greenish-gray, saturated, coarse sand is quartz, very coarse is quartzite; sample SB11-20(19.6-20.3) collected at 1440.
		19								19		
CME	19			2.9/5.0	1430	2-5				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-20
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19					40-60				21		20.3 to 21.9 feet.: Alluvium; gravelly sand (SW), greenish-gray, gravel consists of subangular bedrock fragments (siltstone, sandstone, quartzite) and comprises 25% to 50% of sample, greenish gray, saturated.
						8				22		
										23		21.9 to 29.0 feet.: Alluvium; flowing sands, poor recovery in 19-24 ft. (2.9/5.0) and 24 to 19 ft. (0.3/5.0) intervals attributed to flowing sand; 0.3 ft. of silty sand in 19-24 ft. sample interval, very fine, greenish gray, about 70% sand,30% fines.
		24								24		
CME	24			0.3/5.0	1445							
										25		
										26		
										27		
										28		
		29								29		29.0 to 29.4 feet.: Alluvium; silty sand (SM), very fine grained, greenish gray.
CME	29			3.7/5.0	1500	25				30		29.4 to 34.0 feet.: Bay Mud; sandy clay (CH), dark greenish gray, moderately plastic to plastic, soft, micaceous, occasional clam shells and small fragments of purple (mussel?) shells at 34 ft.; sample SB11-20(29.5-30.0) collected at top of bay mud at 1505.
						25-38				31		
						0				32		
										33		
						0				34		34.0 to 39.0 feet.: Bay Mud; sandy silt with clay (ML), dark greenish gray, slightly plastic, soft, micaceous, purple shell fragments, occasional clam shell fragments, ocasional peaty streaks.
		34										
CME	34			4.3/5.0	1505	0				35		
						0				36		
						0				37		
										38		39.0 to 44.0 feet.: Bay Mud; sandy clay (CH), dark greenish gra plastic, soft, micaceous, shell fragments are small (<1 mm) and sparse, except for a shell fragment lens at 40.9 ft.
		39								39		
CME	39			5.0/5.0	1515					40		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

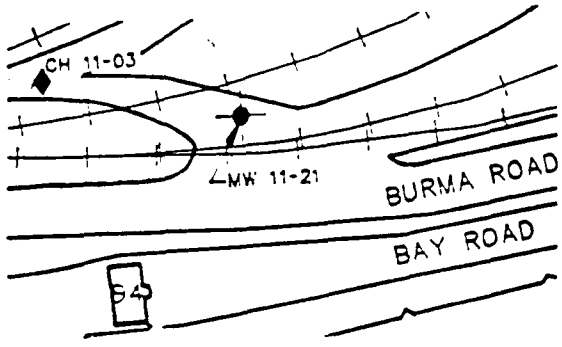
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-20
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	39											
										41		
										42		
										43		
		44										
CME	44			3.7/4.0	1535					44		44.0 to 47.0 feet.: Bay Mud; sandy clay (CH), dark greenish-gray, moderately plastic to plastic, soft, shell fragments (max. size is 5 mm) increase with depth comprising 5% to 10% of sample at 47.0 ft., no gravel except 2 mm quartzite pebble (subangular) at 47.9 ft.
										45		
										46		
										47		
		48										TD at 47.0 feet. Refusal at 47.0 ft., no evidence of bedrock in sampler, quartzite bedrock may be very resistant at this location.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-21
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.71 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 16.0 FT.
SUBSITE: N. DRUM LOT NO. 1	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/6/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 4 1/4" ID HSA, 7 7/8" OD, continuous sampling 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		0.0 to 5.0 feet.: No sample; augered through asphalt and rock fill (directly below asphalt) to 5 ft.
										2		
										3		
										4		
CME	5.0			3.8/5.0	1025					5		5.0 to 10.0 feet.: Fill Material; 0.8 ft. of sandy silt, dark brown (10 YR 3/3), nonplastic, moist, loose, trace (5%) small (max. = 5 mm) sandstone and siltstone fragments; followed by 2.0 ft. of sandy silt with abundant bedrock fragments, brown (10 YR 3/3), moist, tight. bedrock fragments are various sizes, some >8 cm, angular, poorly sorted and randomly oriented, most are yellow (2.5 Y 7/6) sandstone, oxidized to black along fracture surfaces.
										6		
										7		
										8		
										9		
		10.0				2-3				10		10.0 to 15.0 feet.: No sample; augered through rocky fill material without sampler.
										11		
										12		Fill/Alluvium contact is estimated at 13.5 ft., based on borelogs from borings SB11-25 and SB11-20, only 0.2 ft. of recovery (fill material) in the 15-20 ft. sample interval, this material may be slough from above; split spoon drive from 20.0 to 22.0 ft. retrieved large cobble which may have plugged off the sampler in the 15-20 ft. sample interval.
										13		
										14		
										15		
CME	15.0			0.2/5.0	1050					16	▽	15.0 to 20.0 feet.: No sample; 0.2 ft. of fill material recovered in sampler shoe; material consists of sandy silt with bedrock fragments, brown (10 YR 5/3), moist, loose; bedrock fragments comprise 5-10% of sample, most are angular sandstone, very pale brown (10 YR 7/4), hard.
										17		
										18		
										19		
		20.0								20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

— LOCATION OF BOREHOLE

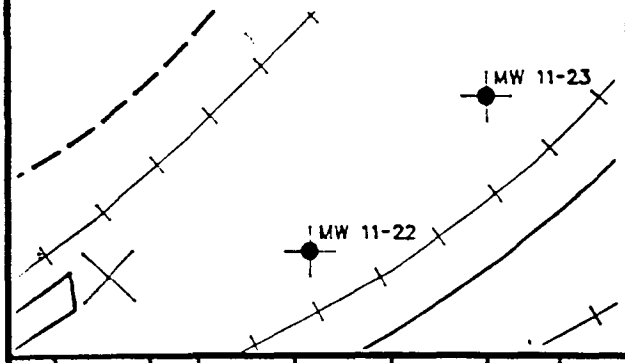
JOB NO.:	BOREHOLE DESIGNATION: SB11-21
CLIENT:	SURFACE ELEVATION:
SITE:	DEPTH TO WATER:
SUBSITE:	LOGGED BY:
DRILLING CO.:	DRILLING DATE(S):
DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
SS	20.0		27	1.0/2.0	1118	650-700(HS)				21		20.0 to 22.0 feet.: Alluvium; split spoon drive sample from 20.0 to 22.0 ft. recovered a 40 mm rock fragment and 1.0 ft. of sand and sandy gravel; upper 0.5 ft. is medium- to coarse-grained sand (SP), moderately sorted, greenish gray, some silt, saturated, dense; lower 0.5 ft. is gravelly sand (SW), greenish gray, trace silt, poorly sorted, dominantly very coarse-grained sand, saturated; gravel consists of angular black siltstone, subangular quartzite; sample SB11-21(20.5-21.0) collected at 1128 in open spoon; sample SB11-21(21.0-21.5, collected at 1130 in brass sleeve.
			14									
			8									
	22.0		10							22		
CME				4.5/3.0	1145	100				23		
										24		
						80						20.0 to 23.0 feet: Alluvium; split spoon interval is overdrilled to 25.0 ft. recovering 0.3 ft. of gravelly sand and 2.4 ft. of sand, coarsening with depth from moderately-sorted medium- to coarse-grained sand (SP) to poorly-sorted coarse-grained sand with gravel (SW).
	25.0									25		
CME	25.0			3.7/5.0	1152	6-8				26		
						40-47				27		23.0 to 30.0 feet.: Bay Mud; sandy clay (CH),dark greenish gray at 23.0 and 25.0 ft. with black banding between, moderately plastic to plastic, soft, micaceous, sparse small (<2 mm) shell fragments, occasional large flat-lying clam shells randomly distributed throughout sample, small purple shell fragments at 29.0 ft.; sample SB11-21(23.5-24.5) collected from CME sampler at 1150.
										28		
										29		30.0 to 32.5 feet.: Reworked Intertidal Sediments; rock fragments in wet clay (bay mud) matrix (GC), poorly sorted; sample is 75-90% rock fragments, consisting of angular to rounded yellowish brown and green glauconitic quartzites.
	30.0									30		
CME	30.0			1.3/2.0	1205					31		TD (refusal) at 32.5 feet.
	32.0									32		
CME	32.0			0.5/0.5	1210							
	32.5									33		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-22
CLIENT: U.S. NAVY	SURFACE ELEVATION: 19.60 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.0 FT. (EST.)
SUBSITE: DRUM LOT NO. 1	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/6/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive sample

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered through surficial rock rubble and silt to 1.5'
CME	1.5	4.5		2.0/3.0	1640	5				2		1.5 to 9.5 feet.: Fill Material; sandy silt with bedrock fragments, stained olive brown (2.5 Y 4/4), moist, loose, hydrocarbon odor; sharp color change at 2.9 ft. to brown (10 YR 5/3), mottled yellow to brownish yellow (10 YR 6/8); tight, poorly-sorted angular bedrock fragments comprise 25-50% of sample.
						31.5				3		
										4		
CME	4.5	9.5		2.0/5.0	1650	1-2				5		
										6		
										7		
						2				8		
										9		
CME	9.5	14.5		1.5/5.0	1705	3				10		9.5 to 16.7 feet.: Fill Material; large (40-60 mm) rock fragments comprise about 90% of sample, matrix is silty sand, saturated; sample SB11-22(14.0-14.5) collected at 1710, headspace = 140 ppm.
										11		
										12		
										13	▽	
										14		
CME	14.5	19.5		3.5/5.0	1713	140(HS)				15		
										16		16.7 to 19.0 feet.: Alluvium; stratified, coarsening upwards, medium-grained silty sand (SW) to 17.8 ft., poorly sorted (10% coarse to very coarse sand, 5% rock fragments), gray (5 Y 4/1), saturated; fine-grained sand (SP) to 19.0 ft., well sorted, some silt, dense, saturated; sample SB11-22(16.7-17.8) collected at 1730.
						211 207						
						110(HS)				17		
						115				18		19.0 to 25.5 feet.: Bay Mud, sandy clay (CH), very dark gray (5 Y 3/1) with black banding grading to black with depth, plastic, moist, soft. (con't) soft,1-22(16.7-17.8) collected at 1730, headspace = 110 ppm.
										19		
CME	19.5			2.6/5.0	1718	110 28				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

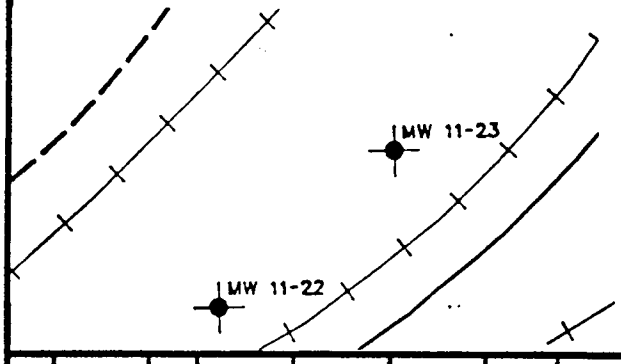
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-22
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5									21		(con't from page 1) soft, micaceous, some small (1-2 mm) shell fragments, larger shell fragments (5-10 mm) at 24.3 ft.; sample SB11-22(22.3-22.7) collected at 1750, headspace = 10-12 ppm
						28				22		
						10-12 (HS)				23		
						3.8(HS)				24		
CME	24.5	24.5		2.5/3.0	1722	15				25		24.5 to 25.5 feet.: Bay Mud; sandy clay with shell fragments, purple shell fragments up to 20% of sample.
										26		25.5 to 27.5 feet.: Reworked Intertidal Sediments, sandy clay with gravel (GC), gravel is round to subrounded quartzite and siltstone (bedrock), max. size = 30 mm, increases to 90% of sample at 26.8 ft., becomes angular to subangular.
		27.5								27		TD (refusal) at 27.5 feet.
										28		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-23
CLIENT: U.S. NAVY	SURFACE ELEVATION: 20.11 FT.
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 12.0 FT.
SUBSITE: DRUM LOT NO. 1	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/7/92

DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
										1		Augered to 2.0 feet without sampler
CME	2.0			1.6/2.5	0820					2		2.0 to 3.7 feet.: Fill Material; sandy silt with bedrock fragments, yellow (10YR 7/6), nonplastic; bedrock fragments include sandstone and quartzite (max. size - 3 in.), very pale brown (10YR 7/3).
						4-5				3		
CME	4.5	4.5		3.3/5.0	0828					4		3.7 to 6.5 feet.: Fill Material or Alluvium; silty sand with gravel, brown (10YR 5/3), moist; sand is fine grained, granule-sized gravel is poorly sorted, angular to subangular, some (5%) bedrock fragments (40 mm max.)
										5		
										6		6.5 feet.: Humus; dark reddish brown (5YR 3/2), 25 mm-thick, organic, woody odor.
						2-5				7		6.6 to 9.5 feet.: Alluvium; sand (SP), moderately sorted, 80% medium-grained sand, 15-20% very coarse-grained sand and gravel, trace fines, no bedrock fragments, max. gravel size is 5 mm.
										8		
CME	9.5	9.5		3.6/5.0	0920					9		9.5 to 12.1 feet.: Alluvium; gravelly sand (SW), brown (10YR 5/3), poorly sorted (50% medium- to coarse-grained sand, 50% gravel), gravel as above from 6.6 to 9.5 ft.
										10		
										11		
										12	▽	12.1 to 15.9 feet.: Alluvium; sand with gravel (SW), brown (10YR 5/3), 75% medium- to coarse-grained sand, 25% gravel, color change at 13.5 ft. to olive gray (5Y 5/2), lag gravel at 14.3 ft. (angular and tabular siltstone fragments); sample SB11-23(14.0) collected at 0925. Photo #7 shows beginning of olive-green hydrocarbon staining in sands at 13.5 feet. See Photo 3-7 in photo log.
						7				13		
						45				14		
CME	14.5	14.5		3.6/5.0	0930					15		15.9 to 16.5 feet.: Alluvium (fine-grained); sandy clay (CL), greenish gray, mottled light olive brown (2.5Y 5/4), sand is poorly sorted (about 50% sand, 50% fines), sparse bedrock fragments.
						306				16		
						260				17		16.5 to 19.5 feet.: Bay Mud interfingering with Alluvium; bay mud is gray (5Y 4/1) sandy clay (CL); alluvium is greenish-gray well-sorted sand (SP), green tint increasing with depth, sand is fine grained grading to medium grained, bay mud/sand layers are 0.2 to 0.6 feet-thick, bay mud is laminated; sample SB11-23(16.5-16.8) collected at 0940, headspace = 143 ppm. Photos #8 and #9 sh... stratified (laminated) alluvial sands and clay at approximately 18.0 to 19.0 feet (just above bay mud contact). See Photo 3-9 in photo log.
						143(HS)						
						30				18		
										19		
CME	19.5	19.5		4.0/5.0	0950	3.5				20		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

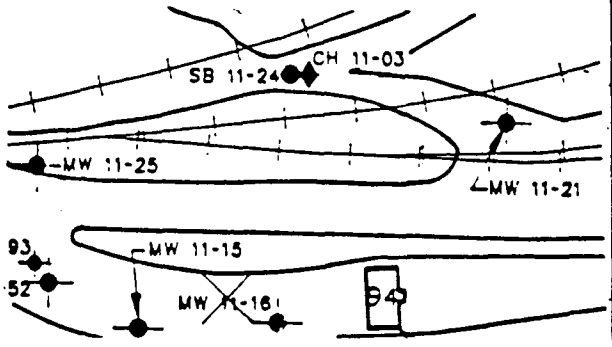
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-23
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S):
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	19.5					60						19.5 to 22.4 feet: Bay Mud; clayey sand (SC), very fine- to fine-grained, interlaminated with thin (<1mm) clay laminations and occasional lenses (5-10 mm-thick) of medium-grained well-sorted sand; sands are greenish gray, clay laminations are black. Photos #10 and #11 show contact of alluvial sand over bay mud. See Photo 3-11 in photo log.
						70				21		
						35						
										22		
						0						22.4 to 24.5 feet: Bay Mud; sandy clay (CH), black with dark green gray laminations, plastic; purple shell fragments (mussels) appear in the middle of this interval, shell fragments sparse and small (1mm) increase to 5% near bottom, occasional clam shell fragment near bottom.
										23		
						0						
										24		
	24.5											
CME	24.5			5.0/5.0	1000							
						5-7				25		24.5 to 30.8 feet: Bay Mud; sandy clay (CL), dark greenish gray, moderately plastic to plastic, moist to stiff, occasional large clam shell fragments; chert pebbles (2 mm), green (glauconitic) quartzite at bottom, subangular to round, max. size = 20mm.
										26		
										27		
										28		
						0						
										29		
	29.5											
CME	29.5			2.2/5.0	1020							
										30		
										31		30.8 to 36.0 feet: Reworked Intertidal Sediments; gravel and rock fragments in a sandy clay (bay mud) matrix, angular to round, poorly-sorted sizes with a maximum of 20 mm, mostly quartzite.
										32		
										33		
										34		
	34.5											
CME	34.5			2.0/1.5	1030							
										35		
	36.0									36		TD (refusal) at 36.0 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0143IRRISC	BOREHOLE DESIGNATION: SB11-24
CLIENT: U.S.NAVY	SURFACE ELEVATION: NOT SURVEYED
SITE: POINT MOLATE FUEL DEPOT	DEPTH TO WATER: 13.0 FT.
SUBSITE: NORTH DRUM LOT NO. 1	LOGGED BY: JIM WULFF
DRILLING CO.: LAYNE-WESTERN	DRILLING DATE(S): 2/7/92

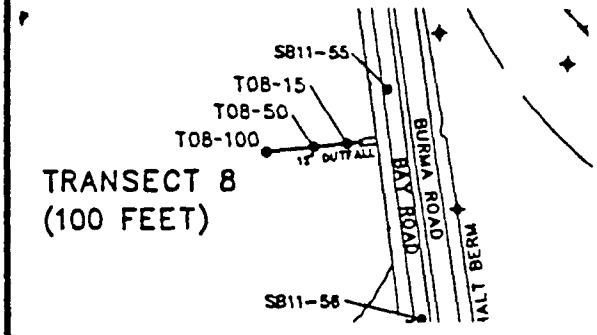
DRILLING PERSONNEL/METHOD:
Tim Quick, Rick Cooper, Jack Johnson / Mobil B-61 rig, 7 7/8" OD, 4 1/4" ID HSA; continuous sampling with 5-foot (3-inch ID) CME and selected 2-foot split spoon (ss) drive samples

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED / DRIVEN	TIME	FIELD SCREENING	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
												Augered to 2.0 feet.
										1		
										2		2.0 to 4.5 feet.: Fill material or Colluvium; silty sand with abundant bedrock fragments, brownish yellow (10 YR 6/6), loose, moist, bedrock fragments are 25-50% of sample, heterogeneous mixture of highly weathered sandstone, siltstone, and quartzite.
CME	2.0			1.5/2.5	1254							
						0				3		
										4		4.5 to 12.3 feet.: Fill material or Colluvium; silty sand with abundant bedrock fragments as above; bedrock fragments are angular, some have black, oxidized coating on outside.
CME	4.5	4.5		2.7/5.0	1300	0						
										5		
										6		
										7		
						0						
										8		
						0						
										9		
CME	9.5	9.5		2.2/4.5	1312							
										10		
										11		12.3 to 13.7 feet.: Alluvium; sand with gravel (SW), brownish yellow (10 YR 6/6), bimodal sorting, fine- to medium-grained sand, gravel-sized rock fragments are angular, dry, loose; color change at 12.7 ft. to strong brown (7.5 YR 5/6), sand becomes dominantly medium-grained, moist, bedrock fragments are 10% of sample, angular to subrounded weathered sandstones (1-7 mm), yellowish red (5 YR 5/8); saturation at 13.0 ft., color change to brown (10 YR 5/3), sand becomes coarse, bedrock fragments increase to 20%, angular to subangular, most are 1-5 mm, max. = 15 mm. Photo #12 shows alluvial sands in 12.0- to 14.0-foot interval.
										12	▽	
										13		
		14.0										
CME	14.0	14.5		0.5/0.5	1333					14		
										15		13.7 to 14.5 feet.: Reworked Intertidal Sediments; gravelly sand; brown (10 YR 5/3), poorly-sorted coarse- to very coarse-grained sand (approx. 70%), 20-40% gravel, trace fines, gravel is subrounded to round, some sandstone, mostly quartzite (up to 2.5 cm) and siltstone, sparse chert pebbles, some very small (<1 mm) shell fragments; photo #12 of sandy alluvial material at 12.0 to 14.0 ft. interval.
												TD (refusal) at 14.5 feet.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHRP	BOREHOLE DESIGNATION: SB11-55
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 11.24 FT. (2/18/94)
SUBSITE: TREATMENT PONDS	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/14/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, Mark Brooke/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0										FILL	0.0 to 5.0 feet: Fill Material; logged from auger cuttings.
										1		
										2		
										3		
										4		5.0 to 9.0 feet: Fill Material; clayey silt with some sand, brown (10YR4/3), approximately 30 percent clay and 10 to 15 percent fine sand, numerous metamorphosed rock fragments ranging from 1/2 inch to 1.5 inches in diameter; soft, moist to wet.
		5.0								5		
SS	5.0		2	1.5/2.0	0835						ML	
			2							6		
			3									
		7.0	2							7		
SS	7.0		3	1.3/2.0	0845							
			3							8		9.0 to 11.0 feet: Fill Material; clayey silt with fine to coarse sand, approximately 20 to 30 percent clay and 20 percent sand, quartzite cobbles ranging from 1 to 2 inches in diameter; soft, wet.
			4								ML	
		9.0	4							9		
SS	9.0		4	1.5/2.0	0855							
			6							0		11.0 to 13.0 feet: Fill Material (as above); obvious hydrocarbon staining and odor at 12.5 feet; wet to saturated.
			5									
		11.0	10							1	ML	
SS	11.5		16	1.7/2.0	0902	50 ppm						
			12									13.0 to 15.0 feet: Fill Material, silty sand, predominantly medium to coarse sand, 20 to 30 percent silt, numerous quartzite fragments ranging from 1/4 inch to 1.5 inches in diameter, angular to subangular.
			6							2		
		13.5	10								SM	
SS	13.5		3	1.5/2.0	0912			X		3		
			6									SAMPLE SB11-55 (13.0-13.5) collected at 0908.
			8							4		
		15.5	20									15.0 to 18.0 feet: Alluvium; fine to medium sand, dark gray (5Y4/1), well sorted; hydrocarbon staining and odor is more prevalent near top of interval and lessens with depth; loose, saturated.
SS	16.0		8	1.5/2.0	0924					5		
			11								SP	
			11							6		18.0 to 20.0 feet: Alluvium; fine to medium sand with minor clay (approximately 5 percent); grayish brown (10YR5/2) to brown (10YR5/3), soft, loose, wet. Upper 1.0 foot is rocky fill material (slough).
		18.0	9									
SS	18.0		5	2.0/2.0	0932					7	ML	
			9							8		SAMPLE SB11-55(19.0-20.0) collected at 0932.
			5									
			7							9		DUPLICATE SAMPLE SB11-55 (29.0-30.0) collected from 19.0- to 20.0-foot interval at 0932.
								X				
								X		0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-55
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/14/94
	DRILLING PERSONNEL/METHOD:	

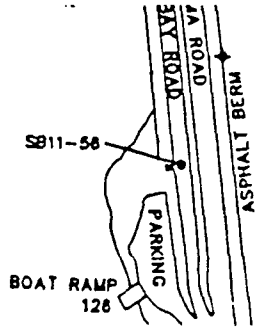
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS MKYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	20.0		6	2.0/2.0	0945						ML	20.0 to 22.0 feet: Alluvium (as above).
			6							1		
			6									
		22.0	7							2		
SS	22.0		5	2.0/2.0	0955						ML	22.0 to 24.0 feet: Alluvium (as above); grades to coarse sand at 23.0 feet. Bay mud contact observed in sampler shoe at 24.0 feet.
			2							3		
			2									SAMPLE SB11-55 (24.0-24.5) collected at 1005
		24.0	2							4		SAMPLE SB11-55 (24.5-24.8) collected at 1005 SAMPLE SB11-55 (24.5-26.0) collected at 1005
SS	24.0		1	2.0/2.0	1005			X				DUPLICATE SAMPLE SB11-55 (34.5-36.0) collected from 24.5- to
			1					X		5		26.0-foot interval at 1005.
			1					X				
		26.0	2					X		6	ML	24.0 to 26.0 feet: Bay Mud; silty sand with clay, dark gray (10YR4/1) to very dark gray (10YR3/1), approximately 20 to 30 percent silt, some shell fragments at 25.0 feet; plastic, soft, wet.
										7		Composite duplicate sample (SB11-55 (34.5-36.0) collected from 24.5- to 26.0-foot interval.
										8		26.0 to 30.0 feet: No sample recovered.
										9		
										0		
SS	30.0		3	2.0/2.0	1020						ML	30.0 to 32.0 feet: Bay Mud; silty sand with clay as above, some shell fragments, soft, wet.
			3							1		
			3									
		32.0	3							2		32.0 to 35.0 feet: No sample recovered.
										3		
										4		
SS	35.0		3	2.0/2.0	1040					5	ML	35.0 to 37.0 feet: Bay Mud; silty sand with clay, as above.
			3							6		SAMPLE SB11-55 (36.0-36.3) collected at 1040
			3									SAMPLE SB11-55 (36.3-36.8) collected at 1040
		37.0	3							7		Total Depth at 37.0 feet.
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE

TRANSECT 8
(100 FEET)



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB11-56
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 10.09 FT. (2/18/94)
SUBSITE: TREATMENT PONDS	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/11/94

DRILLING PERSONNEL/METHOD:
kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss) and 5-foot by 3-inch ID CME core barrel.

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1		0.0 to 5.0 feet: Fill Material; asphalt cover, sandy silt and rock fragments, brownish yellow (10YR6/8), fragments up to 1 cm in diameter.
										2		
										3		
										4		
										5		5.0 to 6.0 feet: Fill material and asphalt; slough.
	5.0	5.0	4 4 3	1.0/2.0	0755					6		6.0 to 7.0 feet: Fill Material; silty sand with minor clay, brownish yellow (10YR6/8), poorly sorted, contains less than 10 percent rock fragments up to 1 cm in diameter, angular.
SS	7.0	7.0	3 7 7 6	1.5/2.0	0822	26 ppm				7		7.0 to 9.5 feet: Fill Material, sandy silt, yellowish brown (10YR5/6); contains 20 percent quartzite and metamorphosed rock fragments up to 2 inches in diameter, quartzite is dark gray (10YR4/1), unweathered, angular; matrix is dense, dry.
CME	9.0	9.0	5	2.0/4.5	0835	5 ppm				8		
										9		9.5 to 11.5 feet: Fill Material; clayey sand and rock fragments, mottled yellowish brown (10YR5/6) and grey (10YR5/1), contains 20 to 40 percent quartzite and metamorphosed rock fragments, slight hydrocarbon odor; clayey zone moderately plastic, damp.
										0		
										1		
								X		2		11.5 to 13.5 feet: Alluvium; clayey sand, dark gray (2.5YN4/0), sand is very fine to medium grained, poorly sorted, strong hydrocarbon odor, loose, saturated.
										3		SAMPLE SB11-56 (11.5-12.0) collected at 0835.
	13.5	13.5		1.3/5.0	0854					4		13.5 to 18.5 feet: Alluvium; silty sand, dark grayish brown (2.5Y4/2), moderately sorted (very fine to medium grained), unconsolidated, predominantly quartz and feldspar, approximately 10% mafic minerals, strong hydrocarbon odor, saturated.
										5		
										6		
										7		
										8		18.5 to 21.5 feet: No sample recovered.
CME	18.5	18.5		2.0/5.0	0915					9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

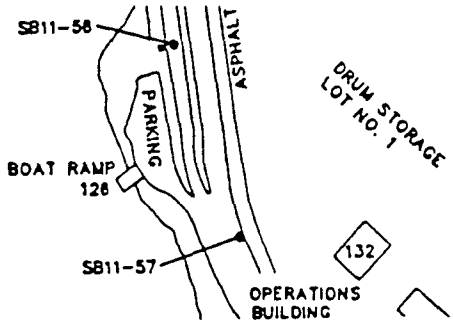
LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-56
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/11/94
	DRILLING PERSONNEL/METHOD:	

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN SAMPLE	RECOVERED/DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	21.5									1		21.5 TO 23.0 feet: Alluvium; fine to coarse sand some gravel, dark grayish brown (2.5Y4/2), poorly sorted, numerous quartzite cobbles and rock fragments up to 2.5 inches in diameter, angular to subangular; slight hydrocarbon odor.
	21.5									2		
										3		
	23.5							X		4		23.0 to 23.5 feet: Bay Mud; sandy silt, black (10YR2/1), contains small (less than 0.5 cm) broken shell fragments, soft, moderately plastic, moist.
										5		SAMPLE SB11-56 (23.0-23.5) collected at 0915.
										6		Total Depth at 23.5 feet.
										7		
										8		
										9		
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB11-57
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER: 13.17 feet (2/18/94)
SUBSITE: TREATMENT PONDS	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/10/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0				1250					1	GM	0.0 to 5.0 feet: Fill Material; sandy silt and rock fragments, yellowish brown (10YR5/4), metamorphosed rock fragments up to 1 cm in diameter; loose, unconsolidated, dry; logged from auger cuttings.
										2		
										3		
										4		
SS	5.0	5.0	3 5 4	2.0/2.0	1300					5	SM	5.0 to 9.0 feet: Fill Material; silty sand, light olive brown (2.5YR5/4), fine to medium sand, moderately sorted, angular grains, contains approximately 20 percent metamorphosed rock fragments up to 2 cm in diameter; 8.0- to 8.5-foot interval contains abundant quartzite and phyllite rock fragments up to 1 inch in diameter; unconsolidated, dry.
										6		
SS	7.0	7.0	4 5 5	2.0/2.0	1325					7		
SS	9.0	9.0	5 4 4 7	2.0/2.0	1335					8	SM	9.0 to 12.0 feet: Fill Material; silty sand as above, 9.8- to 10.0-foot interval contains abundant angular quartzite fragments up to 1 cm in diameter; 10.5- to 11.0-foot interval is slightly damp and displays slight hydrocarbon odor.
										9		
										0		
SS	11.0	11.0	8 5 4	2.0/2.0	1338					1	GM	12.0 to 13.0 feet: Fill Material; weathered sandstone, dark greenish gray (5Y4/1), fractured with iron staining on fractured surfaces, moderately friable, slight hydrocarbon odor; moist at 12.6 feet.
										2	GM	13.0 to 14.0 feet: Fill Material, slough.
SS	13.0	13.0	3 4 2 4	1.0/2.0	1345					3	SM	14.0 to 15.0 feet: Alluvium; unconsolidated sand with some silt (10 percent), dark greenish gray (5Y4/1), fine to medium grained, moderately sorted, strong hydrocarbon sheen and odor, saturated.
										4		
SS	15.0	15.0	3 3 2 3	1.0/2.0	1355			X		5		SAMPLE SB11-57 (14.5-15.0) collected at 1345. 15.0 to 16.0 feet: No sample recovered.
										6	CL	16.0 to 17.0 feet: Alluvium; clayey sand, grayish brown (2.5Y5/2), plastic, saturated; 16.8-to 17.0-foot interval is a weathered sandstone, dark greenish gray (5Y4/1), fractured, oil staining on fracture surfaces, strong hydrocarbon odor.
SS	17.0	17.0	4 4 4 5	2.0/2.0	1405					7		
										8	SP	17.0 to 21.0 feet: Alluvium; very fine to medium sand, dark grayish green (5Y4/1), moderately sorted, subround to subangular, contains metamorphosed mudstone and quartzite rock fragments up to 1 cm in diameter, some rock fragments up to 1.5 inches, angular,
SS	19.0	19.0	5 7 7	1.5/2.0	1420					9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

LOCATION OF BOREHOLE	JOB NO.:	BOREHOLE DESIGNATION: SB11-57
	CLIENT:	SURFACE ELEVATION:
	SITE:	DEPTH TO WATER:
	SUBSITE:	LOGGED BY:
	DRILLING CO.:	DRILLING DATE(S): 2/10/94
	DRILLING PERSONNEL/METHOD:	

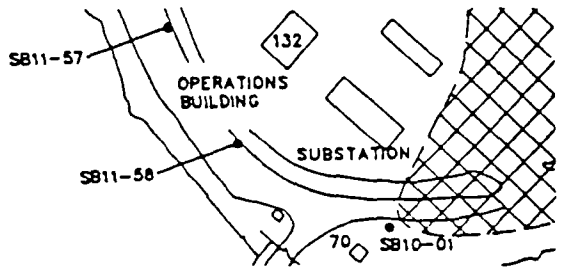
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/6 IN. SAMPLE	RECOVERED/DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
			7									
	21.0		6							1	SP	21.0 to 23.0 feet: Alluvium (as above); unconsolidated sand and rock fragments, predominantly subrounded quartz sand with 10 to 20 percent mafic rock fragments.
SS	21.0		3	1.0/2.0	1435							
			3							2		
			6									
	23.0		5							3		
SS	23.0		6	1.5/2.0	1452						SP	23.0 to 25.0 feet: Alluvium (as above); unconsolidated sand and rock fragments. Bay Mud in the tip of the split spoon cutting shoe.
			4							4		
			2									
	25.0		3							5		25.0 to 27.0 feet: Bay Mud; clayey sand with silt, black (10YR2/1) also contains shell fragments, plastic, saturated; 25.0- to 26.5-foot interval is unconsolidated sand (slough).
SS	25.0		2	1.5/2.0	1505						ML	
			2							6		SAMPLE SB11-57 (26.5-27.0) collected at 1505
			2									
	27.0		2					X		7		Total Depth at 27.0 feet.
										8		Note: No headspace readings obtained, PID malfunctioning.
										9		
										0		
										1		
										2		
										3		
										4		
										5		
										6		
										7		
										8		
										9		
										0		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB11-58
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: TREATMENT PONDS	LOGGED BY: B. DeANGELIS
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/10/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1	FILL	0.0 to 5.0 feet: Fill Material; silty sand and quartzite rock fragments; asphalt cover; logged from auger cuttings.
										2		
										3		
										4		
		5.0								5	ML	5.0 to 6.0 feet: Fill Material; silty sand with clay, yellowish brown (10YR5/6), contains fragments of phyllite and quartzite up to 3 cm in diameter, angular; semiconsolidated, dry.
SS	5.0		6	2.0/2.0	1028					6		
			12								ML	6.0 to 7.0 feet: Fill Materialn (as above); contains quartzite rock fragments up to 2 inches in diameter; unconsolidated.
			18									
		7.0	20							7		
SS	7.0		5	2.0/2.0	1045						SM	7.0 to 12.0 feet: Fill Material; silty sand, brownish yellow (10YR6/6), sand is fine grained, angular; contains rock fragments of gray (10YR5/1) quartzite, loose, unconsolidated, dry. At 11.9 feet, matrix is damp, hydrocarbon odor.
			9							8		
			10									
		9.0	15							9		
SS	9.0		6	1.5/2.0	1050							
			7							0		
			6									
		11.0	4							1		
SS	11.0		4	1.0/2.0	1057							
			3								SM	12.0 to 12.7 feet: Fill Material; silty sand, no apparent hydrocarbon odor (slough).
			4							2		
		13.0	3									12.7 to 13.0 feet: Fill Material; silty sand, olive brown (2.5Y4/4), contains rock fragments, hydrocarbon staining and odor, wet.
SS	13.0		5	1.5/2.0	1105					3	SM	
			6									
			11							4	GM	13.0 to 15.0 feet: Fill Material; rock fragments (85 to 90 percent) in a silty sand matrix; 13.5- to 14.5-foot interval is olive brown (2.5Y4/4), 14.5- to 15.0-foot interval is very dark grayish brown (2.5Y3/2), hydrocarbon staining; hydrocarbons completely coat rock fragments.
		15.0	50					X				
SS	15.0		50		1115					5		
										6		SAMPLE SB11-58 (14.5-15.0) collected at 1105.
										7	ML	15.0 to 15.2 feet: Fill Material; slough, hydrocarbon staining.
										8		
												Total Depth (refusal) at 15.2 feet (large rock rubble).
										9		
										0		Note: No headspace readings obtained, PID malfunctioning.

BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

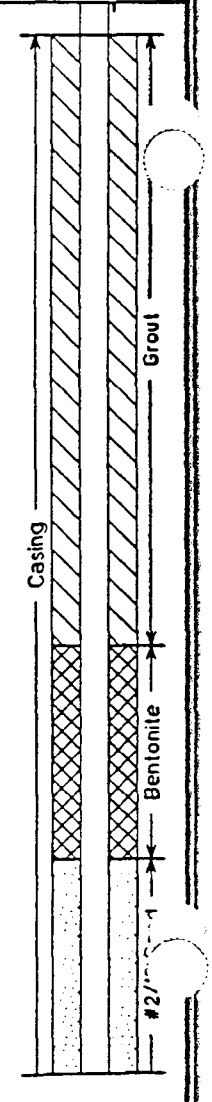
Job Number: 069-039C0204 Well Designation: PZ11-70 Borehole Designation: SB11-70
Client: U.S. NAVY Surface Elevation: 17.6
Site: NFD POINT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-10-96 Well Installation Date (s): 9-10-96

Drilling Company: BAEI Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5'X 3" CME CORE BARREL SAMPLER

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010 Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10.21 TO 20.74 Filterpack Interval: 8 TO 20.74 Bentonite Seal: 6 TO 8
Grout Interval: .31 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 17.29
Latitude: 533025.6 Longitude: 1446352.0

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.3/5.0	0940	15			SW GW	Fill: Light yellowish brown (10YR 6/4), loose
							Asph	Asphalt: Slag-like, black
							SW GW	Fill: As Above
								Fine Sand, Rock Fragments and Clay: bluish gray (5B 5/1), subround to angular, cohesive, tight, note staining/odor.
							NR	Weathered Sandstone, Interbedded Shale: Sandstone is pale yellow (2.5YR 7/4), friable, fissile mudstone.
								No Recovery
5		2.0/5.0	0947	7.5			SC GW	Clayey Fine Sand, Rock Fragments: Brownish yellow (10YR 6/6), numerous angular fragments (>50%) to 3 inches, v. moist, sl. cohesive, no odor.
								Fine to Coarse Sand, Pebbles: Coarse sands are angular mudstone, pebbles are subangular mudstones, light brownish gray (2.5YR 6/2), saturated, sl. odor.
							NR	Fine to Coarse Sand: Some pebbles, as above, but tight, dry, lt. brownish gray, cohesive.
								Fine Sand: With pebbles and friable sandstone fragments, sharp color contact with above to bluish gray (5B 5/1), sl. odor, cohesive (but crumbles), sl. moist.
10		1.3/5.0	1000	1500			SW	

WELL DIAGRAM



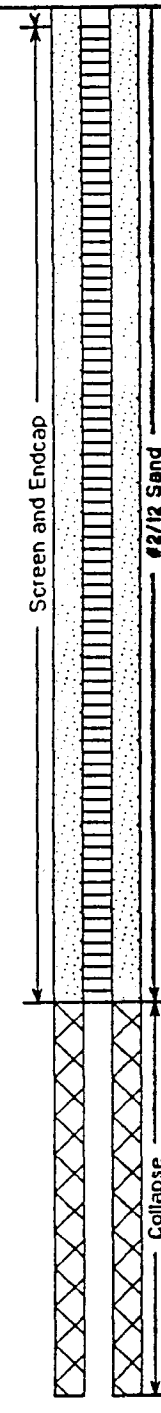
BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204
Well Designation: PZ11-70
Borehole Designation: SB11-70
Client: U.S. NAVY
Surface Elevation: 17.6
Site: NFD POINT MOLATE
Subsite: SITE 4
Geologist: BRIAN SCHULLER
Drilling Date (s): 9-10-96
Well Installation Date (s): 9-10-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SW GW	Medium Sand: With coarse angular mudstone grains and angular bedrock fragments, grayish green (5G 5/2), loose, strong odor, very moist.
							NR	Fine sand with angular mudstone coarse grains (10%), grayish green (5G 5/2), cohesive but crumbles with pressure, very moist.
								No Recovery
15		3.0/5.0	1011				SW GW	Weathered bedrock fragments (75%) and Coarse Sand: Loose, saturated, colors are grayish green (5G 5/2) from 15 to 16.5 feet, light greenish gray (5GY 7/1) from 16.5 to 17.2 feet, grayish green from 17.2 to 17.7 feet, one light greenish gray friable sandstone fragment from 17.7 to 18.0 feet.
							NR	No Recovery
20		1.5/5.0	1025				SP	Fine Sand: Coarsening downwards to very coarse sand with pebbles, distinct contact at 20.5 feet, mineralogy varies from quartz, feldspar, and mudstone and sandstone fragments, saturated, loose.
							SC GW	Clayey Sand and Bedrock Fragments (75%): Bedrock fragments mostly sandstone and angular.
							NR	No Recovery, total depth drilled 25 feet. Bay mud noted on lead auger bit.
25								

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

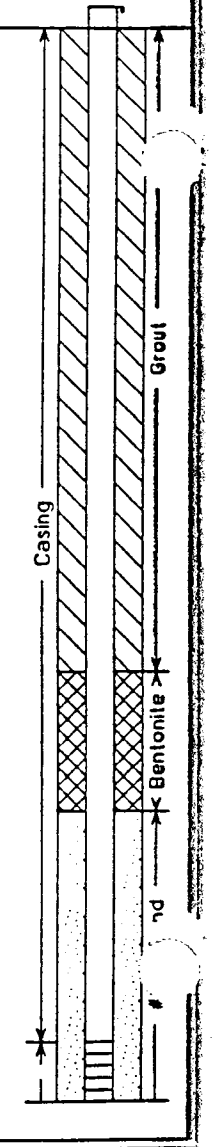
Job Number: 069-039C0204 Well Designation: PZ11-71 Borehole Designation: SB11-71
Client: U.S. NAVY Surface Elevation: 17.8
Site: NFD PT. MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-10-96 Well Installation Date (s): 9-10-96

Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5'X 3" CME CORE BARREL SAMPLER

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010 Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 9.45 TO 20 Filterpack Interval: 7.3 TO 20 Bentonite Seal: 6 TO 7.3
Grout Interval: 0 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 17.92
Latitude: 533086.4 Longitude: 1446397.0

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.1/5.0	1140	0			SW GW	Fill: Cut through asphalt, fine to medium sand with numerous rock fragments, asphalt layer at 0.5 feet.
							Brick	Brick: Dark red (2.5YR 4/8)
							SW GW	Fill: Medium sand with coarse angular mudstone fragments, brown (10YR 5/3).
							GP	Sandstone fragment with interbedded shale (fissile mudstone).
							NR	No Recovery
5		1.6/5.0	1147	0			GP	Weathered Bedrock: 5 to 5.9 sandstone fragments, brownish yellow (10YR 6/8), loose; 5.9 to 6.2 feet shale, dark gray, fissile mudstone; 6.2 to 6.6 feet sandstone, mostly very friable with a few cohesive fragments.
							NR	No Recovery
10		2.2/5.0	1157	224			GC	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

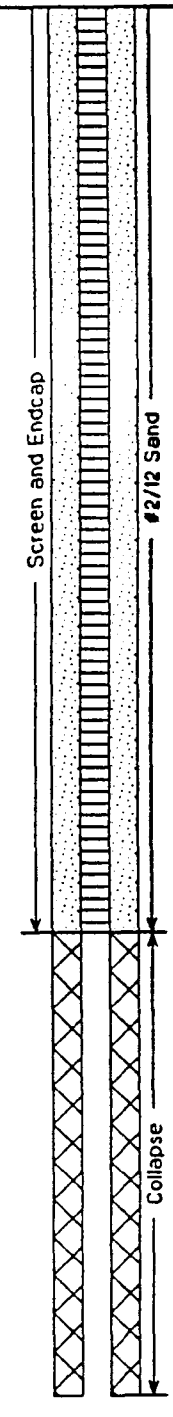
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT. MOLATE
Drilling Date (s): 9-10-96

Well Designation: PZ11-71
Subsite: SITE 4

Borehole Designation: SB11-71
Surface Elevation: 17.8
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-10-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							GC	Clayey Sand with Bedrock Fragments: Rock fragments to 1/2-inch, brown (10YR 5/3) mottled yellowish brown (10YR 5/8), very friable (to the touch) sandstone pebbles, slightly cohesive, moist.
							GC	
							SW GW	Weathered Bedrock Fragments in Clayey Matrix: Cohesive, tight, color as above with increasing mottles.
							NR	Sand: Medium with friable sandstone pebbles, strong odors, stained greenish gray, moist, slightly loose.
15		2.2/5.0	1207					No Recovery
							SW	Sand: Fine to medium, some coarse mudstone grains, greenish gray (5GY 5/1), saturated.
							SW	
							GP	Sand: Coarse, mostly angular mudstone fragments, dark bluish gray (5B 4/1), slightly loose, saturated.
							NR	Friable Sandstone: Pale yellow, some competent pieces, clay between fractures, 0.3-foot shale interval from 16.2 to 16.5 feet.
								No Recovery
20		0.8/5.0	1216				SW	Sand: Fine to medium, coarse from 20.6 to 20.8 feet, pale olive (5Y 6/3), loose, saturated.
							NR	No Recovery
25								

WELL DIAGRAM



BOREHOLE LOG

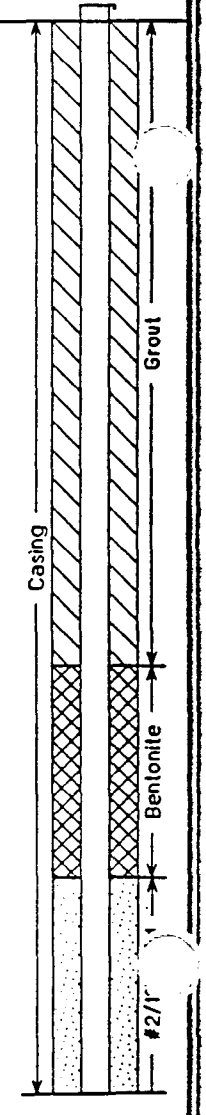
PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-72 Borehole Designation: SB11-72
Client: U.S. NAVY Surface Elevation: 15.6
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-9-96 Well Installation Date (s): 9-9-96

Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10 TO 20.2 Filterpack Interval: 8 TO 20.2 Bentonite Seal: 6 TO 8
Grout Interval: 0 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 15.75
Latitude: 533048.9 Longitude: 1446291.0

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		1.7/5.0	1421				SW GW	Fill: Cut through asphalt, fine sand with rock fragments, yellowish brown (10YR 5/6), poorly sorted, loose (crumbly), dry, typical fill.
							NR	No Recovery
5		1.75/5.0	1433				SW GW	As From 0 to 1.7, color mottled with brown (10YR 4/3).
							NR	No Recovery
10		1.2/5.0	1446				SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

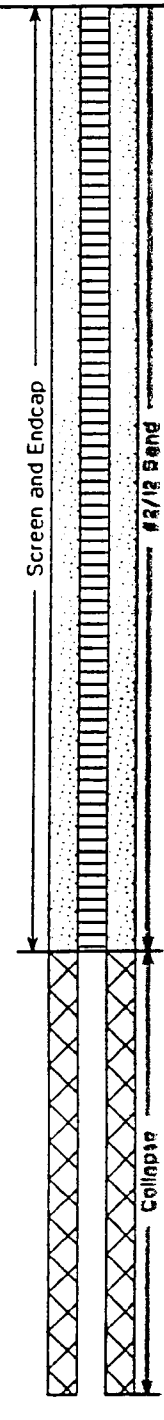
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-9-96

Well Designation: PZ11-72
Subsite: SITE 4

Borehole Designation: SB11-72
Surface Elevation: 15.6
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-9-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SW GW	Fine Sand with Rock Fragments: Some clay, rock fragments are angular and 1/4-inch to 2 inches, saturated, fuel odor, cohesive.
							NR	No Recovery
15		5.0/5.0	1453				SW GW	Fine Sand with Rock Fragments: Greenish gray (5GY 5/1), loose, saturated, fuel odor, rock fragments angular.
							SW GW	Fine Sand and Rock Fragments: Rock fragments more abundant and larger than above, grayish brown (10YR 5/2), loose, saturated, rock fragments angular, fuel odor.
							SW GW	
							SW	Fine Sand with Rock Fragments: Rock fragments similar to above but smaller and less abundant, no fuel odor.
20		3.5/5.0	1508				SW GW	Sand: Medium to coarse with pebbles to 1/4-inch, yellowish brown (10YR 5/6), subround to round, poorly sorted, no odor, coarse mudstone grains angular, slightly cohesive.
							OH	Coarse Sand with Rock Fragments: Fuel odor, greenish gray (5GY 5/1), poorly sorted, subround to angular, mudstone grains are angular, dark greenish gray staining at bottom of interval, saturated.
							NR	
25								Bay Mud

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-73 Borehole Designation: SB11-73

Client: U.S. NAVY Surface Elevation: 18.0

Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER

Drilling Date (s): 9-6-96 Well Installation Date (s): 9-6-96

Drilling Company: BAEI Personnel: TIM DUNNE, ERIC SANTELLAN

Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC

Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED

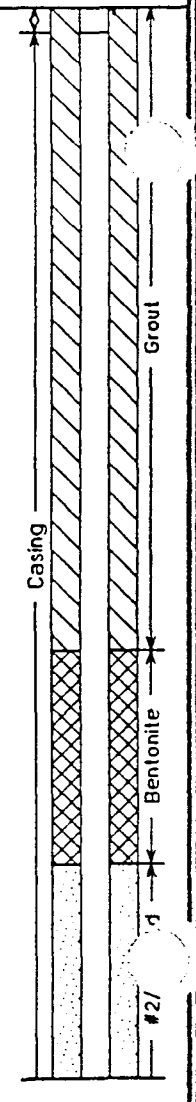
Screen Interval: 10.27 TO 20.47 Filterpack Interval: 8 TO 20 Bentonite Seal: 6 TO 8

Grout Interval: .24 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 17.76

Latitude: 532783.0 Longitude: 1446148.5

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		1.8/5.0	1545				SW GW	Fill: Sand with rock fragments, increasing clay content with depth, poorly sorted, loose near top of interval, increasingly cohesive with depth, yellowish brown (10YR 5/6), dry.
							NR	No Recovery
5		1.0/5.0	1554				SW GW	Fill: Sand with rock fragments and some clay, rock fragments angular and subround, loose, dry.
							NR	No Recovery
10		1.9/5.0	1600				SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

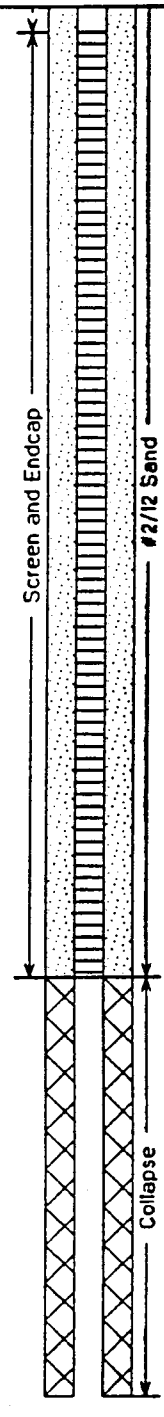
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-6-96

Well Designation: PZ11-73
Subsite: SITE 4

Borehole Designation: SB11-73
Surface Elevation: 18.0
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-6-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SW	Sand with Occasional Small Rock Fragments: Yellowish brown (10YR 5/6), slightly moist, slight odor.
							GW	
							GW	Mudstone and Shale Rock Fragments: Fissile, angular, coarse (up to 1/4-inch), black, loose.
							NR	Medium Sand with Rock Fragments: Yellowish brown, loose, slight odor, note contact with below, slightly moist.
								Material as above, sharp contact with strong fuel odor and coloration (color changes to greenish gray (5GY 5/1)), saturated.
15		1.3/5.0	1613				GW	No Recovery
							NR	Medium Sand and Numerous Rock Fragments: Rock fragments to 3-inch diameter and angular, saturated, free-phase fuel.
								No Recovery
20		3.0/5.0	1622				SW	Fine to Medium Sand with some Rock Fragments: fuel odor.
							OH	Bay Mud
							NR	No Recovery
25								

WELL DIAGRAM



BOREHOLE LOG

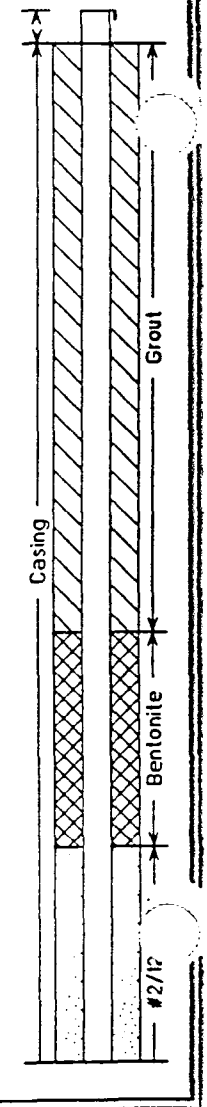
PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-74 Borehole Designation: SB11-74
Client: U.S. NAVY Surface Elevation: 15.5
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-6-96 Well Installation Date (s): 9-6-96

Drilling Company: BAEI Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC SLOTTED
Screen Interval: 10.48 TO 20.56 Filterpack Interval: 8 TO 21 Bentonite Seal: 6 TO 8
Grout Interval: .5 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 14.99
Latitude: 532830.4 Longitude: 1446129.6

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.1/5.0	1055	0			SW GW	Cut through asphalt, Fill: Fine sand to angular bedrock fragments, bedrock fragments include metamudstone (shale), yellowish brown (10YR 5/6) to 1 foot, dark grayish brown (10YR 4/2) to 2.1 foot, dry, loose, poorly sorted.
							NR	No Recovery
5		1.6/5.0	1102				SW GW	Similar to Above: Rock fragments are siltstone, musdstone, and sandstone, increasing clay content with depth becoming gravelly clay, slightly moist at 6.4 feet.
							NR	No Recovery
10		1.8/5.0	1107				GC	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

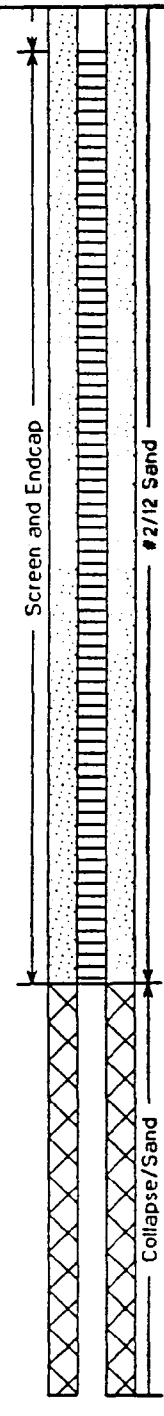
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-6-96

Well Designation: PZ11-74
Subsite: SITE 4

Borehole Designation: SB11-74
Surface Elevation: 15.5
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-6-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							GC	Gravelly Clay with Sand: Gravels are angular rock fragments, dark grayish brown (10YR 4/2), fuel globs sparse but present, saturated.
							SP	
							GP	Sand: Medium, very dark gray (10YR 3/1), occasional fuel globule (droplets that appear to be diesel), saturated.
							NR	Weathered Bedrock: Metamorphised sandstone, mudstone, angular fragments, predominant horizontal fractures, saturated, fuel (diesel) globules occasional (a 0.5 mm glob about every 2 cm).
15		5.0/5.0	1125					No Recovery
							GP	As Above: Weathered bedrock, occasional fuel globule, possibly fill.
							SW	Sand: Medium to coarse, bluish gray (5B 5/1), angular, moderate sorting, saturated, no fuel odor, mineralogy includes quartz, angular mudstone fragments, some fines.
20		0.7/5.0	1138				SP	Sand: Very poor recovery, fine, well sorted, loose.
							NR	No Recovery
25		4.0/5.0	1158				SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-6-96

Well Designation: PZ11-74
Subsite: SITE 4

Borehole Designation: SB11-74
Surface Elevation: 15.5
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-6-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	WELL DIAGRAM
							SW	Sand: Fine to coarse.	Collapse/Sand
							OH	Bay Mud: Clayey fine sand, shells, black, cohesive, mudstone fragment.	
30								Total Depth Drilled = 30 feet.	
35									
40									

BOREHOLE LOG

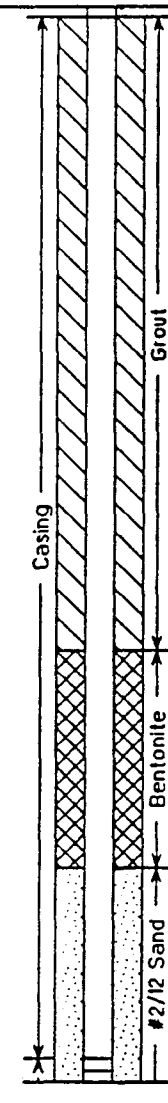
PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-75 Borehole Designation: SB11-75
Client: U.S. NAVY Surface Elevation: 17.9
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-9-96 Well Installation Date (s): 9-9-96

Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 9.78 TO 20.98 Filterpack Interval: 8 TO 20.98 Bentonite Seal: 6 TO 8
Grout Interval: .1 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 17.79
Latitude: 532863.9 Longitude: 1446177.0

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		1.8/5.0	0936	0			SW GW	Fill: Fine sand and rock fragments, brownish yellow (10YR 6/6) to grayish brown (10YR 5/2) at bottom of interval, rock fragments are mostly sandstone (up to 3"), pieces of glass.
							NR	No Recovery
5		1.5/5.0	0943	0			GP	Mudstone rock fragments
							SW	Fine Sand with Rock Fragments: some clay, brown (10YR 4/3), slightly cohesive, slightly moist.
								Fine to Coarse Sand: Some clay, brown to dark brown (10YR 4/3 to 3/3), slightly moist, coarse sands are angular mudstones.
							NR	No Recovery
10		1.2/5.0	0951	250			SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

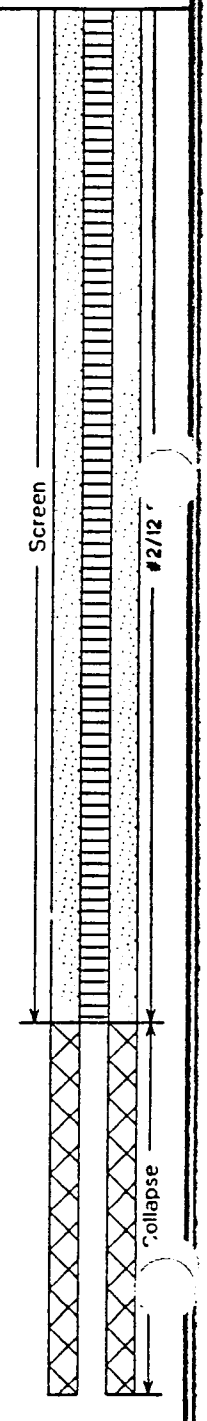
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-9-96

Well Designation: PZ11-75
Subsite: SITE 4

Borehole Designation: SB11-75
Surface Elevation: 17.9
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-9-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SW	Fine to Coarse Sand As Above
							NR	Fine to Medium Sand: some clay, sharp color contact with above to dark greenish gray (5BG 4/1), strong fuel odor, moist slightly cohesive. No Recovery
15		2.4/5.0	1002				SW	Medium to Coarse Sand: Mudstone grains are coarse and angular, numerous rock fragments, clay-rich interval between 15.8 and 16 feet, color varies widely dark greenish gray (5BG 4/1) to greenish gray (5GY 5/1) indicative of fuel, saturated, slightly loose, fuel odor.
							NR	No Recovery
20		2.1/5.0	1015				SW	Fine to Medium Sand: Dark greenish gray, subrounded, moderate sorting, saturated, loose. Medium to Coarse Sand: With rock fragments, color as above, loose, saturated, fuel odor throughout.
							NR	No Recovery
25								

WELL DIAGRAM



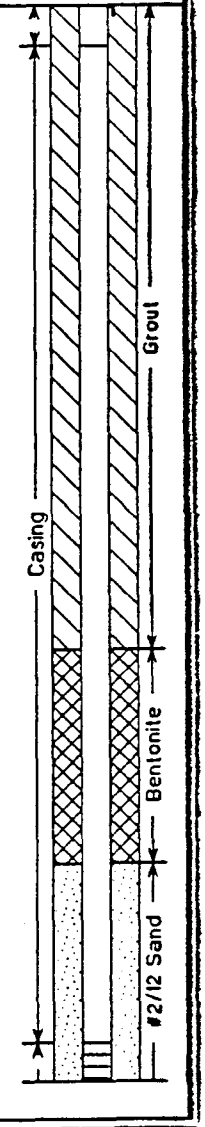
BOREHOLE LOG: **PRC ENVIRONMENTAL MANAGEMENT, INC.**

Job Number: 169-039C0204 Well Designation: PZ11-76 Borehole Designation: SB11-76
Client: U.S. NAVY Surface Elevation: 17.7
Site: NFD PTMOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-6-96 Well Installation Date (s): 9-6-96

Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA
Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 9.64 TO 20.19 Filterpack Interval: 8 TO 20.19 Bentonite Seal: 6 TO 8
Grout Interval: 0 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 17.32
Latitude: 532654.8 Longitude: 1446090.1

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
								Cut through asphalt, hand auger to 1.5 feet, hit rock.
		2.1/3.5	0930				SW GW	Fill: Very fine sand to gravel, brownish yellow to yellowish brown (10YR 6/6 to 5/6), poorly sorted, gravels consistant with local bedrock (shales and sandstones), slightly moist, loose, bedrock fragments mostly angular, some slightly rounded.
							NR	No Recovery
5		1.8/5.0	0944				SW GW	Similar to above: Color dark grayish brown (10YR 4/2) from 8.6 to 9.0 feet, poorly sorted, loose, slightly moist.
							NR	No Recovery
10		2.5/5.0	0954	2500+			SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-6-96

Well Designation: PZ11-76
Subsite: SITE 4

Borehole Designation: SB11-76
Surface Elevation: 17.7
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-6-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION	WELL DIAGRAM
							SW	Fine to Medium Sand: With rock fragments, yellowish brown to dark yellowish brown (10YR 5/4 to 4/4), moist to saturated (capillary fringe).	Screen and Endcap
							NR	Medium Sand: Occasional rock fragment, sharp color contact with above to dark greenish gray, fuel odor, saturated, some finer sand and clay, clay content makes material slightly cohesive (but still overall loose).	
								No Recovery.	
15		0.2/2.0	1005				SW	Very poor recovery, similar to above, but tighter than above, medium sand with rock fragments, saturated, strong fuel odor.	
								No Recovery	
		NA	1008				NR	Refusal at 17 feet, install bit, drill to 20 feet without sampler.	
20								Total Depth Drilled 20 feet.	
25									

BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

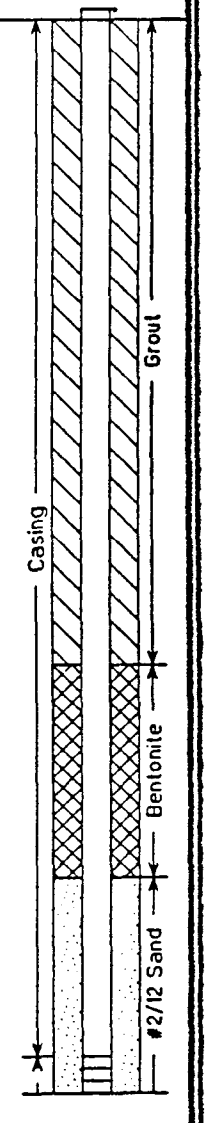
Job Number: 069-039C0204 Well Designation: PZ11-77 Borehole Designation: SB11-77
Client: U.S. NAVY Surface Elevation: 19.4
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-10-96 Well Installation Date (s): 9-10-96

Drilling Company: BAEI Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 9.66 TO 20.21 Filterpack Interval: 8 TO 20.21 Bentonite Seal: 6 TO 8
Grout Interval: 0 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 19.39
Latitude: 533168.2 Longitude: 1446470.1

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		0.2/5.0	1545				GW	Base Coarse Gravels: Poor recovery, some fines sands, slightly cohesive.
								No Recovery
							NR	
5		0/0						Resistance at 5 feet, install bit plug, auger to 7.8 feet, reinstall core barrel sampler, drilling still difficult.
		1.0/2.8					SW	Sand: Fine with some rock fragments, yellow (10YR 7/6), to brownish yellow (10YR 6/8), loose, moist, 10% to 20% rock fragments, rocks fragments to 1 inch, rock fragments subangular, mostly friable sandstones.
							NR	
10		0/5.0						No Recovery

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

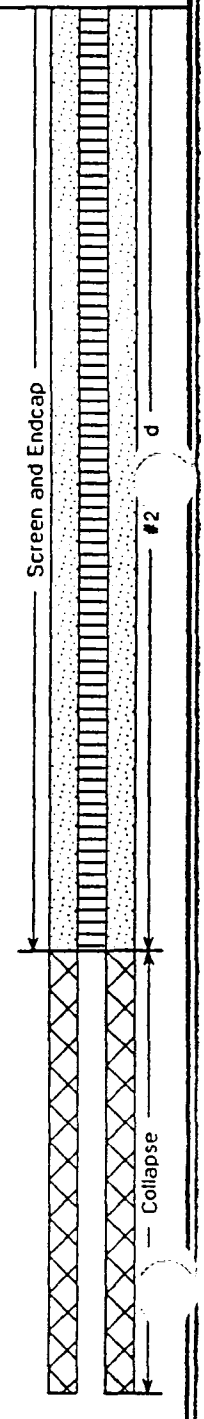
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-10-96

Well Designation: PZ11-77
Subsite: SITE 4

Borehole Designation: SB11-77
Surface Elevation: 19.4
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-10-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							NR	Refusal at 12 feet, large sandstone fragment in shoe of sampler, install bit, drill to 15 feet. From cuttings: Fine sand with some clay, moist, fuel odor, greenish gray (5GY 5/1).
15		2.5/5.0	1625				SW	Medium Sand: Some coarse mudstone grains (angular to subangular) and pebble-sized, greenish gray (5BG 5/1), slightly loose, saturated.
							GC	Clayey Gravel: Some fine sand, greenish gray, cohesive.
							SW	Medium to Coarse Sand: greenish gray, loose, saturated.
							NR	No Recovery
20		0.6/5.0	1635				SP	Sand: fine, some medium, moderately to well sorted, greenish gray, saturated.
								No Recovery
25								

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-78 Borehole Designation: SB11-78
Client: U.S. NAVY Surface Elevation: 20.6
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-11-96 Well Installation Date (s): 9-11-96

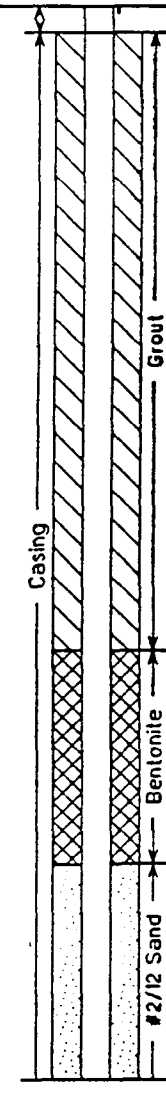
Drilling Company: BAEi Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA, 5' X 3" CME CORE BARREL SAMPLER

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10.1 TO 20.65 Filterpack Interval: 8 TO 20.65 Bentonite Seal: 6 TO 8
Grout Interval: 0 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 20.35

Latitude: 533210.6 Longitude: 1446512.7

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.0/5.0	0930	50			SC GW	Fill: Clayey sand with rock fragments,olive (5Y 4/3), color grades to below, loose.
								Clayey Sand with Rock Fragments: Dark greenish gray (5BG 4/1), slightly cohesive to cohesive
							NR	No Recovery
5		1.3/5.0	0936	10			SW	Fine Sand with Friable Sandstone Fragments: Olive yellow (2.5YR 6/8) with olive brown (2.5Y 4/4) bands from 5.9 to 6.2 feet. Olive brown with olive yellow bands, olive brown material is clayey sand, olive brown material is cohesive, olive yellow material is loose.
							NR	No Recovery
10		0.2/5.0	0947				GP	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

Job Number: 069-039C0204 Well Designation: PZ11-78 Borehole Designation: SB11-78

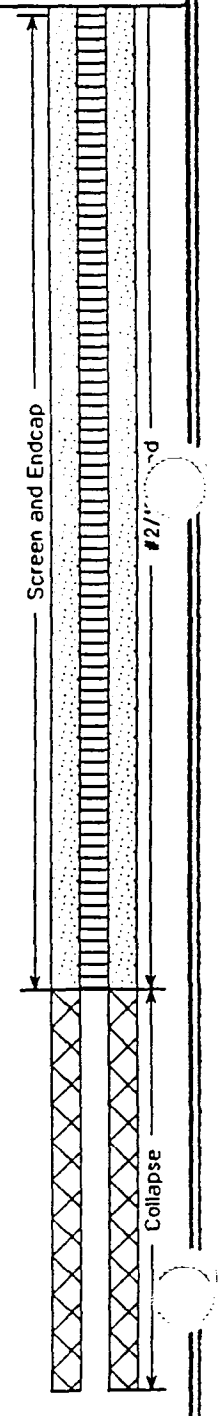
Client: U.S. NAVY Surface Elevation: 20.6

Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER

Drilling Date (s): 9-11-96 Well Installation Date (s): 9-11-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							GP	Poor Recovery: Competent sandstone fragment stuck in shoe. Note some material as above in shoe.
								No Recovery
							NR	
15		3.8/5.0	0957				SW	Fine to Coarse Sand: Coarse fraction are angular mudstone fragments, brown (10YR 5/3), loose, moist.
							GC	
							SW	
							SC	Clayey Gravel: Brown, cohesive, moist.
							SW	Fine to Coarse Sand: Dark greenish gray (5G 4/1), loose, very moist, strong fuel odor.
								Sand Clay: With pebbles, light olive brown (2.5Y 5/6), slightly cohesive, very moist, fuel odor.
							NR	
20		0.3/5.0	1002				SW	Sand: Fine to coarse, poorly sorted, dark greenish gray, loose, saturated.
								No Recovery
								Sand: Fine to medium, loose, saturated, sheen on water.
								No Recovery
							NR	
25								

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

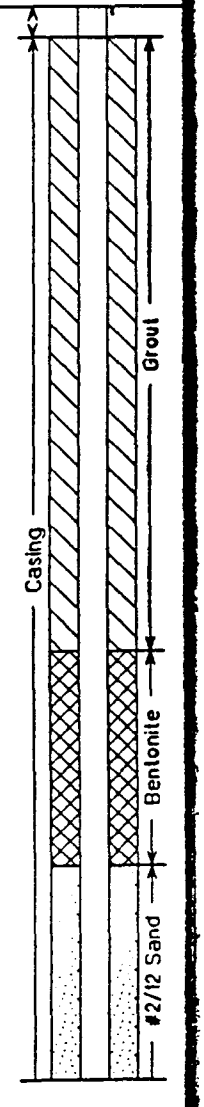
Job Number: 069-039C0204 Well Designation: PZ11-79 Borehole Designation: SB11-79
Client: U.S. NAVY Surface Elevation: 21.0
Site: NFD PT MOLATE Subsite: SITE 4 Geologist: BRIAN SCHULLER
Drilling Date (s): 9-11-96 Well Installation Date (s): 9-11-96

Drilling Company: BAEI Personnel: TIM DUNNE, ERIC SANTELLAN
Drilling Method: HSA

Borehole Diameter: 8-INCH Casing Diameter: 2-INCH Casing Material: SCH 40 PVC
Screen Diameter: 2-INCH Screen Opening: 0.010-INCH Screen Material: SCH 40 PVC, SLOTTED
Screen Interval: 10.29 TO 20.84 Filterpack Interval: 8 TO 20.65 Bentonite Seal: 6 TO 8
Grout Interval: .25 TO 6 Protective Cover: CHRISTY BOX Elevation of TOC: 20.71
Latitude: 533256.0 Longitude: 1446553.3

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.0/5.0	1106	30			SC GW	Fill: Clay and sand with rock gravel-size rock fragments, from 0 to 0.8 feet color is bluish gray (5B 4/1), 0.8 to 2.0 feet color is brown (10YR 4/3) mottled yellow (10YR 7/8).
							NR	No Recovery
5		1.6/5.0	1116				SW	Sand: Fine to medium, some clay, brown, yellow friable sandstone pebbles, moist, slightly loose.
								Sandstone fragment, competent.
							NR	Sand: Fine to medium, olive yellow (2.5Y 6/6) with brown bands of clayey sand, numerous friable sandstones, some competent sandstones, oxidized sandstone pebble in bottom of interval.
								No Recovery
10		3.6/5.0	1124				SW	

WELL DIAGRAM



BOREHOLE LOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

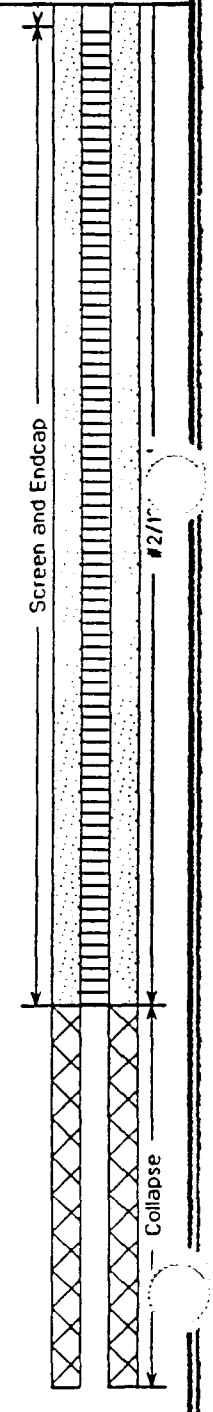
Job Number: 069-039C0204
Client: U.S. NAVY
Site: NFD PT MOLATE
Drilling Date (s): 9-11-96

Well Designation: PZ11-79
Subsite: SITE 4

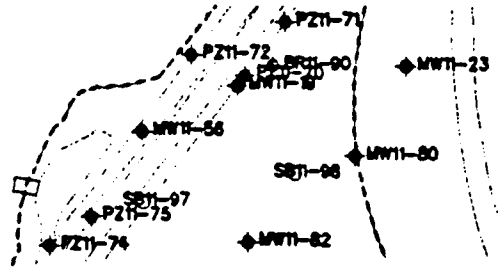
Borehole Designation: SB11-79
Surface Elevation: 21.0
Geologist: BRIAN SCHULLER
Well Installation Date (s): 9-11-96

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SW SC	Sand and Clayey Sand: Sand is fine, yellow (10YR 7/8), sand is associated with friable sandstone fragments, clayey sand is brown, cohesive.
							SW	Fine to Medium Sand with Numerous Bedrock Fragments: Yellowish brown (10YR 5/6), rock fragments both competent and friable sandstones.
								As above with sharp color change to dark greenish gray, very moist to saturated.
							NR	No Recovery
15		2.7/5.0	1137				SW	Sand: Medium to coarse, some pebbles, loose, coarse grains are angular mudstone fragments, strong fuel odor, saturated.
							NR	No Recovery
20		1.3/5.0	1153				SW	Sand: Medium with pebbles, dark greenish gray, saturated, slightly loose, slight sheen on water.
							NR	No Recovery. Bay Mud on augers at 22 feet.
25								

WELL DIAGRAM



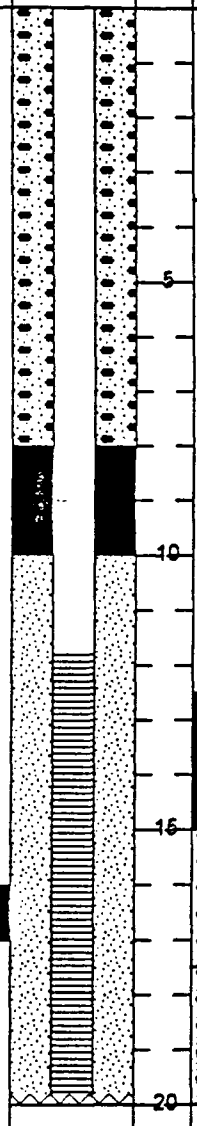
LOCATION OF BOREHOLE



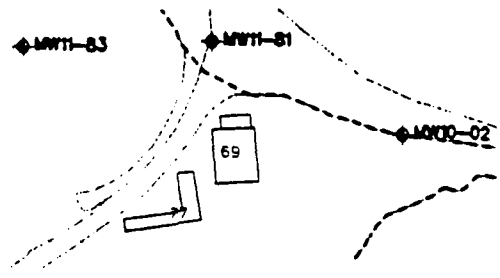
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-80
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	15.0'
SUBSITE:	Drum Lot No. 1 - East Side	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/05/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	2.0/5.0	1500	N/A		ML	Fill, sandy silt, yellowish brown (10YR 6/6) with mudstone and sandstone fragments up to 2"; dry, no odor or staining.
CME 2.5"ID	5.0	10.0	0.2/5.0	1500	N/A		SM-GW	Sand, brown (10YR 4/3), fine to coarse grained, poorly sorted; some gravel interspersed, up to 1/4"; all grains subrounded to angular; may be in-situ. No odors or staining, damp to moist.
CME 2.5"ID	10.0	12.5	1.5/2.5	1515	N/A			
CME 2.5"ID	12.5	15.0	0.0/2.5	1520	N/A		NR	No recovery.
CME 2.5"ID	15.0	17.5	1.0/2.5	1530	N/A		SM-GW	Sand, saturated, brown (10YR 4/3-4/4), medium grained with some gravel up to 3/8"; gravel angular to subrounded, no odors.
CME 2.5"ID	17.5	20.0	0.6/2.5	1535	N/A		SM-GW	Sand, coarse grained to fine gravel, more rounding, color as above, no odors or staining.



LOCATION OF BOREHOLE

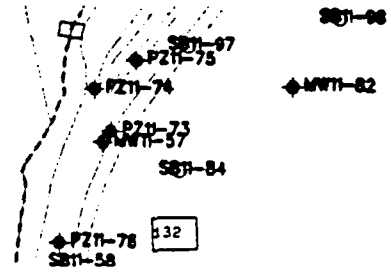


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-81
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	12.5'
SUBSITE:	Drum Lot No. 1 - Near MW11-19	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/04/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.1/5.0	1525	N/A			5		(Auger cuttings) Fill; negligible recovery for entire boring; log based on cuttings;gravel to cobble-sized fragments of mudstone, quartzite and sandstone; fragments all angular to subangular. Staining on sampler indicates product on top of water table at approximately 12.5 feet; exact product thickness unknown but appears to be 2-3". **Second boring SB11-81A, drilled 10' from SB11-81 to confirm depth to bedrock. Depth to weathered bedrock (mudstone) = 32.5' bgs.
CME 2.5"ID	5.0	7.5	0.1/2.5	1530	N/A					
CME 2.5"ID	7.5	10.0	0.1/2.5	1535	N/A			10	GW-GP	
CME 2.5"ID	10.0	15.0	0.1/5.0	1540	N/A			15		
CME 2.5"ID	15.0	17.5	0.1/2.5	1545	N/A					
CME 2.5"ID	17.5	20.0	0.1/2.5	1550	N/A			20		

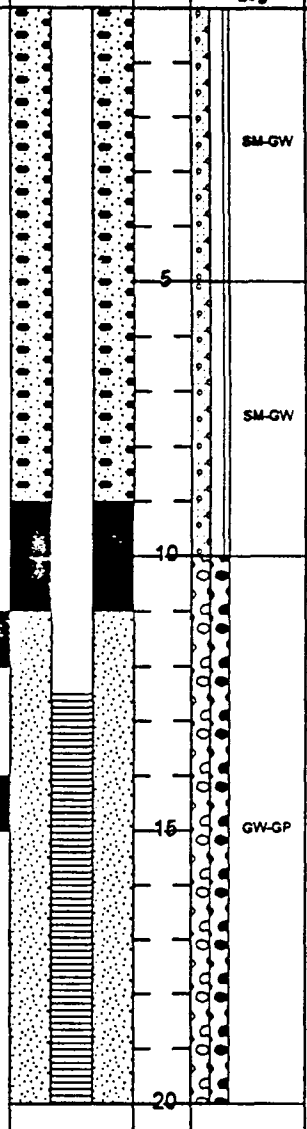
LOCATION OF BOREHOLE



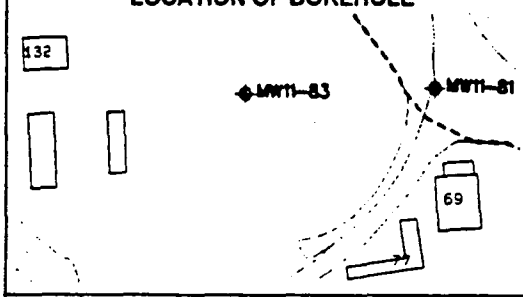
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-82
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	13.8'
SUBSITE:	Drum Lot No. 1 - East Side	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/05/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.2/5.0	1120	N/A		SM-GW	Fill; sandy silt, yellowish brown (10YR 6/6) with mudstone and sandstone gravel up to 1/2"; damp; no odors or staining.
CME 2.5"ID	5.0	10.0	0.2/5.0	1130	N/A		SM-GW	Fill; silty sand, yellowish brown (10YR 6/6) with mudstone and sandstone gravel as above; damp to moist; no odors or staining.
CME 2.5"ID	10.0	12.5	0.7/2.5	1245	N/A		GW-GP	Fill; silty sand, greenish gray (Chart 1 GLEY 4/1) with mudstone and sandstone gravel up to 1/2"; cobbles appear between 15' and 20'. Wet at 13.8'. Slight petroleum odor beginning at color change at 10'. However, odor is not continuous throughout 10-20' interval.
CME 2.5"ID	12.5	15.0	2.0/2.5	1250	N/A			
CME 2.5"ID	15.0	20.0	0.4/5.0	1305	N/A			



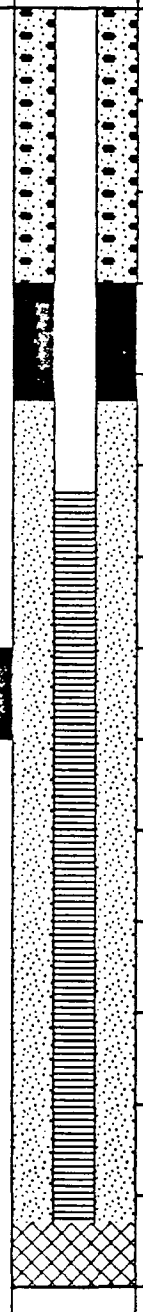
LOCATION OF BOREHOLE



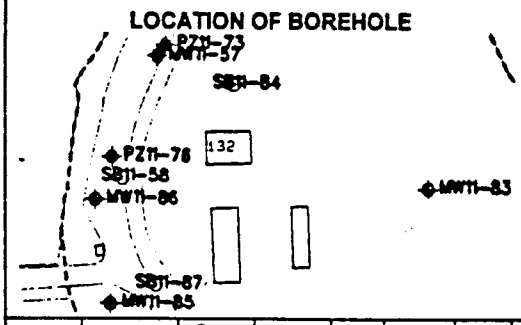
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-83
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	8.5'
SUBSITE:	Drum Lot No. 1 - East Side	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/05/99

DRILLING PERSONNEL/METHOD:
CME 850 Track, CME Sampler 5.1'x2.5"ID
Drill to TD with 8"OD, 4 1/2"ID Augers; convert to 12"OD Augers
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME	0.0	5.0	0.1/5.0	0805					Fill	Fill; yellowish brown, sandy silt with mudstone, quartzite and sandstone cobbles up to 3". No odors or visual evidence of petroleum. Cobbles angular to subangular.
CME	5.0	10.0	2.0/5.0	0825				5		
CME	10.0	14.0	1.8/4.0	0835				10		



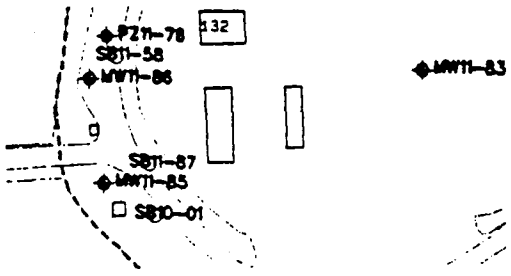
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-84
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Drum Lot No. 1 - East of MW11-57	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/05/99
DRILLING PERSONNEL/METHOD:	CME 850 Track HSA 8" OD, 4 1/2" ID; CME sampler 5.1'x2.5" ID E. Sandoval, F. Sandoval, C. Macio		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.2/5.0	1025	N/A			GW	(Auger cuttings) Fill; brownish yellow (10YR 6/6) sandy silt with mudstone, sandstone and quartzite cobbles; cobbles angular to subangular; moist, no odor. Remove CME sampler at 5.0' due to auger refusal.
							5		No information.
CME 2.5"ID	5.0	10.0	0.0/5.0	1050	N/A			Weathered Bedrock	(Log based on cuttings), quartzite, weathered, friable, gray to tan with abundant micas; porphylitic, dry. Refusal at 9.5'.
							10		
							15		
							20		

LOCATION OF BOREHOLE

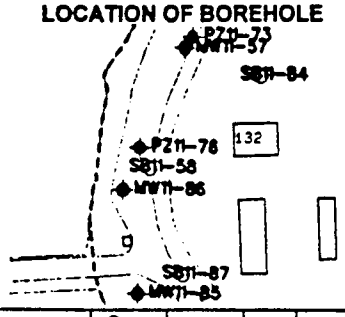


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-85
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	11.4'
SUBSITE:	Fuel Pier - Near Bldg 70	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/11/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler 2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	1.5/5.0	1215	N/A		SM	Dark grayish brown (2.5Y 4/2) silty sand with minor gravel (angular rock fragments up to 15mm). Moist at 5'.
CME 2.5"ID	5.0	10.0	1.5/5.0	1220	N/A		SM	Light Olive brown (2.5Y 5/3) silty sand with minor gravel (angular rock fragments up to 35mm). Wet. Weak hydrocarbon odor at 10'.
CME 2.5"ID	10.0	15.0	1.5/5.0	1230	N/A		SC	Clayey sand, greenish gray (2 GLEY 5/10BG). Wet. Very difficult drilling at 11'. Silty sand with gravel at 13'. Free product, black-brown strong staining and hydrocarbon odor, wet.
							SM	Silty sand with gravel at 13'. Free product, black-brown strong staining and hydrocarbon odor, wet. Silty sand, greenish gray (6Y 5/10), poorly graded.
CME 2.5"ID	15.0	20.0	3.0/5.0	1240	N/A		SP	Sand, poorly graded, fine-medium grained, well rounded.
							GC	Gravel with minor clay grading into clayey gravel, subrounded to subangular up to 15mm in diameter.
							SM	Silty, fine sand, moderate shell fragments, almost to bay mud, dark gray. TD = 20' bgs.

LOCATION OF BOREHOLE

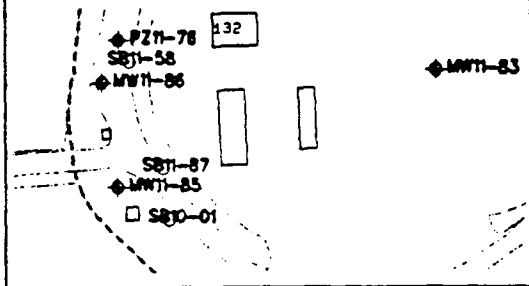


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-86
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	10-12' (While drilling)
SUBSITE:	Fule Pier - Just North of Pier	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/11/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type	Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	1.0/5.0	1535	N/A				SM		Fill; dark yellowish brown (10YR 4/4) silty sand with rock fragments (possibly trench backfill) up to 40mm. No hydrocarbon stainingor odor.
CME 2.5"ID	5.0	10.0	1.5/5.0	1540	N/A			5	SM		Fill; yellowish brown (10YR 5/6) strongly oxidized/weathered silty sand with rock fragments up to 20mm (possible trench backfill or pipe bed material). No hydrocarbon staining or odor.
CME 2.5"ID	10.0	15.0	1.5/5.0	1550	N/A			10	SM		Silty sand, light yellow brown (10YR 6/4) with rock fragments (angular sandstone up to 25mm) saturated, no hydrocarbon odor or staining. Staining/odor at 14.0', dark greenish gray (6Y 4/10 1 GLEY), weak hydrocarbon odor and moderate staining, silty sand with rock fragments as above, no free product.
CME 2.5"ID	15.0	17.0	2.0/2.0	1600	N/A			15	SM		Medium-coarse silty sand, light olive brown (2.5 YR 5/3), weak hydrocarbon odor and staining, saturated, with angular rock fragments up to 17mm, 40mm rock in end of shoe. TD - refusal at 17.0' (tried to hammer with split spoon, 50 blows, no sample.)

LOCATION OF BOREHOLE

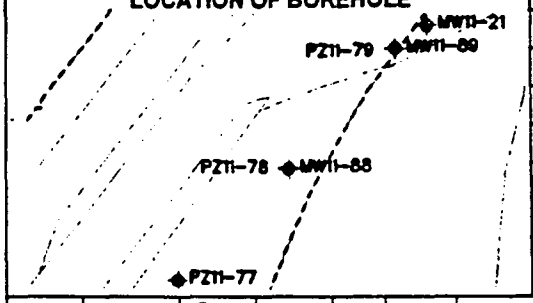


PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-87
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Fuel Pier - East of Pier	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/11/99

DRILLING PERSONNEL/METHOD: CME 850 Track
HSA 8" OD, 4 1/2" ID; CME sampler 5.1'x2.5" ID
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0.0	2.0	1.0/2.0	—	N/A			SM	Silty sand, grayish brown (2.5YR 5/2) with rock fragments up to 40mm (Fragments are angular sandstone). Weak hydrocarbon odor, no staining, may be on fill.
CME 2.5"ID	2.0	5.0	1.5/3.0	0730	N/A		5	SM	Silty sand, olive brown (2.5YR 4/4), very hard drilling, large rocks or concrete, very poor recovery.
CME 2.5"ID	5.0	8.0	1.0/3.0	—	N/A			Bedrock	Fill, very difficult drilling either due to obstruction/backfill or near bedrock.
CME 2.5"ID	8.0	10.0	0.0/2.0	0800	N/A		10	NR	No recovery.
CME 2.5"ID	10.0	15.0	0.3/5.0	0805	N/A		15	NR	No recovery. TD - refusal at 15'.
							20		

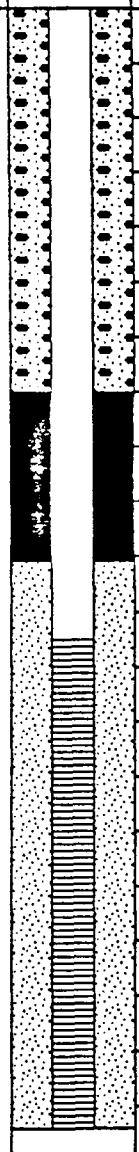
LOCATION OF BOREHOLE



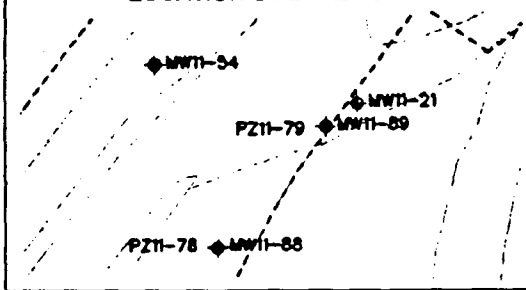
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-88
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	
SUBSITE:		LOGGED BY:	T. Faile
DRILLING CO.:		DRILLING DATE(s):	N/A

DRILLING PERSONNEL/METHOD:
N/A

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5, 10, 15, 20		Note: CME Continuous sampling was not in scope of work at this monitoring well location.



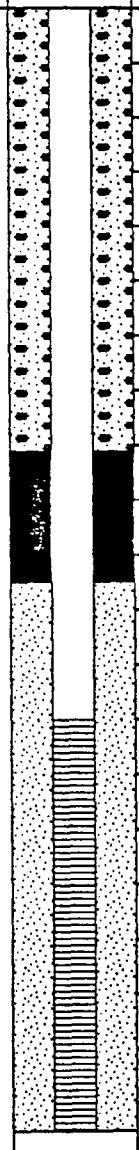
LOCATION OF BOREHOLE



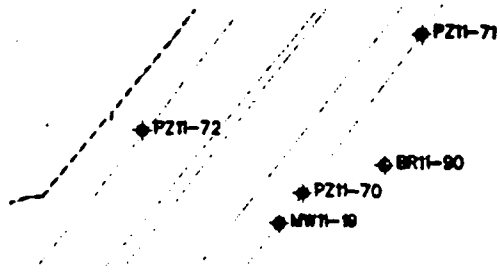
PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW11-89
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	
SUBSITE:		LOGGED BY:	T. Faile
DRILLING CO.:		DRILLING DATE(s):	N/A

DRILLING PERSONNEL/METHOD:
N/A

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			5, 10, 15, 20		Note: CME continuous sampling was not in scope of work at this monitoring well location.

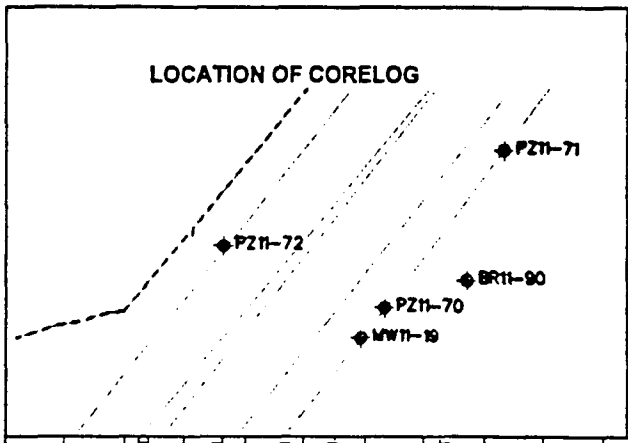


LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-90
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	14.0'
SUBSITE:	Drum Lot No. 1 - Near MW11-19	LOGGED BY:	T. Faile
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/06/99
DRILLING PERSONNEL/METHOD:	CME 850 Track, CME Sampler 5.1'x2.5"ID HSA 8"OD, 4 1/2"ID; HSA to bedrock E. Sandoval, F. Sandoval, C. Macio		

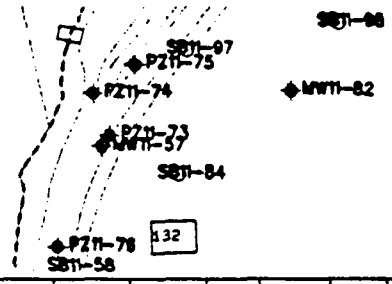
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME 2.5"ID	0.0	5.0	0.1/5.0	0910				CL	Fill; silty clay with gravel fragments up to 1/4"; gravel appears to be mudstone/sandstone, angular to subangular; no odors or staining.
CME 2.5"ID	5.0	10.0	3.5/5.0	0920			5	SM	Sand; possibly in-situ; brown, medium to coarse grained grading to fine to medium grained at 7.0'.
CME 2.5"ID	10.0	15.0	3.6/5.0	0930			10	SM	Silty Sand; olive gray, fine to coarse grained, poorly sorted, no odor or staining; very moist at 8.5'. Silty Sand; olive gray, medium grained, well sorted, petroleum odor at 13-15'; moist then wet at 14'.
CME 2.5"ID	15.0	20.0	2.1/5.0	0940			15	SM-GW	Silty Sand; grading to silty gravel (fill?), olive gray, slight petroleum odor, gravel up to 1/2", angular to subangular.
CME 2.5"ID	20.0	25.0	1.9/5.0	1005			20	GW	Silty to sandy gravel; with cobbles up to 3", brown to grayish brown; slight petroleum odor.
CME 2.5"ID	25.0	30.0	1.5/5.0	1015			25	SM	Sand; medium to coars grained, olive gray, poorly sorted; no gravel or cobbles; very slight petroleum odor.
CME 2.5"ID	30.0	35.0	0.0/5.0	1025			30	SM	No sample recovery due to flowing sands, stop running CME sampler based on cuttings, sand as above to 41'; no petroleum odor in cuttings.
—	35.0	40.0	0.0/5.0	1035			35		
—	40.0	45.0	0.0/5.0	1135			40	Bay Mud	Bay mud (?), olive gray color to 53' changing to brownish gray, possibly slight odor but may be due to organic content of mud.
—	45.0	50.0	0.0/5.0	1145			45		
—	50.0	55.0	0.0/5.0	1200			50		
—	55.0	59.0	0.0/5.0	1225			55		
							60	CL	Clay; very tight (residuum); brownish grey. 59.8-69.0' descriptions on corelog BR11-90.
							65		



PROJECT NO.: G0069-112B0403	CORELOG DESIGNATION: BR11-90
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: NFD Pt Molate	DEPTH TO WATER: 14.0'
SUBSITE: Drum Lot No. 1	LOGGED BY: T. Faile
DRILLING CO.: Layne Christensen	DRILLING DATE(s): 02/06/99
DRILLING PERSONNEL/METHOD: CME 850 Track, HSA 8"OD Core Bedrock (HQ 3 7/8"OD) E. Sandoval, F. Sandoval, C. Macio	

CORE TYPE	% CORE RECOVERY	% DRILL FLUID RECOVERY	% ROCK QUAL	COREHOLE ORIENTATION	FRACTURE ORIENTATION DEGREES	WEATHERING	PACKER TEST INTERVAL	TIME	DEPTH	LITHOLOGY/ GRAPHIC LOG	Well Info.	ROCK DESCRIPTION
												0-59.8' description found on borelog SB11-90
HQ	3.0/3.5	N/A	30%	N/A	60	N/A	N/A	1250	60	Mudstone		Mudstone, dark grey, weathered, fractured; white clay partings in fracture seams.
HQ	1.5/1.5	N/A	15%	N/A	60	N/A	N/A	1315	65	Sandstone		Sandstone/mudstone sequence; primarily sandstone with clay and mudstone seams; abundant iron staining; fractured planes at 60 degrees.
HQ	4.9/5.0	N/A	65%	N/A	60	N/A	N/A	1400	70	Sandstone		Sandstone, fine grained, tan to reddish gray with mudstone seams throughout; fractured, but less than above.

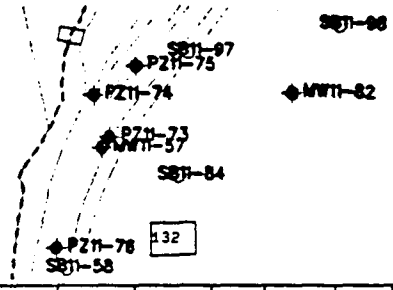
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-97
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Drum Lot No. 1	LOGGED BY:	D. Hall
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	2/15/99
DRILLING PERSONNEL/METHOD:	CME 850 Track Rig; HSA 8"OD Drill with centerbit w/o sampling.		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A		5	SM	Note: Log is based on auger cuttings only; CME sampler not used; drilled to confirm depth to bedrock only. Silty sand, yellowish brown (10YR 5/4), with minor amount of angular pebble-sized rock fragments, dry.
N/A	N/A	N/A	N/A	N/A	N/A		10		No Information
N/A	N/A	N/A	N/A	N/A	N/A		15 20	SM	Silty sand, brown (10YR 5/3), fine to medium grained, some gravel, unconsolidated, dry.
N/A	N/A	N/A	N/A	N/A	N/A		25 30	ML	Clayey silt, mottled dark gray (10YR 4/1) and yellowish bronw (10YR 5/4), minor amount of coarse rock fragments, moist, slightly plastic.
N/A	N/A	N/A	N/A	N/A	N/A		35	Bedrock	Sandstone bedrock. TD = 36'
							40		
							45		

LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	SB11-98
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	N/A
SUBSITE:	Drum Lot No. 1	LOGGED BY:	D. Hall
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/15/99

DRILLING PERSONNEL/METHOD: CME 850 Track; HSA 8"OD
Drill with centerbit without sampling.

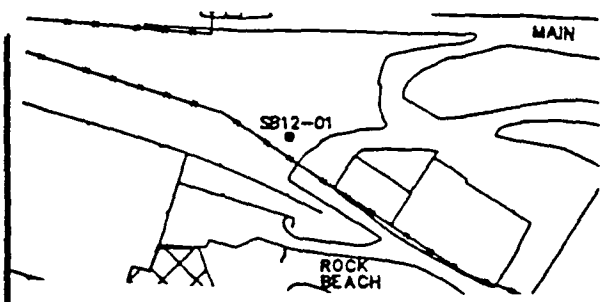
SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	DEPTH (ft.)	USCS Soil Type	SOIL DESCRIPTION
N/A	N/A	N/A	N/A	N/A	N/A			GW	Note: Log is based on cuttings only; CME sampler not used, drilled to confirm depth to bedrock only. Dark grayish brown gravel (10YR 4/2), asphalt odor.
N/A	N/A	N/A	N/A	N/A	N/A		5	SW	Pale brown sand(10YR 6/3), well graded, subangular.
N/A	N/A	N/A	N/A	N/A	N/A		10	ML	Clayey silt, gray (10YR 5/1), slightly plastic.
N/A	N/A	N/A	N/A	N/A	N/A		15	ML	Clayey silt, gray (2.5Y 5/1), pebbles, subangular, hydrocarbon odor.
N/A	N/A	N/A	N/A	N/A	N/A			ML	As Above.
N/A	N/A	N/A	N/A	N/A	N/A		20	ML	As Above.
N/A	N/A	N/A	N/A	N/A	N/A		25		
N/A	N/A	N/A	N/A	N/A	N/A		30	SC	Sand, medium to coarse grained, light brownish gray (10YR 6/2).
N/A	N/A	N/A	N/A	N/A	N/A		35	Bedrock	Sandstone/bedrock, 50 blows = 3" with split spoon sampler. TD = 35' (Refusal).
N/A	N/A	N/A	N/A	N/A	N/A		40		
							45		

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE



JOB NO.: 044-0248IRSHFW	BOREHOLE DESIGNATION: SB12-01
CLIENT: U. S. NAVY	SURFACE ELEVATION:
SITE: NFD POINT MOLATE	DEPTH TO WATER:
SUBSITE: N. FACILITY BOUNDARY	LOGGED BY: A. ORTELLI
DRILLING CO.: BAYLAND	DRILLING DATE(S): 2/15/94

DRILLING PERSONNEL/METHOD:
Kurt Voss, John Marting/ CME 75 drill rig, 6 3/4-inch OD, 3 7/8-inch ID HSA, continuous sampling with 2-foot by 2-inch ID split spoon (ss).

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT.	BLOWS/ 6 IN. SAMPLE	RECOVERED/ DRIVEN	TIME	FIELD SCREENING (ppm)	ANLYS PHYS	ANLYS CHEM	WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	0.0									1 2 3 4	ML	0.0 to 5.0 feet: Colluvium; clayey silt; logged from auger cuttings.
	5.5	5.5	6 19 50	1.9/2.0	1140	3.4				5 6	ML	5.0 to 5.3 feet: Colluvium; clayey silt with some fine sand (30 percent clay, 10 to 15 percent sand), dark brown (2.5Y4/2) to very dark brown (2.5Y3/2); slightly plastic, soft, moist.
	7.0	7.0		1.3/2.0	1150					7	ML	5.3 to 6.0 feet: Colluvium; sandy silt with some clay (25 to 35 percent fine sand, 10 percent clay), yellowish brown (10YR5/6 to 10 YR5/8); non plastic, dry to slightly moist.
	9.0	9.0	27 50	1.5/2.0	1200					8 9 0	SP / SM	6.0 to 7.0 feet: Colluvium; weathered sandstone, very pale brown (10YR7/4) to yellow (10YR7/6), fine grained; friable, dry. 7.0 to 11.0 feet: Colluvium; sandy silt (30 to 40 percent fine sand), very pale brown (10YR7/4) to yellow (10YR7/6); somewhat friable, medium hard to hard, dry.
	11.0	11.0	30 50	1.8/2.0	1252			X		1 2	SM	11.0 to 13.0 feet: Colluvium; sandy silt as above, some weathered quartzite fragments ranging from 1/4 inch to 1 inch in diameter, grayish brown (10YR5/2) to brown (10YR5/3), rounded to subrounded; dry. SAMPLE SB12-01 (12.0-12.5) collected at 1252.
	13.0	13.0	30 50	1.5/2.0	1259					3 4	SM	13.0 to 14.5 feet: Colluvium; sandy silt as above, numerous weathered quartzite fragments ranging from 1/4 inch to 1 inch in diameter, subangular to subrounded, semiconsolidated; friable, dry to slightly moist.
	15.0		50 1	0.5/0.5	1308					5 6 7 8 9 0	SP	14.5 to 15.0 feet: Colluvium and weathered bedrock (sandstone), semiconsolidated, fragmented by drive sampling, hard to very hard, dry to very slightly moist. Total Depth (refusal) at 15.0 feet.

OTHER AREAS

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location downgradient of VB-3 — W.O. Number 469.06

Well Number B-3 — Total Depth 18.5' — Diameter 6"

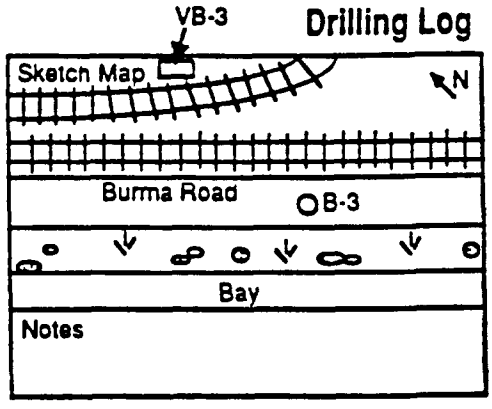
Surface Elevation ____ — Water Level: Initial ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/6/90



Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: Asphalt (~6" thick)
	GW			(Fill)
1			1.2	GRAVEL/SAND, unconsolidated, well-graded
			0	
2	CL		0	CLAY, silty, with sand, moderately hard, dry, breaks into blocky fragments,
			0	brown with darker brown and orange mottling, slight odor (bunker?)
3	PT		0	PEAT, medium plasticity, soft, dark brown-black, shelly
	CL	rec 4'	0	CLAY, silty, stiff, breaks into blocky fragments, shell fragments, some gravel, brown with dark brown and orange mottling
4	GW		0	GRAVEL, well-graded (silt-cobbles <3" diameter), unconsolidated
5	CL		0.2	CLAY, silty, dark brown, shell fragments, soft, low plasticity, moist
	PT		0	PEAT, no odor, abundant shell fragments, dark brown-black, moist, slightly plastic, soft
6			0.4	
	CL		0.6	CLAY, silty, some shell fragments, red-brown, moist, medium stiff, hard, no odor
7			0.1	
			1.4	(Bay Mud?)
8			8.0	CLAY, silty, gray-green, medium stiff and hardness, moist, medium plasticity, hydrocarbon odor (bunker?), small dark black globules of oily material
	CL	rec 5'	46	
9			8.0	1,100 = TEH mg/kg
10			6	CLAY, with gravel, stiff, hard, small vesicles (containing black oily specks), green with orange laminations/mottling, slightly moist, slight hydrocarbon odor (bunker?)
			4	
11	CL		5	
			1.5	
12			2	gravel content increases with depth
	CL		1.5	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient VB-3 W.O. Number 469.06

Well Number B-3 Total Depth 18.5' Diameter 6"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/6/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		6	[illegible]
			14	
14		5'	14	detected hydrocarbon odor (JP5?) (Highly-weathered bedrock) SILTSTONE fragments with clay infilling fractured spaces, oily staining on many of the fractured surfaces (16 - 16.5'), hydrocarbon (bunker?) odor detected at 16 - 16.5' (not in upper 1.5'), slightly moist, soft, easily crumbled into blocky fragments
15			0	
			0	
16			0.4	
			2.4	(Bedrock) SILTSTONE, coherent, unweathered
17			0.4	
			11	
18		Rec. 4'	0.8	
	BOH			BOH = 18.5' (Refusal in bedrock)
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location known area of leak and spill beneath Tank 17, closest to bay — W.O. Number 469.06.07

Well Number B-4 — Total Depth 30' — Diameter 6"

Surface Elevation ____ — Water Level: First detected 4.5' — 24-hrs. ____

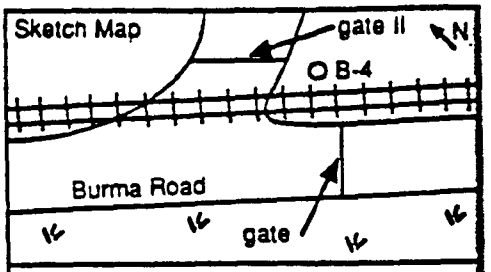
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/7/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW			SURFACE: Sparse grass cover with scattered gravel (Fill) GRAVEL, well-graded (clay to cobbles < 2" diameter unconsolidated, dry, brown, no odor
1			1	
	CL		28	CLAY, silty, abundant gravel, stiff, hard, low plasticity, black, breaks into blocky fragments, dry, no odor
2			36	
			90	CLAY, silty, plastic, medium stiff and hard, slightly moist, black green mottling, occasional gravel, moisture increases with depth (also softness), rootlets, organic odor
3	OH		110	
			100	
4		rec 4.5'	100	
			340	CLAY, a.a. wet
5				
			42	grades into
6	CL		0.5	CLAY, silty, stiff and medium hard, green-brown with abundant orange mottling, occasional gravel, no odor
			4	
7			1.5	
			2	gravel increases in content and size with depth
8			2.6	CLAY, gravelly, red-brown with orange mottling, moist, soft, easily crumbled, slightly plastic, medium stiff, no odor
			7.6	
9		rec 5'	3.4	
			18	
10				
			0	CLAY, a.a.
11	CL		0	
			0.2	
12			0.4	
			0.3	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location known area of leak and spill beneath Tank 17 closest to bay — W.O. Number 469 06 07

Well Number B-4 — Total Depth 30' — Diameter 6"

Surface Elevation ____ — Water Level: First detected 4.5' — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/7/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		0.4	
			1.4	
14	CH	rec 5'	0	CLAY, silty, red brown, plastic, moist, medium soft, occasional small < 1/8" diameter pebbles, some orange staining around pebbles, moderate plasticity, no odor
			2	
15	CL		0	CLAY, silty, with gravel (< 1/4"), red-tan, with orange staining, easily crumbled, moist, no odor
16			1.1	
			0	CLAY, silty, with some gravel (1/4"), red-tan, black lineations, slightly plastic, medium hardness, and stiff, moist, no odor
17			0	
			0.3	
18	CL		0	
			0.3	
19			0	
		rec 5'	0	
20			0	CLAY, silty with gravel, gray-tan with abundant orange mottling, wet, soft, slightly plastic, no odor
21			0	
	CL		0	
22			0	
			0	
23			0.2	
	CL		0.8	CLAY, silty, with some gravel, moderately stiff, slightly plastic, moist, hard, gray-tan, with orange mottling
24			0	
		rec 5'	0	
25	CL			CLAY, silty and gravelly, easily crumbled, low plasticity, wet gray-tan, with overall orange mottling
			0	

Drilling Log

Environmental Resources Management

Project Pt. Molate | Client Navy
Location known area of leak and spill beneath Tank 17 closest to bay | W.O. Number 469.06.07
Well Number B-4 | Total Depth 30' | Diameter 6"
Surface Elevation _____ | Water Level: First detected 4.5' | 24-hrs. _____
Screen: Dia. _____ | Length _____ | Slot Size _____
Casing: Dia. _____ | Length _____ | Type _____
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/7/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL		0.2	
			0.8	a.a. gravelly and silty clay
27			2.4	
			0.4	
28			0	
			0	
29			0	(Highly-weathered bedrock)
		rec. 5'	0	SILTSTONE, fragments in clay matrix, easily crumbled, moist, slightly plastic, soft, red-brown, no odor
30	BOH			BOH = 30 ft.

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location downgradient of VB-19 — W.O. Number 469.06

Well Number B-5 — Total Depth 30' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected 19' — 24-hrs. ____

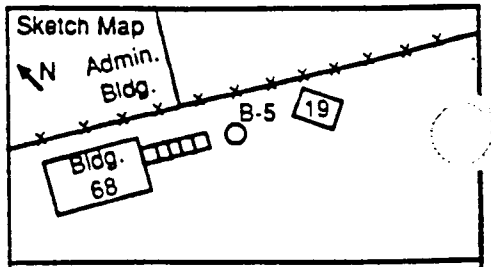
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/7/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~ 3" thick
	GW		0.5	(Fill) GRAVEL, well graded, clay to gravel < 3" diameter, brown, loosely consolidated, easily crumbled, dry, orange mottling, hydrocarbon odor
1			0.2	
			0.2	
2			0.2	
			4.6	
3			14	
	CL	rec 4'	200	CLAY, silty, some very fine-grained sand, green and dark gray mottled, moist, moderate plasticity, firm, medium strength, hydrocarbon odor
4				
	CL		60	CLAY, silty and sandy (very fine-grained), green, some black mottling, medium plasticity, firm, moist, low strength, hydrocarbon odor
5			260	
			420	CLAY, silty and sandy (very fine-grained), dark gray, fuel-saturated, strong hydrocarbon odor, plastic, low strength
6			210	
	CL		1000+	4,200
7			60	
			1000+	11,000
8		rec 5'	80	
	CL		160	CLAY, silty, dark gray, some gravel (< 1/8" diameter), occasional green patches (fine- to medium-grained sand), moderate plasticity, firm, moist, hydrocarbon odor
9			40	
10			60	
	CL		70	CLAY, a.a., sharp color change to gray-green with orange speckled mottling and red splotches
11			420	
	SC		320	
12	CL		120	SAND, clayey, gray-green, poorly graded, fine- to medium-grained, hydrocarbon odor
	SC		60	CLAY, silty with fine-grained sand, gray-green, medium plasticity, firm, moist, low strength, hydrocarbon odor

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of VB-19 W.O. Number 469.06

Well Number B-5 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 19' 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/7/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	SC	rec 5'	0	SAND, clayey, poorly graded, medium-grained, moist, weakly consolidated, very slight plasticity, low strength, orange and dark gray mottling
			4	
14	CL		60	CLAY, silty, orange-brown, with black mottling, very stiff, slight plasticity, slighty moist, slight hydrocarbon odor
15			15	
			100	
16	CL		60	CLAY, silty, green-tan with orange mottling, stiff, low plasticity, moist, low strength, easily crumbled, slight hydrocarbon odor
			60	
17			20	
			80	
18	CL	rec 5'	20	CLAY, sandy (very fine-grained), green-tan with orange mottling, medium stiff, medium plasticity, moist, medium strength
			30	
19	SP			water first detected at 19 ft. (~ 1:00)
				SAND, poorly graded, medium- to coarse-grained, occasional gravel, saturated, hydrocarbon odor
20			100	
			10	CLAY, silty (grading to sandy in lenses), green-tan, medium stiff, slight plasticity, medium strength, orange mottling, wet, hydrocarbon odor
21			80	
			80	
22			40	
			20	
23	CL	rec 4.5'	30	
			24	
24				
			4	CLAY, silty, a.a.
25			10	
			30	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of VB-19 W.O. Number 469.06

Well Number B-5 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 19' 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/7/90

Sketch Map

See page 1

Notes

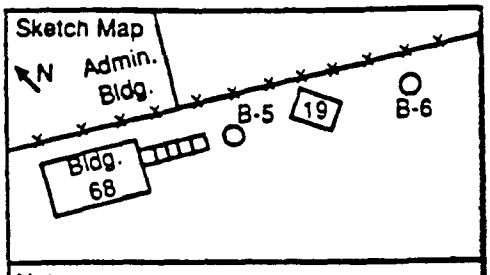
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			25	
			84	
27	CL		14	CLAY, sandy (fine-grained), green-tan with orange mottling, occasional gravel < 1/4" diameter, easily crumbled, low plasticity, saturated, slight hydrocarbon odor
			15	
28		rec 5'	6	
			0	
29	CH			CLAY, silty, green-tan with orange mottling, saturated, plastic, medium strength, stiff
		rec 1'	0	
30	BOH			BOH = 30 ft.

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy
Location above VB-19 — W.O. Number 469.06
Well Number B-6 — Total Depth 29.5' — Diameter 6"
Surface Elevation ____ — Water Level: First Detected ~20' 24-hrs. ____
Screen: Dia. ____ — Length ____ — Slot Size ____
Casing: Dia. ____ — Length ____ — Type ____
Drilling Company Spectrum — Drilling Method HSA
Driller Ray/Brian — Log By JAQ — Date Drilled 3/7/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~ 3" thick
1	GC			CLAY/GRAVEL, moderate strength, very stiff, slight plasticity, dry, brown, gravel < 2" diameter, no odor
2			0.4	
			0.2	
3	CL		0.6	CLAY, sandy (fine-grained) with gravel (< 1/8" diameter), red-brown, stiff, dry, slight plasticity, medium strength, no odor
			2	
4		rec 3.5'	0.2	grades into CLAY, silty, low strength, medium stiffness, plastic, dark greenish-gray, green and orange mottling, moist, organic odor
5	CL		8	
			6.6	
6	CL		1	CLAY, silty with gravel (< 1/4" diameter), stiff, low plasticity, brown with orange mottling, easily crumbled, slightly moist, no odor
			0.6	
7			1.8	
	CL		10	CLAY, silty to sandy (very fine-grained), medium stiff and medium strength, low plasticity, brown with dark brown and orange mottling, moist, no odor
8			8	
	CL	rec 5'	16	CLAY, silty to sandy, green-gray with dark gray and orange mottling, soft, moist, moderate plasticity, no odor
9	CL		15	ND CLAY, silty, green-gray with abundant orange mottling, medium stiff, medium hardness, low plasticity, moist, rootlets, no odor
10			0.2	CLAY, silty, green-tan with orange mottling, stiff, medium strength, slight plasticity, no odor
	CL		0.1	
11			0.2	
			1.6	
12			0	
	CL		4.2	CLAY, a.a., but sandy, lower strength, no odor

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location above VB-19 | W.O. Number 469.06
Well Number B-6 | Total Depth 29.5' | Diameter 6"
Surface Elevation | Water Level: First Detected ~20' 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/7/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 5'	0.8	
			2.6	CLAY, silty, tan with orange mottling, stiff, medium strength, slight plasticity, moist, no odor
14			1.6	
15	SC		1.2	SAND, clayey, red-tan, slightly cohesive but easily crumbled, slight plasticity, moist, no odor
			1.4	
16			0.5	
	CL		5.2	CLAY, sandy, tan with orange and green mottling, moist, medium plasticity, low strength, medium stiffness, black inclusions
17			1.4	
			1.7	
18			1.5	
		rec 5'	7	grades into less plastic, sandier clay
19			1.6	
20	SC			grades into SAND, clayey, red-brown, well-graded (clay to gravel < 1/4" diameter), subangular, wet, no odor
			1.8	water first detected at 20' (15:00)
21			1.8	
	CL		33	ND
22			12	CLAY, sandy, red-tan with orange mottling, slight plasticity, slightly cohesive but easily crumbled, wet, no odor
			15	
23	GC		25	SAND/CLAY/GRAVEL, wet, well-graded (clay to gravel < 1" diameter), loosely consolidated, red-tan, no odor
		rec 4.5'	4	
24			15	CLAY, sandy, red-tan, soft (stiffness increases with depth), moderate plasticity, low strength, wet, no odor
	CL			
25				color change to green-gray with orange mottling

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location above VB-19 | W.O. Number 469.06
Well Number B-6 | Total Depth 29.5' | Diameter 6"
Surface Elevation | Water Level: First Detected ~20' | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/7/90

Sketch Map

See page 1

Notes

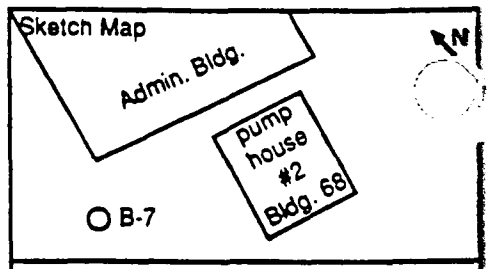
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			1.4	
			0.8	CLAY, sandy, a.a., but occasional coarse-grained sand lenses
27			0.6	
	CL		0.7	
28			0.4	
		rec.	0.6	
29		4'	0.3	
	BOH			
30				
				BOH = 29.5'

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location behind Bldg. 68, Admin. Bldg | W.O. Number 469.06
Well Number B-7 | Total Depth 28'4" | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/8/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: Asphalt ~ 1-1/2 inches thick
1	GW			(Fill) GRAVEL, well-graded, unconsolidated, fine-grained sand to cobbles (< 3" diameter), dry, slight consolidation with depth, but easily crumbled, cobbles subangular to subrounded, no odor
2				
3			0	
			0	
4			0	
		rec 2.5'	0	
5	CL		0.2	
6			1.4	CLAY, silty with fine-grained sand, occasional gravel (< 1/4" diameter) high strength, no plasticity, dry, hard, when broken-angular chunks result, no odor, red-tan, vesicles, orange mottling, no odor
			0	
7	CL		0	CLAY, a.a. but sandy and more easily broken, lower strength, very stiff, dry, no odor
			0	CLAY, silty, a.a.
8	CL		0	
			0	
9	CL		0	CLAY, sandy, a.a. but lower strength, very stiff, dry, no odor
		rec 5'	0	
10	CL		0	CLAY, silty, a.a. but with rootlets, increasing number of pebbles (subangular < 1/4" diameter), hard, dry, black staining around rootlets, red-tan with orange staining and some darker brown patches, no plasticity, no odor
11			0	
			0	
12			0	
			0.2	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location behind Bldg. 68, Admin. Bldg. W.O. Number 469.06

Well Number B-7 Total Depth 28'4" Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/8/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	
			0	
14			0	
		rec 5'	0	
15				
			0	CLAY, silty, a.a.
16	CL		0	
			0	
17			0	
			0	
18			0	
			0	
19			0	
		rec 5'	0	
20				
			0.1	CLAY, silty, a.a., very stiff, slightly moist, orange-stained patches slightly larger and more diffuse than above, no odor
21			0	
			0.1	
22			1.6	
	CL		0.2	CLAY, sandy, highly mottled green-tan and red-tan, slight plasticity rootlets, fractures lined with black coating, slightly moist, no odor, hard, grading into
23			0.2	
			1.1	(Highly weathered bedrock)
24			0	
		rec 5'	0.1	Bedrock fragments in clay matrix, angular, abundant fractures and coated with dark layer, no odor
25				
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location behind Bldg. 68 Admin. Bldg. W.O. Number 469.06

Well Number B-7 Total Depth 28'4" Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/8/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			0	
			0	
27			0	
			0	(Bedrock) SILTSTONE, red-tan to green-gray in color, easily broken, slightly moist, no odor
28		rec 3.5'	0	
	BOH			BOH = 28'4" (refusal in bedrock)
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB 11 W.O. Number 469.06

Well Number B-8 Total Depth 22'8" Diameter 6"

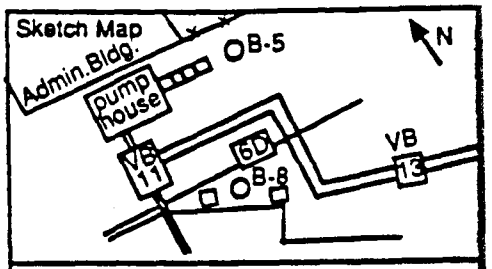
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/8/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE - dirt, sparse grass and gravel
				(Fill)
1			0.1	GRAVEL, clayey, well-graded, clay to cobble sized pieces (< 3" diameter), moist, clay is plastic but overall the soil has low plasticity, grains/cobbles are subrounded to subangular, some stratification present - there are thin (< 4" thick) layers of particularly clayey and less gravelly sections, red-brown color overall - influenced by individual gravel pieces, no odor
			0	
2			0	
			0	
3	GC		0	
		rec 3.5'	0	
4				
5				
6			0	
			0	
7			0.2	
			0	
8			0	
		rec 3.5'	0	GRAVEL, a.a. but dry, lower clay content, no odor
9				
10				
11			0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location beside VB 11 | W.O. Number 469.06
Well Number B-8 | Total Depth 22'8" | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/8/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13		rec 3'	0 0	
14	GC			
15				
16			0	
17			0 0	(Highly weathered bedrock?)
18	CL	rec 3'	0.1 0.3	CLAY, silty, highly mottled, with green-gray, orange and black spots, has appearance of altered bedrock, occasional pebbles of bedrock, very stiff, hard, breaks into blocky fragments, slightly moist, slight plasticity, no odor
19	CL			CLAY, silty to sandy (fine-grained), red-tan, highly mottled with orange, dark gray, and occasional green spots, medium stiffness, moist, slight plasticity, organic odor, roots
20	GW		0 0.2	GRAVEL, well-graded, coarse sand to cobble-sized (< 4" diameter), saturated, no odor, cobbles angular to subangular, roots
21			0.8 0.5	(Bedrock) SILTSTONE, highly fractured, dry, red-tan, unconsolidated (possibly pulverized by advancing bit), no odor
22		rec 3'	0.2	
23	BOH			BOH = 22'8" (Refusal in bedrock)
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location by VB 13 — W.O. Number 469.06

Well Number B-9 — Total Depth 18' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

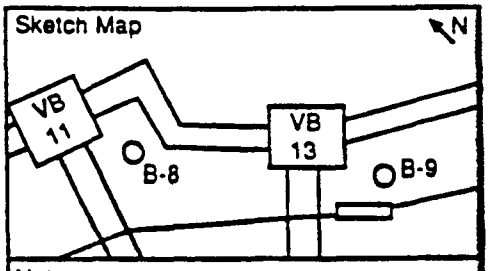
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/8/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: Dirt and sparse grass and gravel
1				GRAVEL, clayey, well-graded, ranging from clay to cobble-sized (< 3" diameter), subangular to subrounded, moist, smaller grains have medium plasticity, roots, red brown with orange mottling
2	GC		0	
			0	
3			0	
		rec 2.5'	0	
4				
			0	
5			0	
			0	
6			0	
			0.2	
7			0	
	GW		0	GRAVEL, sandy, subangular to subrounded, pebbles (< 2" diameter), slightly moist, well-graded
8			0	
	CL	rec 5'	0	CLAY, sandy and gravelly, moist, moderate plasticity, stiff, medium strength, breaks into blocky fragments, gray-tan with abundant orange mottling, gravel is subangular to subrounded (< 1/4" diameter)
9				
			13	990 mg/kg.
10			9	
	ML		9	CLAY/SILT, very stiff, high strength, slight plasticity, very compacted (nearly lithified), rock fragments (some altered to clay - red in color), very slightly moist, forms blocky fragments when broken
11			5	
			5.6	
12			2.6	
			1.0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location by VB 13 | W.O. Number 469.06
Well Number B-9 | Total Depth 18' | Diameter 6"
Surface Elevation ____ | Water Level: First Detected ____ | 24-hrs. ____
Screen: Dia. ____ | Length ____ | Slot Size ____
Casing: Dia. ____ | Length ____ | Type ____
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAO | Date Drilled 3/8/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13		rec 5'	0.2	
14	ML			CLAY/SILT, a.a.
15			0	
			0	
16			0	
			0	(Weathered Bedrock)
17			0	SILTSTONE fragments contained in silty clay matrix, red-brown, dry
		rec 4'	0	
18	BOH			BOH = 18' (Refusal in bedrock)
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-10 W.O. Number 469.06

Well Number B-10 Total Depth 6'10" Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

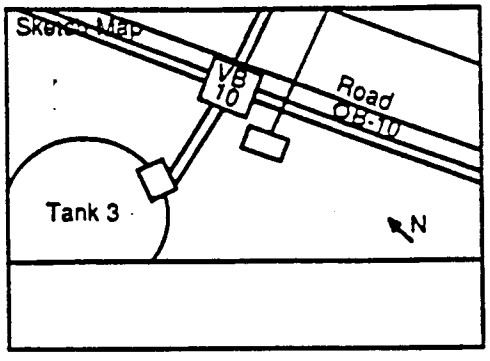
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/9/90

Sketch Map



Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: dirt and gravel (road shoulder)
				(Fill)
1				Gravel, clayey, well-graded: from clay sized to cobbles (<3" diameter), moist, plastic, relatively unconsolidated, red-brown with orange mottling (corresponds to sandier patches), cobbles subangular to subrounded.
			0	
2	GC		0	
			0	
3			0.2	
		rec 3'	0.4	
4				
5				
			0	
6			0	
		rec 2'	0	(Bedrock) SILTSTONE
7	BOH			
				BOH = 6'10" (Refusal in bedrock)
8				
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside flagpole island beside VB 14 W.O. Number 469.06

Well Number B-11 Total Depth 16'5" Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

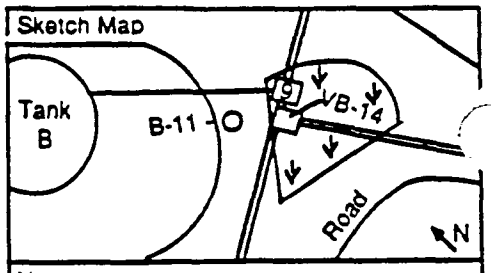
Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/9/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: Asphalt < 2" thick
				(Fill)
1			0	GRAVEL, sandy, well-graded: clay to cobble-sized (<2 1/2" diameter, slightly moist at surface grading into dry at ~5 feet, some clayey lenses throughout the section (these are low plasticity and moderately well compacted) primarily unconsolidated except as noted in clayey sections, red-brown with some orange mottling, cobbles subangular to subrounded, no odor detected
			0	
2			0	
			0	
3			0	
	GW	rec 3.5'	0	
4				
5				
6				
7			0	
			0	
8			0.1	
		rec 2.5'	0	
9				
			0	
10			0	
			0	CLAY, silty, dark brown with orange mottling (centralized in areas around roots), rootlets, occasional gravel (<1/4" diameter) very stiff, high strength, slightly plasticity, no odor detected
11			0	
	CL		0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside flagpole island beside VB 14 W.O. Number 469.06

Well Number B-11 Total Depth 16'5" Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/9/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 5'	0 0	
14	ML		0	grades into (Weathered Bedrock) SILT, clayey and sandy, low dry strength (easily crumbled into blocky fragments), very stiff, plasticity, slightly moist, dark brown with orange mottling, no odor detected, rootlets throughout section, occasional pebbles (<1/4" diameter)
15		rec 2.5'	0 0	
16			0 0	
17	BOH			(Bedrock) BOH = 16'5" (Refusal in bedrock)
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location by valve box 15: tank 6 W.O. Number 469.06

Well Number B-12 Total Depth 16' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

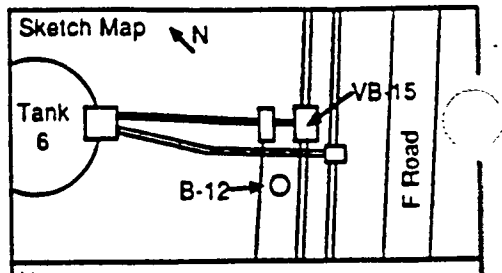
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/9/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: reworked gravelly soil
1	CL			CLAY, silty with sand, dark brown, very low strength, moderate plasticity, moist, rootlets, no odor detected, medium stiffness, easily crumbled into blocky fragments
2	GW			GRAVEL Note: didn't recover any of this other than one large chunk of rock - driller noted a break from ~ 2-3 feet (low recovery attributed to this rock)
3				
4			0.5	
		rec 1.5'	0	CLAY, silty, soft, dark brown, very low strength, plastic, moist, rootlets, no odor detected
5	CL			
6				Note: low recovery attributed to the previously-mentioned rock being pushed ahead of sampler ~ upon encountering harder bedrock we supposed that it rotated and moved up into sampler - only recovered ~ 1/4 feet of clay above the rock
7				
8			4.6	
9			1.2	
		rec 1.5'	1.4	(Highly Weathered Bedrock)
10			10	SANDSTONE, very fractured (fractures often coated with dark material), roots, red-tan at surface, grades into gray-green at 12-foot depth, unusual odor in the upper section (dry stagnant, rusty odor almost sulfuric in nature) no odor in the green sandstone, highly fissile, moist, rootlets
11			6	
			16	
12			10	
			5	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location by valve box 15: tank 6 W.O. Number 469.06

Well Number B-12 Total Depth 16' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/9/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			52	
			22	
14			6	
		rec 5'	18	
15				
		rec 1'	72	
16	BOH			BOH = 16' (Refusal in bedrock)
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location on B Rd. beside drum storage area 2 W.O. Number 469.06

Well Number B-13 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 25' 24-hrs. _____

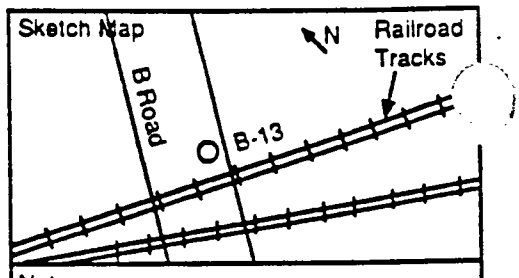
Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: packed gravel and dirt
1	GW			GRAVEL, well-graded, dark brown with black staining, medium-grained sand to cobbles (<2" diameter) well-rounded, hydrocarbon odor
2			0	
3		rec 2'	0	CLAY, gravelly and silty, gravel <1/8" diameter, medium strength, moderate plasticity, dark brown with orange mottling near pebbles, very stiff, moist, no odor
4			0	
5	CL		0	
6			0.1	
7			0	
8			0.2	
9	CL	rec 5'	0.3	CLAY, a.a. but sandier, and less plastic than above
10	GC		0	CLAY/SAND/GRAVEL (<1/4" diameter) mixture, low dry strength, medium plasticity, red-brown with orange and yellow mottling, easily crumbled, moist, no odor
11	CL		0.1	
12	CL		0	CLAY, silty, low strength, plastic, dark brown, moist, medium stiff, no odor
			0.1	
			0.2	CLAY, silty, low strength, low plasticity, slightly moist, gray-green with orange staining, pebble content increases with depth, no odor
			0.1	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location on B Rd. beside drum storage area 2 W.O. Number 469.06

Well Number B-13 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 25' 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAO Date Drilled 3/12/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 5'	0.1	
			0.1	
14				CLAY, silty, a.a.
			0	
15			0	
			0	
16	GW		0	GRAVEL, well-graded, sand to gravel (<1 1/2" diameter) slightly moist, unconsolidated, no odor
			0.1	
17	CL		0	CLAY, silty, with fine sand, very stiff, medium strength, gray tan, with darker brown mottling, slightly moist, medium plasticity, no odor
			0	
18			0	Gravel content increases with depth
		rec 5'	0	
19				CLAY, gravelly, gray-tan with orange and darker brown mottling, easily crumbled, slightly moist, low plasticity, some clayey lenses, no odor
			0	
20			0	
			0	
21	CL		0	
			0	
22			0	
			0	
23			0	
		rec 5'	0	
24				
25				
	CL		0	CLAY, sandy, saturated, plastic, red-tan, with orange mottling, occasional pebbles, no odor, water first detected at 25' depth (10:00)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location on B Rd. beside drum storage area 2 W.O. Number 469.06

Well Number B-13 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 25' 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GW		0	GRAVEL, saturated, well-graded, sand to gravel sized (<1" diameter), subrounded to subangular, relatively unconsolidated red-tan, slight plasticity, detected sweet odor
			0	
27			0.1	
			0	
28			0	
		rec 4'	0	CLAY, gravelly, red-tan with orange mottling near gravel pieces, very stiff, slightly moist, no plasticity, high strength, no odor
29	CL			
		rec 0.5'		
30	BOH			BOH = 30 feet

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location to the west of retaining basin #1 east off B Road ~ 20' W.O. Number 469.06

Well Number B-14 Total Depth 30' Diameter 6"

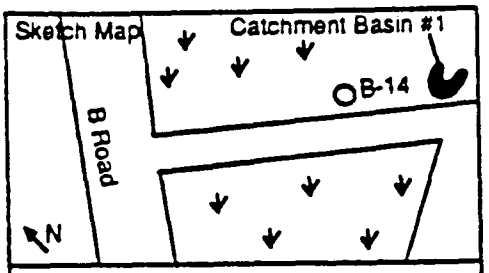
Surface Elevation ____ Water Level: First Detected 16' 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel
1				CLAY, gravelly, dark brown, with some darker brown mottling (gravel is <1/2" diameter, subrounded, and generally orange in color), slightly moist, low plasticity, low strength, very stiff, no odor
			0.2	
2	CL		0	
			0	
3			0	
		rec 3'	0	
4				
5				GRAVEL, well-graded, clay sized to pebbles (<1 1/2" diameter), slightly moist, red-brown, very slightly plastic, no odor
			0	
6			0	
			0	
7	GW		0	
			0	
8			0	
		rec 4'	0	
9				CLAY, gravelly, red-tan (gravel predominantly orange), very stiff, slightly moist, high strength, slight plasticity, no odor
			0	
10			0	
	CL		0	
11			0	
			0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy

Location to the west of retaining basin #1 east off B Road ~ 20' | W.O. Number 469.06

Well Number B-14 | Total Depth 30' | Diameter 6"

Surface Elevation _____ | Water Level: First Detected 16' | 24-hrs. _____

Screen: Dia. _____ | Length _____ | Slot Size _____

Casing: Dia. _____ | Length _____ | Type _____

Drilling Company Spectrum | Drilling Method HSA

Driller Ray/Brian | Log By JAQ | Date Drilled 3/12/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 5'	0	
			0	
14				grades into
			0	CLAY, gravelly, gray tan with orange mottling, slightly moist, low plasticity, medium strength, very stiff, no odor
15			0	
	CL		0	CLAY, silty, occasional gravel, slightly moist, low plasticity, very stiff, medium strength, gray brown with orange mottling, no odor
16			0	
	GC		0	GRAVEL, clayey, saturated, red-brown, moderate plasticity, no odor
17			0	
	CL		0	CLAY, with silt, green-gray with darker gray marble texture, stiff, moist, high strength, moderate plasticity, no odor
18			0	
	CL	rec 4.5'	0	CLAY, gravelly, red-brown with darker brown mottling and orange staining predominantly around gravel, moist, grades into
19				
20	GC		0	GRAVEL, clayey , red-brown with orange mottling around gravel, occasional gray patches, wet, moderate plasticity, low compaction - easily crumbled, no odor
			0	
21			0	
			0	
22			0	
	CL		0	CLAY, silty with occasional gravel, moist, moderate plasticity, red-tan with red-brown mottling, stiff, no odor
23			0	
		rec 4.5'	0	gravel content increases with depth and grades into
24				
25	GC		0	GRAVEL, well graded - clay to gravel (<1/2" diameter) saturated, red-brown overall, some sandy and clayey lenses interspersed through section (clay lenses gray-tan with orange mottling), no odor
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location to the west of retaining basin #1 east off B Road ~ 20' W.O. Number 469.06

Well Number B-14 Total Depth 30' Diameter 6"

Surface Elevation _____ Water Level: First Detected 16' 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GC		0	
			0	
27			0	CLAY, gravelly, wet, gray-brown with orange mottling, stiff, medium strength, moderate plasticity, no odor
			0	
28	CL	rec 4.5'	0	
			0	
29		rec 0'		Note: No recovery - sample slipped out of sampler
30	BOH			BOH = 30' depth

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of Tank 17 W.O. Number 469.06

Well Number B-15 Total Depth 16' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

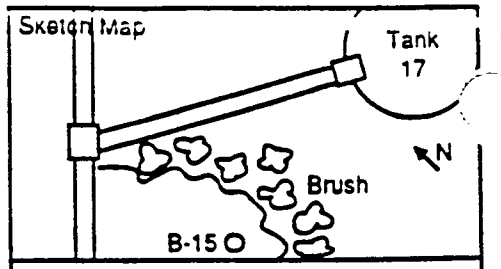
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and dirt
1	GW		0	GRAVEL, well-graded, clay to cobble-sized (<1 1/2" diameter), slightly moist, dark brown, cobbles are subangular, unconsolidated, no odor
2			0	
			0	
3	CL	rec 2.5'	0	CLAY, silty, very dark brown (almost black) with red-brown spotting, soft, moist, plastic, grades into
4			0	CLAY, lighter brown (still dark) with gravel, medium stiff, medium strength, wet, plastic, no odor
5	CL		0	
			0	
6			0	
7	CL		0	CLAY, sandy and gravelly, saturated, brown, very soft, low strength, plastic, no odor
			0	
8		rec 5'	0	
9	CL			CLAY, sandy, wet, brown, soft, low strength, plastic, no odor
			0	
10	CL		0	CLAY, silty with gravel, gray-brown, with orange, yellow and green mottling, very stiff, medium strength, slightly moist, no odor
			0	
11			0.2	
12			0.1	
			0.1	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of Tank 17 W.O. Number 469.06

Well Number B-15 Total Depth 16' Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map

See page 1

Notes

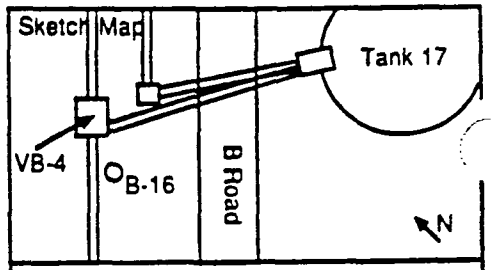
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13		rec 5'	0.1	gravel content increases with depth
			0.1	(Weathered Bedrock) SILTSTONE, gray, highly fractured, weathered to clay, interbedded with SANDSTONE, red-tan, fissile
14			0	
15		rec 2'	0	
			0	
16	BOH			BOH = 16 Feet (Refusal in bedrock)
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy
Location beside VB-4 W.O. Number 469.06
Well Number B-16 Total Depth 12'11" Diameter 6"
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Spectrum Drilling Method HSA
Driller Ray/Brian Log By JAQ Date Drilled 3/12/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and dirt
1	GW			GRAVEL, well-graded, unconsolidated
2				
3			0	CLAY, silty, dark brown, medium stiff, medium plastic, medium strength, wet, plastic, strong hydrocarbon (diesel) odor
			0	
4		rec 2'	0	
5	CL		0.2	
			1	
6			9	
			11	9,900 mg/kg.
7			34	Grades to very dark brown (almost black) at depth TEH = 9,900 mg/kg,
			18	GRAVEL, clayey, saturated, dark gray with black globules of oil, unconsolidated bedrock
8	GC		1	material, subangular, well graded clay ~~sized to pebbles (<1/2" diameter)~~
			0.1	
9		rec 5'		(Weathered Bedrock)
10				SILTSTONE, green-gray, highly saturated, angular fragments with clay in fractures, highly fractured, saturated, oily sheen detected
11			0.2	
			0	From 9,900 to ND in 5.5 ft.
12		rec 2.5'	ND	@ 12.5 ft TEH = ND ??
	BOH			BOH = 12'11" (Refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location Top of hill downgradient of Tank 19 W.O. Number 469.06

Well Number B-24 Total Depth 8' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

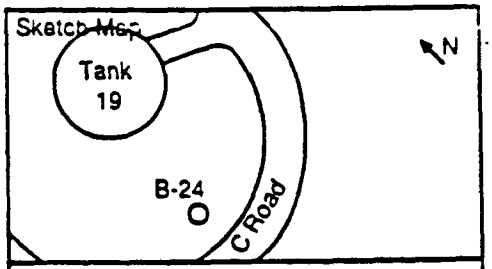
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/16/90

Sketch Map



Notes

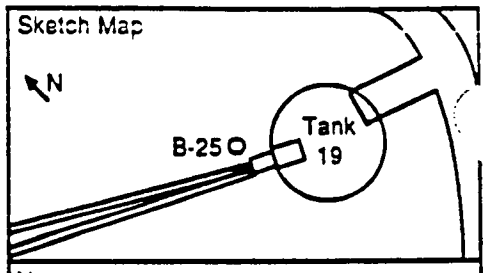
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			None Taken - High Humidity	SURFACE: grassy slope
1	CL			CLAY, silty, moist, soft, low strength, plastic, brown with orange mottling, occasional gravel (<1/4" diameter), rootlets, no odor
2				(Highly weathered bedrock)
3	GC			GRAVEL, clayey, moist, plastic, pinkish-tan with bedrock gravel (subangular), slightly cohesive and plastic, very low strength, no odor
4		rec 4.5'		(Bedrock)
5				SILTSTONE, highly fractured, uncohesive in tubes, green-gray siltstone, clay in some of the fractures, angular gravel fragments, no odor
6				
7		rec 3'		
8	BOH			BOH = 8' (refusal in bedrock)
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location beside skimmer pit in Tank 19 | W.O. Number 469.06
Well Number B-25 | Total Depth 3.5' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/16/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	CL		None Taken - High Humidity	SURFACE: graded gravel - slight weed cover CLAY, gravelly, dark brown, gravel subangular, moist GRAVEL, sandy, red-brown, slightly moist, unconsolidated, subangular to angular, dark staining on frachure surfaces, no odor
1	GW			
2				(Bedrock) SILTSTONE, green-gray siltstone, fractured, black staining on fracture surfaces, no odor
3		rec 3'		
4	BOH			BOH = 3.5 feet (refusal in bedrock)
5				
6				
7				
8				
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of Tank 13 W.O. Number 469.06

Well Number B-26 Total Depth 3' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

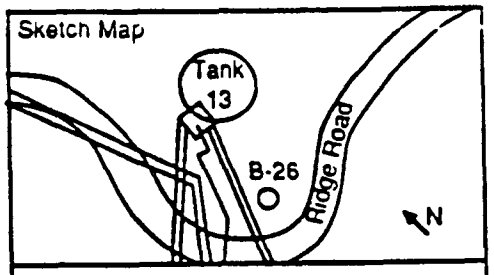
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/16/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			None Taken - High Humidity	SURFACE: graded gravel and soil
1	GW			GRAVEL, sandy, angular to subangular gravel, chunks of bedrock, unconsolidated, cobbles <2 1/2" diameter, collected, dry, no odor, well graded, sand to cobble-sized
2		rec 2'		
3	BOH			(Bedrock) BOH - 3 feet (refusal in bedrock)
4				
5				
6				
7				
8				
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location Below Tank 6 W.O. Number 469.06

Well Number B-27 Total Depth 12' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

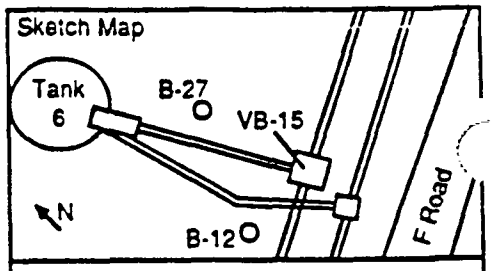
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/19/90

Sketch Map



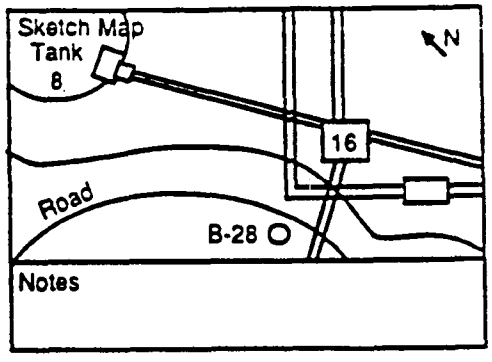
Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	CL			SURFACE: graded gravel and dirt
1	CL			CLAY, gravelly, sandy, brown with orange and tan, no odor, mottling, moist, plastic, low strength, medium stiffness
			0	
2			0	CLAY, silty with sand, dark brown, moist, low strength, medium stiffness, no odor
			0	
3	CL		0	CLAY, silty with sand, gray with orange mottling, moist, stiff, moderate strength, slight odor
			0	
4		rec 4'	0	(Weathered Bedrock)
5			0	SANDSTONE, well-sorted (fine to gravel <1/4" diameter) predominantly fine-grained, tan with orange mottling, moderately fissile, crumbled in tubes, unusual musty, dry, stale odor
			0	
6			0.6	
			0	
7			0.1	
			0	
8			0	Grades into red-tan sandstone with strong hydrocarbon odor
			0.4	
9		rec 5'	32	Note: green clay, strong odor, observed on auger but not in boring
10				Color change to gray-green - strong hydrocarbon ("decomposed") odor
11			12	
12	BOH	rec 0.5'		(Bedrock) SILTSTONE
				BOH = 12 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt Molate | Client Navy
Location beneath VB-16 | W.O. Number 469.06
Well Number B-28 | Total Depth 13.5' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/19/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel with sparse grass cover
1	CL			CLAY, gravelly (<2 1/2" diameter), moist, low strength, plastic, stiff, red-brown with orange, dark gray, tan mottling
				Note: low recovery attributed to large gravel piece plugging nose piece
2				
			0	
3			0	
			0	
4		rec 2.5'	0	
	SP			SAND, saturated, gray-green with darker gray mottling, strong odor of hydrocarbons (more refined odor than below), poorly graded, medium- to coarse-grained, slightly cohesive
5			35	
	CL		0.2	CLAY, silty, moist, medium stiff, plastic, dark reddish-brown, low strength, roots, no odor, grades into
6			0	CLAY, silty, moist, stiff, medium strength, gray-brown with red-brown mottling, slightly plastic, occasional pebbles (orange-stained), fractured sections with dark gray staining in fractures, unusual odor as in B-27 but stronger (diesel? acrid, musty odor) silt content increases with depth (especially lower 2 feet) odor strongest in the silty facies, grades into
			0.1	
7	CL		0	
			0	
8			0.3	
			13	(weathered bedrock)
9		rec 5'	3.3	SILTSTONE, highly fractured, red-tan with green-gray color in fractured sections, crumbly thinner-bedded lenses are saturated with hydrocarbon and dark gray stained, strong "bunker" odor in saturated sections
10			5.0	(Bedrock)
			4.0	SILTSTONE, slight hydrocarbon odor throughout section
11			0	
			0	
12			14	
			1.0	
13	BOH	rec 4'	3.0	

BOH = 13.5 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of Tank 5, along F Rd. W.O. Number 469.06

Well Number B-29 Total Depth 4.5' Diameter 6"

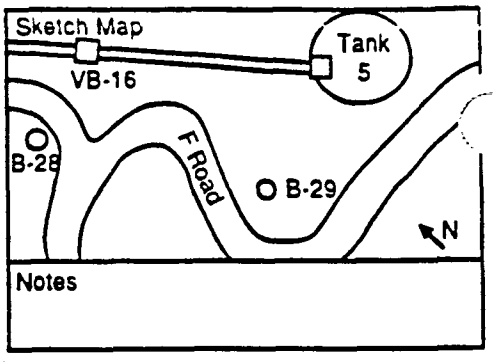
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/19/90



Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	ditch		None Taken - Humidity Interference	SURFACE: grass-covered ditch along side of road
1	CL			CLAY, gravelly, red-brown, unconsolidated, moist, rootlets, no odor
2				(Bedrock) Interbedded SILTSTONE and SANDSTONE layers, highly fractured, some clay in larger fractures, moist, no odor, gray-tan to red-tan layers, no structure visible in tubes, angular fragments, dark staining along fracture surfaces
3		rec 3'		
4		0.5		
	BOH			BOH = 4.5 feet (refusal in bedrock)
5				
6				
7				
8				
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside Tank 7 along access road W.O. Number 469.06

Well Number B-30 Total Depth 28' Diameter 6"

Surface Elevation _____ Water Level: First Detected _____ 24-hrs. _____

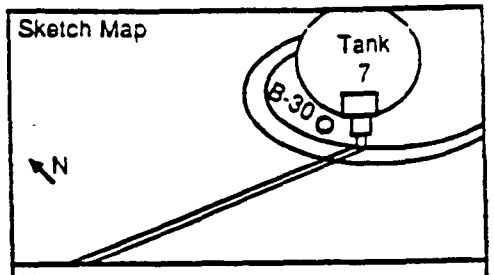
Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/19/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded soil and gravel (Fill)
1	CL			CLAY, gravelly and sandy, moist, red-brown, plastic, medium stiffness, low strength, no odor
2				
			0.1	
3	CL		0.5	CLAY, silty, wet, soft, red-brown with lighter orange mottling, occasional gravel, plastic, low strength, no odor
			0.1	
4		rec 2.5'	0.1	
5				CLAY, gravelly and silty, wet, soft, low strength, plastic, green-gray, strong hydrocarbon odor, gravel < 1" diameter and subangular
	CL			
6				
			0	
7			6	
			15	
8			6	
			27	TEH = 340 mg/kg.
9		rec 3.5'	9	
10				
11				
12				

Drilling Log

Environmental Resources Management

Project Pt. Molate Client Navy

Location beside Tank 7 along access road W.O. Number 469.06

Well Number B-30 Total Depth 28' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/19/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 2'	26	CLAY, a.a., gravel content increases with depth (<2 1/2" diameter), and becomes more angular
14			10	
			12	
15				Note: No recovery - rock in nose piece
16				
17				
18				
19		rec 0'		
20				(Highly weathered bedrock) SILTSTONE, alternating lenses of coherent rock, highly fractured rock, and clayey sections, wet, strong hydrocarbon odor and black globules visible along fractured surfaces, angular fragments with clay concentrating in fractures, dark green-gray overall color, gravel predominantly red-tan with dark gray discoloration
21				
			6	
22			26	
			300	TEH 1,700 mg/kg
23			420	
			90	
24		rec 4'	56	(Bedrock) SILTSTONE, red-tan with dark gray discoloration along fracture surfaces, little to no clay along fracture planes, grading to green-gray in areas
25			29	
			47	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside Tank 7 along access road W.O. Number 469.06

Well Number B-30 Total Depth 28' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/19/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			320	at 25 - 26.5 feet - highly fractured lense, saturated with hydrocarbons, visible black globules and oily sheen, strong odor
		#	40	SANDSTONE, red-tan, slight odor, clayey, fractured (may be result of drilling ~ no staining, odor or fluid inside), very fine-grained.
27			11	
		rec 3.5'	5	
28	BOH			BOH = 28 feet (refusal in bedrock)
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location Beside VB-20 — W.O. Number 469.06

Well Number B-31 — Total Depth 13.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

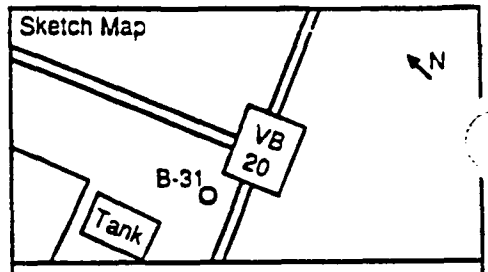
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/20/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~ 2 1/2"
1	GC			GRAVEL, clayey, dark brown with gray and orange mottling, moist, very low strength, organic odor, unconsolidated, slightly plastic, well-graded (clay to cobbles <2 1/2" diameter)
2				
			0	CLAY, gravelly, dark red-brown with orange, yellow and gray mottling, gravel <1" diameter, soft, moist, plastic
3	CL		0	
		rec 2'	0	
4				
5				
	CL		0.1	CLAY, silty, medium stiff, low strength, plastic, red-brown with orange and dark gray mottling, slight hydrocarbon odor (bunker?), occasional pebbles <1/4" diameter, moist, grades into
6			0.8	
			2.8	
7	CL		6.6	CLAY, silty, with sand, saturated, soft, dark green gray, occasional gravel, strong hydrocarbon odor, plastic, low strength,
			8	
8			0	
	CL	rec 4.5'	0.4	CLAY, silty, red-brown with green-gray mottling, moderate plasticity, low strength, easily crumbled, occasional gravel, no odor
9				(Highly weathered bedrock) SILTSTONE and fine-grained SANDSTONE, red-brown, angular fragments in clayey matrix (concentrated in fractures), slightly coherent, but easily crumbled, moist, no odor
10				
			0.4	
11			0.1	
			0	(Bedrock) SILTSTONE, gray, highly fractured, some clay in fractures and darker staining along fracture surfaces
12			0	
			0	
13	BOH	rec 3.5'	0	

BOH = 13.5 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location below VB-21 — W.O. Number 469 06

Well Number B-32 — Total Depth 18' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

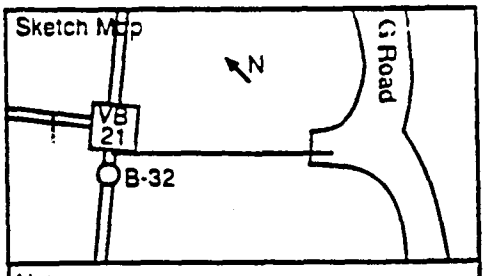
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/20/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil, eucalyptus leaves, sparse grass, GRAVEL, well-graded (sand to cobbles < 2 1/3" diameter), very slightly moist, non-cohesive, red-brown, subrounded to subangular fragments
1				
2				
			0	
3			0	
	GW		0	
4		rec 2.5'	0	
5				
6				
7			0.1	
			0	(Highly weathered bedrock)
8			0	ND
	CL		0	
9		rec 3'	0	CLAY, gravelly, silty, abundant coal or tar fragments, moist, plastic, low strength, soft, rootlets
10			0	(Bedrock) SANDSTONE, thin-bedded, fine-grained and SILTSTONE, red-tan and gray in color, highly fractured, dark staining on fractured surfaces, beds 1/8" to 5" thick, no odor, dry, clay infills fractures in upper 1 1/2 feet
			0	
11			0	
			0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location below VB-21 — W.O. Number 469.06

Well Number B-32 — Total Depth 18' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/20/90

Sketch Map

See page 1

Notes

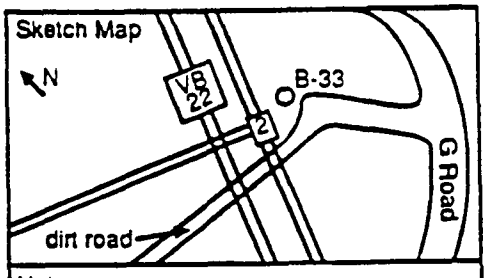
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	
			0	
14		rec 5'	0	
15			0	(Bedrock)
			0	SILTSTONE, a.a.
16			0	
			0	
17			0	N -
		rec 3.5'	0	
18	BOH			BOH = 18 feet (refusal in bedrock)
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location below VB-22 | W.O. Number 469.06
Well Number B-33 | Total Depth 8' | Diameter 6"
Surface Elevation ____ | Water Level: First Detected ____ | 24-hrs. ____
Screen: Dia. ____ | Length ____ | Slot Size ____
Casing: Dia. ____ | Length ____ | Type ____
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/20/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GC			SURFACE: graded gravel and dirt, sparse weeds
			19	GRAVEL, clayey, dark gray-black (staining), very strong hydrocarbon odor, well-graded clay to <1/4" diameter pebbles, moist, dark color fades with depth (indicates surface spill)
1			6.2	
			0.1	CLAY, silty and gravelly, red-brown with orange and dark gray mottling, gravel <1/2" diameter, medium stiff, low strength, moist, plastic, easily crumbled, no odor
2	CL		0	TEH = 14,000 mg/kg.
			0	
3			0	
			0	
4		rec 5'	0	CLAY, silty with gravel, dark brown, moist, plastic, low strength, no odor
	CL			(Highly weathered bedrock)
5			0	SILTSTONE and fine SANDSTONE, highly fractured with clay in fractures, angular fragments, thin-bedded (<1/4" to 4" thickness), dark staining along fracture planes, clay content decreases with depth
			0	
6			0	
			0	
7			0	
		rec 3.5'	0	
8	BOH			BOH = 8 feet (refusal in bedrock)
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location by storm drain along Garden Rd. W.O. Number 469.06

Well Number B-34 Total Depth 19.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

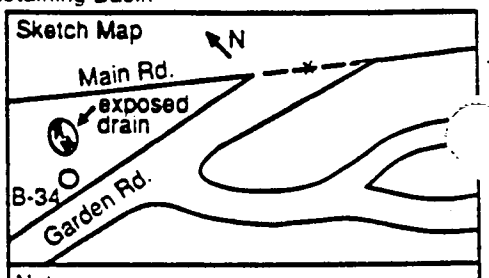
Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/21/90

Retaining Basin

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	PT			SURFACE: grassy with brush cover
				PEAT, dark brown-black, organic material, rootlets, moist
1				
				CLAY, gravelly and silty, pebbles <2 1/2" diameter, red-brown with orange mottling (near pebbles), moist, low strength, plastic, soft, no odor
2	CL		0	
			0	
3			0	
			0	
4		rec 3'	0	
5			0	
			0	
6	PT		0	PEAT, shelly, occasional pebbles, black color, organic odor, moist, low plasticity
			0	
7	CL		0	CLAY, silty with gravel, slightly moist, slight plasticity, red-tan with orange and black mottling, stiff, medium strength, no odor
			0	
8			0	
			0	CLAY, gravelly, red-tan with orange mottling near pebbles, low strength, easily crumbled, moist, low plasticity, grades into material with overall green-gray staining, some orange mottling, strong hydrocarbon odor in green-gray areas, green-gray zone is wetter than above
9	CL	rec 5'	0.2	
10			56	
			67	
11			12	
			1.8	
12	CL		2.6	CLAY, with gravel, red-tan with orange mottling, medium strength, stiff, moist, plastic, no odor
			0.2	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location by storm drain along Garden Rd W.O. Number 469.06

Well Number B-34 Total Depth 19.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/21/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		0.3	
			0	
14		rec 5'	0	
15				(Highly weathered bedrock) SILTSTONE, highly fractured with clay infilling fractures, clay content decreases with depth, fragments angular to subangular, non-cohesive in sampler, red-brown with dark staining on many fracture surfaces, fragments primarily <1/2" diameter, no odor
16				
17				
18			0	
			0	
19		rec 2'	0	BOH = 19.5 feet (refusal in bedrock)
	BOH			
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location below VB-18 — W.O. Number 469 06

Well Number B-35 — Total Depth 17.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

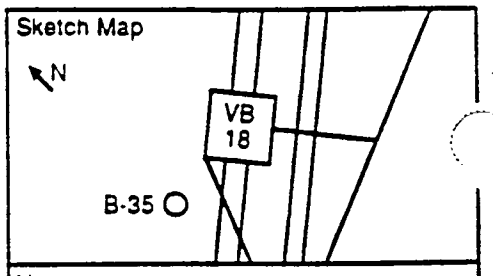
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/21/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil with sparse grass cover (Colluvium)
1				GRAVEL/SAND/SILT mixture, red-tan, unconsolidated, gravel <2" diameter, slightly moist, no plasticity, no odor
2				
	GM			
3			0	
			0	
4			0	
		2.5'	0	
5				
6				
				Sand/Silt content decreases with depth, becomes primarily fractured bedrock fragments, unconsolidated, dry, siltstone to fine sandstone fragments, angular to subangular, dark staining on some fractured surfaces, red-tan, no odor
7				
			0	
8			0	
			0	
9			0	
		rec 3'	0	
10				(Highly weathered bedrock)
			0	SILTSTONE, low strength, easily crumbled, red-tan with orange and dark gray mottling, rootlets, slightly moist, no odor
11			0	
			0	
12			0	
			0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location below VB-18 | W.O. Number 469.06
Well Number B-35 | Total Depth 17.5' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/21/90

Sketch Map

See page 1

Notes

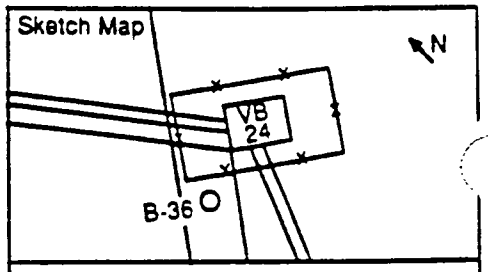
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	
			0.1	
14			0	
		rec 5'	0	Grades into SILTSTONE to fine SANDSTONE, tan-gray with dark staining on fractured surfaces, thin bedded (<1" thick), dry, angular fragments, no odor
15				
			0	
16			0	
			0	
17		rec 2.5'	0	
	BOH			BOH = 17.5 feet (refusal in bedrock)
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location below VB-24 | W.O. Number 459.06
Well Number B-36 | Total Depth 16' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/21/90

Sketch Map



Notes
see utility map #8 for location

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil, eucalyptus bark and leaves
				GRAVEL/SAND mixture, gravel <2 1/2" diameter, slightly moist, unconsolidated, red-tan, no odor
1			0	
2			0	
			0	
3	GW		0	
			0	
4		rec 3.5'	0	
5				
6				
			0	
7			0	Slight hydrocarbon odor detected
			16	
8			22	
			0.3	CLAY, silty, red-brown, occasional gravel, medium strength, stiff, orange mottling around gravel, slightly plastic, moist, slight hydrocarbon odor
9		rec 3.5'	1.4	
10	CL		0	
			0	
11			0	
			0	
12			0.4	(Highly weathered bedrock) SANDSTONE AND SILTSTONE, red-tan to gray, highly fractured with clay infilling fractures, thin bedded, easily crumbled into angular fragments, dark
			0.1	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location below VB-24 | W.O. Number 469.06
Well Number B-36 | Total Depth 16' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Ray/Brian | Log By JAQ | Date Drilled 3/21/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0.7	staining on fracture surfaces, no odor, moist
			0.3	
14		rec 5'	0	
15				Highly weathered bedrock, a.a
		rec 1'	0	
16	BOH			BOH = 16 feet (refusal in bedrock)
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location along Burma Rd. betw. VB-2 and 3 W.O. Number 469.06

Well Number B-37 Total Depth 17' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

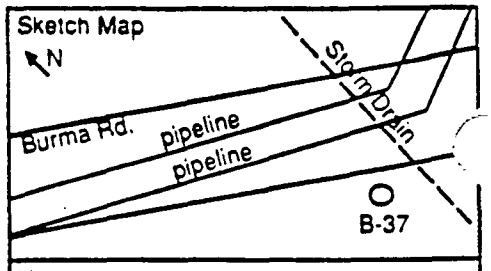
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/22/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	SURFACE: graded gravel and soil GRAVEL, unconsolidated, slightly moist
1				
2	CL			CLAY, silty, red-brown, medium strength, coherent, stiff, no odor
3		rec 3'		
4				PEAT, shelly, black, low strength, moist, clay balls and occasional clay lense, (<5" thick) no odor
5	PT			
6				
7				
8	CL	rec 3.5'		CLAY, gravelly, stiff, moist, medium strength, no odor
9				CLAY, sandy and gravelly, easily crumbled, moist, no odor
10	CL			
11				
12	CL			CLAY, silty, with gravel, moist, no odor

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location along Burma Rd. betw. VB-2 and 3 W.O. Number 469 06

Well Number B-37 Total Depth 17' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/22/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 5'		
14	CL			CLAY, gravelly, easily crumbled, moist, no odor
15		rec 2.5'		(Highly weathered bedrock) SILTSTONE, highly fractured bedrock with clay infilling fractures, angular fragments, no odor, moist
16				
17	BOH			(Bedrock) SILTSTONE, coherent, some healed fracture surfaces, sample nearly solid - 1 piece of rock
18				BOH = 17 feet (refusal in bedrock)
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location along Burma Rd. betw. VB-2 and 3 — W.O. Number 469.06

Well Number B-38 — Total Depth 17.5' — Diameter 6"

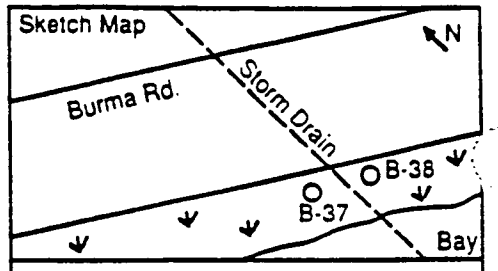
Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/22/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	SURFACE: graded gravel and soil, sparse grass GRAVEL, unconsolidated, very slightly moist
1				
2	CL			CLAY, silty, red-tan with overall black mottling, moist, no odor, occasional gravel
3		rec 3.5'		
4				
5				
6				grades into
7	CL			CLAY, silty and gravelly, black mottling decreases, moist, no odor, easily crumbled
8		rec 5'		
9	GC			GRAVEL, clayey, sandy, relatively non-cohesive, black, wet, no odor
10				
11	GC			Color change - fades from black to green-gray and has strong hydrocarbon odor (old, degraded bunker - type odor) some clay balls (plastic, light gray, moist) wet, unconsolidated, black globules throughout gravel
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location along Burma Rd. betw. VB-2 and 3 W.O. Number 469.06

Well Number B-38 Total Depth 17.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/22/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GC	rec 3'		(Highly weathered bedrock)
14				SILTSTONE fragments, loose, moist, no odor, light gray, grades into red-tan, angular fragments, some white clay balls, highly fractured and easily crumbled
15				
16				
17		rec 3'		(Bedrock) SILTSTONE, more coherent than above
	BOH			BOH = 17.5 feet (refusal in bedrock)
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location on Burma Rd. shoulder, betw. VB-2 & 3 — W.O. Number 469.06

Well Number B-39 — Total Depth 14.5' — Diameter 6"

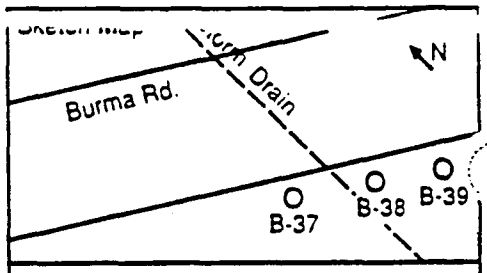
Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/22/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	GRAVEL/SAND mixture, slightly moist, loose, no odor, red-brown color
1	PT			PEAT, shelly, black, loose, moist, no odor
2	CL			CLAY, silty, highly mottled (red-brown, brown-black, orange), moist, low strength, cohesive layer, soft, low plasticity, no odor
3		rec 2.5'		
4				
5	PT			
6				Thin layer of peaty shelly material, as above
7				(Highly weathered bedrock) SILTSTONE, thin-bedded and highly fractured (angular), slight clay content within fractures near upper contact, clay decreases with depth, no odor, slightly moist, some dark staining along fracture surfaces
8		rec 5'		
9				
10				
11	CL			
12				CLAY lense, gravelly, moist, medium strength, cohesive, stiff, red-tan with white and dark gray mottling, no odor (BEDROCK)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location on Burma Rd. shoulder betw. VB-2 & 3 W.O. Number 469.06

Well Number B-39 Total Depth 14.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/22/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13		rec 4'		SILTSTONE, gray, solid - hard drilling (fractured in tubes, probably due to drilling process) dry, no odor
14		rec 0.5'		
	BOH			BOH = 14.5 feet (refusal in bedrock)
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location along Burma Rd — W.O. Number 469.06

Well Number B-40 — Total Depth 23.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

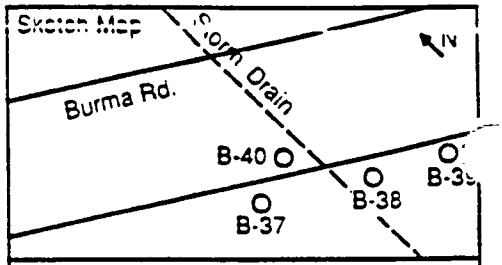
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/22/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	SURFACE: asphalt GRAVEL/SAND mixture, slightly moist, red-brown, no odor, unconsolidated
1				
2	CL			CLAY, silty, stiff, medium strength, moist, plastic, dark brown with orange mottling, no odor
3		rec 3'		CLAY, gravelly and sandy, moist, slightly cohesive, but easily crumbled
4	CL			
5				
6				PEAT, shelly, black, moist, no odor, unconsolidated
7	PT			
8	CL	rec 2.5'		CLAY, gravelly and silty, low strength, easily crumbled, low plasticity, moist, no odor
9	PT			PEAT, shelly, wood fragments, black, saturated, no odor, relatively unconsolidated, slight cohesion due to moist clay
10	CL			CLAY, silty, plastic, dark green-black, wet, strong hydrocarbon odor (old, decomposed bunker-type)
11	CL			(Highly weathered bedrock) CLAY, gravelly, low strength and easily crumbled, wet, hydrocarbon odor, dark gray- to green-black
12	GC			grades into

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location along Burma Rd — W.O. Number 469.06

Well Number B-40 — Total Depth 23.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/22/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GC	rec 4.5'		GRAVEL, clayey, bedrock source, red-tan, slightly moist, no odor
14				clay content decreases with depth
15				(Bedrock) SILTSTONE and SHALE, highly fractured, angular fragments with some clay adding slight cohesivity, moist, no odor
16				
17				
18		rec 3.5'		
19				
20				SILTSTONE and SHALE, a.a. but easily crumbled, no odor
21				
22				
23				
24	BOH			BOH = 23.5 feet (refusal in bedrock)
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Burma Rd. — Client Navy

Location betw VB-2 and 3 — W.O. Number 469 06

Well Number B-41 — Total Depth 9' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

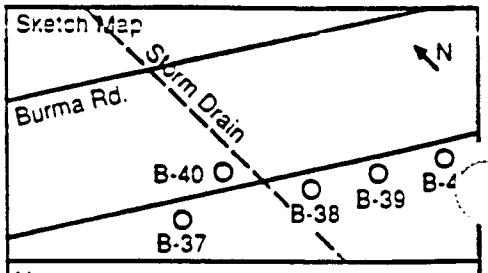
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAO — Date Drilled 3/22/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	GRAVEL, sandy, loose, unconsolidated, slightly moist, no odor
1				
2	PT			
3				PEAT, shelly, dark brown-black, organic odor, moist, loose, unconsolidated
4	GC	rec 2.5'		(Highly weathered bedrock) GRAVEL, clayey, red-tan, moist, plastic, no odor, low strength, angular fragments with clay providing cohesiveness grades into (Bedrock) SILTSTONE, highly fractured, angular fragments, slightly moist, some dark staining on fracture surfaces, thin-bedded and rubbly, no odor, clay infilling some fractures
5				
6				
7				
8		rec 3.5'		clay content decreases with depth
9	BOH			Last 1/2 foot more coherent (solid rock) BOH = 9 feet (refusal in bedrock)
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location catchment basin beside Main Rd., below — W.O. Number 469.06

Well Number B-42 — Total Depth 35' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected 20' — 24-hrs. ____

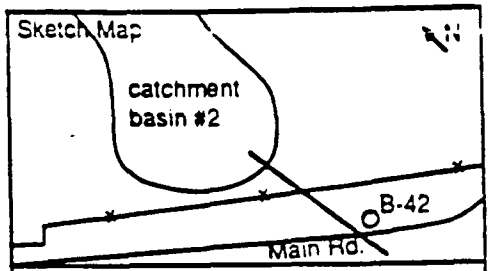
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAO — Date Drilled 3/23/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	GRAVEL/SAND mixture, dry, no odor, loose
1	CL			CLAY, gravelly with sand, medium strength, dry, no odor, crumbles into blocky fragments
2				
3				CLAY, a.a., sand content increases, low-strength - easily crumbled
4	CL	rec 4'		
5				
6				
7	ML			SILT, thinly laminated, dry, no odor, soft, fissile, light red-tan
8				GRAVEL, well-graded (clay to cobbles < 3" diameter), slightly moist, unconsolidated
9	GC	rec 3'		
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location catchment basin beside Main Rd. below — W.O. Number 469.06

Well Number B-42 — Total Depth 35' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected 20' — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Bay/Brian — Log By JAQ — Date Drilled 3/23/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GC			
14	CL	rec 2.5'	None Taken	CLAY, silty, gray-brown with orange mottling, moist, hydrocarbon odor (old, bunker-type) some dark gray mottling (seems associated with rootlets - may be organic in nature) gravel content increases with depth
15				
16				CLAY, gravelly, gray with red-tan mottling, easily crumbled, some black (organic?) mottling, moist, no odor
17				
18	CL	rec 5'		
19				
20				water first detected at 20 feet (9:15)
21				CLAY, a.a., moisture content increases with depth
22				
23				
24		rec 5'		
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location catchment basin beside Main Rd. below — W.O. Number 469 06

Well Number B-42 — Total Depth 35' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected 20' — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/23/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL		None Taken	
	SC			SAND, clayey, coarse-grained, relatively unconsolidated, wet, no odor
27				
28	CL			CLAY, silty, stiff, wet, red-tan with orange mottling, no odor, grades into
29		rec 5'		CLAY, gravelly, medium stiff, wet, no odor, red-tan with orange mottling, occasional black mottling
30				
31	CL			
32				gravel content increases with depth, stiffness decreases thin clayey or gravelly sections interspersed throughout section
33				
34	CL	rec 4'		(Highly weathered bedrock) CLAY, silty, gray, wet, no odor, plastic, occasional gravel (bedrock),
		rec 0.5'		(Bedrock) SILTSTONE and fine-grained SANDSTONE, wet, no odor
35	BOH			BOH = 35 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location beside Main Rd., below catchment basin #2 — W.O. Number 469.06

Well Number B-43 — Total Depth 17' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

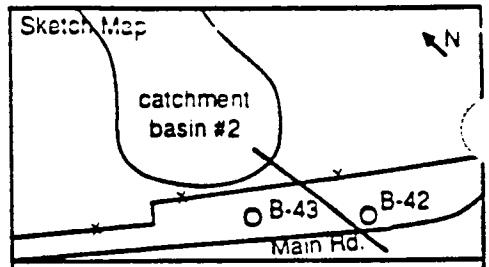
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/23/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			None Taken	SURFACE - asphalt ~ 2" thick
1	GW			SAND/GRAVEL mixture, dry, red-brown, unconsolidated, no odor
2				
3				
4		rec 2'		
5				
6				SAND/GRAVEL, a.a.
7				
8				
9		rec 3'		SILT, clayey, moist, very soft, no odor, low strength, red-brown
10	ML			gravel at base
11				(Fill) large chunks of non-native cobbles (one caught on the auger itself, ~ 4" diameter), light gray sandstone, dry, no odor
12	GP			

Environmental Resources Management

Drilling Log

Location catchment basin #2 beside Main Rd. below — W.O. Number 469.06

Well Number B-43 — Total Depth 17' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAO — Date Drilled 3/23/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GP	rec 2'		
14				
15				
16		rec 1'		very hard drilling
17	BOH			BOH = 17 feet (refusal in cobble field)
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Location western side of catchment basin W.O. Number 469.06

Well Number B-44 Total Depth 37.5' Diameter 6"

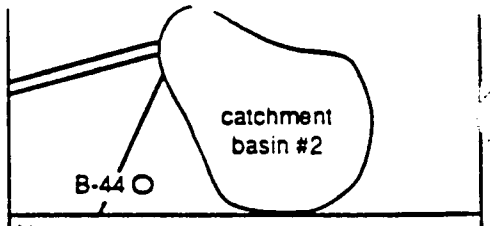
Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/23/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			None Taken	SURFACE: grassy cover
1	GC			GRAVEL, clayey, slightly cohesive but easily crumbled into blocky fragments, slightly moist, no odor
2				
3				
4	GC	rec 3.5'		
5				GRAVEL, clayey, a.a.
6				
7				
8				
9		rec 2'		
10				GRAVEL, clayey, a.a.
11				
12				detected hydrocarbon odor at base, wet

Environmental Resources Management

Drilling Log

Location western side of catchment basin W.O. Number 469 06

Well Number B-44 Total Depth 37.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAO Date Drilled 3/23/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 3.5'	None Taken	CLAY, silty, wet, soft, hydrocarbon odor (JP5/bunker mix) green-black, low strength grades into
14				
15		rec 3'		CLAY, silty and gravelly, less consolidated, moist, hydrocarbon odor (JP5) easily crumbled, tan to gray
16	CL			
17				
18				
19	CL			CLAY, silty, stiff, slightly moist, red-tan, slight hydrocarbon odor, medium strength
20	CL	rec 4.5'		grades into CLAY, gravelly and sandy, low strength, hydrocarbon odor (JP5), wet, green-gray with some red-brown lenses
21	SC			SAND, with clay, saturated, green-gray, strong hydrocarbon odor (JP5), coarse-grained
	CL			
22				CLAY, silty, stiff, medium strength, slightly moist, no odor, gravel content increases with depth, red-brown
23	CL			CLAY, gravelly and sandy, moist, easily crumbled, no odor, red-brown with orange and yellow mottling
24				
25	CL			CLAY, gravelly, stiff, moist, medium strength, gray-brown, no odor

Environmental Resources Management

Drilling Log

Sketch Map

See page 1

Notes

Location western side of catchment basin W.O. Number 469 06

Well Number B-44 Total Depth 37.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/23/90

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL			
27	GC			GRAVEL, clayey, wet, no odor, loose
28	CL			CLAY, gravelly, stiff, slight moisture (more moisture at the upper contact), brown-gray/red-brown mottled, medium strength, no odor, moderate plasticity
29		rec 5'		
30				
31				(Weathered bedrock)
32	CL			CLAY, damp to wet, stiff, gray-green to green-blue with gray mottling, no odor, cubic-shaped gravel chunks (serpentine?), plastic, some sedimentary structures (laminations)
33				
34		rec 5'		
35				SILTSTONE, angular fragments, with clay providing slight cohesion, wet, no odor, green-blue color, lowermost foot more coherent
36				
37				
38	BOH			BOH = 37.5 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Location: western side of catchment basin, 10' NE of B-44 — W.O. Number: 469.06

Well Number: B-45 — Total Depth: 29' — Diameter: 6"

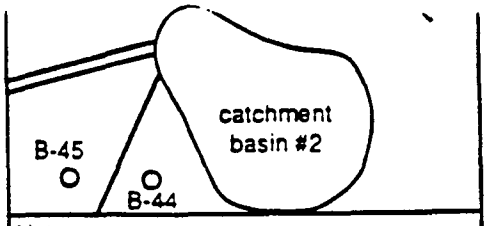
Surface Elevation: ____ — Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company: Spectrum — Drilling Method: HSA

Driller: Ray/Brian — Log By: JRW — Date Drilled: 3/23/90



Notes: 10' from B-44

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			None Taken	SURFACE - grassy cover
1	GM			GRAVEL with silt and minor clay, slightly damp, very slightly cohesive, no odor, brown with minor yellow and gray mottling
2				Increased clay content, slightly moist, angular gravel (up to 1-1/2")
3				Gravel content increases with depth
4		rec 4'		
5	GC			GRAVEL, clayey with cobbles up to 2", no odor
6				
7	SM			SAND, silty, dry layer ± 6", increasing gravel with depth. Silt and fine sand, yellow-brown color, slightly cohesive due to minor clay. No odor
8	GW			GRAVEL, fine to coarse, gravel layer saturated with water, no odor, brown clay
9		rec 3.5'		
10	CL			CLAY with minor silt, damp, mottled coloring (red, yellow, rusty), moderately cohesive
11				CLAY, a.a., increasing gravel, lighter brown color
12	CL			Increasing silt, less cohesive

Environmental Resources Management

Drilling Log

Location: western side of catchment basin, 10' NE of B-44 — W.O. Number: 469.06

Well Number: B-45 — Total Depth: 29' — Diameter: 6"

Surface Elevation: ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company: Spectrum — Drilling Method: HSA

Driller: Ray/Brian — Log By: JRW — Date Drilled: 3/23/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GC	rec 5'	None Taken	GRAVEL, with clay, silt and fine sand, slightly damp, loose, very slightly cohesive
14				
15				minor increase in clay (layer ± 2-3"), slightly moist
16				
17				
18	SM			SILT with fine sand, minor sand and gravel, very minor clay, dry, stiff, and dense, moderate brown with mottling (red-yellow-orange-grey), no odor
19		rec 5'		SILT, a.a., increasing clay
20	CL			CLAY with gravel and minor silt, yellow brown-grey, slightly moist and cohesive
21				
22				
23				
24		rec 5'		Increasing gravel, slightly more moist (Weathered bedrock)
25	GC			GRAVEL (fine) with clay, minor silt. Gravel mostly 1/8-1/2" angular, wet, moderately cohesive, grey-brown, no odor Cobbles up to 2", as above

Environmental Resources Management

Drilling Log

Location western side of catchment basin W.O. Number 469.06

Well Number 10' NE of B-44 B-45 Total Depth 29' Diameter 6"

Surface Elevation _____ Water Level: First Detected _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JRW Date Drilled 3/23/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GC			
27				(Bedrock) SILTSTONE, fractured, with clay and silt in fractures, moist, no odor
28		rec 4.5'		
29	BOH			BOH = 29 feet (refusal in bedrock)
30				
31				
32				
33				
34				
35				
36				
37				
38				

Environmental Resources Management

Drilling Log

Location eastern side of catchment basin #2 W.O. Number 469.06

Well Number B-46 Total Depth 41.5' Diameter 6"

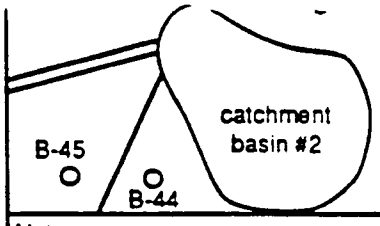
Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/26/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW		None Taken	SURFACE: hard-packed soil, weed/grass cover GRAVEL/SAND mixture, unconsolidated, slightly moist, clay content increases with depth, gravel is subangular non-native material, red-brown overall color, no odor
1				
2				
3				
4		rec 2'		
5				
6	CL			CLAY, silty, chocolate brown, soft, moist, low strength, very plastic, no odor
7				
8	CL			CLAY, sandy, medium-grained sand, wet, chocolate brown, rootlets, very soft, very plastic, no odor
9		rec 3'		grades into
10	CL			CLAY, silty, gray-tan with abundant orange mottling, with gravel, stiff, moist, plastic, high strength, no odor
11				
12	CL			CLAY, gravelly, with silt and sand, low strength, easily crumbled, slightly moist, low plasticity, gray-tan with orange mottling, no odor

Environmental Resources Management

Drilling Log

Location eastern side of catchment basin #2 W.O. Number 469.06

Well Number B-46 Total Depth 41.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/26/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			None Taken	
14		rec 5'		
15	CL			
16				
17				
18				
19		rec 4'		CLAY, gravelly and silty, red-brown, medium strength, moist, plastic, medium stiff, no odor
20	CL			grades into
21				GRAVEL, clayey and sandy, wet, low strength, easily crumbled, clay content slightly higher at top of unit, red brown, no odor
22				
23	GC			
24		rec 5'		
25	CL			CLAY, gray-tan with orange mottling, wet, occasional gravel, no odor

Environmental Resources Management

Drilling Log

Location eastern side of catchment basin #2 W.O. Number 469.06

Well Number B-46 Total Depth 41.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected ____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/26/90

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			None Taken	
27	CL			CLAY, with gravel to gravelly in lenses (< 1" diameter), gray-green to blue-gray, saturated, orange mottling, soft, low strength, plastic, no odor
28				
29		rec 5'		Gravel content and size increases with depth, grades into
30	GC			GRAVEL, clayey, saturated, low strength, no odor, gray-brown
31				
32				CLAY, silty and gravelly, medium stiff, medium strength, wet, no odor, gray-brown, with orange and gray mottling, plastic
33	CL			
34		rec 5'		
35				
36				CLAY, sandy and gravelly, saturated, no odor, red-brown, low strength, easily crumbled, low plasticity
37	CL			
38				
	GC			GRAVEL, clayey, very low strength, saturated, no odor, red-brown

Environmental Resources Management

Drilling Log

Project Pt Molate Client Navy

Location eastern side of catchment basin #2 W.O. Number 469 06

Well Number B-46 Total Depth 41.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/26/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
39	GC	rec 5'		(Highly weathered bedrock)
40	GC			GRAVEL/CLAY mixture, clay is blue-gray with orange mottling, wet, no odor, gravel is bedrock (sandstone and siltstone), stiff, gravel < 2" diameter angular, overall red-brown color
41		rec 2'		
42	BOH			(Bedrock) SILTSTONE, red-tan BOH = 41.5 feet (refusal in bedrock)
43				
44				
45				
46				
47				
48				
49				
50				
51				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-29 (Chevron) W.O. Number 469.06

Well Number B-49 Total Depth 7.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

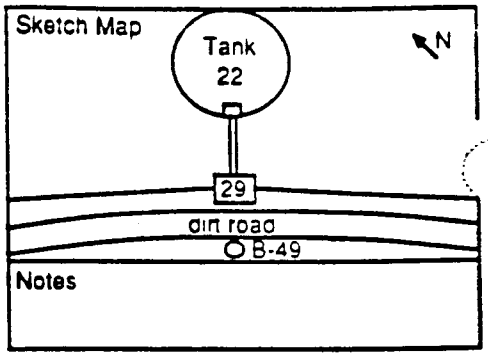
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/27/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: grass-covered slope
1				CLAY, silty and gravelly, red-brown with orange mottling, moist, plastic, low strength - easily crumbled, some black mottling, no odor
2	CL		0	
			0	
3			0	
			0	
4		rec 3'	0	
5			5	unusual "peppery", musty odor detected
			12	
6			38	grades into CLAY, silty, with gravel and sand, dark green-gray, saturated, strong (old, decomposed) hydrocarbon odor, plastic, low strength
	CL		90	
7	SP	rec 3'	38	SAND, fine- to medium-grained, poorly graded, black (at surface), saturated, strong hydrocarbon odor, loose, fragments of bedrock, color grades at depth to red-brown (Bedrock)
	BOH			SANDSTONE, red-tan to gray
8				BOH = 7.5 feet (refusal in bedrock)
9				
10				
11				
12				

TPH = 13,000 mg/kg @ 6.5'

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location beside VB-37 (Chevron) — W.O. Number 469.06

Well Number B-50 — Total Depth 7' — Diameter 6"

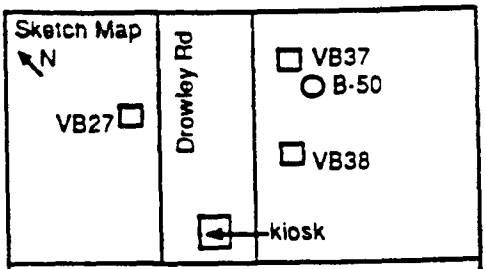
Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/27/90



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil
1	GW			GRAVEL/SAND mixture, unconsolidated, very slightly moist, no odor, red-brown
2				
3			0	
4		rec 2'	0	
5			0	(Highly weathered bedrock) SILTSTONE, light gray with staining along fracture surfaces, clay infilling fractures at surface, clay content decreases with depth, angular fragments, easily crumbled, no odor, slight moisture in clayey section
6		rec 2'	0	
7	BOH		0	(Bedrock) SILTSTONE, more coherent than above, occasional fractures
8				BOH = 7 feet (refusal in bedrock)
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client Navy

Location downgradient of VB-37 (Chevron) beside VB38 — W.O. Number 469.06

Well Number B-51 — Total Depth 9.5' — Diameter 6"

Surface Elevation ____ — Water Level: First Detected ____ — 24-hrs. ____

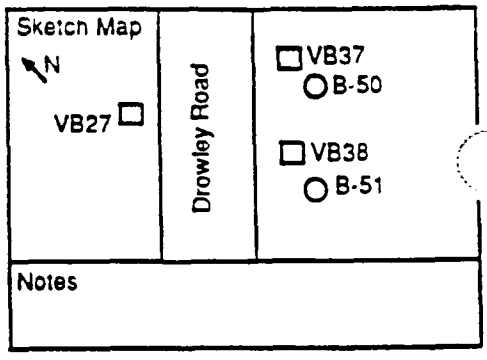
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Ray/Brian — Log By JAQ — Date Drilled 3/27/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW			SURFACE: graded gravel and soil, sparse weed cover SAND/GRAVEL, dark brown, loose (Highly weathered bedrock) SILTSTONE and fine-grained SANDSTONE, highly fractured with clay infilling fractures, slightly moist, dark staining on fractured surfaces, no odor, clay purple-gray in color and plastic
1				
2			0.4	
			0.1	
3			0.1	
			0	
4			0	some clay layers are substantial ~ 1/4" between fracture surfaces
		rec 3'		
5				
6				
			0	Clay content decreases with depth
7			0	
			0	
8			0	
			0	(Bedrock)
9		rec 3.5'	0	SILTSTONE, light gray-tan, dark staining on occasional fracture surfaces
	BOH			BOH = 9.5 feet (refusal in bedrock)
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location downgradient of VB-28 on dirt rd. W.O. Number 469.06

Well Number B-52 Total Depth 6.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

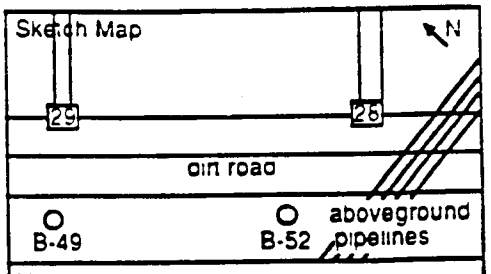
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAO Date Drilled 3/27/90

Sketch Map



Notes

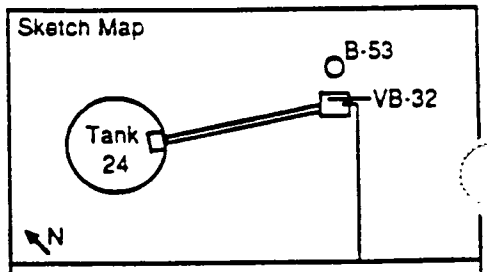
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and soil, grass cover
1	GW			GRAVEL/SAND mixture, slightly moist, unconsolidated, no odor, red-brown
2				
3				Note: the sampler free-fell about 3' (possible underground cavity); no sample was collected
4				
5	CL		0.5	
			0.1	CLAY, gravelly, moist, plastic, no odor, brown
6		rec 1.5'	0	(Weathered Bedrock) SILTSTONE, gray, highly fractured with clay infilling fractures, no odor, clay is moist and plastic
7	BOH			BOH = 6.5 feet (refusal in bedrock)
8				
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy
Location beneath VB-32 (Chevron) W.O. Number 469.06
Well Number B-53 Total Depth 16' Diameter 6"
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Spectrum Drilling Method HSA
Driller Ray/Brian Log By JAQ Date Drilled 3/27/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				CLAY, gravelly and silty, slightly moist, brown, no odor, plastic, low strength
1			0	
2			0	
		rec 2'	0	
3	CL			
4				
5			0	
			0	
6			0	
			0	
7			0	(Highly weathered bedrock)
		rec 3.5'	0	SANDSTONE, red-tan, easily crumbled, fine-grained, highly fractured through section, (possibly due to sampling), occasional thin layers of siltstone (gray, highly fractured), dark staining along some fracture surfaces, slightly moist, no odor
8				
9				
10				
11			0	
12			0	
		rec 2'	0	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beneath VB-32 (Chevron) W.O. Number 469.06

Well Number B-53 Total Depth 16' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/27/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				highly weathered sandstone, a.a.
14				
15		rec. 2.5'		
16	BOH			BOH = 16 feet (refusal in bedrock)
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-27 (Chevron) W.O. Number 469.06

Well Number B-54 Total Depth 9.5' Diameter 6"

Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____

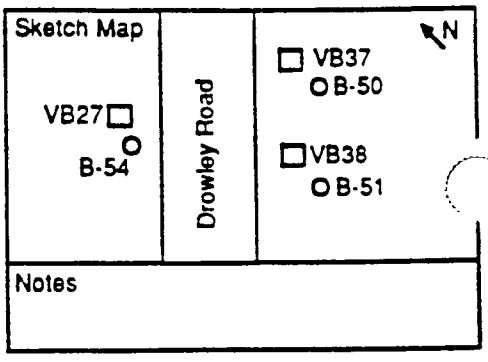
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Ray/Brian Log By JAQ Date Drilled 3/27/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GW	rec 2'	None Taken - High Humidity	SURFACE: graded gravel and dirt GRAVEL/SAND mixture, unconsolidated, slightly moist, no odor
4				(Highly weathered bedrock) SILTSTONE, gray to tan, highly fractured, some clay in fractures, moist, no odor, dark coloring along some fracture surfaces, rock highly crumbled and non-cohesive, occasional orange mottling along fracture surfaces
9	BOH	rec 2.5		(Bedrock) SILTSTONE, gray to tan, coherent BOH = 9.5 feet (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location beneath VB-4 — W.O. Number 469.06

Well Number B-58 — Total Depth 14.5' — Diameter 6"

Surface Elevation ____ — Water Level: Initial ____ — 24-hrs. ____

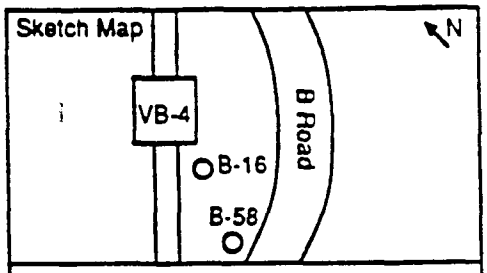
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company Spectrum — Drilling Method HSA

Driller Doug/John — Log By JAQ — Date Drilled 5/15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				Surface: graded gravel beside road
1				(Fill)
2	GW			SAND/GRAVEL, unconsolidated, dry, light brown, no odor, gravel is subangular, < 1" diameter
3				
4		rec 1.5'	0 0	
5				
6				
7	CL			CLAY, gravelly and silty, moist, medium brown, slightly consolidated, easily crumbled, gravel < 1" diameter, low plasticity, red-orange mottling, no odor
8				
9		rec 1.5'	0 0	
10			60	CLAY, silty, with minor sand lenses, saturated, soft, globules of dark brown-black oily material, plastic, strong hydrocarbon odor (bunker?)
11	CL		43 44	TEH = 5,800
12			4.2 1.2	gravel content increases with depth (< 1/4" diameter) (Highly weathered bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location beneath VB-4 W.O. Number 469.06

Well Number B-58 Total Depth 14.5' Diameter 6"

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/15/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			4.4	SILTSTONE, gravel in clay matrix, gray, some oily residue noted along fracture surfaces and upper contact - not at depth of refusal
			0.8	TPH = 120 mg/kg
14		rec 5'	0.6	(Bedrock) SILTSTONE, unweathered, gray, highly fractured, no oily stain, no odor
	BOH			BOH = 14.5 feet (refusal in bedrock)
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project: Pt. Molate Client: Navy

Location: at VB-9 W.O. Number: 469.06

Well Number: B-59 Total Depth: 30' Diameter: 6"

Surface Elevation: ____ Water Level: First Detected: ____ 24-hrs.: ____

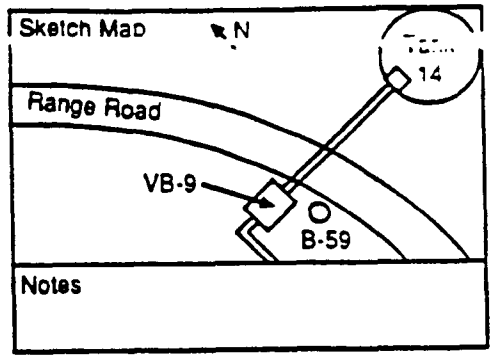
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company: Spectrum Drilling Method: HSA

Driller: Doug/John Log By: JAO Date Drilled: 5/15/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel beside road
1	GW			SAND/GRAVEL, light brown, gravel (< 2" diameter), subangular, unconsolidated, dry, no odor
2				
3				
4			0	
		rec 1.5'	0	
5				
6	CL			CLAY, gravelly, red-brown, moist, weak, (easily crumbled), angular to subangular gravel (< 1" diameter), no odor
7				
8			0	
			0	
9			0	
		rec 2.5'	0	
10				
11	CL		0	CLAY, gravelly and silty, moist, red-brown with dark gray and orange mottling, plastic, weak, (easily crumbled), no odor
			0	
12			3.2	
			0.4	

Environmental Resources Management

Drilling Log

Project P. Molate Client Navy
Location at VB-9 W.O. Number 469.06
Well Number B-59 Total Depth 30' Diameter 6"
Surface Elevation ____ Water Level: First Detected ____ 24-hrs. ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Spectrum Drilling Method HSA
Driller Doug/John Log By JAQ Date Drilled 5/15/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		10	
			5.4	
14			2.4	
		rec 4.5'	6	
15				
				(weathered bedrock) SILTSTONE, gravel in clay matrix, red-brown, moist, no odor, highly fractured, crumbly
16				
17				
18				
			0.3	
19			0	
		rec 2'	1.2	(Bedrock) grades into SILTSTONE, gray, highly fractured, oily coating on fracture surfaces, strong hydrocarbon odor, relatively unconsolidated and easily crumbled, lower clay content than above
20				
21				
22				
			4.8	oily residue, brown to black in color
23			18	
			8.6	
24			46	
		rec 3'	28	
25				SILTSTONE, a.a., gray, with oily residue at 27.5-28', pocket of oily material

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client Navy
Location at VB-9 | W.O. Number 469.06
Well Number B-59 | Total Depth 30' | Diameter 6"
Surface Elevation | Water Level: First Detected | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By JAQ | Date Drilled 5/15/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26				oily lenses throughout section (decrease with depth), highly fractured, easily crumbled
27				
			24	
28			36	
			6	
29			5.8	SILTSTONE, red-brown, lower oily content than above, increased clay content, highly fractured, easily crumbled
		rec. 3'	1.3	
30	BOH			BOH = 30 feet (no refusal)
31				
32				
33				
34				
35				
36				
37				
38				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location midway between Tank #8 and VB-16 W.O. Number 469.06

Well Number B-60 Total Depth 22' Diameter 6"

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

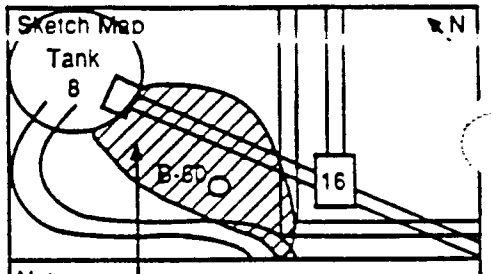
Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/15/90

Sketch Map



Notes dead patch of weeds

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: low-lying weeds (dead)
1				GRAVEL/SAND mixture - loose, dry, light brown, slightly packed at surface with rootlets - baked dry, no odor throughout sample
2	GW			
3			0	
4		rec 2'	0 0	
5				
6				CLAY, gravelly and silty, medium plasticity, red-brown, gravel (< 1/2" diameter), weak, no odor, black sandy patches with organic odor
7	CL			
8			0.7	
9		rec 2'	0 0	
10				(weathered bedrock) SILTSTONE, gray, thin-bedded, highly fractured, slight clay content, angular, slightly moist, slight hydrocarbon odor
11				
12				SANDSTONE, fine-grained, crumbled, unconsolidated, red-brown, no odor, moist

Environmental Resources Management

Drilling Log

Project P' Moiara Client U.S. Navy

Location midway between Tank #8 and VB-16 W.O. Number 469.06

Well Number B-60 Total Depth 22' Diameter 6"

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/15/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0.8	
			0.4	
14			4.8	
		rec 2.5'	0	
15				SILTSTONE, gray, thicker bedded and less fractured, dry
16				
17				
18			1.0	SANDSTONE, tan, fine- to medium-grained, thin-bedded and highly fractured, no odor
19			0.2	
		rec 2'	2.0	
20				
			0.1	
21			0	SILTSTONE, tan, highly fractured with clay infilling fractures, easily crumbled, moist, no odor
			0	
22	BOH			
23				BOH = 22 feet (refusal in bedrock)
24				
25				

Environmental Resources Management

Drilling Log

Project: Pt. Molate Client: Navy

Location: beside VB-22 W.O. Number: 469.06

Well Number: B-61 Total Depth: _____ Diameter: 6"

Surface Elevation: _____ Water Level: First Detected: _____ 24-hrs.: _____

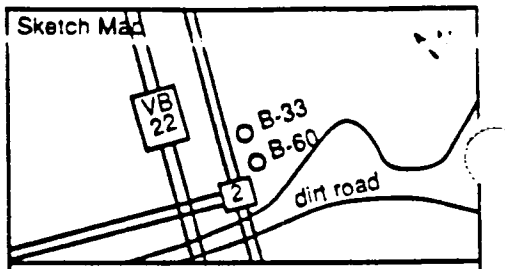
Screen: Dia. _____ Length: _____ Slot Size: _____

Casing: Dia. _____ Length: _____ Type: _____

Drilling Company: Spectrum Drilling Method: HSA

Driller: Doug/John Log By: JAQ Date Drilled: 5/16/90

Sketch Map



Notes: offset from B-33 by ~1 foot

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and dirt, sparse weeds
1				GRAVEL, clayey, red-brown, angular to subangular (< 1" diameter), moist, no odor (surface spill indicated in former nearby location is not indicated here - could be due to incomplete sample)
2	GC			
3				
4		rec 2'	0 0	
5				CLAY, gravelly and silty, brown with red-brown and gray-brown mottling, moist, slight odor of hydrocarbon (jet fuel?), medium plasticity, low strength (easily crumbled)
6	CL			
7			0 0 0	
8			0	
9			0 0	(Weathered Bedrock) SILTSTONE, fragments in clay matrix - angular
10	BOH	rec 4'	0	(Bedrock) SILTSTONE, gray, no hydrocarbon odor or visual evidence of contamination 40
11				BOH = 10 feet (refusal in bedrock)
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-19 - in trench W.O. Number 469.06

Well Number B-63 Total Depth 30' Diameter 6"

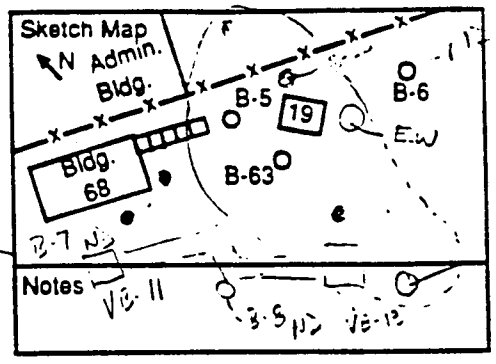
Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/17/90



See figure 5.5

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~ 3" thick
				(Backfill)
1				GRAVEL, sandy, red-brown, moist, unconsolidated, subangular, no odor
2				
3				
4	GW	rec 1.5'	0.1	
			0.2	
5				
6				
7				
8	SP			
9			10	SAND, medium- to coarse-grained, moist, unconsolidated, hydrocarbon odor detected at base of unit
			4.6	
		rec 1.5'	120	1,500 ppm
10	CL			CLAY, sandy, with gravel (< 1/8" diameter), moist, medium plasticity, hydrocarbon odor, green-gray with slight orange mottling, low strength, soft
			44	
11			120	
			20	CLAY, silty, moist, plastic, hydrocarbon odor, green-gray, low strength
12	CL		18	
			160	

Environmental Resources Management

Drilling Log

Project Pt Molate | Client Navy
Location beside VB-19 - in trench | W.O. Number 469.06
Well Number B-63 | Total Depth 30' | Diameter 6"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By JAQ | Date Drilled 5/17/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		60	
			720	
14			140	CLAY, silty, with sand and gravel, gray-tan with orange, dark gray and green mottling, moist, hydrocarbon odor, low strength, plastic
		rec 5'	240	
15				
			10	
16	CL		40	
			40	
17			40	
			240	
18			40	grades into
			220	CLAY, sandy, gray with orange mottling and occasional black mottling, moist, hydrocarbon odor, low strength, medium plasticity
19	CL		280	
		rec 5'	120	
20				GRAVEL, sandy, wet, hydrocarbon odor, unconsolidated, dominant gravel-size < 1/4" diameter
21				
	GW		300	
22			880	
			1000+	
23			300	CLAY content increases with depth, slightly consolidated, very low strength
			90	
24			16	
	CL	rec 4'	30	CLAY, sandy, green-gray, occasional gravel, wet, low strength, medium plasticity, hydrocarbon odor
25				
				GRAVEL, sandy, saturated, oily sheen in water - brown

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-19 - in trench W.O. Number 469.06

Well Number B-63 Total Depth 30' Diameter 6"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/17/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GW			color, unconsolidated, hydrocarbon odor
			4	
27			5	
			80	
28			21	CLAY, silty, with sand, gray-tan, wet, soft, hydrocarbon odor, orange and occasional black mottling, occasional gravel (<1/4" diameter)
			32	
29	CL		28	
		rec. 4"	34	
30	BOH			
31				BOH = 30 feet
32				
33				
34				
35				
36				
37				
38				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client Navy

Location beside VB-19 trench, inside the gate W.O. Number 469.06

Well Number B-64 Total Depth 13.5' Diameter 6"

Surface Elevation _____ Water Level: First Detected _____ 24-hrs. _____

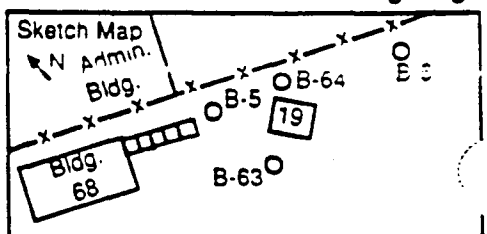
Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company Spectrum Drilling Method HSA

Driller Doug/John Log By JAQ Date Drilled 5/17/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: asphalt ~ 3" thick
				(Backfill)
1				GRAVEL, sandy, red-brown, moist, unconsolidated, no odor, subangular to subrounded
2	GW			
3				
4		rec 1.5'	0 0	
5				
6				
7	SP			SAND, medium-grained, poorly graded, unconsolidated, moist, no odor
8				
9		rec 2'		
10	CL		0	CLAY, silty, with gravel, green-gray with occasional orange mottling, wet, no odor, medium strength, plastic, medium stiff, contains abundant oily globules, dark brown to black in color, strong hydrocarbon odor
11			0 0	
12		rec 3.5'	0 10	SILT, clayey, red-brown, oily globules and hydrocarbon odor, low strength, wet, medium plasticity
13	ML BOH		28	BOH = 13.5' (Stopped drilling when a yellow piece of plastic resembling pipeline wrapping came up out of hole)

2,390

Environmental Resources Management

Drilling Log

Project: Pt. Molate Client: U.S. Navy

Location: Chevron - below VB-30 W.O. Number: 469.06

Well Number: B-65 Total Depth: 24' Diameter: 6"

Surface Elevation: ____ Water Level: Initial ____ 24-hrs. ____

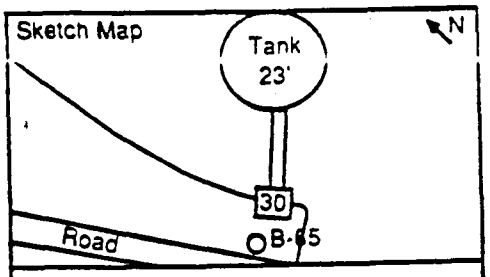
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company: Spectrum Drilling Method: HSA

Driller: Doug/John Log By: JAQ Date Drilled: 5/18/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: graded gravel and dirt - road shoulder
1	SW			SAND/GRAVEL mixture, red-tan, unconsolidated, very slightly moist, no odor
2				
3				
4			0	
		rec 1.5'	0	
5	CL			CLAY, sandy and gravelly, red-brown, semi-consolidated, very low strength, slightly moist, no odor
6				
7			0	
8			0	
			0.1	(Weathered Bedrock)
9			0.1	
		rec 3'	0.8	SILTSTONE, gray, highly fractured with clay infilling fractures, no odor, predominately thin-bedded, with occasional thicker layers (< 3" thick), black staining (no odor) along many fracture surfaces, non-coherent, easily crumbled
10				
11				
12				SILTSTONE, a.a., moist
			0.6	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Chevron - below VB-30 | W.O. Number 469.06
Well Number B-65 | Total Depth 24' | Diameter 6"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Doug/John | Log By JAQ | Date Drilled 5/18/90

Sketch Map: See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			2.6	
			8	
14			18	faint hydrocarbon odor (old)
		rec 3'	4.8	Clay content decreases with depth
15				SILTSTONE, a.a., no clay infilling fractures, slight odor (old, decomposed), dry, gray, thicker bedded (< 3" thick) than above
16				
17				
18			120	
			180	
19			64	
		rec 2.5'	100	
20				
21			200	SILTSTONE, a.a., gray, abundant clay infilling fractures, hydrocarbon odor (strong at 20', decreasing with depth) (old, decomposed), clay is red-tan and wet (gives formation an overall red-tan color), easily crumbled, bedrock is highly fractured and decomposed throughout core - coherent at base
			120	
22			14	
			160	
23			36	
		rec 3.5'	14	
24	BOH			BOH = 24' (refusal in bedrock)
25				

Environmental Resources Management

Drilling Log

Project: P* Molate — Client: U.S. Navy

Location: Near Tank 3 — W.O. Number: 469.06

Well Number: B-66 — Total Depth: 30' — Diameter: 8"

Surface Elevation: ____ — Water Level: Initial 14' — 24-hrs.: ____

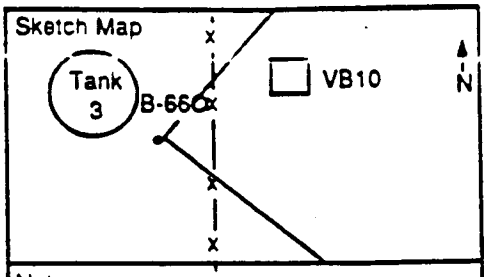
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company: All Terrain — Drilling Method: HSA

Driller: Mike Richard — Log By: SB — Date Drilled: 5/29/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0			1.4	SILT, dry fill material, grassy, 2"-thick, medium-grained sand lense at top, moist, micaceous. Dry to moist silty clay easily crumbled because of low moisture & gravel content
1			0.4	
			0.3	
2		rec 2'		
3			0	SILT, gravelley, brown, moist, organic, iron-stained, gravel is small - 1/4" - 3/4" in diameter.
		rec 1.5'	0	
4				
5				
6	GM			
7			0.6	SILT, gravelly, a.a.
			4.2	
8			0	
		rec 2.5'	2.3	
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy

Location Near Tank 3 | W.O. Number 469.06

Well Number B-66 | Total Depth 30' | Diameter 8"

Surface Elevation | Water Level: Initial 14' | 24-hrs.

Screen: Dia. | Length | Slot Size

Casing: Dia. | Length | Type

Drilling Company All Terrain | Drilling Method HSA

Driller Mike, Richard | Log By SB | Date Drilled 5/29/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GM	rec 1.5'	90 220	SILT, gravelly, gray, mottled dark gray and greenish gray, sticky, 2 core-sized pieces of gravel, other gravel averages 1/2" diameter
14			160	GRAVEL, silty, wet, 1/8" to 1/2" diameter, average 1/4" diameter, top 1' is highly-stained with dark gray to black hydrocarbons. Increasing clay content with depth, graoes into mottled
15	GM		120 60	CLAY, gravelly, a.a.
16		rec 2.5'	140	
17			80	SILTSTONE, fractured bedrock, angular, wet top 1', stained, oily, dark gray
18			72	
19		rec 2'	74	
20			25 6	SILT, gravelly, dark gray, sticky, plastic, wet, oily, gravel is very small <1/8" or 11/2" diameter
21		rec 2'	30	
22	GM		2 3	Lowest 1/2' of sample is dry SILT, gravelly, a.a., but no hydrocarbons noted
23			1.4	
24		rec 2.5'	30	Lowest 1/2' of sample is dry
25			4	

Drilling Log

Environmental Resources Management

Project Pt. Molate | Client U.S. Navy
Location Near Tank 3 | W.O. Number 469.06
Well Number B-66 | Total Depth 30' | Diameter 8"
Surface Elevation | Water Level: Initial 14' | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Richard | Log By SR | Date Drilled 5/29/90

Sketch Map

See page 1

Notes

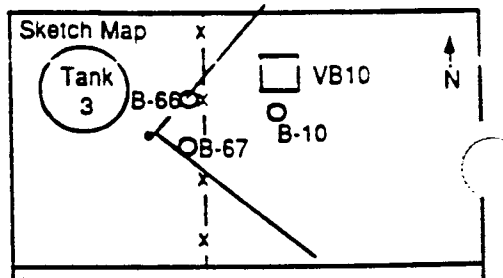
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GM	rec 1.8'	26	SILT, gravelly, a.a lowest 1/2' sample is dry
27				
28				
29			16	SILT, gravelly, a.a
		rec 1.5'	16	Lowest 1' of sample is dry
30	BOH			BOH = 30'

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 3 | W.O. Number 469.06
Well Number B-67 | Total Depth 30' | Diameter 8"
Surface Elevation ____ | Water Level: Initial No water | 24-hrs. ____
Screen: Dia. ____ | Length ____ | Slot Size ____
Casing: Dia. ____ | Length ____ | Type ____
Drilling Company All Terrain | Drilling Method HSA
Driller Mike Richard | Log By SB | Date Drilled 5/29/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GM	rec 1.5'	0 0	SILT, gravelly, brown with some iron-staining, moist to damp, dry at top, sticky, gravel up to 2" diameter
1				
2				
3		rec 2'	0 0 0 2.6	SILT, gravelly, a.a
4				
5				
6	GM	rec 2.5'	10 10 38 50	GRAVEL, silty, yellow, dark gray and brown mottled, hard, crumbly, dry to slightly moist, 1-1/2" x 1" piece of quartz (vein-filling?)
7				
8				
9		rec 0.5'	80	No description
10	ML		40	SILT, mottled dark gray and green, moist, sticky, sparse gravel, dark black, tarry hydrocarbons throughout
11		rec 2.5'	38 42 74	
12				

Environmental Resources Management

Drilling Log

Project: Pt. Molate | Client: U.S. Navy
Location: Near Tank 3 | W.O. Number: 469.06
Well Number: B-67 | Total Depth: 30' | Diameter: 8"
Surface Elevation: | Water Level: Initial: No water | 24-hrs.:
Screen: Dia.: | Length: | Slot Size:
Casing: Dia.: | Length: | Type:
Drilling Company: All Terrain | Drilling Method: HSA
Driller: Mike Richard | Log By: SB | Date Drilled: 5/29/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	GM		62	GRAVEL, wet with JP-5?, with gray silt - a.a.
			120	
14	ML	rec 2.5'	62	SILT, tan, hard, dry, dense, stained with hydrocarbons along fracture planes
			13	
15				(Bedrock)
			5.4	SILTSTONE, tan, damp on fracture faces (JP-5?), stained on fracture faces (oxidation?), clay also present on fracture faces
16			4	
			6	
17		rec 2.5'	6	
18				
19			14	
	ML	rec 1.5'	12	SILT, tan, some gravel, dry, tip of auger full of dry, very hard, dense silt
20				
21				
	GW		8	
22		rec 1.5'	12	Bedrock gravel, well-graded, tan, competent, some silt described below
23				
24	ML	rec 2.5'	0.9	SILT, mottled dark gray, tan and yellow, some gravel up to 1/2" in diameter, dark black (Mn?), staining, moist
25			0.4	
			1.3	

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location Near Tank 3 W.O. Number 469.06

Well Number B-67 Total Depth 30' Diameter 8"

Surface Elevation _____ Water Level: Initial No water 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company All Terrain Drilling Method HSA

Driller Mike Richard Log By SB Date Drilled 5/29/90

Sketch Map

See page 1

Notes

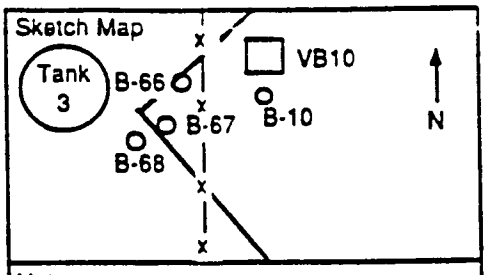
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	ML		5	
27				
28				
29		TBC 1.5	16 18	SILTSTONE, tan, competent, silty
30	BOH			BOH = 30'

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 3 | W.O. Number
Well Number B-68 | Total Depth 25' | Diameter 8"
Surface Elevation | Water Level: Initial No water | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA - CME 850
Driller Mike, Richard | Log By SR | Date Drilled 5/30/90

Sketch Map



Notes: rainy/overcast, cool

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2		rec 1'	0	SILT, brown, dry, loose, moist at top, gravelly
3	ML			
4		rec 0.5'		
5				SILT, dark brown, loose, moist, gravelly
6			180	
7		rec 1'	120	SILT, brown and tan, gravelly, moist, plastic, sticky, some iron-staining
8				
9	ML		180	SILT, clayey, mottled gray and tan, sparse siltstone gravel pieces - has the appearance of very weathered bedrock, paleo fracture planes are dark gray, distinctly clay-lined, minor red iron-staining
10		rec 1.5'	520	
11			300	SILT, tan, with clay, unconsolidated, a.a., but loose, clay is in planar lumps, no gravel
12	ML	rec 1.5'	520	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 3 — W.O. Number

Well Number B-68 — Total Depth 25' — Diameter 8"

Surface Elevation — Water Level: Initial No water — 24-hrs.

Screen: Dia. — Length — Slot Size

Casing: Dia. — Length — Type

Drilling Company All Terrain — Drilling Method HSA - CME 850

Driller Mike, Richard — Log By SB — Date Drilled 5/30/90

Sketch Map

See page 1

Notes

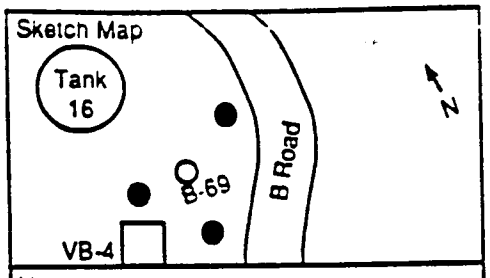
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	ML		14	SILT, brown, gravelly, sparse plastic lumps of clay
14		rec 2'	460	
			240	
15				
16			260	Bedrock - weathered siltstone, few fines, angular gravel pieces
17	ML	rec 1.5'	180	SILT, tan, unconsolidated, gravelly, with 1" diameter lumps of gray/white mottled clay
18				
19	ML			SILT, dry, unconsolidated, light brown, sparse gravel, well-graded
20		rec 1'	100	Bedrock - tan siltstone gravel pieces, iron-stained, angular, some pieces up to core-size (2-1/2" diameter)
21	ML	rec 1.5'	60	SILT, gray-green, HC odor, sparse, small gravel
22			140	Bedrock - a.a.
23			40	
24				
25		rec 1'	38	T.D., very hard, dry drilling - added some water, still got poor recovery BOH = 25' (refusal in bedrock)

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 17 | W.O. Number 469.06
Well Number B-69 | Total Depth 28.5' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Richard | Log By SB | Date Drilled 5/30/90

Sketch Map



Notes ● Herzog borings poor recovery - 5' drives

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3	ML	rec 1'	0	SILT, brown, dry, unconsolidated, gravelly
4				
5				
6				
7			0	SILT, dark brown, moist, plastic, gravelly
8		rec 1.5'	0	
9				
10	GW			
11				
12			0	GRAVEL, gray, well-graded with sticky, moist brown silt

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 17 — W.O. Number 469.06

Well Number B-69 — Total Depth 28.5' — Diameter 8"

Surface Elevation ____ — Water Level: Initial ____ — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company All Terrain — Drilling Method HSA

Driller Mike Richard — Log By SR — Date Drilled 5/30/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13		rec 1.5'	0	
14				
15				
16	GW			
17			0	GRAVEL, gray with iron-stained faces, wet, with sticky brown silt, gravel is small, most is < 1/2"diameter, average about 1/8" diameter, a few pieces up to 2", abundant organic (grass/roots?) debris
18		rec 1.5'	0	
19				
20				
21				
22			0	GRAVEL, dark gray with iron-stained faces, very coarse, 2"+ diameter - a.a., but moist, not wet, rock appears shaly at tip, smaller pieces
			0	
23		rec 2'	0	
24	ML		0	GRAVEL, grades into gray-green silt, wet and highly stained with hydrocarbons, sparse gravel, sticky
			2	
25	CL		0	CLAY, gray-green mottled, very hard, very dense, visually clean, some iron-staining weathered zone directly above bedrock
		rec 2.5'	5	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 17 | W.O. Number 469.06
Well Number B-69 | Total Depth 28.5' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike Richard | Log By SB | Date Drilled 5/30/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26				(Bedrock) SILTSTONE, tan with iron-stained fracture surfaces, competent, hard, hairline fracture lines are iron-stained
27				
28		rec. 0.5'		
			0	BOH = 28.5' (refusal in bedrock)
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 17 — W.O. Number 469.06

Well Number B-70 — Total Depth 30' — Diameter 8"

Surface Elevation ____ — Water Level: Initial No water — 24-hrs. ____

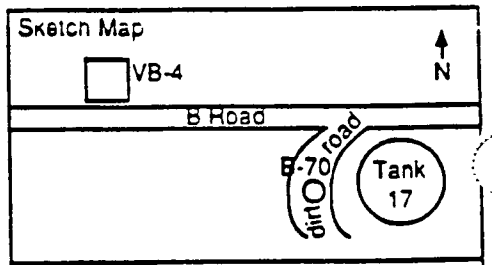
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company All Terrain — Drilling Method HSA

Driller Mike, Rick — Log By SB — Date Drilled 5/31/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GM			SURFACE: moist from rain
1				SILT, brown, gravelly, moist, grassy
				SILT, light brown, gravelly, dry
2	GM		0	
		rec 1.5'	0	
3				SILT, tan, gravelly, dry
	GM			
4				
5				
6				
			0	GRAVEL, tan, weathered bedrock, SILTSTONE, iron-stained, angular, lumps of gray-white clay, dense, moist
7		rec 2'	0.6	
8				
9				
10				
11			0	
			0	
12			0	
		rec 2.5'	1.2	

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 17 — W.O. Number 469.06

Well Number B-70 — Total Depth 30' — Diameter 8"

Surface Elevation ____ — Water Level: Initial No water — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company All Terrain — Drilling Method HSA

Driller Mike, Rick — Log By SR — Date Drilled 5/31/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14				
15				
16			6.6	
			8.8	(Bedrock) GRAVEL, a.a.
17		rec 1.5'		
18				
19				
20				
21				
			5.2	GRAVEL, dark gray, large, core-sized pieces, very hard, dense, with lumps of whitish gray clay, some clay coating rock faces and some clay with Manganese dendrites
22			12	
		rec 2'	3	
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 17 | W.O. Number 469.06
Well Number B-70 | Total Depth 30' | Diameter 8"
Surface Elevation _____ | Water Level: Initial No water | 24-hrs. _____
Screen: Dia. _____ | Length _____ | Slot Size _____
Casing: Dia. _____ | Length _____ | Type _____
Drilling Company All Terrain | Drilling Method HSA
Driller Mike Bick | Log By SB | Date Drilled 5/31/90

Sketch Map

See page 1

Notes

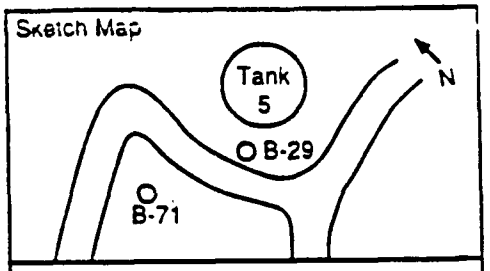
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			0.2	GRAVEL, dark gray, hard, dense, SILTSTONE, as above but with fewer clay lumps, angular, shaly-looking pieces range in size from < 1/8" to 2-1/2"
			1.0	
27			4.6	
		rec 2.5'	5.8	
28				
29			0	
		rec 1.5'	0	
30				BOH = 30'

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 5 | W.O. Number 469.06
Well Number B-71 | Total Depth 21' | Diameter 8"
Surface Elevation | Water Level: Initial No water | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Richard | Log By SR | Date Drilled 5/31/90

Sketch Map



Notes
location

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: grassy, brushy
1				
2	ML			
3				SILT, clayey, tan and brown mottled, grassy, slightly moist, crumbly, sparse, small gravel
		rec 1'	0.6	
4				
5				
6				(Bay Mud) CLAY, silty, black, organic, high plasticity, moist, dense, sparse grass, a few very small balls of green clay
7			66	
	OH		160	
8			150	
		rec 2.5'	120	
9				
10				
11				
12	ML			

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 5 — W.O. Number 469.06

Well Number B-71 — Total Depth 21' — Diameter 8"

Surface Elevation ____ — Water Level: Initial No water — 24-hrs. ____

Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company All Terrain — Drilling Method HSA

Driller Mike, Richard — Log By SR — Date Drilled 5/31/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL	rec 1.5'	86 16	SILT, clayey, brown, moist, crumbly, a few pieces of gravel
14				
15				CLAY, silty, green, plastic, moist, crumbly
16				
17			360	SILT, clayey, green and tan mottled, crumbly, moist, very hard in tip, some iron-staining (hard, slow drilling)
18	ML	rec 2'	120 26	
19				
20	ML	rec 1'	14	SILT, brown, dry, hard, sparse gravel - siltstone
21				BOH = 21'
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate — Client U.S. Navy

Location Near Tank 8 — W.O. Number 469.06

Well Number B-72 — Total Depth 26' — Diameter 8"

Surface Elevation ____ — Water Level: Initial No water — 24-hrs. ____

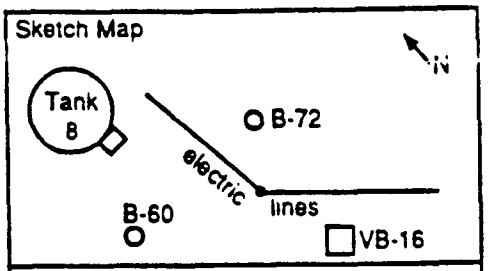
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company All Terrain — Drilling Method HSA

Driller Mike Richard — Log By SR — Date Drilled 5/31/90 - 6/1/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	CL			CLAY, silty, tan, semi-consolidated in gravel-sized hard pieces
1	ML		0	SILT, clayey, green, tan, gray, mottled, with iron-staining, moist
	ML		0	SILT, clayey, tan, moist, crumbly
2		rec 2'	0	
3	ML			SILT - reddish brown, tan and red spots, clayey
4				
5			0	SILT, brown to gray with distinct, very small tan and red spots, slightly moist, semi-consolidated in hard but crumbly pieces
	ML		0	
6			0.6	
			0	
7		rec 3'	0	
8				
9				
10				
			2.8	SILT, brown, dry, unconsolidated, gravelly, gravel is sub-rounded
11	GM		20	
			36	
12		rec 2.5'	280	

Environmental Resources Management

Drilling Log

Project Pt Molate | Client U.S. Navy

Location Near Tank 8 | W.O. Number 469.06

Well Number B-72 | Total Depth 26' | Diameter 8"

Surface Elevation | Water Level: Initial No water | 24-hrs.

Screen: Dia. | Length | Slot Size

Casing: Dia. | Length | Type

Drilling Company All Terrain | Drilling Method HSA

Driller Mike, Richard | Log By SR | Date Drilled 5/31/90 - 6/1/90

Sketch Map

Notes

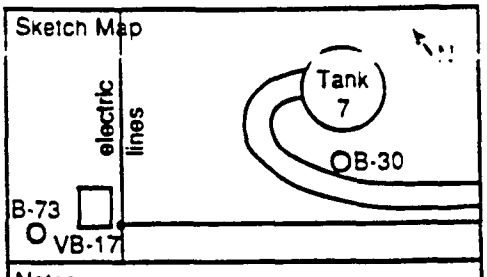
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	ML		4	SILT, clayey, brown with gray and tan mottling, some iron-staining, hard, dense, slightly moist, crumbly
14			80	
			150	
15	ML		400	SILT, clayey , gray-green, very crumbly, slightly moist
		rec 2.7'	70	
16				SILTSTONE, tan, angular pieces, whitish gray clay coating surfaces, some iron-stained and black-stained surfaces, competent hard
17		rec 0.5'		
18				SILTSTONE, dark gray, hard gravel, well-graded, iron-stained, and black-stained surfaces, some silt and some clay on surfaces
19				
20				
21				
22		rec 1'	0	SILTSTONE, dark gray as above, very hard and competent, well-graded
23				
24				
			0.6	SILTSTONE - a.a.
25			1.8	
		rec 1.8'	0	BOH = 26'

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 7 | W.O. Number 469.06
Well Number B-73 | Total Depth 13.5' | Diameter 8"
Surface Elevation | Water Level: Initial No water | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SR | Date Drilled 6/1/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3		rec 1'	0	SILT, brown, dry, unconsolidated, gravelly
4	GM			
5				
6				
7				
8		rec 1'	0	SILT, brown, dry unconsolidated, gravelly
9				
10				
11				
12			0	SILT, light tan, crumbly, moist, very hard, dry, dense, gravelly in tip

?

Environmental Resources Management

Drilling Log

Project: Pt. Molate | Client: U.S. Navy
Location: Near Tank 7 | W.O. Number: 469.06
Well Number: B-73 | Total Depth: 13.5' | Diameter: 8"
Surface Elevation: | Water Level: Initial: No water | 24-hrs.:
Screen: Dia.: | Length: | Slot Size:
Casing: Dia.: | Length: | Type:
Drilling Company: All Terrain | Drilling Method: HSA
Driller: Mike Rick | Log By: SB | Date Drilled: 6/1/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			1	BOH = 13.5' (refusal in gravely silt)
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project: Pt. Molate — Client: U.S. Navy

Location: Near Tank 10 — W.O. Number: 469.06

Well Number: B-74 — Total Depth: 27' — Diameter: 8"

Surface Elevation: ____ — Water Level: Initial ____ — 24-hrs. ____

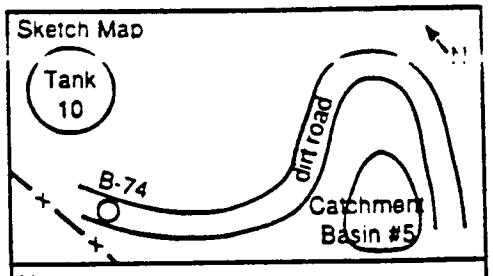
Screen: Dia. ____ — Length ____ — Slot Size ____

Casing: Dia. ____ — Length ____ — Type ____

Drilling Company: All Terrain — Drilling Method: HSA

Driller: Mike, Rick — Log By: SR — Date Drilled: 6/1/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3			0.2	SILT, tan to brown, grassy and moist at surface, dry, unconsolidated, gravelly
		rec 1.5'	0	
4				
5	GM			
6				
7				
8			0.6	SILT, brown, dry, unconsolidated, gravelly
		rec		
9				
10				
11				
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location Near Tank 10 | W.O. Number 469.06
Well Number B-74 | Total Depth 27' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SR | Date Drilled 6/1/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	SILT, gravelly, a.a.
		rec 1.5'	0	
14				
15				
16				
17				
18	GM		0	SILT, gravelly, a.a.
		rec 1.2'	0.4	
19				
20				
21				
22				
23				
		rec 1'	0	
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location Near Tank 10 W.O. Number 469.06

Well Number B-74 Total Depth 27' Diameter 8"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company All Terrain Drilling Method HSA

Driller Mike Rick Log By SB Date Drilled 6/1/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	GM	rec 1'		N7
27				BOH = 27' (refusal in gravelly silt)
28				
29				
30				

Environmental Resources Management

Drilling Log

Project: Pt. Molate — Client: U.S. Navy

Location: by VB-23 — W.O. Number: 469.06

Well Number: B-75 — Total Depth: 27.5' — Diameter: 8"

Surface Elevation: — Water Level: Initial: No water — 24-hrs.:

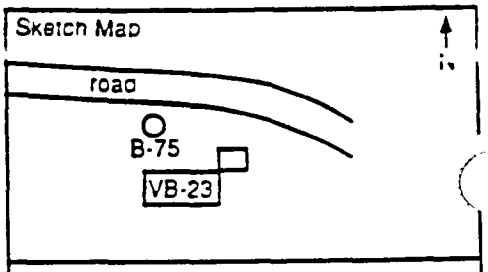
Screen: Dia.: — Length: — Slot Size:

Casing: Dia.: — Length: — Type:

Drilling Company: All Terrain — Drilling Method: HSA

Driller: Mike, Rick — Log By: SR — Date Drilled: 6/5/90

Sketch Map



Notes: No evidence of hydrocarbons

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0–2	GM	rec 1.5'	0, 0	GRAVEL, silty with lumps of whitish-gray clay and some grass. Gravel is dark gray, angular, hard, competent, SILTSTONE, some iron-stained surfaces
4–5	ML			SILT, brown, dry, unconsolidated, rootlets, some small gravel
6–7		rec 2'	0, 0, 0	SILTSTONE, dark gray, iron-stained surfaces, angular, shaly, very finely laminated
8–10		rec 2'	0, 0, 0	SANDSTONE, tan, very fine-grained, very finely laminated, some darker hairline fractures (iron-stained?), core-sized, hard, competent, dense, gray clay lining some surfaces
11–12		rec 1'	0	

Environmental Resources Management

Drilling Log

Project: Pt. Molate — Client: U.S. Navy

Location: by VB-23 — W.O. Number: 469.06

Well Number: B-75 — Total Depth: 27.5' — Diameter: 8"

Surface Elevation: — Water Level: Initial: No water — 24-hrs.:

Screen: Dia.: — Length: — Slot Size:

Casing: Dia.: — Length: — Type:

Drilling Company: All Terrain — Drilling Method: HSA

Driller: Mike, Rick — Log By: SR — Date Drilled: 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14				
15				
16			0	
			0	
17		rec 2'	0	
18				
19				
20				
21			0	
	ML		0	SILT, clayey, white, gray, and tan, semi-consolidated, crumbly, weathered zone
22		rec 1.5'	0	
23				SILTSTONE, dark gray to tan, shaly, very finely laminated, thinly bedded (< 1"), dark, iron-stained bedding surfaces, gray clay lining fracture surfaces at an angle to bedding
24				
25			0	

Environmental Resources Management

Drilling Log

Project: Pt. Molate — Client: U.S. Navy

Location: by VB-23 — W.O. Number: 469.06

Well Number: B-75 — Total Depth: 27.5' — Diameter: 6"

Surface Elevation: — Water Level: Initial: No water — 24-hrs.:

Screen: Dia.: — Length: — Slot Size:

Casing: Dia.: — Length: — Type:

Drilling Company: All Terrain — Drilling Method: HSA

Driller: Mike, Rick — Log By: SB — Date Drilled: 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			0	
			0	
27		rec 2.5'	0	BOH = 27.5' (refusal in shaly siltstone)
28				
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location between Tank 11 and VB-24 W.O. Number 469.06

Well Number B-76 Total Depth 28' Diameter 8"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

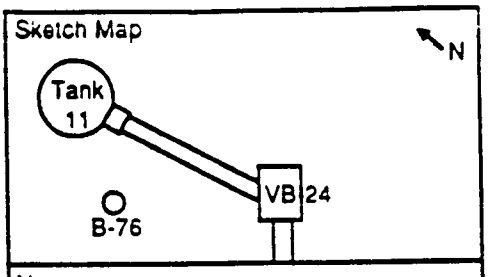
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company All Terrain Drilling Method HSA

Driller Mike, Rick Log By SR Date Drilled 6/5/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GM	rec 0.5'	0	SILT, brown, dry, unconsolidated, gravelly, one piece of core-sized, very weathered concrete
7	ML	rec 1'	0.8	SILT, tan, dry, very fine, unconsolidated, grassy, sparse, small gravel
12		rec 1'	1.0	SILT, tan - a.a., but no grass

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy

Location between Tank 11 and VB-24 | W.O. Number 469.06

Well Number B-76 | Total Depth 28' | Diameter 8"

Surface Elevation _____ | Water Level: Initial _____ | 24-hrs. _____

Screen: Dia. _____ | Length _____ | Slot Size _____

Casing: Dia. _____ | Length _____ | Type _____

Drilling Company All Terrain | Drilling Method HSA

Driller Mike, Rick | Log By SB | Date Drilled 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14				
15				
16	ML			
			0	SILT, clayey, tan, gravel is medium-sized, SILTSTONE, sparse; white clay lumps probably associated with siltstone
17			0	
		rec 2'	0	
18				
19				
20				
21				
22			0	GRAVEL, siltstone, dark gray to tan, well-graded, angular, little silt, some bedding planes visible with iron-stained faces, sparse clay
		rec 1.5'	0	
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location between Tank 11 and VB-24 W.O. Number 469.06

Well Number B-76 Total Depth 28' Diameter 8"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company All Terrain Drilling Method HSA

Driller Mike, Rick Log By SR Date Drilled 6/5/90

Sketch Map

See page 1

Notes

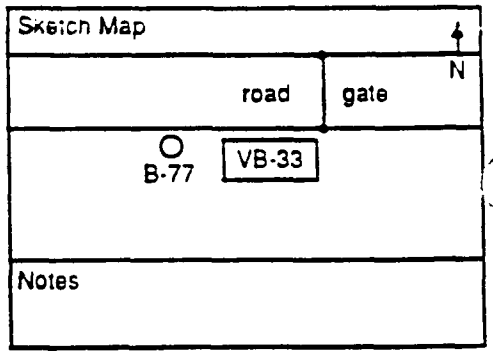
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26				
27			0	
		rec 1.5'	0	
28				BOH = 28' (refusal in bedrock)
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location by VB-33 | W.O. Number 469.06
Well Number B-77 | Total Depth 25' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SR | Date Drilled 6/5/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0	GM			SILT, brown, moist, unconsolidated, with well-graded gravel, grassy, organic, with some tan clay and red spots of clay
1				
2			0	
			0	
3			3.4	SILT, brown with tan and clay, highly organic black spots, wet, sparse tan siltstone gravel (source of tan clay)
	ML	rec 2.5'	0	
4				
5				
6			0	SILT, mottled brown, tan and red, moist, crumbly, sparse, small pieces of red siltstone
	ML		0	
7			0	
			0	
8			0	SILT, gravelly, tan, dry
		rec 3.5'	0	
9	ML			
10				
11				
12	GM			

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location by VB-33 W.O. Number 469.06

Well Number B-77 Total Depth 25' Diameter 8"

Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____

Screen: Dia. _____ Length _____ Slot Size _____

Casing: Dia. _____ Length _____ Type _____

Drilling Company All Terrain Drilling Method HSA

Driller Mike, Rick Log By SR Date Drilled 6/5/90

Sketch Map

See page 1

Notes

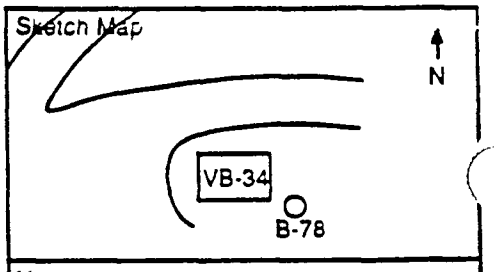
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13			0	SILT, gray, clayey, tan, moist, with abundant shaly dark gray gravel - small pieces
		rec 1.5'	0	
14	GM			
15				
16				
17			21	GRAVEL, silty and clayey, well-graded, some core-size pieces
			1	
18			0	
		rec 2.5'	10	
19				
	GC			
20				
			0	GRAVEL, a.a.
21			0.6	
			0	
22			2	
		rec 3'	1.6	
23				
		rec 1'	0	GRAVEL, a.a., but wet
24				
	GP	rec 1'	0	GRAVEL, dark gray, large pieces, some clay and silt, moist
25				BOH = 25' (refusal in gravel)

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location VB-34 | W.O. Number 469.06
Well Number B-78 | Total Depth 30' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SB | Date Drilled 6/5/90

Sketch Map



Notes
extremely windy

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				
1				
2				
3				
4	ML		0	SILT, brown, slightly moist, unconsolidated, gravelly, grassy, some clay
		rec 1.5'	0	
5				
6				
7				
8				
9			0	SILT, as above, but without grass
		rec 1.5'	0	
10				
11				
12	ML			

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location VB-34 W.O. Number 469.06

Well Number B-78 Total Depth 30' Diameter 8"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company All Terrain Drilling Method HSA

Driller Mike, Rick Log By SB Date Drilled 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14			0	SILT, dark brown and tan mottled, with red spots, slightly moist, unconsolidated
	NL	rec 1.5'	0	
15				
16				
17				
18				
			0	SILT, as above, but clayey and gravelly
19			0	
		rec 2'	0	
20				
21				
22				
23				
			0	SILT, as above, clayey and gravelly
24			0	Bedrock in tip
		rec 2'	0	
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location VB-34 | W.O. Number 469.06
Well Number B-78 | Total Depth 30' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SR | Date Drilled 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26				
27				
28				
29			2.4	GRAVEL,very weathered bedrock, gray and whitish gray clay, lumps, silty
		~~rec~~ 1.5'	50	BOH = 30'
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate Client U.S. Navy

Location by VB-35 W.O. Number 469.06

Well Number B-79 Total Depth 27.5' Diameter 8"

Surface Elevation ____ Water Level: Initial ____ 24-hrs. ____

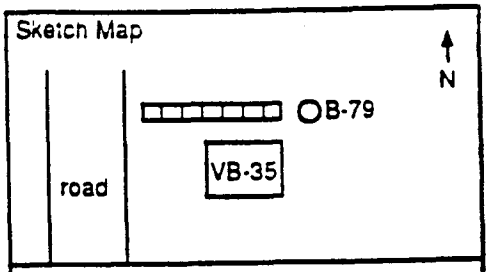
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company All Terrain Drilling Method HSA

Driller Mike Rick Log By SR Date Drilled 6/6/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SILT, dark brown, unconsolidated, abundant grass and twigs
1				
				SILT, tan, unconsolidated, moist, some poorly-graded gravel
2			0	
			0	
3		rec 2'	0	
4	ML			
5				
6				
7			0	
			0	
8		rec 2'	0	
				SANDSTONE, tan, very fine-grained, dry, iron-stained, hairline fractures
9				
10				
11			0	SILTSTONE, dark gray to tan, iron-stained, hairline fractures, angular pieces, silt-size to core-size
12			0	
		rec 2'	0	

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location by VB-35 | W.O. Number 459.06
Well Number B-79 | Total Depth 27.5' | Diameter 8"
Surface Elevation | Water Level: Initial | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company All Terrain | Drilling Method HSA
Driller Mike Rick | Log By SB | Date Drilled 6/6/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14				
15				
			0	SILTSTONE, as above, but with some clay - lumpy, hard, dense
16			0	
			0	
17		rec 2.5'	0	
18				
19				
20				SILTSTONE, as above, but with some dark bluish-gray mineral staining
21			0	
			0	
22		rec 2'	0	
23				
24				
25				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy

Location by VB-35 | W.O. Number 469.06

Well Number B-79 | Total Depth 27.5' | Diameter 8"

Surface Elevation | Water Level: Initial | 24-hrs.

Screen: Dia. | Length | Slot Size

Casing: Dia. | Length | Type

Drilling Company All Terrain | Drilling Method HSA

Driller Mike, Rick | Log By SR | Date Drilled 6/6/90

Sketch Map

See page 1

Notes

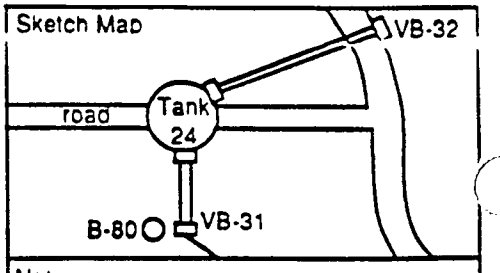
Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26			0	SILTSTONE, very weathered, moist, iron-stained, with abundant light gray and tan clay-hard, dense, with manganese dendrites
			0	
27		rec 2'	0	
				BOH = 27.5' (refusal in bedrock)
28				
29				
30				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location near VB-31 | W.O. Number 469.06
Well Number B-80 | Total Depth _____ | Diameter 8"
Surface Elevation _____ | Water Level: Initial _____ | 24-hrs. _____
Screen: Dia. _____ | Length _____ | Slot Size _____
Casing: Dia. _____ | Length _____ | Type _____
Drilling Company All Terrain | Drilling Method HSA
Driller Mike, Rick | Log By SR | Date Drilled 6/5/90

Sketch Map



Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				SURFACE: gravel
1			1.2	
		rec 1'	0	SILT,brown, unconsolidated, slightly moist, sparse, small rounded gravel
2				
3	ML			
4				
5				
6			0	SILT, a.a.
		rec 1.5'	0	
7				
8				
9				
10			0.8	GRAVEL, weathered bedrock, dark gray, clay coating fracture surfaces, with one thin clay layer about 4" thick - tan and greenish gray, very slightly moist, crumbly
11			8	
		rec 2'	36	
12				

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy

Location near VB-31 | W.O. Number 469.06

Well Number B-80 | Total Depth _____ | Diameter 8"

Surface Elevation _____ | Water Level: Initial _____ | 24-hrs. _____

Screen: Dia. _____ | Length _____ | Slot Size _____

Casing: Dia. _____ | Length _____ | Type _____

Drilling Company All Terrain | Drilling Method HSA

Driller Mike, Rick | Log By SR | Date Drilled 6/5/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13				
14				
15			1	GRAVEL, dark gray weathered bedrock, wet surfaces, no odors, poorly graded, several core-sized pieces, some angular pieces, clayey and rocky crumbly zones
			12	
16			6	
		rec 2.5'	18	
17				
18				
19			140	GRAVEL, as above, but with slight odor
		rec 1.5'	75	
20				BOH = 20' (refusal in bedrock)
21				
22				
23				
24				
25				

Environmental Resources Management

Drilling Log

Project: Dr. Malan Client: U.S. Navy

Location near VB-19 W.O. Number 469.06

Well Number B-81 Total Depth 30' Diameter 6"

Surface Elevation ____ Water Level: Initial 24'? 24-hrs. ____

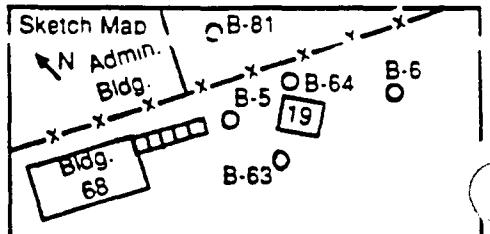
Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company Spectrum Drilling Method HSA

Driller Van/Matt Log By SR Date Drilled 7/2/90

Sketch Map



Notes: CA-Modified split-spoon sampler - 18" drives

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
0				GRAVEL, clayey, gray and tan, most gravel is < 1/2" diameter, one piece 1-1/2" diameter
1	CL	rec 8"	0	
2				
3		rec 6"	1.3	GRAVEL, clayey, gray, damp, slight hydrocarbon odor
4		rec 4"	NR	GRAVEL, clayey, gray-green, hydrocarbon odor
5		rec 4"		(Bay Mud) CLAY, grayish-green to dark gray, gravelly, moist, gravel is < 1/2" diameter, strong hydrocarbon odor, visible hydrocarbons. (Lost first sample; re-sampled with a sand catcher)
6			60	
			22	
7	OH	rec 12"	350	CLAY - black with some green mottling, moist, hydrocarbon and organic odors
			1,000	
8			320	
9		rec 15"	60	CLAY, black with some green and red mottling, soft to dense, highly stained, visible hydrocarbons, silty and grayish-green in tip
			110	
10		rec 18"	100	CLAY, as above, damp and soft
11	CL		440	(Older Bay Mud?) CLAY, grayish-green, hard, dense, some hydrocarbon mottling - tan throughout
		rec 18"	60	
12		rec 18"	3.4	CLAY, green, very dense, hard, sparse, angular-shaped, "shadows" of weathered siltstone, sparse red blotches

Environmental Resources Management

Drilling Log

Project: Pt. Molate Client: U.S. Navy

Location: near VB-19 W.O. Number: 469.06

Well Number: B-81 Total Depth: 30' Diameter: 6"

Surface Elevation: ____ Water Level: Initial: 24'? 24-hrs.: ____

Screen: Dia. ____ Length ____ Slot Size ____

Casing: Dia. ____ Length ____ Type ____

Drilling Company: Spectrum Drilling Method: HSA

Driller: Van/Matt Log By: SR Date Drilled: 7/2/90

Sketch Map

See page 1

Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
13	CL		7	
14		rec 18"	14 60	CLAY, dark gray-green mottled, slightly moist, soft, hydrocarbon odor, silty clay in tip
15			2	CLAY, green and tan mottled, silty, dense, hard, some tan and iron-stained siltstone fragments
16		rec 12"	18	
17	CL	rec 18"	120 98	CLAY, silty - as above, hydrocarbon odor
18			140	CLAY, silty - as above, moist, visible hydrocarbons and odor, outside of sample is damp
19		rec 18"	95	
20	SP	rec 14"	16 2	SAND, green and tan mottled, very fine-grained, silty, damp
21	ML		0.4	SILT, green and highly iron-stained, clayey, sandy, remnants of (?) weathered bedrock(?), no odors
22		rec 18"	0	
23	SM		0	SAND, silty, green and iron mottled, very fine-grained, wet, dark black organics(?) at base, no odors
24		rec 18"	0	
25	CL	rec 18"	0 0	CLAY, silty, color as above, with definite, numerous, very small cubic-shaped, iron-stained areas (weathered bedrock?) and with gravel content increasing with depth, gravel is < 1/4" diameter, sample wet on outside (boring has about 2' water)

Environmental Resources Management

Drilling Log

Project Pt. Molate | Client U.S. Navy
Location near VB-19 | W.O. Number 469.06
Well Number B-81 | Total Depth 30' | Diameter 6"
Surface Elevation | Water Level: Initial 24'? | 24-hrs.
Screen: Dia. | Length | Slot Size
Casing: Dia. | Length | Type
Drilling Company Spectrum | Drilling Method HSA
Driller Van/Matt | Log By SR | Date Drilled 7/2/90

Sketch Map

See page 1

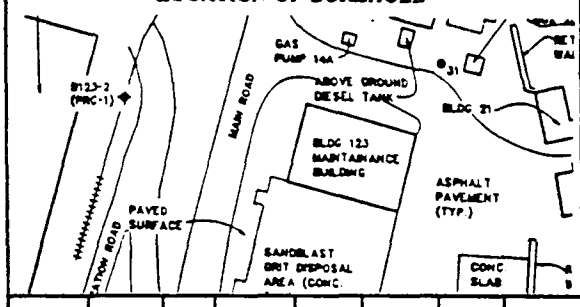
Notes

Depth (Feet)	Graphic Log	Sample Number	OVA Reading (ppm)	Description/Soil Classification (Color, Texture, Structures)
26	CL	rec 18'	0 0.2	CLAY, silty, as above with 1/4" diameter gravel, red to iron colored gravel, sample wet on outside
27	CL	rec 18'	0 0.2	CLAY, silty, as above
29	SW	rec 18'	0.5 0.5	SAND, color as above, gravelly, clayey, wet, gravel is 1/8" diameter, cubic-shaped, red to black
30				BOH = 30'
31				
32				
33				
34				
35				
36				
37				
38				

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

LOCATION OF BOREHOLE



JOB NO: 044-0010 IRSIFW	BOREHOLE DESIGNATION: B123-2
CLIENT: U.S. Navy	SURFACE ELEVATION:
SITE: Point Molate Naval Fuel Depot	DEPTH TO WATER: 30 ft
SUBSITE: Building 123	LOGGED BY: David West
DRILLING CO: Layne Environmental	DRILLING DATE(S): 9/20/90
DRILLING PERSONNEL/METHOD: Jim McDonald, Brian Patkowski/Mobil B-57, 4 1/4" ID/7 7/8" OD HSA, continuous split spoon drives	

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD/DRIVEN	TIME	PID READING	ANLYS Pty Ch	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								1	GM	Surficial gravels-railroad base material to about 2 ft, followed by silt, yellowish brown (10YR5/6), some root material.
								2		
								3	CL	2.5 to 4.0 ft: Sharp contact with the following at 2.5 ft: clay, slightly plastic, very dark gray (10YR3/1), slightly moist, moderately stiff; minor gravel, 5-10mm, abundant 1-2mm rounded clasts of siltstone, oxidized orange to brown.
Mod. (2.5")	2.5 - 4.0	4/6/6	1.5/1.5	1125	0-1			4		
Calif. (2")	4.0 5.5	5/7/4	0.7/1.5	1200	0.5			5		4.0 to 5.5 ft: Clay, similar to above, dry, crumbly. Sample B123-2 (4.0-5.5) collected.
								6	CL	5.5 to 7.5 ft: Clay, similar to above, slightly plastic, slightly moist, with olive green/gray silt clasts to 10mm, also contains greenish-gray siltstone clasts and oxidized reddish brown pebbles.
Std. (1.5")	5.5 - 7.5	4/5/4/3	1.0/2.0	1205	0-1			7		
								8	CL	8.0 to 9.5 ft: Clay, similar to above, very dark gray (10YR3/1) to black with olive green silty clasts and thin lenses (1-2mm). Sample B123-2 (8.0-9.5) collected.
Mod.	8.0 - 9.5	15/18/4	1.1/1.5	1210	0-1			9		9.5 to 11.0 Clay, similar to above, olive gray (5YR5/2), slightly plastic, slightly moist, moderately stiff, increasing light olive brown (7.5Y5/6) oxidation in discrete pods and siltstone clasts.
Calif.	9.5 - 11.0	4/8/14	1.5/1.5	1215	0-1			10		
Std.	11.0 - 12.5	11/14/18	0.6/1.5	1219				11		11.0 to 12.5 ft: Clay, slightly plastic, yellowish brown (10YR5/4) with yellowish brown (10YR6/8) oxidized silt (siltstone) clasts, slightly moist.
								12		
								13	CL	12.5 to 14.0 ft: Clay (upper 0.7 ft), slightly plastic, stained very dark gray (10YR3/1) grading into brownish yellow (10YR6/6) clay with brownish yellow (10YR6/8) oxidized clasts; becoming saturated (wet) within clay partings, some gravel, rounded to subangular siltstone; water table encountered with stained/non-stained clay indicative of capillary fringe. Sample B123-2 (12.5-14.0) collected.
Mod.	12.5 - 14.0	11/11/14	1.5/1.5	1231	4.5			14		14.0 to 15.5 ft: Clay, slightly plastic to plastic, yellowish brown (10YR5/4), wet, grades into (0.4 ft) gravelly clay with siltstone clasts (2-4mm), oxidized and mottled grayish brown to yellowish brown.
Calif.	14.0 - 15.5	11/11/13	1.4/2.5	1236	1-2			15		
								16	CL/ML	15.5 to 17.0 ft: Weathered clay/silty clay, slightly plastic, mottled pale brown (10YR6/3) to brownish yellow (10YR6/6 to 6/8), dry, stiff, 1-2mm siltstone fragments.
Std.	15.5 - 17.0	11/14/18	1.2/1.5	1245				17		17.0 to 18.5 ft: Clay, as above (0.3 ft) followed by: clay more plastic, dark brown (10YR4/3 to 3/3) with dark grayish brown (10YR4/2) streaks (stained with hydrocarbons), slightly moist, medium stiff.
Mod.	17.0 - 18.5	14/16/19	1.4/1.5	1250	4			18		
								19	CL/ML	18.5 to 20.0 ft: Silty clay, nonplastic, mottled brownish yellow (10YR6/8) to dark brown (10YR4/3), oxidized with reddish brown (2.5YR4/4) fracture surfaces and weathered siltstone fragments to 20mm, dry, crumbly.
Calif.	18.5 - 20.0	11/17/28	0.9/1.5	1315	1-2			20		
Std.	20.0- 21.5	17/21/33	1.0/1.5	1318						20.0 to 21.5 ft: Gravelly silt with siltstone fragments, brownish yellow (10YR6/6), contains weathered red (10R4/8) to brownish yellow (10YR6/8) siltstone clasts, dry, crumbly, limonitic streaks along fracture surfaces; depth to water following well installation = 20.4 ft.

FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC

JOB NO: 044-0010IRSIFW

BOREHOLE DESIGNATION: B123-2 Continued

SAMPLER TYPE	SAMPLE DEPTH	BLOW CTS	RECVD / DRIVEN	TIME	PID READING	ANLYS Pb, Cb	WELL INFO	DEPTH IN FT	USCS GRAPHICS	SOIL DESCRIPTION
								21	ML	21.5 to 23.0 ft: Clay with minor gravel (upper 0.2 ft), very dark gray (10YR3/1) oily streaks or clasts, slightly moist, occasional rounded siltstone pebbles to 25mm and siltstone fragments (1-2mm); wet at 21.7 to 22.5 ft, then very gravelly with fractured, angular siltstone up to 30mm.
Mod.	21.5 - 23.0	17 / 27 / 31	1.5 / 1.5	1322				22		
								23		23.0 to 24.5 ft: Overdrilled to retrieve California (2 inch) split spoon lost off drill rod, not logged.
								24		24.5 to 26.0 ft: Gravelly silt/clay, siltier at top of interval, slightly plastic, weathered and mottled brownish yellow (10YR6/6) and dark grayish brown (10YR4/2), wet between fractures, but overall sample not saturated, stiff, some angular fragments of siltstone (1-5mm).
Std.	24.5 - 26.0	18 / 21 / 31		1425				25	ML/CL	
								26		
								27		27.5 to 29.0 ft: Clay, plastic, yellow brown (10YR5/4), wet from 27.5 to 27.9 ft, loose; followed by clay with very dark grayish brown (10YR3/2) streaks (stained); lower 0.7 ft is weathered clay/siltstone, yellowish brown (10YR5/4), slightly moist, many siltstone/shale fragments (1-3mm). Sample B123-2 (28.0) collected.
Mod.	27.5 - 29.0	31 / 31 / 35	1.5 / 1.5	1440				28	CL	
Calif.	29.0 - 30.5	11 / 16 / 18	1.5 / 1.5	1442				29		29.0 to 30.5 ft: Clay, similar to above, plastic, wet from 29.0 to 29.6 ft, followed by weathered clay/siltstone and gravelly clay with reddish brown (oxidized) subrounded pebbles up to 15mm, ground water sample B123-2 GW(30) collected.
								30	CL/GC	30.5 to 32.0 ft: Wet slough in upper 0.5 ft, followed by gravelly weathered clay/silt as above, subrounded siltstone pebbles up to 40mm.
								31		
Std.	30.5 - 32.0	9 / 11 / 17	1.0 / 1.5	1452				32		32.0 to 33.5 ft: Clay with some gravel, plastic, brownish yellow (10YR6/6) - grayish brown (10YR5/2), weathered dark reddish brown (2.5YR2.5/4) to b (limonitic or iron oxide) on fracture surfaces or in pebble clasts, moist, coh
Mod.	32.0 - 33.5	21 / 22 / 27	1.5 / 1.5	1506				33	CL	33.5 to 35 ft: Clay as above.
								34		
Std.	33.5 - 35.0	19 / 21 / 24	0.3 / 1.5	1510				35		
								36		Auger to 36 FT TOTAL DEPTH.

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP16-01
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 16, Sump
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):

Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
			1357			0 to 4	NR	Hand augered. Reached water between 2 and 3 ft.
			1400			4 to 8	SM	Started with geoprobe. Light olive brown (2.5Y 5/3) silty sand with some clay. Brownish yellow (10YR 6/6) sandy mottles. Not sticky or plastic. Larger gravel (1 - 1.5 in) = 10-15%.
5								
						8 to 10		Groundwater sample HP16-01EBS collected at 8.0 ft.
10								Total depth = 10 ft. Screened interval = 0 to 10.0 ft.
15								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP21-01
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 21 Building 88
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.5/4	1037			0 to 4	NR	No recovery. Asphalt.
							FILL	Fill
							GM	Brown (10YR 4/3) fine to medium sand with some silt and clay. Dry and friable. Gravel = 50%.
		3/4	1045			4 to 8	NR	No recovery.
5							ML	Dark brown (7.5YR 3/2) sandy silt (organic?, loamy). Slightly moist. Friable.
								Grayish brown (2.5Y 5/2) very fine sandy silt with yellowish brown (10YR 5/6) very fine sand mottles. Moist. Not sticky or plastic. Mottles appear to be disintegrated sandstone cobbles.
		2/2	1051			8 to 10	SM	Same as above with increasing sand (silty sand). Gravel = 10-15%.
								Brown (7.5YR 5/4) silty sand (increasing sand). Dry. Friable.
10								Total refusal at 10 ft. Dry - No groundwater sample collected.

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP21-02
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 21 Building 85
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.25/4	1107			0 to 4	NR	No recovery. Asphalt and fill.
							SM	Very dark grayish brown (10YR 3/2) silty sand with some clay. Yellowish brown (10YR 5/8) fine sand mottles. Gravel = 10%. Moist. Not sticky or plastic.
							ML	Brown (10YR 4/3) sandy silt with some clay. Gravel = 5%. Moist. Not sticky or plastic.
		2/4	1115			4 to 8	ML	Same as above. Grading into very dark grayish brown (10YR 3/2) sandy silt with clay. Brownish yellow (10YR 6/6) and dark red (2.5YR 4/6) sand mottles. Slightly moist. Firm. Gravel = 15%. Some organics (rootlets).
5							NR	No recovery
		4/4	1121			8 to 12	ML	Same as above grading into:
							GM	Dark gray (10YR 4/1) silty fine sand with some clay (visible clay films around coarse sand and small gravel). Small sandstone gravel (0.25-0.5 in) = 40%. Strong brown (7.5YR 5/6) sand mottles. Moist. Slightly sticky.
10								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP21-02
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 21 Building 85
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3.5/3.5				12 to 15.5	GM	Same as above grading into:
								Coarsening. Brown (10YR 4/3) sand with some silt and clay. Brownish yellow (10YR 6/8) sand mottles. Gravel = 30-40%. slightly moist and sticky.
15								Total refusal at 15.5 ft. Dry - No groundwater sample collected.
20								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP21-03

Client: U.S. Navy Surface Elevation:

Site: Point Molate Subsite: Parcel 21 Building 21 Geologist: Sarah Jones

Drilling Date (s): 6/3/98 Well Installation Date (s):

Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen

Drilling Method: Direct Push Geoprobe

Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		2.5/4	1152			0 to 4	NR	No recovery. Fill.
							SM	Brown (10YR 5/3) fine to medium sands with some silt and clay. Strong brown (7.5YR 5/6) sand mottles. Small gravel (0.25 - 0.5 in) and coarse sand = 20%. Dry and firm.
							ML	Very dark grayish brown (10YR 3/2) very fine to fine sandy silt with some clay. Very slightly sticky. Very slightly plastic. Moist. Gravel = 20%. Mottles as above.
		2.75/4				4 to 8	SM	Similar to above but dark grayish brown (10YR 4/2) silty sand with some clay. Mottles as above. Moist. Not sticky. not plastic. Grades into:
5							GM	Same as above with increase in gravel = 50%. Silty sand with some clay. Strong brown (7.5YR 5/6) and brown (2.5YR 4/4) sand mottles. Moist with pockets of saturation.
							NR	No recovery.
		4/4				8 to 12	GM	Same as above. Moist. Gravel = 40%.
10								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP21-03
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 21 Building 21
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):

Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							GM	
		1.25/1.25					SM	Same as above with slight color change and increase in sand. Brown (10YR 5/3) sand with some silt and clay. Gravel = 15%. Slightly moist. Very friable.
								Total refusal at 13.25 ft. Dry - No groundwater sample collected.
15								
20								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069-148M0201
Well Designation:
Borehole Designation: HP21-04
Client: U.S. Navy
Surface Elevation:
Site: NFD Point Molate
Subsite: Parcel 21 Bluilding 18
Geologist: Brian Schuller
Drilling Date (s): 6/4/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3.5/4	1410	11.1		0 to 4	NR	Asphalt.
							SW	Sand, very fine, sligtly loose, very dark brown (10YR 2/2). Coarse sand or pebbles at top of interval (base course?).
							SC	Clayey very fine sand, slightly loose, moist to wet at 3.8 feet, very dark brown (10YR 2/2), organic material (roots).
		4/4	1420	0		4 to 8		As above, wet to 4.5 feet, then moist to dry. Color grades to dark yellowish brown (10YR 4/6) with brownish yellow mottles (10YR 6/8).
5								
		4/4	1430	0		8 to 12		Very fine sand, some clay, slightly loose, dark yellowish brown (10YR 4/6) with red (10YR 5/6 - 5/8) and brownish yellow (10YR 6/8) mottles.
10								
		4/4	1440	0		12 to 16		As above, slightly looser and moister interval at 15 feet. Increasing weathered bedrock fragments with depth, some bedrock fragments greater than 1 in and weathered to the point that they are cut with drive shoe, roots at 16 feet. Clay content increases to sandy clay with weathered bedrock fragments at 16 feet.
15								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069-148M0201 Well Designation: Borehole Designation: HP21-04
Client: U.S. Navy Surface Elevation:
Site: NFD Point Molate Subsite: Parcel 21 Bluilding 18 Geologist: Brian Schuller
Drilling Date (s): 6/4/98 Well Installation Date (s):

Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SC	
		4/4	1450			16 to 20	CL	Sample stuck in sample barrel, dry sandy clay, dark yellowish brown (10YR 4/6) with red (10R 5/8) and brownish yellow (10YR 6/8) mottles. Note - logged from shoe and ends of barrel.
								Groundwater samples HP21-04EBS and duplicate HP21-0499 EBS collected at 19.0 ft.
20		2/2	1510	0		20 to 22		As above. Soil under pressure and "springs" inside sample tube to 4 feet in length. Moist to very moist at 22 feet. Mottling up to 50%.
		1.5/1.5	1525			22 to 23.5		As above. Springing soil, very clayey interval 22.8 to 23.6 feet. Bedrock in shoe: shaley sandstone, some fissility.
								Refusal at 23.5 feet. Screened interval is 13.5 to 23.5 ft.
25								
30								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP21-05
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 21 Building 123 Geologist: Sarah Jones
Drilling Date (s): 6/3/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		4/4	915			0 to 4	FILL	Asphalt/fill.
		1.5/4				4 to 8	SM	Dark grayish brown (10YR 4/2) fine to medium moist sand with some fines. Gravel = 15%. Slightly sticky. Not plastic. Increasing gravel content and size. Brownish yellow (10YR 6/6) sandy mottles. Moist. Same as above. Moist to saturated.
5								
		2/4	935			8 to 12	NR	No recovery. Driller thinks due to gravel. No recovery.
10								
		4/4	944			12 to 16	SM	Same as above. Intermittent wet and dry. Fine wet sand with small (1 to 2 in) dry sandy "lenses". Gravel up to 1.5 in.
							ML	Gleyed black (N 2.5/1) sandy silt with greenish gray (5G 6/1) sandy mottles. Not sticky or plastic. Grades into:
15								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 | Well Designation: | Borehole Designation: HP21-05

Client: U.S. Navy | Surface Elevation:

Site: Point Molate | Subsite: Parcel 21 Building 123 | Geologist: Sarah Jones

Drilling Date (s): 6/3/98 | Well Installation Date (s):

Drilling Company: Fast-Tek | Personnel: Ed Suoboda, Eric Janzen

Drilling Method: Direct Push Geoprobe

Borehole Diameter: 1.5 in | Latitude: | Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							ML	
		3.25/4	950			18 to 20	SM	Dark greenish gray (5GY 4/1) silty sand with greenish gray (5GY 6/1) mottles. Gravel = 10%.
							NR	No recovery.
							SM	Same as above. Grades into:
								Dark grayish brown (10YR 4/2) silty sand with clay. Yellowish brown (10YR 5/8) mottles. Clay present in films. Small gravel (0.25 to 0.5 in) = 15%.
								Wet sand with some fines. Gravel = approximately 5%.
20		4/4				20 to 24		Silty sand with mottles (same as 17.5 to 18.75).
								Dry. Very friable. Silty sand same as above with some fines (increasing fine to medium sand). Gravel (0.25 - 1.0 in) mostly small.
		4/4	1007			24 to 28		Same as above.
25								
								Groundwater sample HP21-05EBS collected at 27.0 ft.
								Brown (7.5YR 5/4) saturated sand (approximatley 10% fines). Gravel = 15 to 20%. Not sticky or plastic.
		2.25/4				28 to 32		No recovery.
							NR	
30							SM	Same as above (27 to 28 feet). Saturated.

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 | Well Designation: | Borehole Designation: HP21-05

Client: U.S. Navy | Surface Elevation:

Site: Point Molate | Subsite: Parcel 21 Building 123 | Geologist: Sarah Jones

Drilling Date (s): 6/3/98 | Well Installation Date (s):

Drilling Company: Fast-Tek | Personnel: Ed Suoboda, Eric Janzen

Drilling Method: Direct Push Geoprobe

Borehole Diameter: 1.5 in | Latitude: | Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SM	
							GM	Yellowish brown (10YR 5/4) fine to medium sand with some fines. Dark red (2.5YR 4/8) and reddish yellow (7.5YR 6/8) mottles. Moist and firm. Gravel = 25 to 30%.
								Total depth = 32 ft. Screened interval = 12 to 32 ft.
35								
40								
45								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP21-06
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 21 Building 123
Geologist: Sarah Jones
Drilling Date (s): 6/3/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/4	0830			0 to 4	NR	No recovery. Asphault.
							FILL	Fill.
							SC SM	Light olive brown (2.5Y 5/4) clayey silty sand. Friable. Gravel = 5%.
		4/4				4 to 8	SC	4 to 8 ft compacted to 2 ft. Will call 6 to 8 ft.
5								Light olive brown (2.5Y 5/3) clayey sand with brownish yellow (10YR 6/8) sand mottles. Gravel (0.5 - 1.0 in) = 20%. Slightly sticky. Moist.
								Increasing sand and gravel. Gravel = 50 - 60%.
		2/4	0840			8 to 12	GC	Same as above. Spots of sand and clayey sand. Gravel (1.0 - 2.0 in) = 20 - 50%.
10							NR	

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP21-06
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 21 Building 123 Geologist: Sarah Jones
Drilling Date (s): 6/3/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							NR	No recovery. Driller thinks due to large gravel.
		2.8/4	0851			12 to 16		No recovery.
							GC	Same as 8 - 10 ft. Moist to saturated.
								Greenish gray (5G 5/1) fine sand and gravel (0.25 - 0.5 in).
15							ML	Gleyed black (N 2.5/1) sandy silt. Greenish gray (5G 5/1) sandy mottles. Friable. Organic rootlets present. Gravel = 5%. Grades into:
		4/4				16 to 20	SM	Dark greenish gray (5GY 4/1) silty sand with greenish gray (5G 5/1) sandy mottles. Gravel = 10%. Moist. Very slightly sticky. Not plastic. Grades into:
			0902					Brown (10YR 5/3) silty sand. Brownish yellow (10YR 6/8) and greenish gray (5G 6/1) mottles. Slightly moist. Firm.
20		2.5/4				20 to 24		No recovery.
			0907					Same as above (17.75 - 20 feet) Greenish gray (5GY 5/1) fine to medium sand with some fines. Gravel = 20%. Very slightly sticky. Moist to saturated.
		3/3				24 ot 27	ML	Yellowish brown (10YR 5/4) sandy silt. Gravel = approximately 10%. Moist.
25							SM	Same as above. Moist. Groundwater sample HP21-06EBS collected at 24.0 ft.
								Brown (10YR 5/3) silty sand with clay (clay coating = 10%). Yellowish brown (10YR 5/8) sandy mottles. Gravel = approximately 10%. Very slightly moist.
								Total depth = 27 ft. Screened interval = 7 to 27 feet.
30								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP29-01

Client: U.S. Navy Surface Elevation:

Site: Point Molate Subsite: Parcel 29 Downgradient Geologist: Sarah Jones

Drilling Date (s): 6/2/98 Well Installation Date (s):

Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen

Drilling Method: Direct Push Geoprobe

Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/4	0820			1 to 4	NR	No recovery. Driller says concrete to 0.5, then fill.
							FILL	Fill.
							ML	Gray (10YR 5/1) clayey silt. Reddish yellow (7.5YR 6/8) fine sand mottles. Slightly moist. Very slightly sticky and very slightly plastic.
		3.5/4	0845			4 to 8	NR	No recovery.
5							SM	Gray (10YR 5/1) silty sand with some clay and small (0.25 - 0.5 in) gravel = 15%. Transition in color --
							SM	Brown (7.5YR 5/4) silty fine sand with some clay. Dark red (2.5Y 4/6) and reddish yellow (7.5YR 6/8) sand mottles. Moist. Not sticky. Very slightly plastic.
							SM	Groundwater sample HP29-01EBS collected at 8.0 ft.
		4/4	0900			8 to 12	SW	Yellowish brown (10YR 5/4) medium coarse sand (<10% fines). Few mottles. Gravel = 15%. Saturated. Not sticky or plastic.
10							SM	Yellowish brown (10YR 5/4) silty fine sand. Gravel and coarse sand = 5%. Saturated. Not sticky. Not plastic.

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP29-01
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 29 Downgradient Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/3	0912			12 to 15	SM	Light olive brown (2.5Y 5/4) silty fine sand with yellowish red 5YR 5/8 sand mottles. Gravel and coarse sand = 15%. Moist. Not sticky or plastic.
15								Total depth = 15 ft. Screened interval = 5 to 15 ft.
20								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0202 Well Designation: Borehole Designation: HP29-02
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 29 Downgradient Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
			1002				NR	No recovery. From driller - Concrete to 0.5. Fill to 2.5.
							SP	Yellowish brown (10YR 5/4) not well sorted sands (silt and clay = 10%). Gravel = 5%. Moist. Slightly sticky.
								Dark greenish gray (5GY 4/1) highly organic medium-coarse sand. Texure same as above. Saturated.
5							ML	Dark gray (5Y 4/1) sandy silt (fine sand). Gradual transition to:
							SM	Olive brown (2.5Y 4/3) silty sand with yellowish-red (5YR 5/8) sandy mottles. Small gravel (0.25 - 0.5 in) and coarse sand = 10%.
			1015				SP	Brown (10YR 4/3) medium to coarse not well sorted sand with some silt and clay. Gravel = 20%. Slightly moist. Friable.
10								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0202 Well Designation: Borehole Designation: HP29-02
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 29 Downgradient Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SP	Same as above. Moist.
								"
								Groundwater sample HP29-02EBS collected at 14.0 ft.
15								
							SM	Brown (10YR 5/3) silty, not well sorted, fine to medium sand. Saturated. Not sticky. Not plastic.
								Brown (10YR 4/3) silty, fine to medium sand. Strong brown (7.5YR 5/8) sand mottles. Gravel = 10%.
20								Brown (10YR 5/3) silty sand with strong brown (7.5YR 5/8) sand mottles. Very slightly moist. Friable.

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0202 Well Designation: Borehole Designation: HP29-02

Client: U.S. Navy Surface Elevation:

Site: Point Molate Subsite: Parcel 29 Downgradient Geologist: Sarah Jones

Drilling Date (s): 6/2/98 Well Installation Date (s):

Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen

Drilling Method: Direct Push Geoprobe

Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SM	
								Total refusal at 22.5 ft. Screened interval = 12 to 22 ft.
27								
32								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP30-01
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 30 Drain Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/4	1404			0 to 4	NR	No recovery (gravel).
							ML	Very dark grayish brown (10YR 3/2) very fine to fine sand with some silt. Gravel and very coarse sand = 10%.
								Olive brown (2.5Y 4/3) very fine sandy silt with some clay. Moist. Not sticky or plastic.
		4/4	1413			4 to 8	SM	Very dark gray (2.5Y 3/1) silty sand with some clay. Strong fine brown (7.5YR 5/8) sandy mottles. Gravel = 10%. Moist. Not sticky or plastic.
5								Very dark grayish brown (2.5Y 3/2) sand with some silt and clay. Very coarse sand and gravel = 25%. Moist. Not sticky or plastic.
							ML	Gleyed black (N 2.5/1) sandy silt with some clay (very fine to fine sand). Greenish gray (5GY 5/1) fine sand mottles. Coarse fraction = 10%.
								Gleyed black (N 2.5/1) sandy silt with some clay. Dark greenish gray (5GY 4/1) fine sand mottles. Very slightly sticky and very slightly plastic.
		4/4	1423			8 to 12		Very dark gray (N 3/1) clayey silt with some sand (>10%). Greenish gray (5G 5/1) very fine sandy mottles. Dry and friable. Grades into (at 10 ft) dark grayish brown (2.5Y 4/2) clayey silt with some sand. Gravel = 5%.
10								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP30-01
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 30 Drain Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							ML	Grades into olive brown (2.5Y 4/3) sandy silt with some clays. Greenish gray (5GY 5/1) and brownish yellow (10YR 6/6) very fine to fine sandy mottles. Small gravel (0.25 - 0.5 in) = 10%. Coarsening down.
		4/4	1435			12 to 16		Same as above.
							SM	Light olive brown (2.5Y 5/3) very fine to fine silty sand with some clay. Brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) fine to medium sandy mottles. Friable.
15								Dark grayish brown (10YR 4/2) silty sand with some clay. Gravel = 10%. Moist to saturated. Slightly sticky and very slighlty plastic.
		4/4	1455			16 to 20		Same as above.
								Groundwater sample HP30-01EBS collected at 19.5 ft.
20								Total refusal at 20 ft. Screened interval = 10 to 20 ft.
25								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201 Well Designation: Borehole Designation: HP30-02
Client: U.S. Navy Surface Elevation:
Site: Point Molate Subsite: Parcel 30 Septic Tank Geologist: Sarah Jones
Drilling Date (s): 6/2/98 Well Installation Date (s):
Drilling Company: Fast-Tek Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in Latitude: Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/3	1210			0 to 3	SM	Light olive brown (2.5Y 5/4) fine to medium sand with some silt. Gravel = 10%.
								Changes gradually to gleyed very dark grey (N 3/1) with greenish gray (5GY 5/1) sandy mottles.
		1.75/4	1215			3 to 7	ML	Gleyed very dark gray (N 3/1) fine sand with some silt and clay. Not well sorted. Small (0.25 - 0.5 in) gravel = 15%. Moist. Very slightly sticky. Not plastic.
5							NR	No recovery. Compacted into top of next liner.
		4/4	1220			7 to 11	ML	Very dark gray (5Y 3/1) clayey silt with some very fine to fine sand. Gravel = 5%. Dry and firm.
10			1231			11 to 15		Gradual color change and coarsening downward. Grayish brown (2.5Y 5/2) clayey silt with some fine sand with coarse sand and small gravel (0.25 - 0.5 in) = 10%. Coarsening to sandy silt to silty sand to silty sand with some clay. Strong brown (7.5YR 5/8) sand mottles throughout.
							SM	Grayish brown (2.5Y 5/2) silty sand with some clay. Same mottles as above. Small gravel = 10%. Moist. Not sticky or plastic.
15			1240			15 to 19		

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP30-02
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 30 Septic Tank
Geologist: Sarah Jones
Drilling Date (s): 6/2/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
							SM	Light olive brown (2.5Y 5/3) silty sand to sand with some silt and clay. Brown (7.5YR 4/4) sand mottles. Small gravel (0.25 - 0.5 in) = 15%. Moist. Not sticky or plastic.
								Groundwater sample HP30-02EBS collected at 17.0 ft.
								Total refusal at 19 ft. Screened interval = 9 to 19 ft.
20								
25								
30								

BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP30-03
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 30 Upgradient
Geologist: Sarah Jones
Drilling Date (s): 6/2/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
		3/4	1118			0 to 4	NR	No recovery. Gravel/fill.
							SM	Very dark grayish brown silty sand with some clay. Small gravel = 15%. Dry and friable.
								Gleyed black (N 2.5/1) silty sand with greenish gray (5GY 5/1) fine sand mottles. Gravel = 10-15%. Moist. Not sticky or plastic.
		4/4	1129			4 to 8	ML	Gleyed black (N 2.5/1) clayey silt with some sand. Gradual color change to very dark gray (5Y 3/1). Brownish yellow (10YR 6/6) mottles. Small gravel = 15%.
5								Groundwater sample HP30-03EBS collected at 5.0 ft.
								Saame as above with an increase in gravel size and content (15-20%).
		4/4	1141			8 to 12		Dark grayish brown (10YR 4/2) sandy silt with clay (fine to medium sand). Yellow (10YR 7/8) fine sand mottles. Gravel = 25%. Moist. Very slightly sticky. Very slightly plastic.
10								

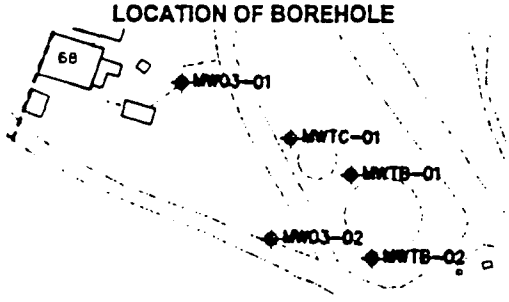
BOREHOLE LOG

Tetra Tech EM Inc.

Job Number: 069148M0201
Well Designation:
Borehole Designation: HP30-03
Client: U.S. Navy
Surface Elevation:
Site: Point Molate
Subsite: Parcel 30 Upgradient
Geologist: Sarah Jones
Drilling Date (s): 6/2/98
Well Installation Date (s):
Drilling Company: Fast-Tek
Personnel: Ed Suoboda, Eric Janzen
Drilling Method: Direct Push Geoprobe
Borehole Diameter: 1.5 in
Latitude:
Longitude:

DEPTH (FT)	BLOWS/FT	RECOVERY	TIME	FIELD SCREENING	ANALYSIS	CORE INTERVAL	GRAPHIC LOG	SOIL DESCRIPTION
			1146			12 to 16	ML	Same as above.
15		3.5/3.5				16 to 19.5	SM	Brown (10YR 4/3) silty sand with some clay. Yellowish red (5YR 5/8) sand mottles. Gravel = 15%. Slightly moist. Friable.
								Gray (5YR 5/1) sand (not well sorted) with some silt and clay. Saturated. Not sticky or plastic.
								Grayish brown (10YR 5/2) silty sand with some clay. Yellowish red (5YR 5/8) sand mottles. Gravel = 10%. Moist. Not saturated or plastic.
								Dark grayish brown (10YR 4/2) silty sand with some clay. Gravel = 15%. Moist. Slightly sticky and slightly plastic.
20								Total refusal at 19.5 ft. Screened interval = 9.5 to 19.5 ft.

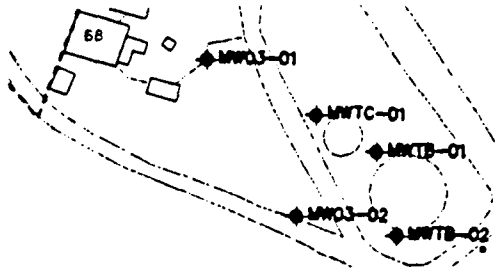
LOCATION OF BOREHOLE



PROJECT NO.:	044-0248	BOREHOLE DESIGNATION:	SB03-01
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt. Molate	DEPTH TO WATER:	
SUBSITE:	Area 3	LOGGED BY:	B. Schuller
DRILLING CO.:	Bayland	DRILLING DATE(s):	
DRILLING PERSONNEL/METHOD:	75 CME 5' CME Sampler, 7 7/8" auger. Slagle/Marting		

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	WELL Info.	DEPTH (ft.)	USCS Soil Type / Graphic Log	SOIL DESCRIPTION
CME	0.0	5.0	1.5/5.0	0945						Fill; Sandy Silt with pebbles, some clay. Colluvium; 10YR 4/2 mottled 10YR 6/8 and 5Y 5/2, 10YR 6/8 mottles are sandy (weathered sandstone fragments), clayey silt with sand, sand is fine to very fine, slightly plastic, moist beginning at 1.0 ft., rock fragments up to 2" (subrounded to subangular).
						■		5		Colluvium; as above, increasing clay content, less rock fragments. Sample collected from 5.0-6.0' interval.
	5.0	10.0	5.0/5.0	0950						Bay Mud; 5Y 3/1 mottled 5Y 5/2, clayey silt with sand, mottles are sandier.
								10		Colluvium; mottled 5Y 5/1, 2.5Y 5/6, silty sand, some clay, moist, some friable sandstones. Same as above. Colluvium; 10YR 6/6 and 6/8, 10YR 5/4 from 13.8 to 14.6'; silty fine sand with some clay (60% sand, 30% silt, 5% clay, 5% small rock fragments including quartz and friable sandstones, moist.
	10.0	15.0	5.0/5.0	1007						
								15		A/A, slight increase in moisture, rock fragments to 1.5', one was consolidated quartz framents (~/cm).
	15.0	20.0	4.5/5.0	1028						
								20		Colluvium; silty sand, some clay (60% sand, 30% silt, 10% clay) rock fragments to 2 cm, moist. Colluvium; 2/5Y 5/6 mottled 2/5Y 6/8 clayey silt with sand, slight plastic, moist.
	20.0	25.0	5.0/5.0	1041		■				Sand; fine, subrounded, rock fragments to 2 cm, some (10%) silt, mixed lithologies/ mostly quartz, coarse sand interval (1") at 23.2', wet. Same as 20.6-22.5' interval, but wet. Sample collected at 22.5-23.0'.
								25		Sand; fine to coarse, subangular, 10YR 5/4, wet to saturated. Colluvium; silty sand, some clay, rust interval at 25.9 (1/4"), pebbles and coarse sand, angular and subangular from 28.8-29.2', in place weathered sandstone at 29.8-30.0', very friable.
	25.0	30.0	5.0/5.0	1100						
								30		

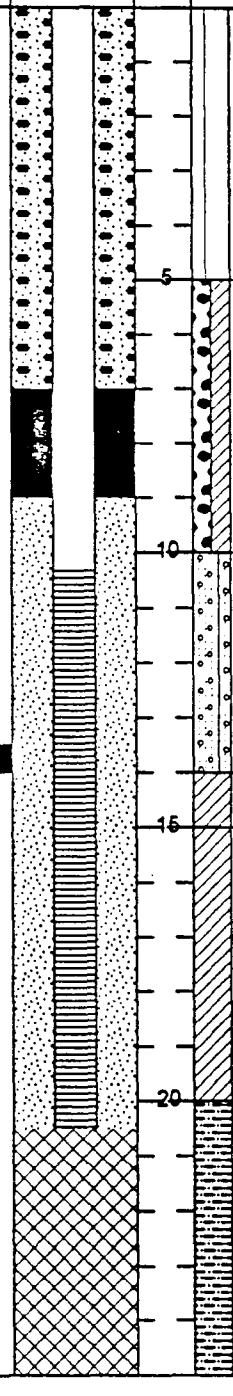
LOCATION OF BOREHOLE



PROJECT NO.:	G0069-112B0403	BOREHOLE DESIGNATION:	MW03-02
CLIENT:	U.S. Navy	SURFACE ELEVATION:	
SITE:	NFD Pt Molate	DEPTH TO WATER:	11.5' bgs
SUBSITE:	Downgradient of Tanks B&C	LOGGED BY:	D. Janney
DRILLING CO.:	Layne Christensen	DRILLING DATE(s):	02/11/99

DRILLING PERSONNEL/METHOD:
CME 850 Track Rig, 5' Continuous CME Sampler (2.5"ID)
Drill to TD w/8"OD Augers; Convert to 12"OD Augers and ream to TD to set 4" MW.
E. Sandoval, F. Sandoval, C. Macio

SAMPLER TYPE	SAMPLE DEPTH TOP	SAMPLE DEPTH BOT	RECOVERED / DRIVEN	TIME	PID READING	CHEMICAL ANALYSIS	USCS Soil Type	SOIL DESCRIPTION
CME 2.5"ID	0	5	1.8/5.0	0835	N/A		MH	Soil surface, olive brown (2.5Y 4/3), sandy silt, nonplastic, damp, sand is fine-medium grained. No hydrocarbon staining or odor.
CME 2.5"ID	5	10	1.0/5.0	0845	N/A		GP-CL	Fill (?), dark yellowish brown (10YR 3/4), angular rock fragments of dark gray-brown sandstone up to 40mm, loose, matrix is silt, 75% rock fragments, 25% silt matrix. Zone of very dense fill - or large sandstone fragments grades into silty clay with rock fragments, nonplastic, no strength, dry.
CME 2.5"ID	10	15	2.0/5.0	0910	N/A		SM	GLEY 4/1, dark greenish gray silty sand, fine-medium grained, poorly graded subrounded-rounded. Moderately strong almost gasoline/diesel odor, moderately strong staining, damp. Free product at 13.5 feet.
							CL	Grades into greenish black (GLEY 2.5N), silty clay, minor-moderately plastic, moist-wet.
CME 2.5"ID	15	20	2.5/5.0	0925	N/A		CL	Silty clay, grayish brown (10YR 5/2), moist, moderate plasticity, weak to moderate hydrocarbon odor, trace stringers of green hydrocarbon stain, locally wet zones. At 17.5' yellowish brown (10YR 5/6) moist, silty clay, nonplastic, weak hydrocarbon odor, staining is in stringers as above. At 19.5', greenish gray (6Y 5/10), wet, silty-sandy clay, nonplastic, moderate hydrocarbon odor, strong staining.
CME 2.5"ID	20	25	2.5/5.0	0950	N/A		Siltstone	Sandy siltstone, moist-wet, yellowish brown, decomposed, strongly oxidized, rock fragments up to 40mm in clayey silt matrix, locally fractured, moderate-strong iron oxides on fractures, grains of quartz. TD = 25', bedrock, dry (overdrill to 20' bgs only).



APPENDIX C

PHASE II RI MONITORING WELL COMPLETION FORMS

TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. PZ02-01
BOREHOLE NO. PZ02-01
SITE NFD Pt. Molate
SUBSITE Waste Disposal Area
DATE 1/22/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Enc and Francisco Sandoval
C. Mucio

DRILL RIG CME 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1/22/99 TIME _____

WELL COMPLETION BEGAN
DATE 1/22/99 TIME _____

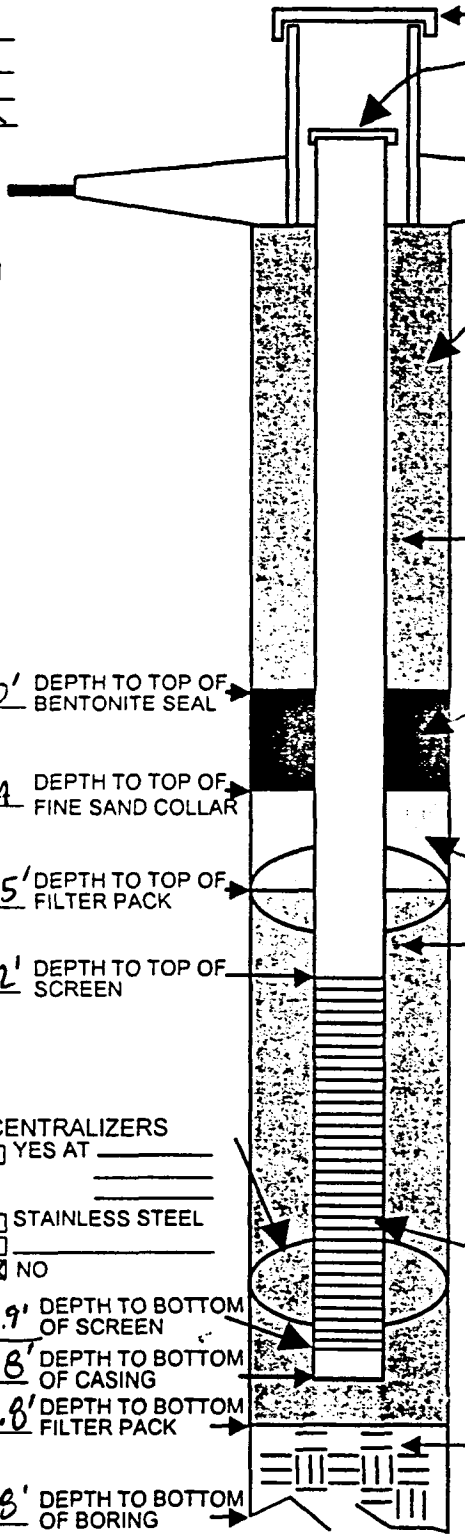
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING 3.5'
HEIGHT OF WELL CASING 2.8'
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55 gals OTHER _____
  QUANTITY USED 4 bags Portland cemit 1/2 bag bentonite
- ☐ PREPARED MIX
  NAME OF PRODUCT 55 gallons water
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE #2/12 : 12.5 TO 24.8 FT.
QUANTITY USED 4.5 bags sand Monterey
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ None

TOTAL LENGTH OF CASING AND SCREEN 27.6' (TOC)

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 21.3' bgs

DIAMETER OF BOREHOLE 7 3/4"

1/25/99 13.9' (TOC) 1500

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. PZ02-02
BOREHOLE NO. PZ02-02
SITE NFD Pt. Molate
SUBSITE Waste Disposal Area
DATE 1/21/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Eric and Francisco Sandoval
C. Muscio

DRILL RIG CME 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1/21/99 TIME _____

WELL COMPLETION BEGAN
DATE 1/21/99 TIME _____

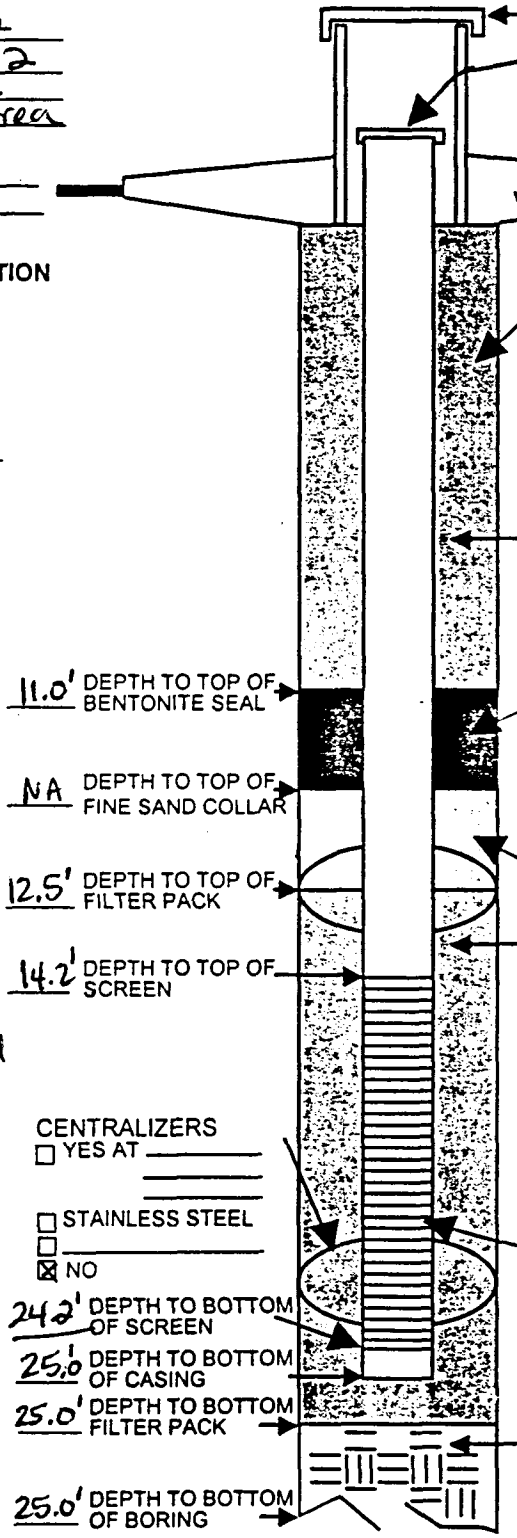
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 28.1' (TOC)

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 23.3' bgs

DIAMETER OF BOREHOLE 7 3/4"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING 3.3'
HEIGHT OF WELL CASING ~~2.8'~~ 3.1'
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55 gal OTHER _____
  QUANTITY USED 4 bags Portland cement; ½ bag bentonite; 55 gal water
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 8/12 : 12.5 TO 25.0 FT.
QUANTITY USED 5 bags Lonestar sand
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☒ FORMATION COLLAPSE
- ☒ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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1/25/99 1505 ~~mud~~ muddy bottom, v. little water.

TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. PZ02-03
BOREHOLE NO. PZ02-03
SITE NFD Ft. Molate
SUBSITE Waste Disposal Area
DATE 1/22/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Eric; Francisco Sandoval
Chico Mucio

DRILL RIG CME 650

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1/22/99 TIME _____

WELL COMPLETION BEGAN
DATE 1/22/99 TIME _____

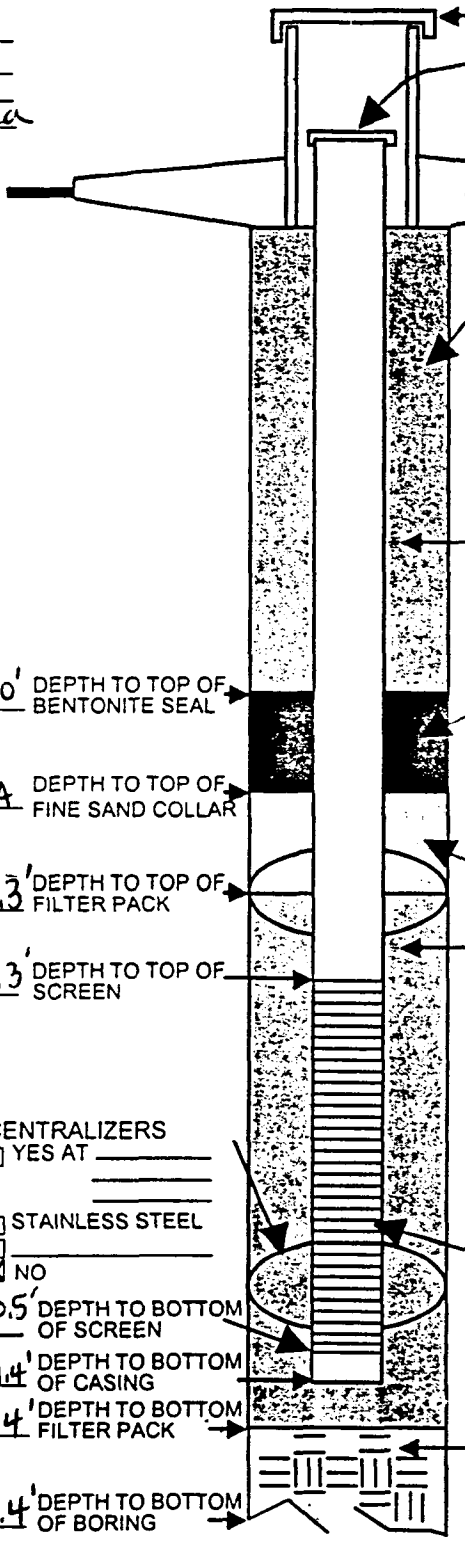
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN ~~25.6'~~ 24.2' (TOC)

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 13.5' TOC 1/25/99 1510

DIAMETER OF BOREHOLE 7 3/4"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING 3.5'
HEIGHT OF WELL CASING 2.8'
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55gal OTHER _____
  QUANTITY USED 4bags Portland Cement; 1/2 bag Bentonite; 55gal water
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; 13.3 TO _____ FT.
QUANTITY USED 2 1/2 bags Lonestar Sand
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ None

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. P202-04
BOREHOLE NO. P202-04
SITE NFA Pit molate
SUBSITE WOA
DATE 01/21/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Christensen
Ed F Sandoval
C. Mucio

DRILL RIG CME 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 01/21 TIME 14:45

WELL COMPLETION BEGAN
DATE 01/21 TIME 15:15

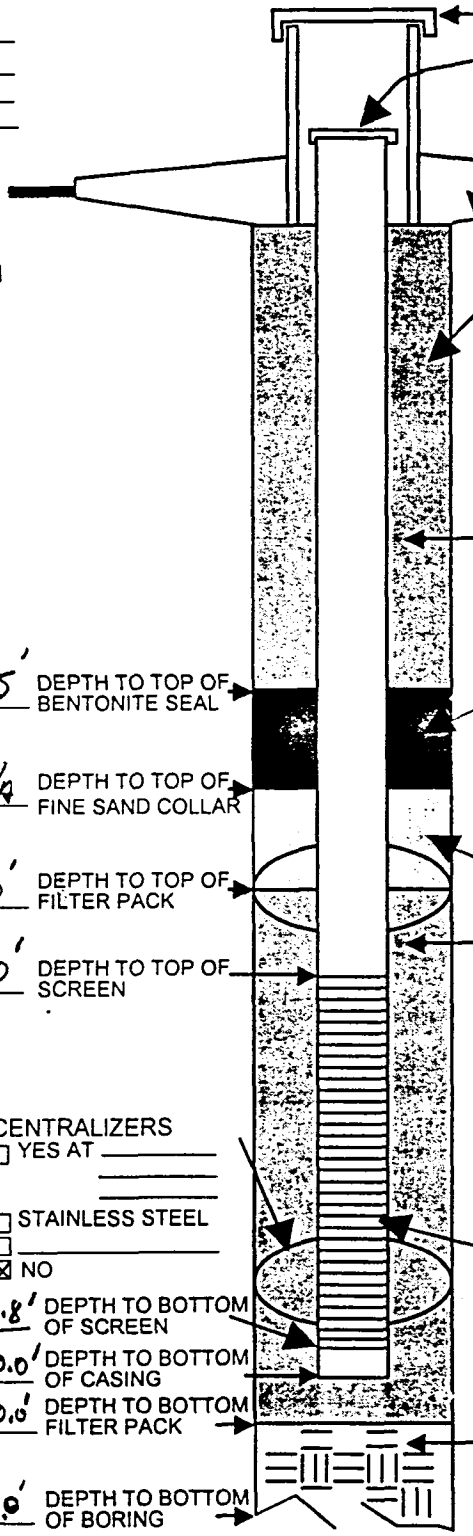
WELL COMPLETION FINISHED
DATE 01/21 TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 13.4'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) No Water Enc.

DIAMETER OF BOREHOLE 7 3/4"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55 gal OTHER _____
  QUANTITY USED 4 bags Portland Cement; 1/2 bag bentonite; 55 gal. water
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 5.0 TO 10.0 FT.
QUANTITY USED _____
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ None

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. PZ02-04A
BOREHOLE NO. PZ02-04A
SITE
SUBSITE
DATE
RECORDED BY
WELL PERMIT NO.

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE
- ☐
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen

DRILL RIG Cme 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐

DRILLING BEGAN
DATE 01/25/99 TIME

WELL COMPLETION BEGAN
DATE TIME

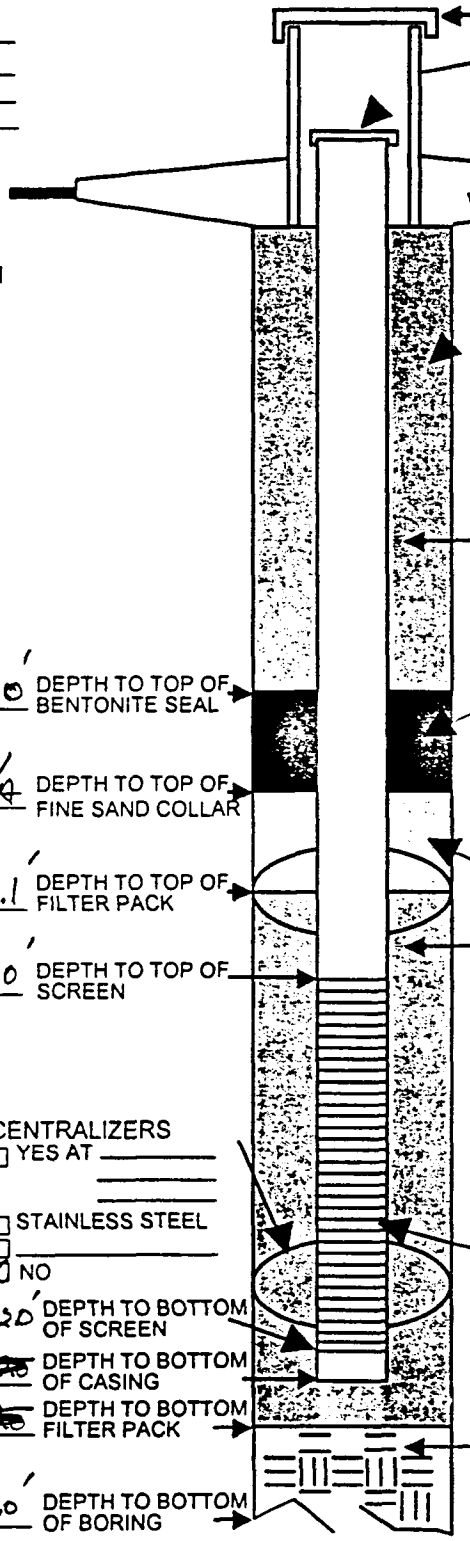
WELL COMPLETION FINISHED
DATE 01/26/99 TIME

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
GALLONS



CENTRALIZERS
- ☐ YES AT
- ☐ STAINLESS STEEL
- ☐
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN

DEPTH TO WATER FOLLOWING INSTALLATION (TOC)

DIAMETER OF BOREHOLE

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING
HEIGHT OF WELL CASING
ELEVATION TOC
GROUND ELEVATION
SLOPED CONCRETE PAD / SURFACE SEAL

GROU
DEPTH TO TOP OF GROUT
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT BENTONITE
  WATER OTHER
  QUANTITY USED
- ☐ PREPARED MIX
  NAME OF PRODUCT
  MANUFACTURED BY
  QUANTITY USED

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐
  MANUFACTURED BY

CASING DIAMETER
INSIDE
OUTSIDE

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐
  QUANTITY USED 1 bag "Hole-Plug"

METHOD INSTALLED
- ☐ TREMIE ☐
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE

FILTER PACK
GRAVEL SIZE : TO FT.
SAND SIZE #2/12 : 26.1 TO 33.0' FT.
QUANTITY USED
FORMATION COLLAPSE: TO FT.
MATERIAL 2 bags Lonestar #2/12

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☐ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐
  SLOT SIZE
  MANUFACTURED BY

SCREEN DIAMETER
INSIDE
OUTSIDE

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL
- ☐ SAND
- ☐

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. PZ Ø2-Ø5
BOREHOLE NO. PZ Ø2-Ø5
SITE NFD Pt. Molate
SUBSITE Waste Disposal Area
DATE 1/23/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Erik and Francisco Sandoval
Chico Muscio

DRILL RIG CME 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1/23/99 TIME _____

WELL COMPLETION BEGAN
DATE 1/23/99 TIME _____

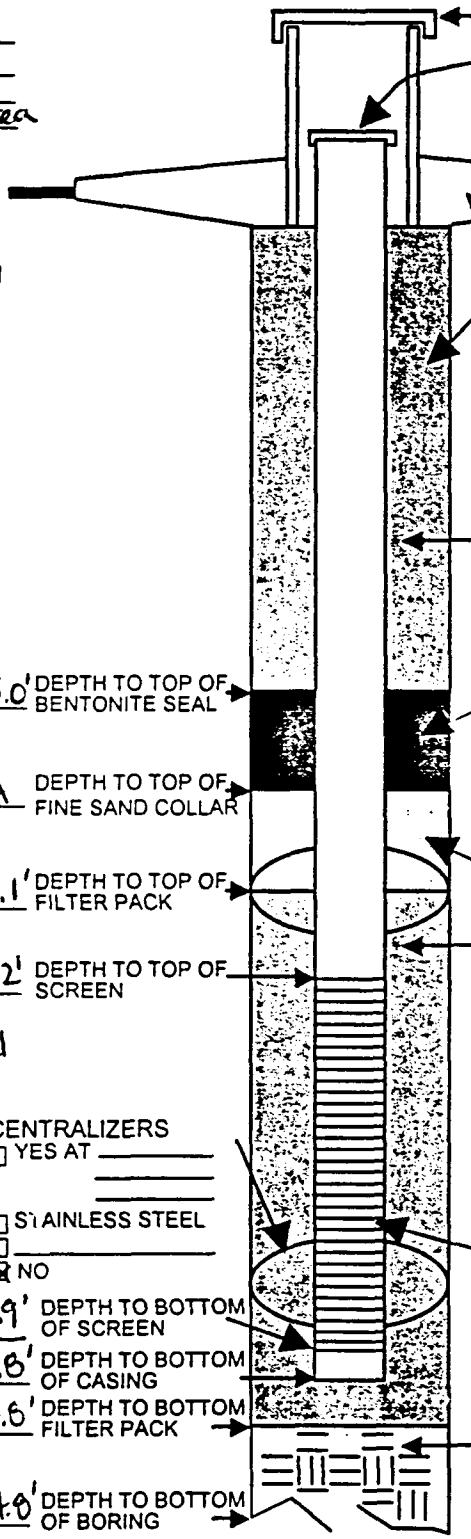
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 28.2'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 27.6' 1/25/99

DIAMETER OF BOREHOLE 7 3/4"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING 3.6'
HEIGHT OF WELL CASING 3.4'
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55 gals OTHER _____
  QUANTITY USED 4 bags Portland Cement; 1/2 bag Bentonite; 55 gals water
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 17.1' TO 24.8 FT.
QUANTITY USED 2 1/2 bags Lonestar sand
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ None

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. MWØ2-13
BOREHOLE NO. SBØ2-13 (MW1-1)
SITE Pt. Molate
SUBSITE WDA downgradient
DATE 1·26·99
RECORDED BY J. DeAngelis
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Eric, Francisco, Chico

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1·26·99 TIME _____

WELL COMPLETION BEGAN
DATE 1·26·99 TIME _____

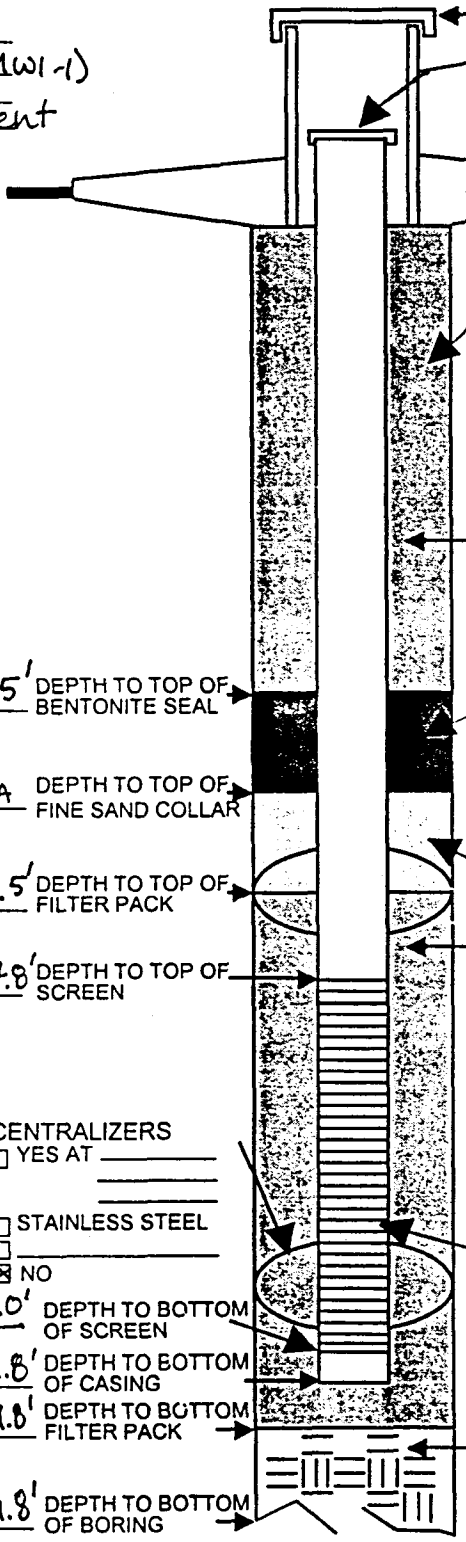
WELL COMPLETION FINISHED
DATE 1·26·99 TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT _____ BENTONITE _____
  WATER _____ OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE _____
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 2 bags

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; _____ TO _____ FT.
QUANTITY USED 4 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE _____
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☒ NA
- ☐ FORMATION COLLAPSE MATERIAL _____

TOTAL LENGTH OF CASING AND SCREEN _____

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. MW1-3
BOREHOLE NO. SB02-15
SITE Pt. Molate
SUBSITE IR Site 2
DATE 2-2-99
RECORDED BY T. Faile
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric, Francisco, Chuco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-2-99 TIME 1530

WELL COMPLETION BEGAN
DATE 2-2-99 TIME 1710

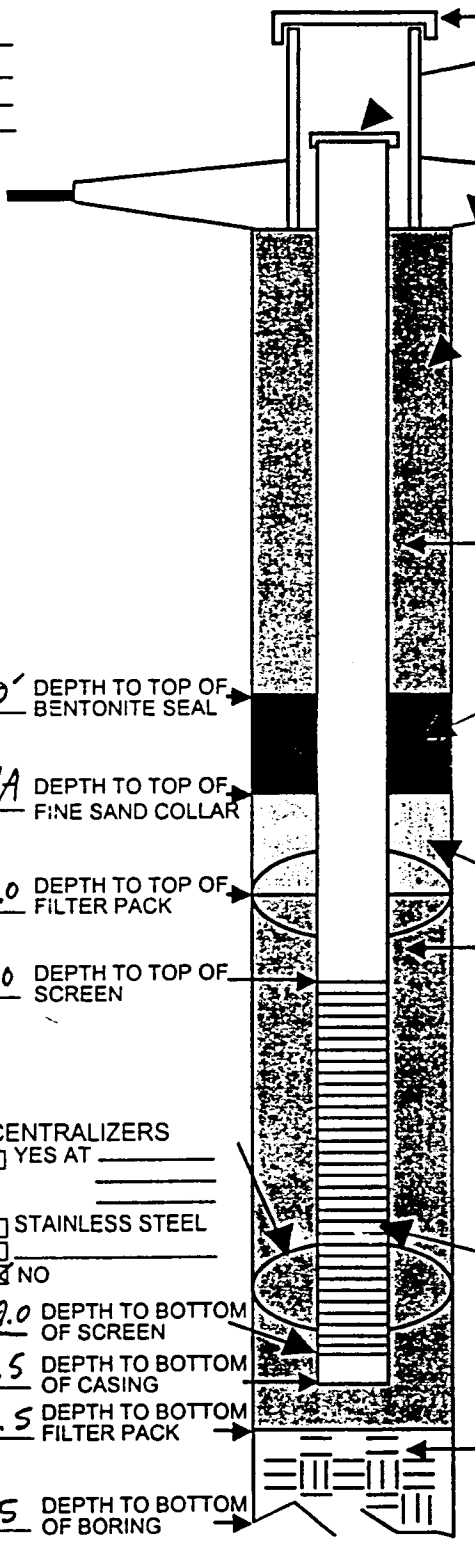
WELL COMPLETION FINISHED
DATE 2-2-99 TIME 1815

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN ~~25.5~~ 22.8'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO COATED
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED 60 lbs. (1.2 buckets)

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 19.5 TO 12 FT.
QUANTITY USED 4.5 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. MW Ø2-16
BOREHOLE NO. SB Ø2-16 (MW 1-4)
SITE Pt. Molate
SUBSITE WDA Between Retention ponds
DATE 1·27·99
RECORDED BY J. DeAngeli's
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
E. & F. Sandoval, C. Macio,

DRILL RIG CME 850 Track

DRILLING METHOD
- ☐ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1·27·99 TIME _____

WELL COMPLETION BEGAN
DATE 1·27·99 TIME _____

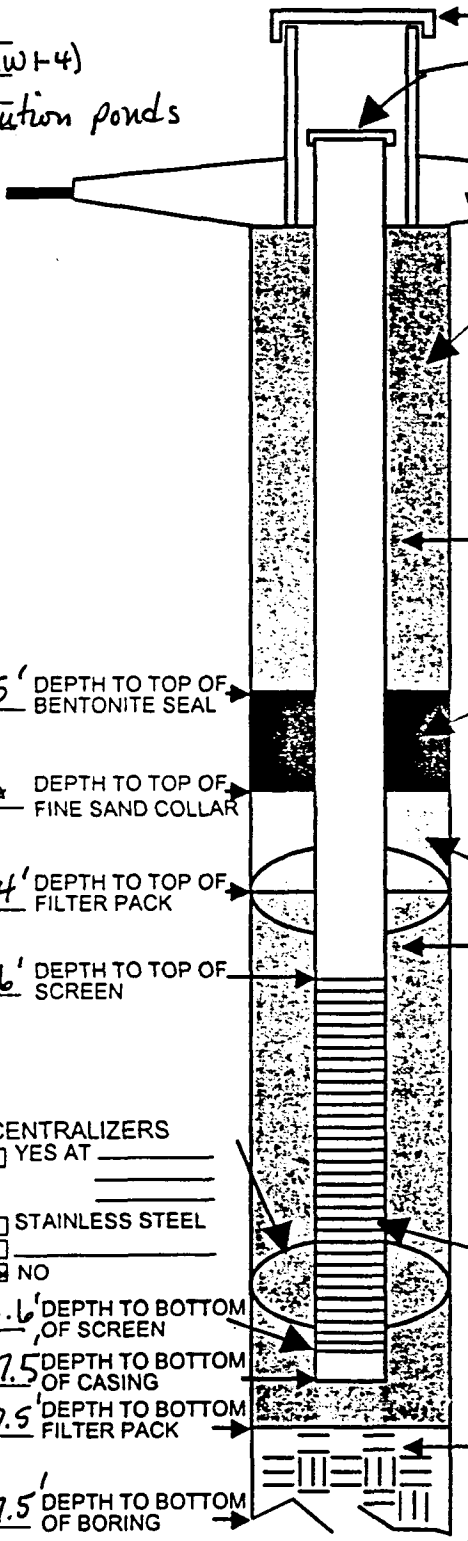
WELL COMPLETION FINISHED
DATE 1·27·99 TIME 1300

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



3.5' DEPTH TO TOP OF BENTONITE SEAL

NA DEPTH TO TOP OF FINE SAND COLLAR

5.4' DEPTH TO TOP OF FILTER PACK

7.6' DEPTH TO TOP OF SCREEN

16.6' DEPTH TO BOTTOM OF SCREEN

17.5' DEPTH TO BOTTOM OF CASING

17.5' DEPTH TO BOTTOM FILTER PACK

17.5' DEPTH TO BOTTOM OF BORING

CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 17.5' bgs

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

LOCKING COVER

WELL CAP

HEIGHT OF PROTECTIVE CASING _____

HEIGHT OF WELL CASING _____

ELEVATION TOC _____

GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT 6"
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 3 bag BENTONITE 0.5 gal
  WATER 35 gal OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL "Hole-Plug" Wyoming Bentonite
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 2 bags

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE #2/12 : 5.4' TO 17.5 FT.
QUANTITY USED _____
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL Cones from

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE _____

MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☒ NA
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW1-5) MW02-17
BOREHOLE NO. SB02-17
SITE PT. MOLATE
SUBSITE IR SITE 3
DATE 2-3-99
RECORDED BY TED FAILE
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
LAYNE WESTERN
ERIC FRANCISCO,
CNEC

DRILL RIG CME 850 TRACK

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-3-99 TIME 1000

WELL COMPLETION BEGAN
DATE 2-3-99 TIME 1230

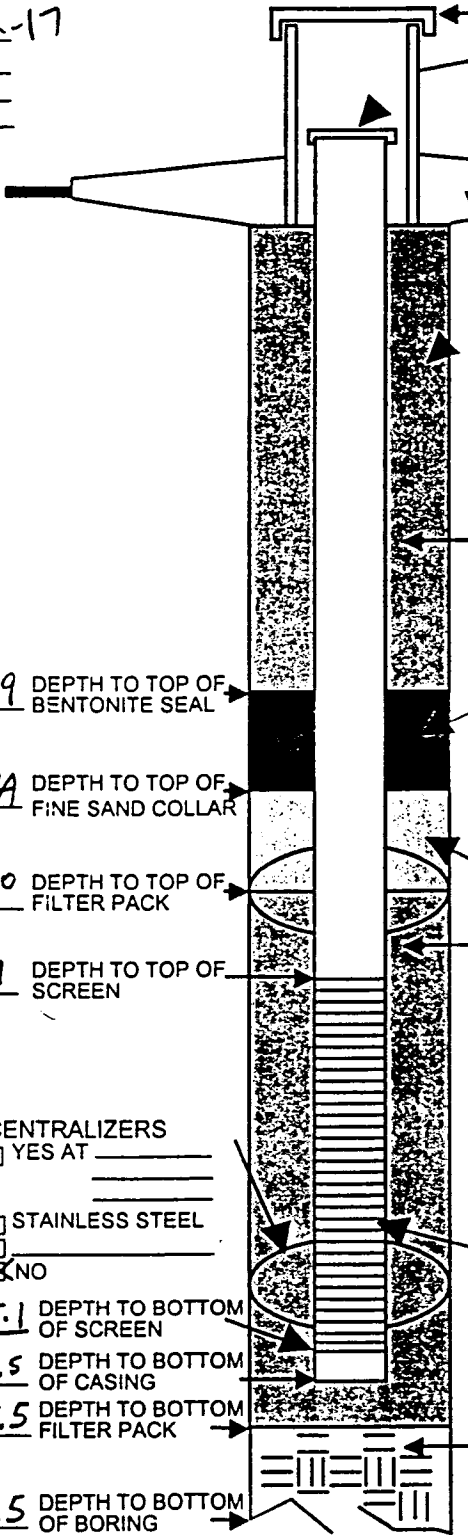
WELL COMPLETION FINISHED
DATE 2-3-99 TIME 1300

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 30.4'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO COATED PELLET.
- ☐ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : _____ TO _____ FT.
QUANTITY USED 7 bags (700 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMT LONESTAR

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE .010"
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. BB02-18
BOREHOLE NO. SB02-18
SITE NED Pt. Molate
SUBSITE Waste Disposal Area
DATE 1/23/99
RECORDED BY JD
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☒ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☒ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☒ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
Eric and Francisco Sandoval
Chico Mucio

DRILL RIG CME 850

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1/23/99 TIME _____

WELL COMPLETION BEGAN
DATE 1/23/99 TIME _____

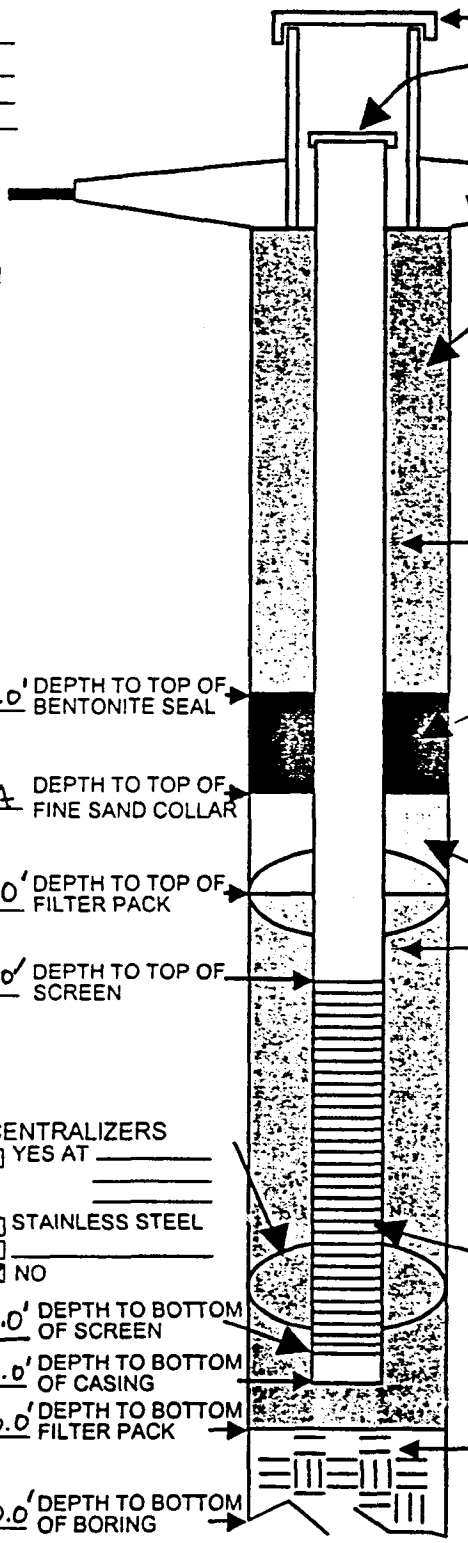
WELL COMPLETION FINISHED
DATE 1/24/99 TIME 1030

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☒ None

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 23.3' (TOC)

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 10.8', 1/25/99, 1515

DIAMETER OF BOREHOLE 3 7/8"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING 3.8'
HEIGHT OF WELL CASING 3.3'
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 8 BENTONITE 1
  WATER 55gal OTHER _____
  QUANTITY USED 4 bags Portland Cement;
- ☐ PREPARED MIX ½ bag bentonite; 55gal water
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE 2.5"

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ ~~1/4"~~
  QUANTITY USED 1/2 ~~bag~~ bucket pellet (5gal bucket)

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 12.0' TO 20.0' FT.
QUANTITY USED 3/4 bag sand (Lonestar)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE 2.5"

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ None

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. BRØ2-19
BOREHOLE NO. SBØ2-19 (BR1-2)
SITE Pt. Molate
SUBSITE WDA-Directly Downgradient
DATE 1.26.99
RECORDED BY J. DeAngelis
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne-Christensen
E. & F. Sandoval, C. Muccio

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 1.25.99 TIME _____

WELL COMPLETION BEGAN
DATE 1.26.99 TIME _____

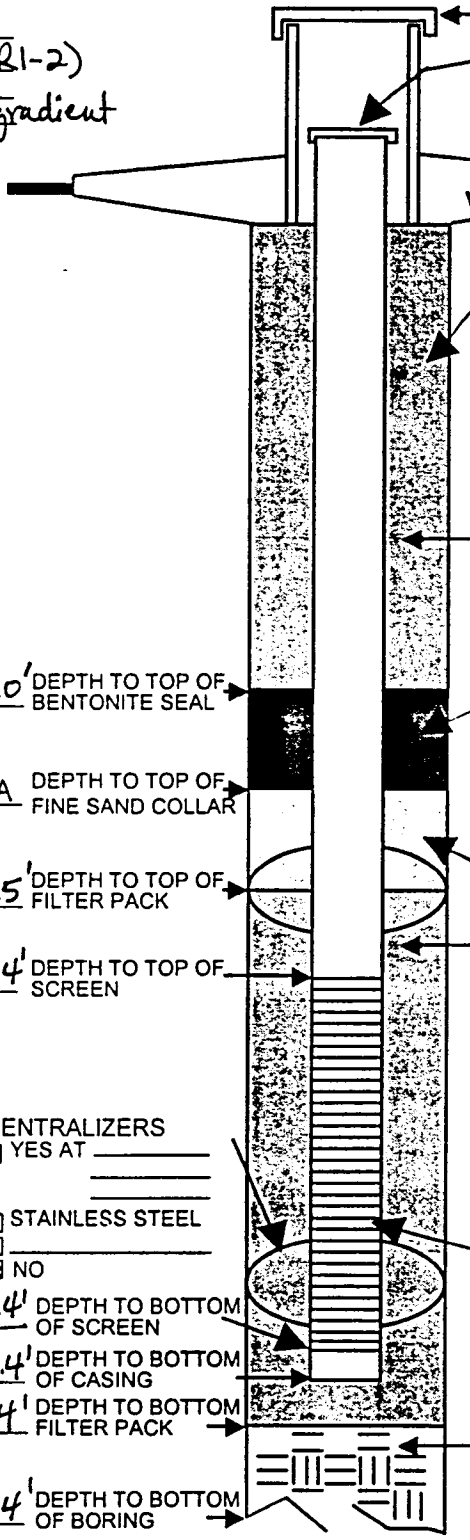
WELL COMPLETION FINISHED
DATE 1.26.99 TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN _____

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE _____

LOCKING COVER

WELL CAP

HEIGHT OF PROTECTIVE CASING _____

HEIGHT OF WELL CASING _____

ELEVATION TOC _____

GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT _____ BENTONITE _____
  WATER _____ OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE _____
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED 1.5 Buckets

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☐ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : _____ TO _____ FT.
QUANTITY USED _____
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL Lonestar - 1 bag

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE _____
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☒ NA

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. BR1-3
BOREHOLE NO. SB02-20
SITE PT. MOLATE
SUBSITE SITE 1
DATE 2-2-99
RECORDED BY T. FASLE
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
ERIC & LAYNE
FRANCISCO & WESTERN

DRILL RIG CME 850 TRACK

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☒ CORING

DRILLING BEGAN
DATE 1-27-99 TIME 1400

WELL COMPLETION BEGAN
DATE 2-2-99 TIME 1415

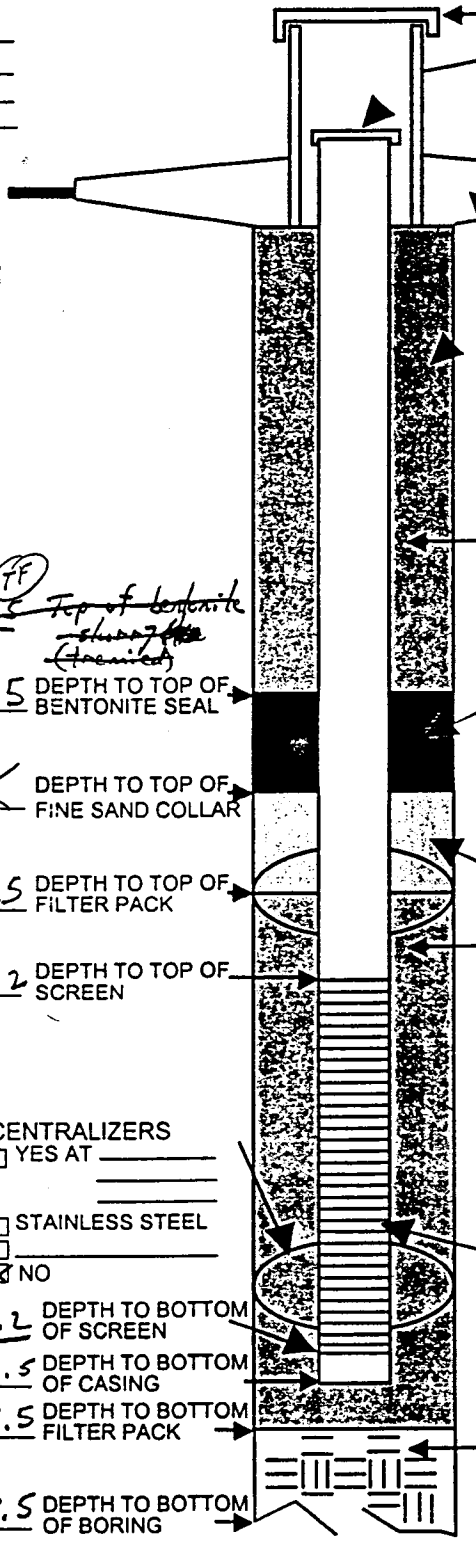
WELL COMPLETION FINISHED
DATE 2-2-99 TIME 1500

DRILLING FLUID TYPE
- ☐ BENTONITE ☒ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES ? GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 45.3'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 8" (0-30.2') 3 7/8" (30.2-43.5')

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO COATED
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 25 lbs. (½ bucket)

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____
NA

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; 43.5 TO 35.5 FT.
QUANTITY USED 3/4 bag
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC LONESTAR

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE _____

SLOT SIZE .010"
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ NA
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION - Needs a variance

WELL NO. ~~MW3-1~~ MW03-02 (MW3-1)
BOREHOLE NO. SB03-02
SITE Pt. Mele
SUBSITE Downgradient of Tanks B&C
DATE 2/11/99
RECORDED BY D. Jerney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
_____
_____
_____

DRILL RIG _____

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/11/99 TIME 0815

WELL COMPLETION BEGAN
DATE 2/11/99 TIME 1030

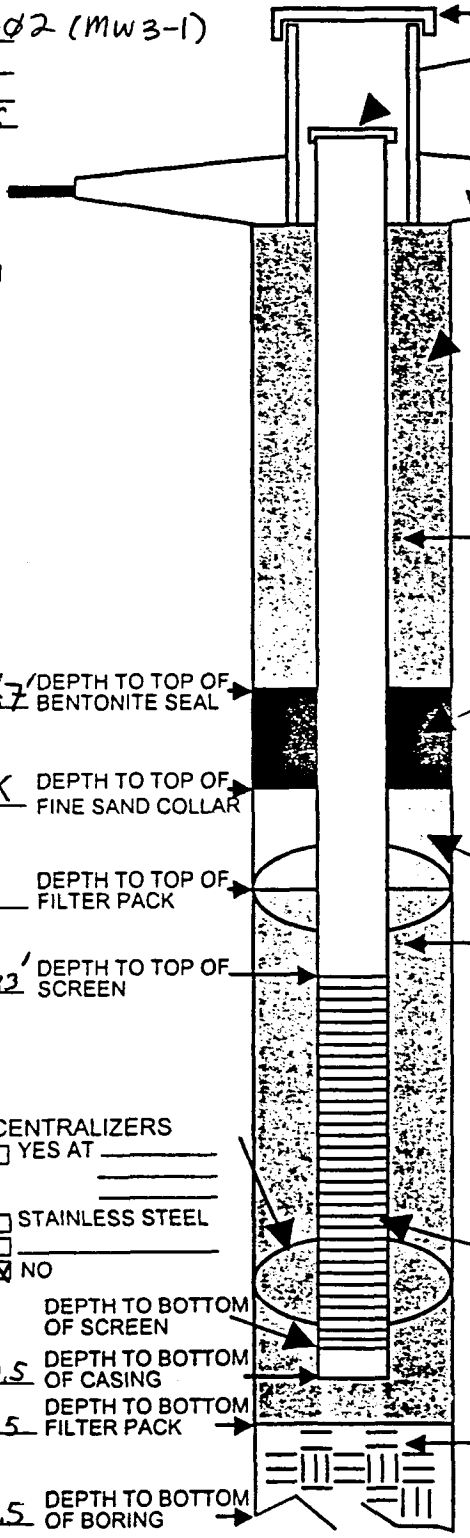
WELL COMPLETION FINISHED
DATE 2/12/99 TIME ~~1230~~ 1330

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ NA

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☒ YES 10 gal GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



~~7.7~~ 7' DEPTH TO TOP OF BENTONITE SEAL

X DEPTH TO TOP OF FINE SAND COLLAR

9' DEPTH TO TOP OF FILTER PACK

10.33' DEPTH TO TOP OF SCREEN

CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

DEPTH TO BOTTOM OF SCREEN

20.5 DEPTH TO BOTTOM OF CASING

20.5 DEPTH TO BOTTOM FILTER PACK

20.5 DEPTH TO BOTTOM OF BORING

TOTAL LENGTH OF CASING AND SCREEN ~~20.28~~ 20.33

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) 11.25'

DIAMETER OF BOREHOLE 12"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT Poured
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 0.5 gal
  WATER 35 OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Bart Lenyear ASTM F480-88A

BENTONITE SEAL
- ☐ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☒ 3/8 chips

QUANTITY USED 1 bag

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; 9 TO 20.5 FT.
QUANTITY USED 5 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010" (10 slot)
MANUFACTURED BY Bart Lenyear ASTM F480-88A

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE
  MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. ~~MW4-11~~ MW10-17 (MW4-11)
BOREHOLE NO. SB10-17
SITE NED Pt. Molate
SUBSITE South Shoreline
DATE 2/10/99
RECORDED BY D. Janney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Eric/Francisco/Chico
Layne Western
DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/10/99 TIME 1215

WELL COMPLETION BEGAN
DATE 2/10/99 TIME 1400

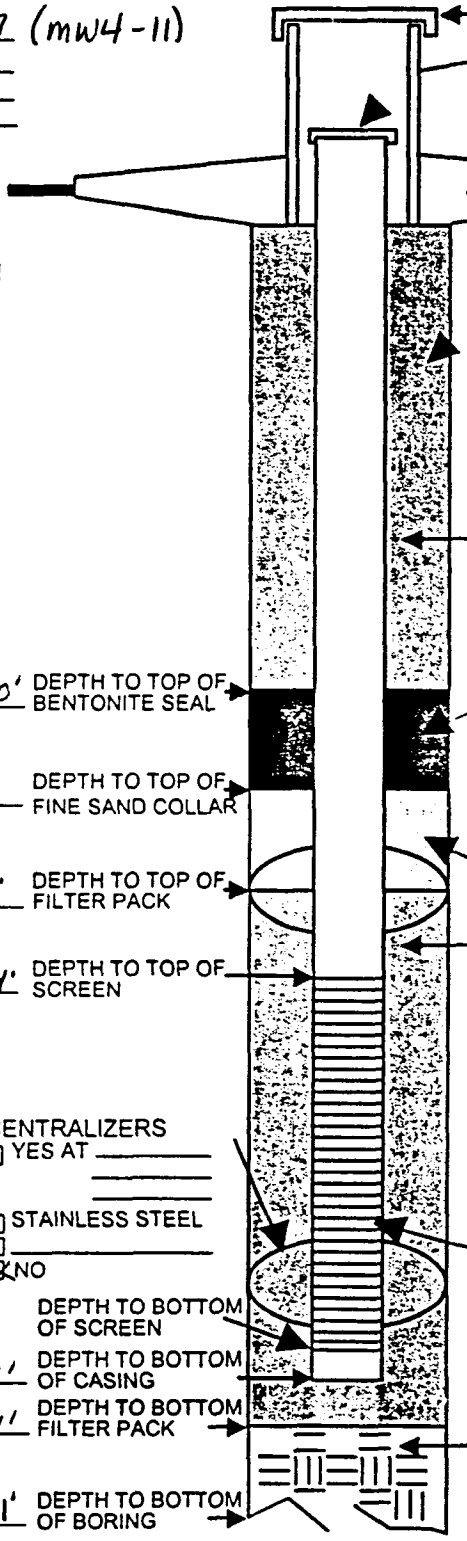
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ NA

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☒ YES 20 GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 21'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT (poured)
DEPTH TO TOP OF GROUT 6"
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 0.5 gal
  WATER 35 gal OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Boart Longyear

BENTONITE SEAL
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 2 buckets

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 12 TO 21 FT.
QUANTITY USED 4 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010" (10 slot)
MANUFACTURED BY Boart Longyear

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE
  MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. ~~MW4-12~~ MW10-18 (MW4-12)
BOREHOLE NO. SB10-18
SITE Pt. Molate NE Depot
SUBSITE south shoreline
DATE 2/10/99
RECORDED BY D. Tenney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Eric/Francisco/Chico
Layne Western
DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/10/99 TIME 1515

WELL COMPLETION BEGAN
DATE 2/10/99 TIME 1700

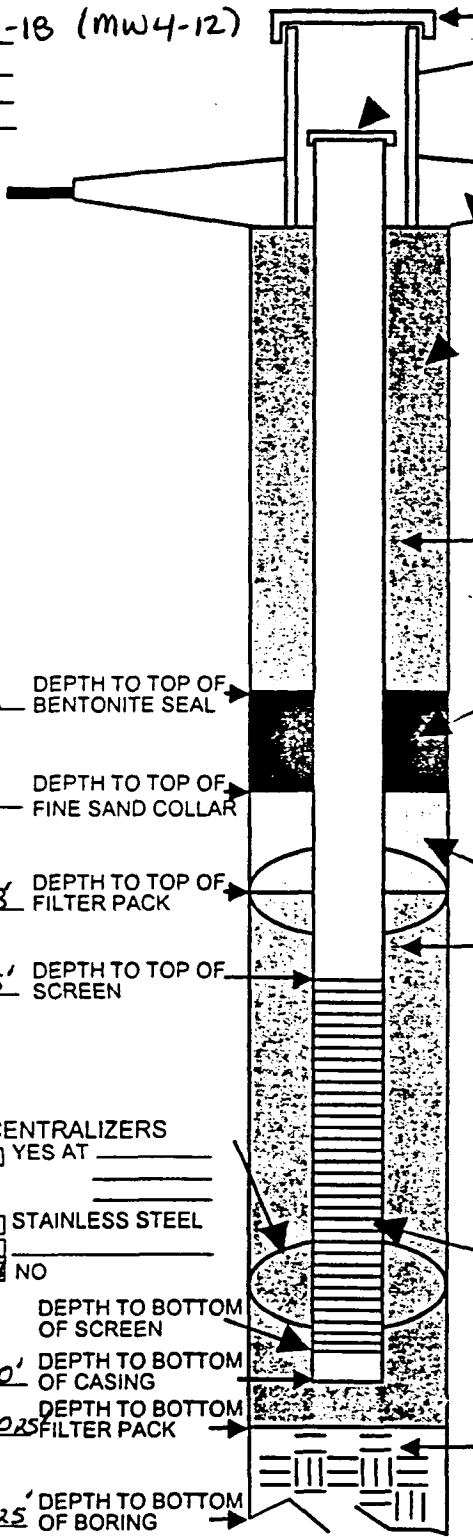
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ NA

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☒ YES 10 GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 20

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE HSA 12"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL
GROUT poured
DEPTH TO TOP OF GROUT 6"
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 6.5 gal
  WATER 35 gal OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Boart Longyear

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED 2 buckets 5 gal ea.

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; 13 TO 20.25 FT.
QUANTITY USED 4 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010" (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (BR4-2) BR10-19
BOREHOLE NO. SB10-19
SITE Pt. Molate
SUBSITE IR Site 4
DATE 2-4-99
RECORDED BY T. Faile
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric/Francisco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☒ Coring

DRILLING BEGAN
DATE 2-3-99 TIME ~~1230~~ 1400

WELL COMPLETION BEGAN
DATE 2-4-99 TIME 1230

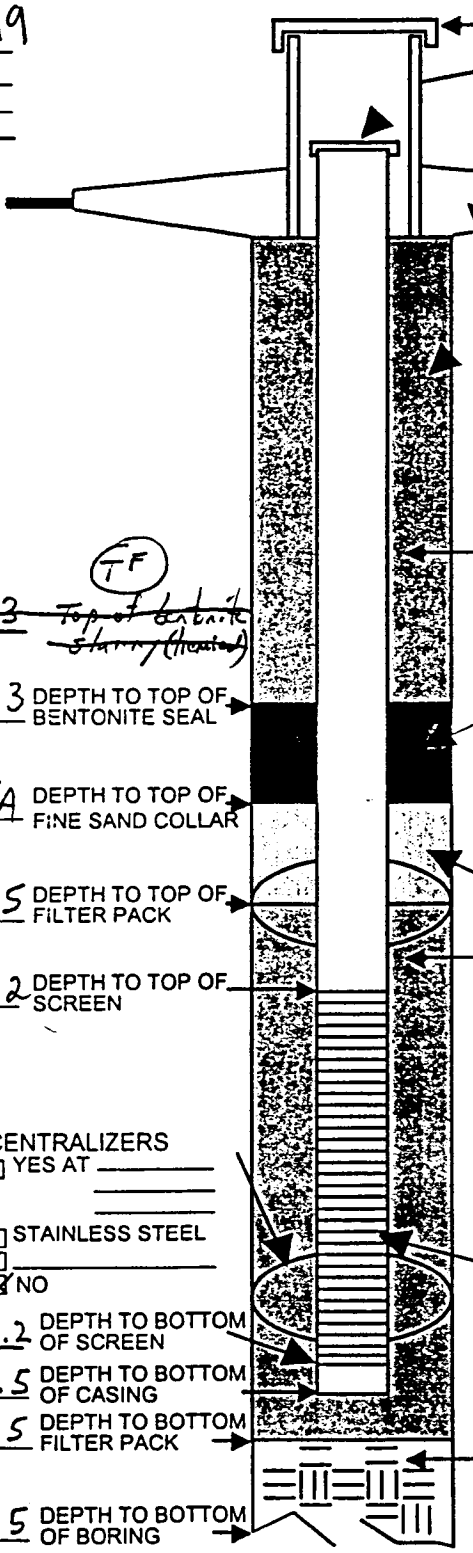
WELL COMPLETION FINISHED
DATE 2-4-99 TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☒ YES <50 GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
<50 GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 25.0'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 8" (0-11') 3¾" (11'-23.5')

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT _____ BENTONITE _____
  WATER _____ OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER INSIDE 4" OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO Coated Pellets
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED 25 lbs (½ bucket)

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 23.5 TO 16.5 FT.
QUANTITY USED ½ bag
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER INSIDE 4" OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL ☐ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW4-1) MW11-80
BOREHOLE NO. SB11-80
SITE Pt. Mugu
SUBSITE IR Site 4
DATE 2-5-99
RECORDED BY T. Fails
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric/Francisco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-5-99 TIME 1450

WELL COMPLETION BEGAN
DATE 2-5-99 TIME 1600

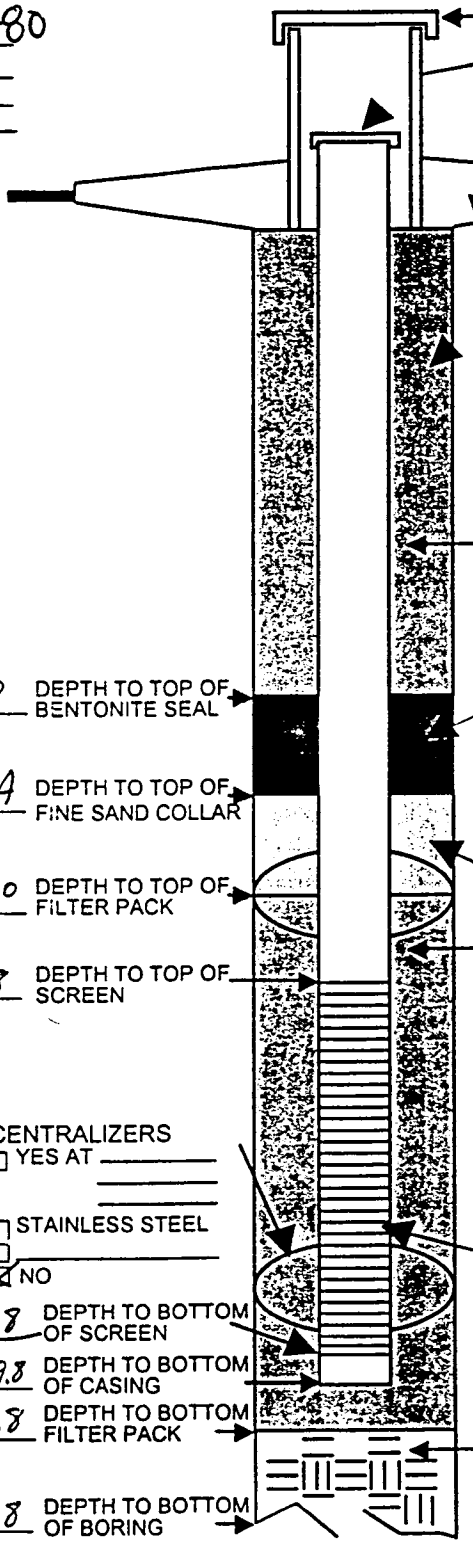
WELL COMPLETION FINISHED
DATE 2-5-99 TIME 1645

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 23.0

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL Cetco Coated
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 19.8' TO 10.0' FT.
QUANTITY USED 5 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL Rmc Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW4-2) MW11-81
BOREHOLE NO. SB11-81
SITE PT. MOLATE
SUBSITE JR SITE 4
DATE 2-4-99
RECORDED BY T. FAJLB
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
LAYNE WESTERN
ERIC/FRANCISCO

DRILL RIG CME 850 TRACK

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-4-99 TIME 1510

WELL COMPLETION BEGAN
DATE 2-4-99 TIME 1630

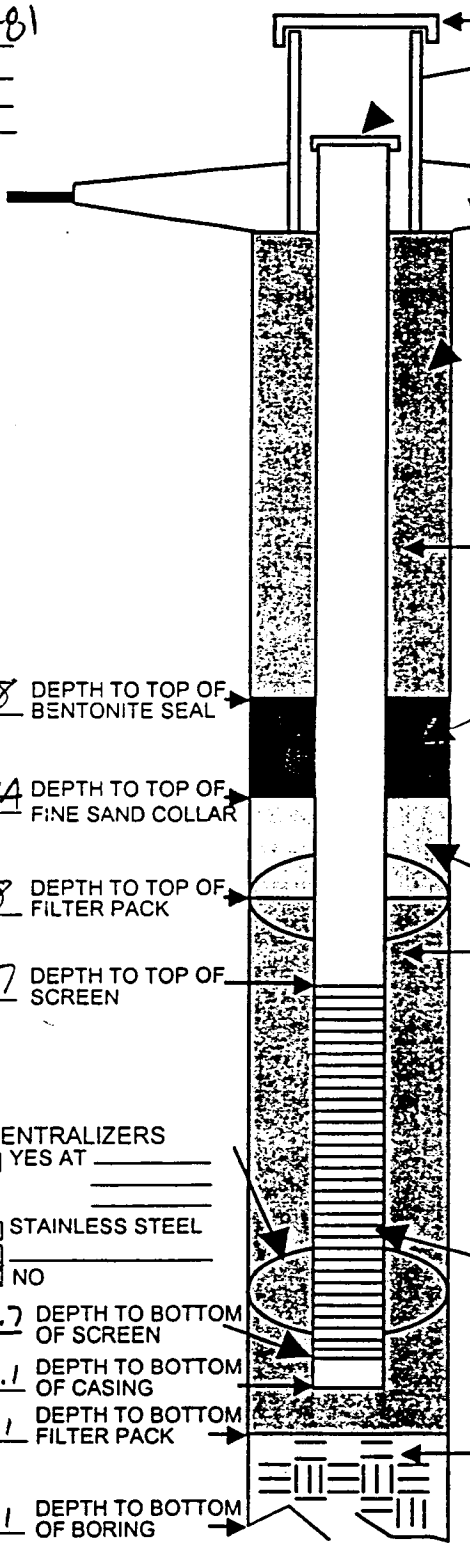
WELL COMPLETION FINISHED
DATE 2-4-99 TIME 1700

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 20.4

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO ~~Coated~~ Pellets
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 2 buckets (100 lbs)

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 20.1 TO 7.8 FT.
QUANTITY USED 5 bags (600 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC LONESTAR

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE .010 (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE

MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW4-3) & MW11-87
BOREHOLE NO. SB11-82
SITE Pt. Molate
SUBSITE IR Site 4
DATE 2-5-99
RECORDED BY T. Faeb
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric/Francisco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-5-99 TIME 1105

WELL COMPLETION BEGAN
DATE 2-5-99 TIME 1330

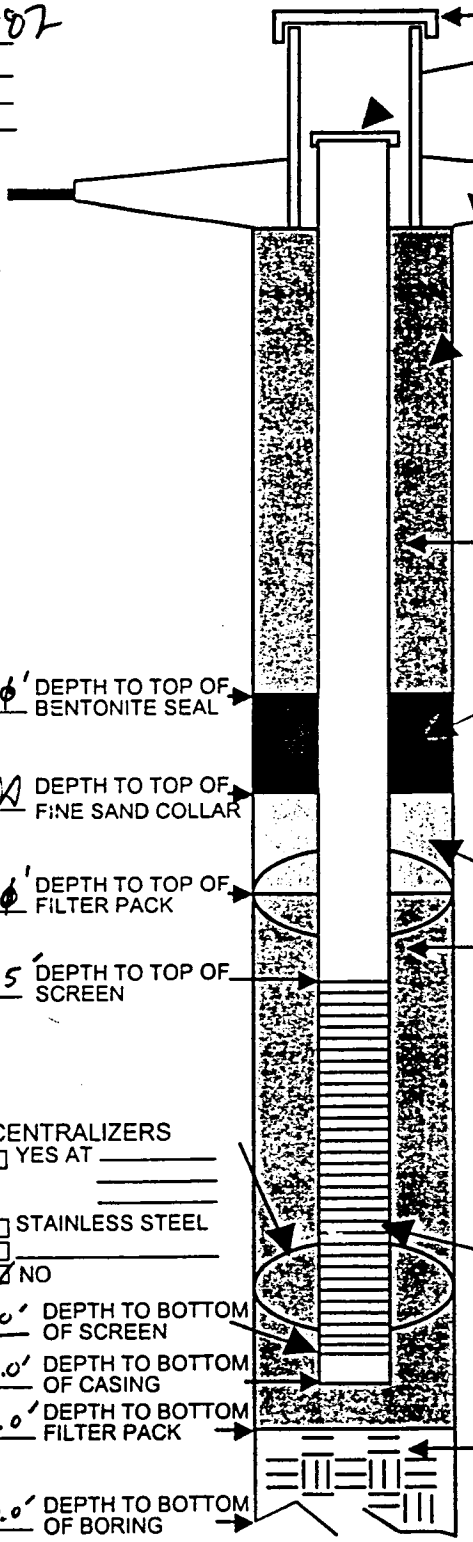
WELL COMPLETION FINISHED
DATE 2-5-99 TIME 1408

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 22'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO GRADED
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 20.0 TO 11.0 FT.
QUANTITY USED 5 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW4-4) MW11-B3
BOREHOLE NO. 3811-B3
SITE Pt. Molate
SUBSITE JR Site 4
DATE 2-5-99
RECORDED BY T. Faile
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric / Francisco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-5-99 TIME 0800

WELL COMPLETION BEGAN
DATE 2-5-99 TIME 0900

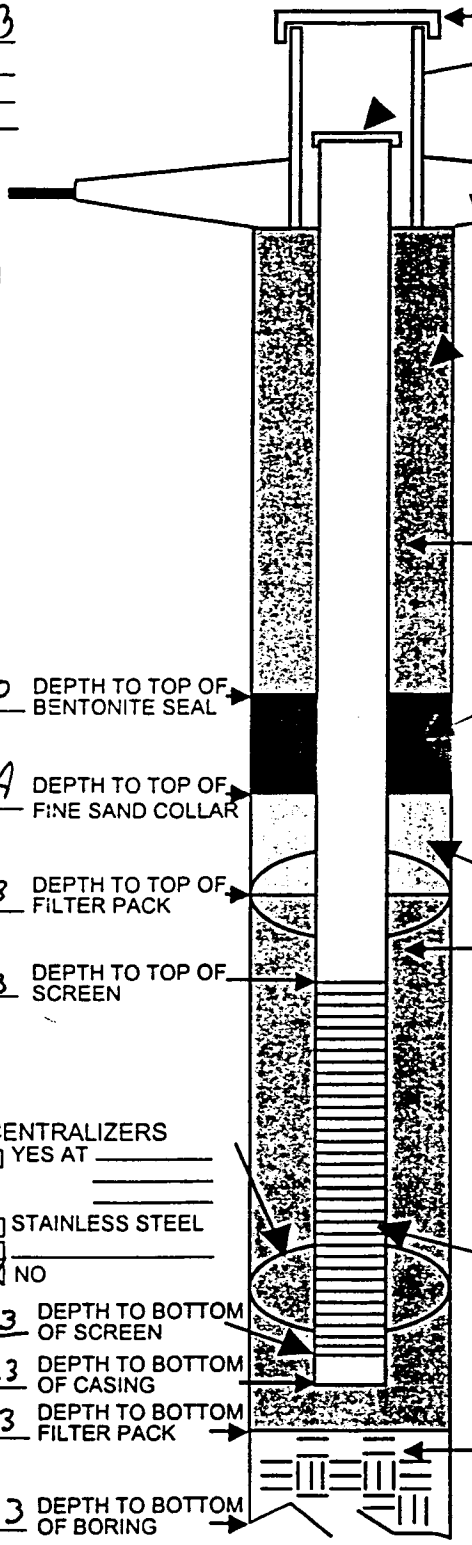
WELL COMPLETION FINISHED
DATE 2-5-99 TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 13.0

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☐ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL Cetco Coarse
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 50 lbs (1 bucket)

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ ; _____ TO _____ FT.
SAND SIZE 2/12 ; 13.3 TO 4.3 FT.
QUANTITY USED 4 bags (400 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE _____
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. ~~MW4-6~~ MW11-85 (MW4-6)
BOREHOLE NO. SB11-85
SITE Pt. Molate NFD
SUBSITE Fuel Pier, next to Bldg 70
DATE 2/11/99
RECORDED BY D. Tunney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
_____
_____
_____

DRILL RIG _____

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/11/99 TIME 1200

WELL COMPLETION BEGAN
DATE 2/11/99 TIME 1250

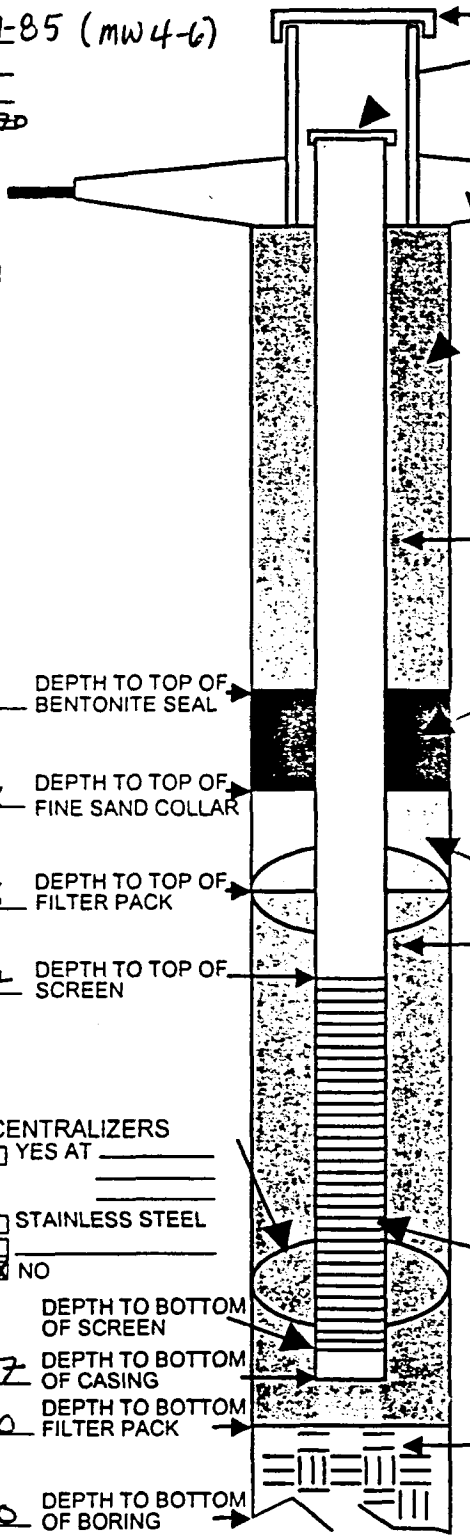
WELL COMPLETION FINISHED
DATE 2/12/99 TIME 1630

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☒ YES 50 GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



4 DEPTH TO TOP OF BENTONITE SEAL

X DEPTH TO TOP OF FINE SAND COLLAR

6 DEPTH TO TOP OF FILTER PACK

7 DEPTH TO TOP OF SCREEN

DEPTH TO BOTTOM OF SCREEN

17 DEPTH TO BOTTOM OF CASING

20 DEPTH TO BOTTOM FILTER PACK

20 DEPTH TO BOTTOM OF BORING

CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 17'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT – tremie
DEPTH TO TOP OF GROUT 6"
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 3 bags BENTONITE 0.5 gal.
  WATER 35 gal OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT ~~Portland Type I/II~~
  MANUFACTURED BY _____
  QUANTITY USED ~~5 bags~~

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Boart Longyear

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____
- QUANTITY USED 2 buckets
- METHOD INSTALLED Cetco Pureseal
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 6 TO 20 FT.
QUANTITY USED 5 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar
METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010 in slot
MANUFACTURED BY Boart Longyear

BACKFILL MATERIAL
- ☐ GRAVEL ☒ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☒ SAND _____
- ☒ slough _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. ~~MW4-7~~ MW11-86 (MW4-7)
BOREHOLE NO. SB11-86
SITE NED Pt. Molate
SUBSITE Fuel Pier
DATE 2/11/99
RECORDED BY D. Tanney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western

DRILL RIG CME 850 Track Rig

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/11/99 TIME 1530

WELL COMPLETION BEGAN
DATE 2/11/99 TIME 1610

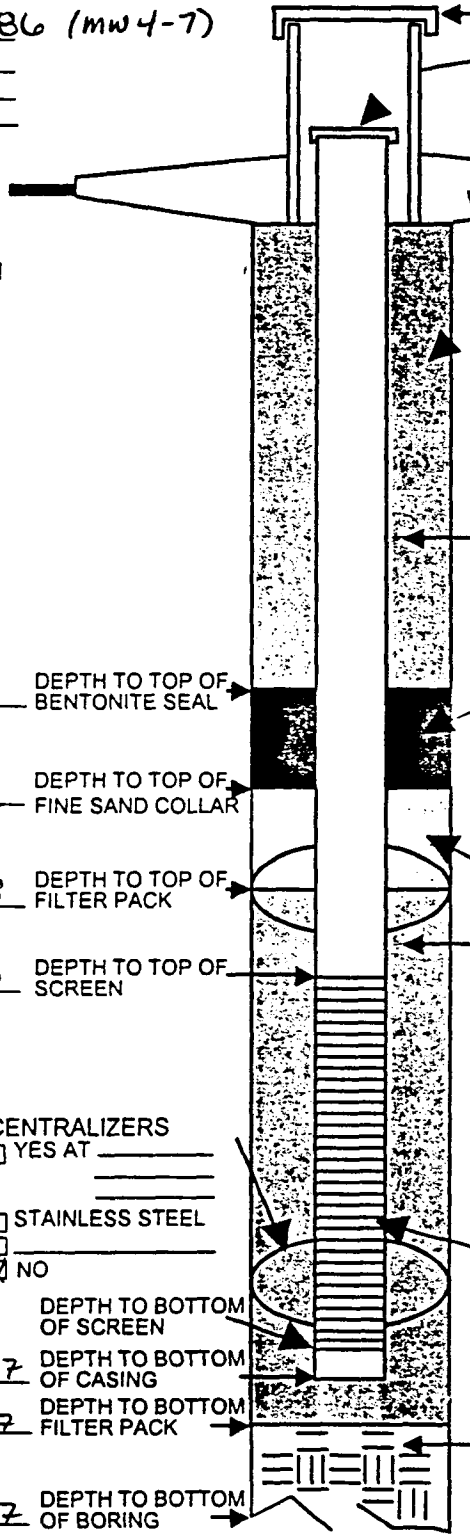
WELL COMPLETION FINISHED
DATE _____ TIME _____

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☒ YES 25 GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 17

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT - poured
DEPTH TO TOP OF GROUT 6"
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 3 bags BENTONITE 0.5 gal
  WATER 25 OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT ~~Portland Type I/II~~
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Beart Langyear

BENTONITE SEAL
- ☐ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☒ chips

QUANTITY USED 2 bags 3/8 Volclay

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : _____ TO _____ FT.
QUANTITY USED 7 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL RMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010" (10 slot)
MANUFACTURED BY Beart Langyear

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE
  MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (MW4-9) MW11-88
BOREHOLE NO. SB11-88
SITE Pt. Molate
SUBSITE IR SITE 4
DATE 2-7-99
RECORDED BY T. Faile
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western
Eric/Francisco

DRILL RIG CME 850 Track

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-7-99 TIME 1330

WELL COMPLETION BEGAN
DATE 2-7-99 TIME 1415

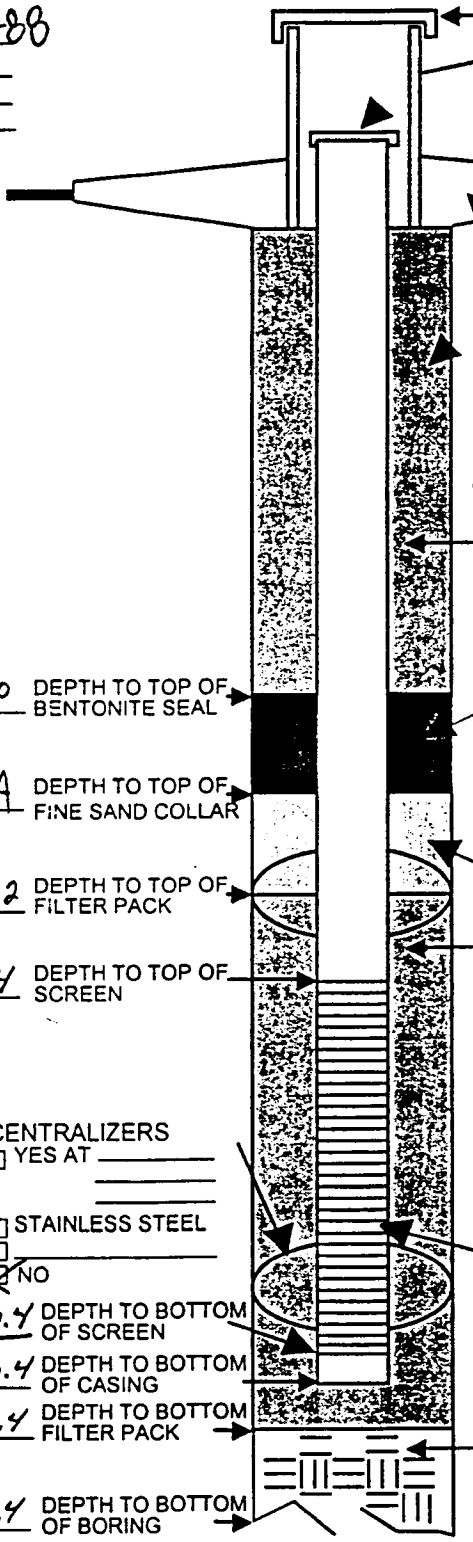
WELL COMPLETION FINISHED
DATE 2-7-99 TIME 1443

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 24'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROU
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- ~~☒ PREPARED MIX~~
  ~~NAME OF PRODUCT Volclay High Solids Grout~~
  TF ~~MANUFACTURED BY CETCO~~
  ~~QUANTITY USED _____~~

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO COATED
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 2 Buckets (100 lbs)

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 20.4 TO 10.2 FT.
QUANTITY USED 4 bags (400 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE .010 (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE
  MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. MW4-~~8~~ 10 (~~8~~) MW11-89
BOREHOLE NO. 5811-99
SITE Pt. MULATE
SUBSITE IR SITE
DATE 2-7-99
RECORDED BY T. FAULE
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
LAYNE WESTERN
ERIC/FRANCISCO

DRILL RIG CME 850 TRACK

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2-7-99 TIME ~~1215~~ 1115

WELL COMPLETION BEGAN
DATE 2-7-99 TIME 1245

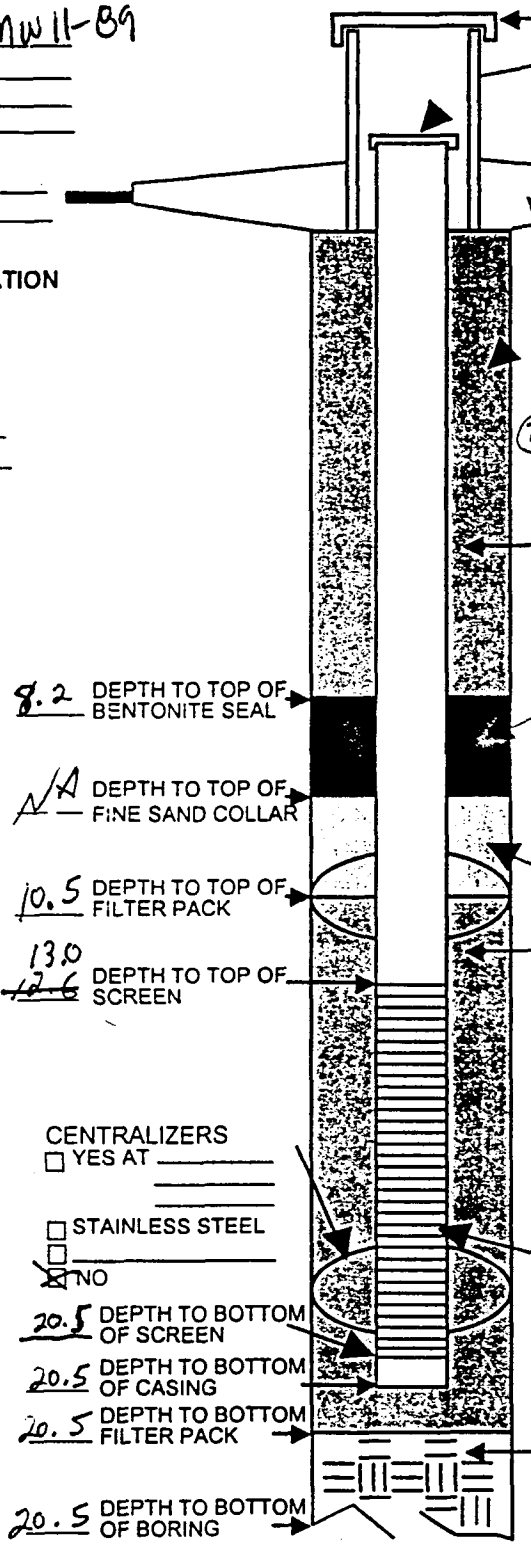
WELL COMPLETION FINISHED
DATE 2-7-99 TIME 1315

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 22.5'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 10"

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT
DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 5 bags BENTONITE 3%
  WATER 50 gal. OTHER _____
  QUANTITY USED _____
- (TP) ☒ PREPARED MIX
  NAME OF PRODUCT Volclay High Solids Grout
  MANUFACTURED BY CETCO
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO CRATED
- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED ~~1 bucket (50 lbs)~~
METHOD INSTALLED 1.5 buckets (75 lbs)
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE NA

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 20.5 TO 10.5 FT.
QUANTITY USED 5 bags (50 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE .010 (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. (BR4-1) BR11-90
BOREHOLE NO. SB11-90
SITE PT. MOLATE
SUBSITE JR SITE 4
DATE 2-6-99
RECORDED BY T. EASLE
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☐ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
LAYNE WESTERN
ERSC/FRANCISCO
DRILL RIG CME 850 TRACK

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☒ CORING

DRILLING BEGAN
DATE 2-6-99 TIME 0900

WELL COMPLETION BEGAN
DATE 2-6-99 TIME 1645

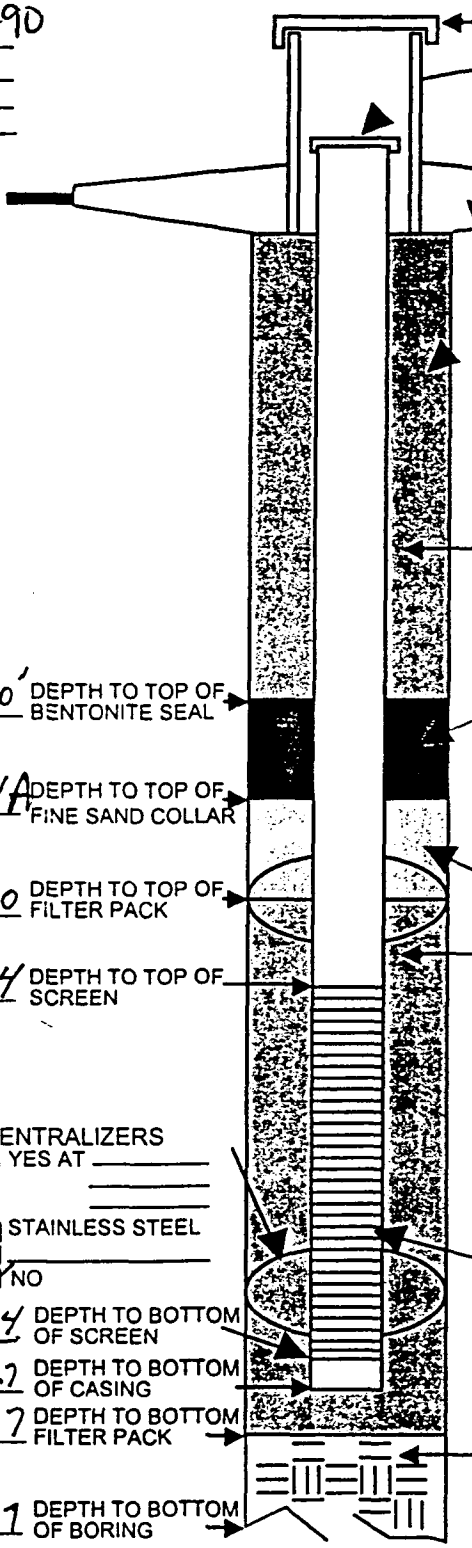
WELL COMPLETION FINISHED
DATE 2-6-99 TIME 1735

DRILLING FLUID TYPE
- ☐ BENTONITE ☒ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☒ YES <50 GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
<50 GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 70.0'

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 8" (0-59.8')
3 7/8" (59.8'-69.0')

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____
SLOPED CONCRETE PAD / SURFACE SEAL

GROUT

DEPTH TO TOP OF GROUT _____
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 55 BENTONITE <5
  WATER 40 OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING

- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE _____

MANUFACTURED BY _____

BENTONITE SEAL CETCO COATED

- ☒ PELLETS
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 1 bucket (50 lbs)

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)

SIZE / TYPE NA

FILTER PACK

GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 68.9 TO 60.0 FT.
QUANTITY USED 2 bags (50 lbs)
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL _____

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN

- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE _____

SLOT SIZE .010 (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL

- ☐ GRAVEL
- ☐ BENTONITE
- ☐ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE

MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. MW11-94
BOREHOLE NO. SB3-1, SB11-94
SITE Pt. Mojite
SUBSITE Treatment Ponds
DATE 2/12/99
RECORDED BY D. Janney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Layne Western

DRILL RIG CME

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☐ _____

DRILLING BEGAN
DATE 2/12/99 TIME 0750

WELL COMPLETION BEGAN
DATE 2/12/99 TIME 1045

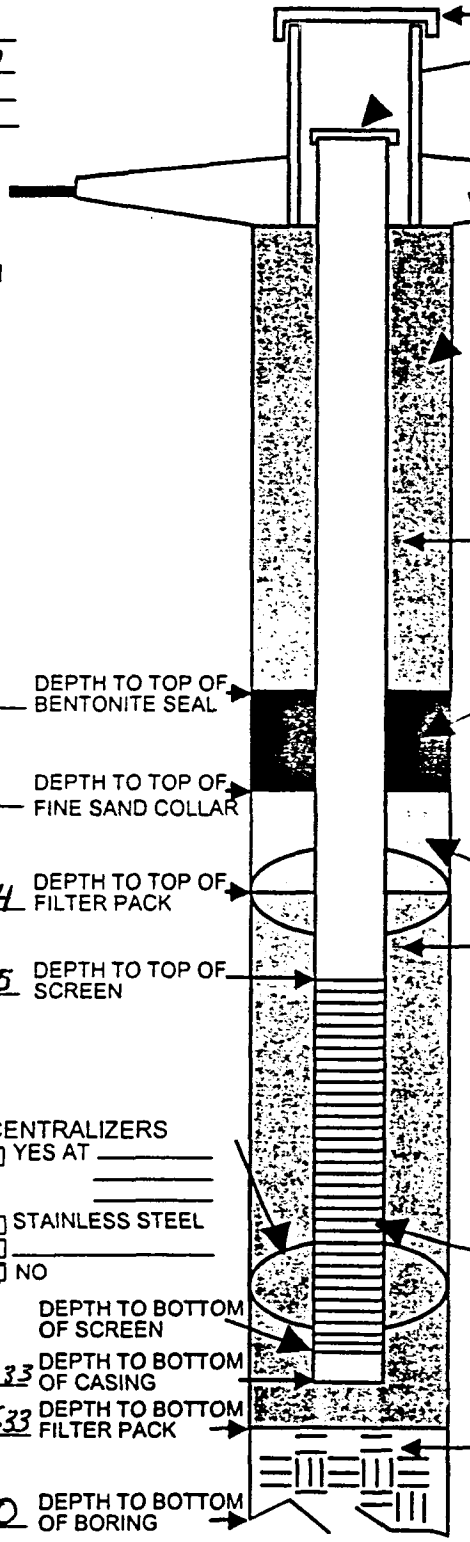
WELL COMPLETION FINISHED
DATE 2/12/99 TIME 1315

DRILLING FLUID TYPE
- ☐ BENTONITE ☐ WATER
- ☐ POLYMER ☐ _____

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☐ NO

WATER ADDED DURING COMPLETION
- ☒ YES 20 GALLONS
- ☐ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



3 DEPTH TO TOP OF BENTONITE SEAL

X DEPTH TO TOP OF FINE SAND COLLAR

4 DEPTH TO TOP OF FILTER PACK

X.5 DEPTH TO TOP OF SCREEN

DEPTH TO BOTTOM OF SCREEN

15.33 DEPTH TO BOTTOM OF CASING

15.33 DEPTH TO BOTTOM FILTER PACK

20 DEPTH TO BOTTOM OF BORING

CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN 15.33

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE 12"

LOCKING COVER

WELL CAP

HEIGHT OF PROTECTIVE CASING _____

HEIGHT OF WELL CASING _____

ELEVATION TOC _____

GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT ~~tremie~~ poured

DEPTH TO TOP OF GROUT _____

☒ GROUT FORMULA (PROPORTION OF EACH)
CEMENT 3 bags BENTONITE 0.25 gal
WATER 35 OTHER _____
QUANTITY USED _____

☐ PREPARED MIX
NAME OF PRODUCT _____
MANUFACTURED BY _____
QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 4"
OUTSIDE _____

MANUFACTURED BY Beart Longyear

BENTONITE SEAL
- ☒ PELLETS ☐ SLURRY
- ☐ POWDER/GRANULAR ☐ _____

QUANTITY USED 2 5gall buckets

METHOD INSTALLED
- ☐ TREMIE ☐ _____
- ☒ POURED ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : _____ TO _____ FT.
QUANTITY USED 7 bags
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL Rmc Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☒ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 4"
OUTSIDE _____

SLOT SIZE 0.010" (10 slot)
MANUFACTURED BY Beart Longyear

BACKFILL MATERIAL
- ☐ GRAVEL ☒ FORMATION COLLAPSE
- ☐ BENTONITE MATERIAL _____
- ☐ SAND _____
- ☐ _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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TETRA TECH EM INC.

MONITORING WELL INSTALLATION RECORD
ABOVE GROUND INSTALLATION

WELL LOCATION INFORMATION

WELL NO. ~~MW02-08~~ BR11-96 (BR3-1)
BOREHOLE NO. ~~SB02-08~~ ~~BR3-1~~ SB11-96
SITE NED Pt. Molate
SUBSITE ~~Waste Disposal Area~~ Treatment Ponds Area
DATE 2/10/99
RECORDED BY D. Tanney
WELL PERMIT NO. _____

SURFACE COMPLETION INFORMATION

TYPE OF INSTALLATION
- ☐ OPEN HOLE
- ☒ INSIDE HOLLOW STEM AUGER

TYPE OF PROTECTIVE CASING
- ☐ STEEL SIZE _____
- ☐ _____
- ☐ PROTECTIVE POSTS INSTALLED

SURFACE SEAL
- ☐ NON-SHRINKING CEMENT
- ☐ CONCRETE
- ☐ _____
- ☐ CHECKED FOR SETTLEMENT
- ☐ INTERNAL MORTAR ADDED

GROUND SURFACE ELEVATION
- ☐ SURVEYED
  DATE _____

MEASURING POINT
- ☐ TOP OF WELL CASING
- ☐ TOP OF PROTECTIVE CASING
- ☐ GROUND SURFACE
- ☐ _____

DRILLING INFORMATION

DRILLING COMPANY/PERSONNEL
Eric / Francisco / Chico

DRILL RIG CME 850 Truck Rig

DRILLING METHOD
- ☒ HOLLOWSTEM AUGER
- ☐ AIR ROTARY
- ☐ MUD/WATER ROTARY
- ☒ core

DRILLING BEGAN
DATE _____ TIME _____

WELL COMPLETION BEGAN
DATE 2/10 TIME 1050

WELL COMPLETION FINISHED
DATE _____ TIME _____

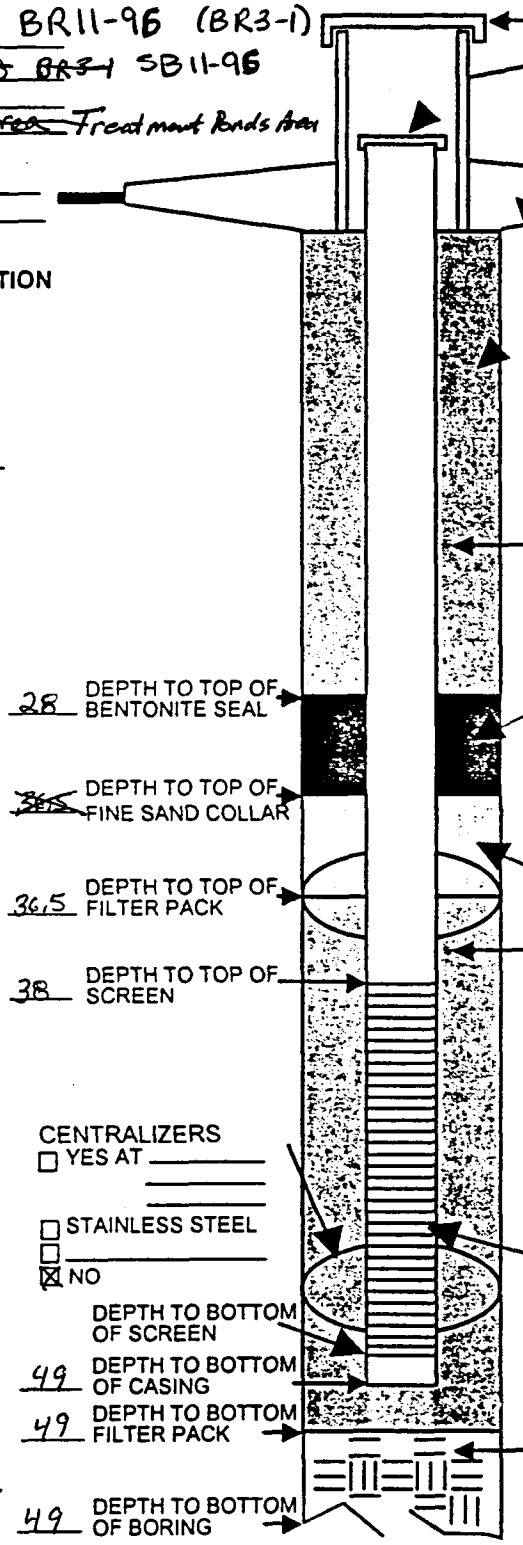
DRILLING FLUID TYPE
- ☐ BENTONITE ☒ WATER
- ☐ POLYMER ☒ EZ MUD

core only

DRILLING FLUID LOSS
- ☐ YES _____ GALLONS
- ☒ NO

WATER ADDED DURING COMPLETION
- ☐ YES _____ GALLONS
- ☒ NO

TOTAL FLUID LOSS TO FORMATION
_____ GALLONS



CENTRALIZERS
- ☐ YES AT _____
- ☐ STAINLESS STEEL
- ☐ _____
- ☒ NO

TOTAL LENGTH OF CASING AND SCREEN _____

DEPTH TO WATER FOLLOWING INSTALLATION (TOC) _____

DIAMETER OF BOREHOLE HSA-8" 0-35
Core 3 7/8" 35-49

LOCKING COVER
WELL CAP
HEIGHT OF PROTECTIVE CASING _____
HEIGHT OF WELL CASING _____
ELEVATION TOC _____
GROUND ELEVATION _____

SLOPED CONCRETE PAD / SURFACE SEAL

GROUT (tremie)
DEPTH TO TOP OF GROUT 1'
- ☒ GROUT FORMULA (PROPORTION OF EACH)
  CEMENT 10 bags BENTONITE 1 gal
  WATER 70 gal OTHER _____
  QUANTITY USED _____
- ☐ PREPARED MIX
  NAME OF PRODUCT _____
  MANUFACTURED BY _____
  QUANTITY USED _____

TYPE OF CASING
- ☐ STAINLESS STEEL
- ☒ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

CASING DIAMETER
INSIDE 2"
OUTSIDE _____

MANUFACTURED BY ASTM F480-88A Bowt Lang Seal

BENTONITE SEAL
- ☒ PELLETS CETCO coated
- ☐ POWDER/GRANULAR
- ☐ SLURRY
- ☐ _____

QUANTITY USED 4-5 gall pails CETCO coated pellets

METHOD INSTALLED
- ☐ TREMIE
- ☐ POURED
- ☐ _____
- ☐ NOT USED

FINE SAND COLLAR (OPTIONAL)
SIZE / TYPE _____

FILTER PACK
GRAVEL SIZE _____ : _____ TO _____ FT.
SAND SIZE 2/12 : 36.5 TO 49 FT.
QUANTITY USED 1 bag
FORMATION COLLAPSE: _____ TO _____ FT.
MATERIAL BMC Lonestar

METHOD INSTALLED
- ☐ TREMIE
- ☒ POURED
- ☐ _____

GRAIN SIZE TESTS FOR FILTER PACK
- ☐ CONDUCTED; FOR REPORT, REFER TO _____
- ☐ NOT CONDUCTED

TYPE OF SCREEN
- ☐ STAINLESS STEEL
- ☐ SCHEDULE 40 PVC
- ☐ SCHEDULE 80 PVC
- ☐ _____

SCREEN DIAMETER
INSIDE 2"
OUTSIDE _____

SLOT SIZE 0.010 (10 slot)
MANUFACTURED BY _____

BACKFILL MATERIAL
- ☐ GRAVEL
- ☐ BENTONITE
- ☒ SAND
- ☐ _____
- ☐ FORMATION COLLAPSE
  MATERIAL _____

NOTES:
1. SCALE: NONE
2. RECORD DEPTHS/LENGTHS IN TENTHS OF FEET, NOT IN INCHES
3. RECORD CONSTRUCTION DEPTHS BELOW GROUND LEVEL

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APPENDIX D

WELL DEVELOPMENT/SAMPLING DATA SHEETS

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW03-02 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 10.3 - 20.5
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial ~~8.08~~ 20.20
Final _____

Initial Depth to Water (TOC) 8.08 Date 2/23/99 Time 1030
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
12.1 Ft. of water x 0.653 Gallons/Foot
= 7.9 Gallons per Single Casing Volume

Sand Pack Volume:
~~10~~ 12 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= ~~40~~ 48 Gallons (in borehole)
- 7.8 Gallons of Casing Vol. for Saturated Interval
= 40.2 x 0.3 (assuming porosity = 30%)
= 12 Gallons Within Sand Pack

Single Purge Volume: 20 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 60 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: (Y) N Thickness Sheen
Calibration Date Field Book See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba 13205 Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/23	0	bail	1041	15.1	7.63	1.14	116/2.42	Sal: 0.05 / slight HC odor
	10	"	1050	15.6	7.72	1.28	999/2.91	0.05 / slight sheen
	20	"	1055	15.7	7.51	0.99	999/2.52	0.04 / Same
	30	"	1100	15.7	7.48	.646	999/3.1	0.02 / Same
	40	"	1105	—	Dewatered			
Return →	50	"	1405	16.1	7.32	.410	999/3.92	DTW: 8.82 Sal: 0.02 / Sheen
	70	"	1415	16.1	7.33	.438	999/3.53	Recharging @ 1"/20 sec
	80	"	1800	16.0	7.12	.360	999/3.5	DTW: 8.90 Sal: 0.0 / Same
2/24	90	bail	0850	14.9	7.3	.378	999/3.6	DTW: 8.77 Sal: 0.02
	SAMPLE @ 0845							

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. NW02-13 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 14.8-19
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 23.15
Final _____
Initial Depth to Water (TOC) Ø (To Top) Date 2/22/99 Time 1335
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
23.15 Ft. of water x .653 Gallons/Foot
= 15.1 Gallons per Single Casing Volume

Sand Pack Volume:
6 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 24 Gallons (in borehole)
- 4 Gallons of Casing Vol. for Saturated Interval (6x.65
= 20 x 0.3 (assuming porosity = 30%)
= 6 Gallons Within Sand Pack

Single Purge Volume: 21 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 63 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba # 13205 Spec. Conductance Meter: _____
pH 4.0 = 4.05 @ 14.8 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0 =~~ _____ @ _____ °C Reading 4.49 µmhos/cm @ 14.8 °C
~~pH 10.0 =~~ _____ @ _____ °C Turbidity Meter: 1
Dissolved Oxygen Meter: 0.7 Other: Sal: 0.23

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity ~~or~~ D.O.	Clarity, Odor PID Readings, Other:
2/22	Ø	bail	1350	15.6	00PS	.425	-10/2.89	Sal: 0.01 / Clear
	10	"	1355	17.0	9.08	.409	-10/3.26	0.01 / Clear
	15	"	1400	17.7	9.19	.419	58/3.11	0.01 / Slightly cloudy No odor
	22	—	1405	—	Dewatered	—	—	—
2/23	32		1309	16.8	8.80	Ø.412	2/2.84	DTW: Ø / horiba # 13200 Sal: Ø.01 clear - no odor
	42		1315	16.9	8.81	Ø.418	850/3.25	Sal: Ø.01 cloudy, no odor
	45	—	1320	—	Dewatered	—		
2/24	63	bail	1050	15.9	8.87	0.406	30/4.3	DTW = Ø / Clear Sal:
				Sampled 2/24/99				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MWØZ-15 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 14 - 19
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 22.75
Final _____
Initial Depth to Water (TOC) 11.43 Date 7/22/99 Time 1430
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume: DH .653
11.32 Ft. of water x .653 Gallons/Foot
= 7.4 Gallons per Single Casing Volume

Sand Pack Volume:
7 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 28 Gallons (in borehole)
- 4.6 Gallons of Casing Vol. for Saturated Interval 7X.65=
= 23.4 x 0.3 (assuming porosity = 30%)
= 7 Gallons Within Sand Pack

Single Purge Volume: 14.5 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 44 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity ~~or~~ D.O.	Clarity, Odor PID Readings, Other:
7/22	Ø	Bail	1445	15.0	8.61	2.11	-10/1.96	Sal: 0.01 / Clear
	10	"	1500	15.3	8.77	2.10	-10/1.98	0.09 / Clear
Dry →	13	"	1505	15.0	8.88	1.83	126/2.23	0.08 / Dewatered/c
7/23	—	—	1345	No Recharge			—	DTW: 20.57 horiba # 13205
7/24	DTW: 19.66		1105	— No Recharge				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW02-16 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 7.6 - 16.6
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 20.4
Final _____

Initial Depth to Water (TOC) 10.27 Date 2/24/99 Time 1115
Stabilized Depth to Water (TOC) 10.40 Date 2/24/99 Time 1700

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
10.13 Ft. of water x 0.653 Gallons/Foot
= 6.6 Gallons per Single Casing Volume

Sand Pack Volume:
6.3 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 25.2 Gallons (in borehole)
- 4.1 Gallons of Casing Vol. for Saturated Interval
= 21.1 x 0.3 (assuming porosity = 30%)
= 6.3 Gallons Within Sand Pack

Single Purge Volume: 13 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 39 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba 13205 Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/24	5	bail	1125	13.5	8.03	1.23	555/2.09	sal: 0.05 / sheen
	15 —	Dewatered @			1131			recharg = 1" / 40 seconds
Return →	20	"	1430	13.5	7.71	.596	906/4.89	DTW: 10.28 / sal: 0.03
	DH 30	Dewatered @			0438			
Return	35	"	1700	13.3	7.67	.501	954/4.5	DTW: 10.40 sal: 0.02 / sheen HC odor
Dewater →	45	"	1715	13.4	7.81	.532	994/5.8	sal: 0.02 / same
2/25	CALIBRATION	NA	1040	13.0	3.96	4.51	-1/10.26	DTW: 10.20 / sal: 0.22 horib 1320
	55	bail	1050	13.3	7.37	.500	564/4.44	sal: 0.02 / sheen HC odor
		SAMPLE @			1245			

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW02-17 Sheet 1 of 2

Project Phase II R.I.
Project No. 0641 12 B 04 03
Date(s) of Installation
Date(s) of Development 2/17/99 → 2/23/99
Personnel/Company Hall

Type of Rig Used

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) ~~14-24~~ 15.1 - 25.1
Total Length of Well Casing
Measured Total Depth (TOC) Initial 28.82
Final

Initial Depth to Water (TOC) 5.73 Date 2/17/99 Time 1545
Stabilized Depth to Water (TOC) 5.97 Date 2/23/99 Time 1730

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift)
___ Surge Block
___ Bailing
___ Pumping
___ Other

PURGE VOLUME CALCULATION

Casing Volume:
~~5~~ 23 Ft. of water x 0.653 Gallons/Foot
= 15 Gallons per Single Casing Volume

Sand Pack Volume:
12 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 48 Gallons (in borehole)
- 7.8 Gallons of Casing Vol. for Saturated Interval
= 40.2 x 0.3 (assuming porosity = 30%)
= 12 Gallons Within Sand Pack

Single Purge Volume: 27 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 81 Gallons
Actual Purge Volume: 135 Gallons
Volume Measured by: 56 bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: (Y) N Thickness Sheen
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water:
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water:

INSTRUMENT CALIBRATION

pH Meter: Horiba 12169 Spec. Conductance Meter: Same
pH 4.0 = 3.95 @ 13.1 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.45 µmhos/cm @ 13.1 °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: -2
Dissolved Oxygen Meter: 10.79 Other: Sal = 0.72

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/17 0	bail	1600	15.1	7.14	0.93	169/2.04	Sal = 0.04 / Slight cloud No odor
5	"	1605	16.2	7.14	0.92	36/3.27	0.04 / clear clean
10	"	1610	16.1	7.19	0.93	162/3.91	0.04 / Same
15	"	1617	16.8	7.22	0.904	999/4.91	0.04 / Dirty Brown
20	"	1624	16.6	7.29	0.920	999/5.82	0.04 / Same
25	"	1630	16.7	7.19	.925	999/4.82	0.04 / Same
28	"	1635	—	—	—	—	Dewatered
2/18 30	"	1620	14.6	6.94	1.03	58/4.11	Sal 0.04 / clean DTW = 5.94
Stoped → 50	"	1645	16.0	7.08	1.09	999/5.77	0.04 / cloudy HC odor
2/19 70	"	1611	17.0	7.11	1.18	999/6.95	0.05 / cloudy no odor

DTW: 5.97 Stoped

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW02-17 Sheet 2 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
_____
Type of Rig Used _____

Casing Diameter/Type _____
Borehole Diameter _____
Screened Interval(s) _____
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial _____
Final _____
Initial Depth to Water
(TOC) _____ Date _____ Time _____
Stabilized Depth to Water
(TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____

INSTRUMENT CALIBRATION

Calibration Date _____ See Sheet ____ of ____
pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/22	90	bail	1745	16.1	8.77	1.0	999/3.8	DTW: 5.97 / horiba 13200 Sal 0.04
2/23	115	"	0950	16.0	8.42	1.10	999/5.3	DTW: 6.11 / horiba 13200 Sal: 0.04
Return →	125	"	1445	16.8	8.25	1.19	638/4.3	DTW: 9.82 @ rising Sal: 0.05 / HC odor - oil
	135	"	1500	17.2	~~8.5~~ 7.43	.743	999/4.9	Sal: 0.03 / bottom of well water.
Sample			1640					

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. PZ-02-01 Sheet 1 of 1

Project NFD Pt Molate
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2/22/99
Personnel/Company D Hark
Caitlin Bowman
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 14.2 - 23.9
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 27.92
Final _____
Initial Depth to Water (TOC) 11.99 Date 2/22/99 Time 1169
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" Stainless Steel
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
15.93 Ft. of water x 0.163 Gallons/Foot
= 2.60 Gallons per Single Casing Volume

Sand Pack Volume:
4.60 ~~2.69~~ Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 12.00 Gallons (in borehole)
- 1.59 Gallons of Casing Vol. for Saturated Interval
= 10.42 x 0.3 (assuming porosity = 30%)
= 3.13 Gallons Within Sand Pack

Single Purge Volume: 5.73 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 17 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 gallon
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 12169
pH 4.0 = 3.95 @ 11.3 °C
~~pH 7.0 = _____ @ _____ °C~~
~~pH 10.0 = _____ @ _____ °C~~
Dissolved Oxygen Meter: _____

Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
Reading 4.52 µmhos/cm @ 11.3 °C
Turbidity Meter: -4
Other: Salinity 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
Ø		1633	16.Ø	7.22	1.ØØ	2Ø/1.72	SAL 0.04 ; CLEAR, NO ODOR
5		1642	16.3	7.09	1.04	171/1.77	SAL 0.04 ; SAME
1Ø		1653	16.7	7.19	1.02	501/1.98	Sal 0.04 Cloudy, no odor
15		1708	16.6	7.36	1.09	949/3.69	Sal 0.01 very cloudy, no odor
well dry @ 16 gallons							
2/24 19~~18~~		1019	Development Complete				

Development Completed at 19 Gallons Discharged. Date: 2/24 Time: 1019

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. P2-42-02 Sheet 1 of 1

Project NFD Pt Molate
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2.22.99
Personnel/Company D Hake, Caitlin Bauman
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 3"
Screened Interval(s) 14.2 - 24.2
Total Length of Well Casing 30.0
Measured Total Depth (TOC) Initial _____
Final _____
Initial Depth to Water (TOC) 27.59 Date 2/22 Time 1040
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
1 Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
2.4 Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
all mud	no water	for	bailing				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. PZ 02 03 Sheet 1 of 1

Project NFD Pt MOLATE
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2.22.99
Personnel/Company D HAIR, CAITLIN BOWMAN
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 15.3 - 20.5
Total Length of Well Casing 24.2"
Measured Total Depth (TOC) Initial _____ Final _____
Initial Depth to Water (TOC) 12.81 Date 2/22 Time 0843
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
11.4 Ft. of water x 0.163 Gallons/Foot
= 1.86 Gallons per Single Casing Volume

Sand Pack Volume:
7.2 Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 18.79 Gallons (in borehole)
- 0.85 Gallons of Casing Vol. for Saturated Interval
= 12.94 x 0.3 (assuming porosity = 30%)
= 5.33 Gallons Within Sand Pack

SCREENED INT x GAL/FT - CASING VOL.

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

Single Purge Volume: 7.24 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 22 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 GALLON
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date 2/22/99 See Sheet _____ of _____

INSTRUMENT CALIBRATION

pH Meter: Horiba 12169 Spec. Conductance Meter: _____
pH 4.0 = 3.95 @ 11.3 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0 = _____ @ _____ °C~~ Cond. Reading 4.52 µmhos/cm @ 11.3 °C
~~pH 10.0 = _____ @ _____ °C~~ Turbidity Meter: -4
Dissolved Oxygen Meter: 10.92 Other: Salinity 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
0		0918	12.9	6.93	1.38	150 / 1.70	Sal 0.06 Cloudy/Clean
6		0920	13.7	6.38	0.591	999 / 1.66	Sal 0.02 hydrocarbon odor slight
11		0932	13.8	6.3	0.492	999 / 2.19	Sal 0.02 Same
16		0940	13.7	6.23	0.421	999 / 3.32	Sal 0.01 Same
21		0952	13.6	6.15	0.359	999 / 2.45	Sal 0.01 Same
27		1001	13.7	6.12	0.311	999 / 2.77	Sal 0.01 Same
32		1012	13.8	6.10	0.314	999 / 2.40	Sal 0.01 Same
37		1019	13.8	6.11	0.288	999 / 2.61	Sal 0.01 Same

Development Completed at 27 Gallons Discharged. Date: 2/22/99 Time: 1019

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. PZ02-04 Sheet 1 of 1

Project NAD PH MOLATE
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2-22-99
Personnel/Company D HARK, CAITLIN BLUMAN
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 7 - 9.8
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial _____
Final _____

Initial Depth to Water (TOC) DRY Date 2-22-99 Time 1340
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET PZ02-04A

BORING NO. _____ WELL NO. ~~PZ04-02A~~ Sheet 1 of 1

Project NTD PT MOLATE
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2.22.99
Personnel/Company D HARR, CAITLIN BOWMAN
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 28'-32'
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 35.5
Final _____
Initial Depth to Water (TOC) 22.4 Date 2/22 Time 1056
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
13.1 Ft. of water x 0.163 Gallons/Foot
= ~~2.132~~ 2.14 Gallons per Single Casing Volume

Sand Pack Volume:
6 Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 15.66 Gallons (in borehole)
- 0.65 Gallons of Casing Vol. for Saturated Interval
= 15.01 x 0.3 (assuming porosity = 30%)
= 4.50 Gallons Within Sand Pack

Single Purge Volume: 6.64 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 20 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 GALLON
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date 2/22/99 See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 12169
2/22 pH 4.0 = 3.95 @ 11.3 °C
Calib. ~~pH 7.0 = _____ @ _____ °C~~
~~pH 10.0 = _____ @ _____ °C~~
Dissolved Oxygen Meter: 10.92
Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
COND Reading 4.52 µmhos/cm @ 11.3 °C
Turbidity Meter: _____
Other: SALINITY 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
Ø		1621	15.5	7.53	1.33	999/1.79	SAL: 0.06 CLOUDY
5		1633	16.2	7.55	1.22	? 127/2.74	Sal 0.05 silty
BAILED DRY AT 9 GALLONS							
10		1732	16.0	7.48	.536	999/5.73	SAL 0.02 silty
15							
BAILED DRY AT 15 gallons							
2/23 15		Ø907	15.5	7.31	0.519	572/4.15	Sal 0.02 Cloudy
20		9912	16.1	7.53	0.580	363/3.22	Sal 0.02 silty-slight odor
Bailed Dry @ 20 gallons							

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. PZ02005 Sheet 1 of 1

Project NFD PH MOLALE
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2.22.99
Personnel/Company D HARR, CAITLIN BOWMAN
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 19.2 - 23.4
Total Length of Well Casing 28.0
Measured Total Depth (TOC) Initial 28.0
Final _____
Initial Depth to Water (TOC) 17.31 Date 2/22 Time 1357
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
10.7 Ft. of water x 0.163 Gallons/Foot
= 1.74 Gallons per Single Casing Volume

Sand Pack Volume:
7 ~~1.74~~ Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 18.27 Gallons (in borehole)
- .77 Gallons of Casing Vol. for Saturated Interval
= 17.5 x 0.3 (assuming porosity = 30%)
= 5.25 Gallons Within Sand Pack

Single Purge Volume: 6.99 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 21 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 12169
pH 4.0 = 3.95 @ 11.3 °C
~~pH 7.0 = _____ @ _____ °C~~
~~pH 10.0 = _____ @ _____ °C~~
Dissolved Oxygen Meter: 10.92
Spec. Conductance Meter: _____
Standard 4.44 µmhos/cm@ 25°C
Cond Reading 4.52 µmhos/cm @ 11.3 °C
Turbidity Meter: -4
Other: SALINITY 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
Ø		1410	15.9	7.25	1.53	96/3.92	SAL 0.07 CLEAR to CLOUDY;
5		1434	16.1	7.35	1.55	137/2.79	SAL 0.07 CLEAR, NO ODOR
		BAILED DRY					
2/24 8		Ø950	Bailed dry				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR02-18 Sheet 1 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 15-19
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 23.60
Final _____
Initial Depth to Water (TOC) 9.47 Date 2/18/99 Time 1307
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
14.1 Ft. of water x 0.16 Gallons/Foot
= 2.3 Gallons per Single Casing Volume

Sand Pack Volume:
6 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 15.6 Gallons (in borehole)
- 1 Gallons of Casing Vol. for Saturated Interval 6 x .16
= 14.6 x 0.3 (assuming porosity = 30%)
= 4.4 Gallons Within Sand Pack

Single Purge Volume: 6.7 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 20.1 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba 12169
pH 4.0 = 3.95 @ 14.5 °C
~~pH 7.0~~ = _____ @ _____ °C
pH ~~10.0~~ = _____ @ _____ °C
~~Dissolved Oxygen Meter:~~ 10.0
Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
Reading 4.49 µmhos/cm @ 14.5 °C
Turbidity Meter: Ø
Other: Sal: 0.23

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/18 Ø	bail	1324	13.4	6.82	.487	105/1.71	Sal: 0.01 / clean D/R
34	"	1325	—	—	—	—	Dewatered
Initial → Ø	bail	1335	12.8	7.42	.484	70/2.91	Sal: 0.01 / Clean
Again → 7	bail dry	1735	14.4	7.46	.50	999/5.21	Sal: 0.02 / Silty-HC odor DTW=12.08
2/22 7		1800	13.8	7.25	0.502	60/1.68	Sal: 0.02 / mostly clear
11	bail dry						
2/23 15	bail dry						
16		1535	16.3	7.62	0.551	275/4.33	Sal 0.02 / no odor mostly cloudy
2/23	SAMPLED @ 1505						
18	bail dry 1537						

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR Ø2 78 Sheet 2 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
_____
Type of Rig Used _____

Casing Diameter/Type _____
Borehole Diameter _____
Screened Interval(s) _____
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial _____
Final _____
Initial Depth to Water
(TOC) _____ Date _____ Time _____
Stabilized Depth to Water
(TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
22		0931	Bail dry @ 22 gallons				
25		~~1240~~ 1440	Bail dry @ 25 gallons				
25		1710	14.7	7.76	0.512	205/3.95	Sal 0.02 Cloudy, no odor
27		1712	Bail Dry @ 27 gallons				
31		1915	Bail dry @ 31 gallons				
34		1228	Bail dry @ 34 gallons				
34		1710	14.4	7.22	0.538	50/3.55	Sal 0.02 slightly cloudy
Sample taken 1715							

2/25

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR02-19 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2/22/99
Personnel/Company Caitlin Bowman & Dave Hass
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 26-30'
Total Length of Well Casing 35.2
Measured Total Depth (TOC) Initial _____ Final _____
Initial Depth to Water (TOC) 0 Date 2/22/99 Time 3:00 1500
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
35.2 Ft. of water x 0.163 Gallons/Foot
= 5.74 Gallons per Single Casing Volume

Sand Pack Volume:
10 Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 15.67 Gallons (in borehole)
4x0.163 - 0.65 Gallons of Casing Vol. for Saturated Interval
= 15.02 x 0.3 (assuming porosity = 30%)
= 4.51 Gallons Within Sand Pack

Single Purge Volume. 10.25 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 30.75 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 12169
pH 4.0 = 3.95 @ 12.5 °C
~~pH 7.0 = _____ @ _____ °C~~
~~pH 10.0 = _____ @ _____ °C~~
Dissolved Oxygen Meter: 10.63
Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
Reading 4.50 µmhos/cm @ 12.5 °C
Turbidity Meter: 1
Other: SALINITY 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
Ø		1515	14.8	7.48	.554	74/1.43	SAL 0.02 CLOUDY
5		1527	16.5	7.53	0.545	47/1.36	SAL Ø.Ø2 Cloudy
1Ø		1535	16.8	7.53	Ø.543	112/1.85	SAL 0.02 slightly cloudy
2Ø		1547	16.9	7.28	Ø.539	0/1.84	SAL Ø.Ø2 "
~~3Ø~~ 31		1559	16.1	7.26	Ø.538	-10/1.3Ø	SAL Ø.Ø2 mostly clear
2/23 52		1117	16.0	7.32	Ø.540	49/3.02	SAL Ø.Ø2 water level below screen mostly clear, odor
Samples taken @ 1135							

Development Completed at ~~1559~~ 31 Gallons Discharged. Date: 2/22/99 Time: 1559

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR02-24 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development 2/23/99
Personnel/Company D Harr, C. Bowman
Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 38.2'-43.2'
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 45.5'
Final _____
Initial Depth to Water (TOC) 10.15' Date 2/23/99 Time 1215
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
35.35 Ft. of water x 0.163 Gallons/Foot
= 5.76 Gallons per Single Casing Volume

Sand Pack Volume:
7 Ft. of Saturated Sand Pack
x 2.61 Gallons/Foot (borehole diameter)
= 18.27 Gallons (in borehole)
- 1.14 Gallons of Casing Vol. for Saturated Interval
= 17.13 x 0.3 (assuming porosity = 30%)
= 5.14 Gallons Within Sand Pack

Single Purge Volume: 11 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 33.55 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 121169 Spec. Conductance Meter: _____
2/23 pH 4.0 = 3.95 @ 12.5 °C Standard 7.49 µmhos/cm@ 25°C
Calib ~~pH 7.0 = _____ @ _____ °C~~ Reading 7.50 µmhos/cm @ 12.5 °C
~~pH 10.0 = _____ @ _____ °C~~ Turbidity Meter: _____
Dissolved Oxygen Meter: 10.63 Other: Salinity 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
Ø		1226	14.8	7.78	0.463	650/2.15	Sal 0.01 very cloudy, very slight odor
10		1258	17.5	7.18	0.801	90/2.14	Sal 0.03 slightly cloudy
Bail	Dry @ 10 gallons						
27		1610	17.8	7.021	0.873	45/2.34	Sal 0.03 slightly cloudy
Bail	Dry —	1610	- @ 20 gallons				
2/24 36		0834	16.3	6.99	0.92	50/2.58	Sal: 0.04 slightly cloudy, no odor
37		0911	Dry @ 37 gallons				
42		1033	16.8	7.10	0.93	50/3.37	Sal: 0.04 slightly cloudy, no odor
49		1041	Dry @ 49 gallons				
55		1339	16.9	7.15	Ø.93	0/3.10	Sal 0.04 mostly clear no odor

Development Completed at 55 Gallons Discharged. Date: 2/24/99 Time: 1339

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Sampled 2/24

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW 10-17 Sheet 1 of 1

Project Phase II RI
Project No. 0G9 112 B 0403
Date(s) of Installation ~~2/17~~
Date(s) of Development 2/17
Personnel/Company Hall / TTEMI

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 8"
Screened Interval(s) 14-21
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 20.59
Final _____

Initial Depth to Water (TOC) 14.76 Date 2/17/99 Time 1408
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
5.8 Ft. of water x 0.65 Gallons/Foot
= 3.8 Gallons per Single Casing Volume

Sand Pack Volume:
5.8 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 15 Gallons (in borehole)
- 3.8 Gallons of Casing Vol. for Saturated Interval
= 11.2 x 0.3 (assuming porosity = 30%)
= 3.4 Gallons Within Sand Pack

Single Purge Volume: 7.8 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 23.4 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: Bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: (Y) N Thickness Sheen .01
Calibration Date 2/17/99 See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba 12169 Spec. Conductance Meter: same
pH 4.0 = 3.95 @ 13.1 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.45 µmhos/cm @ 13.1 °C
~~pH 10.0~~ = _____ @ _____ °C Turbidity Meter: -2
Dissolved Oxygen Meter: 10.79 Other: sal 0.72

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/17 0	bail	1415	18.8	7.80	1.48	810/2.83	Sal: 0.06 / Slight odor / Sh
5	"	1425	17.7	7.79	1.92	236/3.71	" 0.09 / Same
8	"	1435	—	—	—	—	" Dewatered
2/19 DTW: 14.68	"						
Dewatered → 14	"	1500	18.0	7.23	4.67	999/6.11	Sal: 0.24 / effervescent + Mild HC odor
2/22 21	bail	1711	16.9	8.97	4.97	731/4.60	DTW: 14.67 / horiba 13205 Sal: 0.23 / odor / sheen
2/23 29	"	0920	16.1	8.58	4.97	505/4.2	DTW: 14.72 / cloudy Sal: 0.25 / sheen / HC odor
— SAMPLE		1700	DTW =	14.85			

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW10-18 Sheet 1 of 1

Project Phase II R.I.
Project No. 069 112 8 04 03
Date(s) of Installation _____
Date(s) of Development 2/17
Personnel/Company Hall / TTEMI

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 8"
Screened Interval(s) 15-20
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 19.95
Final _____

Initial Depth to Water (TOC) 14.57 Date 2/17/99 Time 1330
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
5.38 Ft. of water x 0.653 Gallons/Foot
= 3.5 Gallons per Single Casing Volume

Sand Pack Volume:
5.38 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 14 Gallons (in borehole)
- 3.5 Gallons of Casing Vol. for Saturated Interval
= 10.5 x 0.3 (assuming porosity = 30%)
= 3.15 Gallons Within Sand Pack

Single Purge Volume: 6.7 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 20 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: Bucket
Rate of Development _____ Gallons/Minute (Hour,D
Pumping Rate/Depth _____ @ ____ Ft. (Below Gr.
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: horiba 12/69
pH 4.0 = 3.95 @ 13.1 °C
~~pH 7.0~~ = _____ @ _____ °C
~~pH 10.0~~ = _____ @ _____ °C
Dissolved Oxygen Meter: 10.79
Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
Reading 4.45 µmhos/cm @ 13.1 °C
Turbidity Meter: -2
Other: Sal: 0.22

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/17	0	bail	1340	18.6	7.63	3.26	999/2.22	Sal: 0.16 / HC odor sheen
	5	"	1350	17.9	7.64	3.35	" / 3.87	0.16 / same
	7.5	"	1355	—	—	—	—	Dewatered
2/19	DTW: 14.67							
Dewater →	14	"	1515	18.5	7.38	1.63	999/4.36	Sal: 0.07 / HC odor slight sheen
2/22 ~~DTW:~~	20	bail	1700	16.9	9.43	2.81	999/2.89	0.3 / DTW: horiba 13205
2/23	26	"	0930	16.2	8.69	2.3	838/4.27	DTW: 14.72 horiba 13205 Sal: 0.11 / same
	SAMPLE		1720					DTW: 15.50

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR10-19 Sheet 1 of 2

Project Phase II R.I.
Project No. 0C09 112 B 04 03
Date(s) of Installation
Date(s) of Development 2/17
Personnel/Company Hall / TTEMI

Type of Rig Used

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 18.2 – 23.2
Total Length of Well Casing
Measured Total Depth (TOC) Initial 23.3
Final

Initial Depth to Water (TOC) 12.55 Date 2/17/99 Time 1512
Stabilized Depth to Water (TOC) 13.48 Date 2/19/99 Time 1530

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water:
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water:

PURGE VOLUME CALCULATION

Casing Volume:
10.8 Ft. of water x 0.16 Gallons/Foot
= 1.7 Gallons per Single Casing Volume

Sand Pack Volume:
7 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 18.2 Gallons (in borehole)
- 1.7 ~~16.5~~ Gallons of Casing Vol. for Saturated Interval
= ~~1.7~~ x 0.3 (assuming porosity = 30%) 16.5
= 5 Gallons Within Sand Pack

Single Purge Volume: ~~15~~ 6.7 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: ~~15~~ 20 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 gallon bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y (N) Thickness
Calibration Date _____ See Sheet ____ of ____

INSTRUMENT CALIBRATION

pH Meter: horiba 12169
pH 4.0 = 3.95 @ 13.1 °C
~~pH 7.0~~ = _____ @ _____ °C
~~pH 10.0~~ = _____ @ _____ °C
Dissolved Oxygen Meter: 10.79
Spec. Conductance Meter: same
Standard 4.49 µmhos/cm@ 25°C
Reading 4.45 µmhos/cm @ 13.1 °C
Turbidity Meter: ~2
Other: Sal = 0.22

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/17	Ø	bail	1528	17.6	8.94	.366	464/1.10	Sal=.01 / Cloudy No odor or sheen
	2.3	—	—	—	—	—	—	Dewatered
2/18	4.6		1230	15.7	7.49	Ø.98	540/1.95	DTW = 13.25
DTW = 14.81	—	—	—	—	—	—	—	Sal = 0.04 / Dewatered
Dewater →	7	"	1602	16.5	7.52	Ø.97	999/5.36	0.04 / cloudy/slight odor
2/19 DTW: 13.48			1530					
Dewater →	10	"	1535	17.9	7.55	0.99	999/3.89	Sal .04 / cloudy No odor
2/22 DTW = 13.44			1555					
2/24 DTW 13.53 @ 12:20			1220					
	13		1225	Dewater				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR10-19 Sheet 2 of 2

Project NFD PA MOATES PHASE II RI
Project No. 90069 112 B0403
Date(s) of Installation _____
Date(s) of Development 2/24
Personnel/Company HARR / BOWMAN
Type of Rig Used DRILLER

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 18.2 - 23.2
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 23.3
Final _____
Initial Depth to Water (TOC) _____ Date _____ Time _____
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	_____
___ Surge Block	_____
___ Bailing	_____
___ Pumping	_____
___ Other	_____

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: Horiba 12169
pH 4.0 = 3.97 @ 12.6 °C
~~pH 7.0 = _____ @ _____ °C~~
~~pH 10.0 = _____ @ _____ °C~~
Dissolved Oxygen Meter: 10.64

Spec. Conductance Meter: _____
Standard 4.49 µmhos/cm@ 25°C
Reading 4.51 µmhos/cm @ 12.6 °C
Turbidity Meter: Ø
Other: Sal: 0.23

2/24 Calib

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/24		1800	—	—	DEWATERED		@ 15 GALLONS
2/25 CALIBRATION	—		12.9	3.97	4.52	7/10.71	SALINITY 0.23
DTW 13.3 15	—	1035	15.7	7.36	0.97	137/3.33	SALINITY 0.04
17 GALLONS = DEWATERED							
SAMPLED 2/25							

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW 11-8C Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 11.8 - 19.8
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 20.0
Final _____

Initial Depth to Water (TOC) 13.38 Date 2/24/99 Time 1330
Stabilized Depth to Water (TOC) 14.42 Date 2/24/99 Time 1545

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
6.6 Ft. of water x 0.653 Gallons/Foot
= 4.3 Gallons per Single Casing Volume

Sand Pack Volume:
6.6 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 26.4 Gallons (in borehole)
- 6.6 Gallons of Casing Vol. for Saturated Interval
= 20 x 0.3 (assuming porosity = 30%)
= 6 Gallons Within Sand Pack

Single Purge Volume: 10 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 30 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: 132105 Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
5	bail	1335	15.7	7.96	.310	999/3.7	0.01 / No sheen Slight HC odor
10	"	1340	16.3	8.09	.368	999/3.6	0.01 / Same
20	"	1345	16.2	8.31	.388	999/3.9	0.01 / odor diminishing
30	"	1350	16.2	8.1	.416	999/3.21	0.01 / Same
40	"	1355	16.4	8.16	.428	999/4.29	0.01 / Same
50	"	1400	16.9	8.19	.430	999/4.3	0.01 / Same
DTW: 13.44							
SAMPLE		2/24/99		@	1545		

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-81 Sheet 1 of 1

Project Pt Molate
Project No. 9B969 112-B8483
Date(s) of Installation _____
Date(s) of Development 2-26-99
Personnel/Company D. Hare / C. Bowman
Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 9.7 - 19.7
Total Length of Well Casing 19.67
Measured Total Depth (TOC) Initial _____ Final _____
Initial Depth to Water (TOC) 11.2 Date 2/26 Time 0850
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
8.47 Ft. of water x 0.653 Gallons/Foot
= 5.53 Gallons per Single Casing Volume

Sand Pack Volume:
8.5 ~~4.08~~ Ft. of Saturated Sand Pack
x 7.08 Gallons/Foot (borehole diameter)
= 34.68 Gallons (in borehole)
- 5.53 Gallons of Casing Vol. for Saturated Interval
= 29.15 x 0.3 (assuming porosity = 30%)
= 8.75 Gallons Within Sand Pack

Single Purge Volume: 14.28 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 43 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: HORIBA 12169 Spec. Conductance Meter: 4.55
pH 4.0 = 3.94 @ 116 °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: 1
Dissolved Oxygen Meter: 10.40 Other: Salinity 0.23

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
0	—	0905	17.6	6.82	.576	999/2.85	Salinity 0.02; Silty w/SH
17	—	0919	17.7	6.79	.497	999/3.48	Salinity 0.02; Silty w/SHEEN
27	—	0920	18.1	6.72	0.494	999/2.77	Sal: 0.02; Some
37	—	0932	18.1	6.77	0.469	999/3.71	Sal: 0.02; Some
45	—	0936	18.1	6.76	0.512	999/2.95	Sal: 0.02; Some
Sample taken @ 0940							

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW 11-82 Sheet 1 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 12.5 - 20
Total Length of Well Casing 20.1
Measured Total Depth (TOC) Initial 20.1
Final _____

Initial Depth to Water (TOC) 13.9 Date 3/4/99 Time 1200
Stabilized Depth to Water (TOC) 14.00 Date 3/5/99 Time 0805

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	4" Stainless
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
6.2 Ft. of water x .653 Gallons/Foot
= 4 Gallons per Single Casing Volume

Sand Pack Volume:
9.5 Ft. of Saturated Sand Pack 7.5' + 2'
x 4 Gallons/Foot (borehole diameter)
= 38 Gallons (in borehole)
- 4 Gallons of Casing Vol. for Saturated Interval
= 34 x 0.3 (assuming porosity = 30%)
= 10.2 Gallons Within Sand Pack

Single Purge Volume: 15 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 45 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd.)
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date _____ See Sheet _____ of _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
1355 Calibration
pH 4.0 = 4.04 @ 14.6 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.44 µmhos/cm @ 14.6 °C
~~pH 10.0~~ = _____ @ _____ °C Turbidity Meter: Ø
Dissolved Oxygen Meter: 10.65 Other: Sal. 0.23

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity / D.O.	Clarity, Odor PID Readings, Other:
3/4/99							
Ø	bail	1210	17.3	6.98	1.53	999/3.54	Sal: 0.07 / Dark Gray silty / solvent odor
Dewater → ~~DW 7~~	"	1215	17.4	8.01	1.65	145/0.45	0.07 / same, otherwise
Dewater → 10	"	1355	17.7	7.98	1.72	169/0.82	0.08 / Same, no odor
3/5/99							Set DTW 14.00 /
CALIBRATE →	NA	0810	11.2	3.96	4.52	0/10.19	Sal: .22 /
15	BAIL	0915	16.3	6.97	1.18	664/3.23	SAL: .05
DTW: 14.48 → 20	bail	1340	17.5	6.85	0.98	240/4.5	Sal: 0.04 / clean
Dewater 3/6/99							
CALIBRATE	NA	0745	11.6	3.95	4.51	0/10.41	DTW 14.04 / SAL 0.22
25	BAIL	0810	16.6	6.59	0.91	22/3.65	Sal 0.04
30	BAIL	1240	18.1	7.18	1.11	999/5.80	Sal 0.05

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

CONTINUED ON BACK

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. ~~MWT 12-03~~ MW11-82 Sheet 2 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 12.5 – 20.0
Total Length of Well Casing 20.1
Measured Total Depth (TOC) Initial _____
Final _____

Initial Depth to Water (TOC) 13.9 Date 3/4/99 Time 1200
Stabilized Depth to Water (TOC) 14.00 Date 3/5/99 Time 0805

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: 15 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 45 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour, D
Pumping Rate/Depth _____ @ _____ Ft. (Below Grd
Immiscible Phases Present: Y (N) Thickness _____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

Calibration Date _____ See Sheet _____ of _____
pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
35	BAIL	0900	14.5	7.55	1.00	601/5.57	DTW 14.10/sol 0.04
40	BAIL	1338	17.2	7.78	1.07	999/4.75	DTW: 14.35/Sol: 0.04
45	BAIL	0800	15.7	~~6.75~~ 7.05	1.02	949/6.30	Sol: 0.04 DTW/14.02
SAMPLE @ 12~~0~~5				ON	3/9/99		

3/9

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-85 0 Sheet 1 of 1

Project Phase II R.I.
Project No. 069 112 B 0403
Date(s) of Installation
Date(s) of Development 2/17
Personnel/Company Hall / TTEMI

Type of Rig Used

Casing Diameter/Type 4"
Borehole Diameter 8"
Screened Interval(s) 7-17
Total Length of Well Casing 17.15 (Soft Bottom
Measured Total Depth (TOC) Initial 17.15
Final

Initial Depth to Water (TOC) 9.98 Date 2/17/99 Time 0940
Stabilized Depth to Water (TOC) 9.58 Date 2/17/99 Time 1230
Sheen @ 9.57

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water:
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water:

PURGE VOLUME CALCULATION

Casing Volume:
4.17 Ft. of water x 0.653 Gallons/Foot
= 4.7 Gallons per Single Casing Volume

Sand Pack Volume:
7 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 18.2 Gallons (in borehole)
- 4.7 Gallons of Casing Vol. for Saturated Interval
= 13.5 x 0.3 (assuming porosity = 30%)
= 4.05 Gallons Within Sand Pack

Single Purge Volume: 8.75 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 26.25 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 Gallon Bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: (Y) (N) Thickness Sheen
Calibration Date 2/17/99 DH See Sheet ____ of ____

INSTRUMENT CALIBRATION

pH Meter: horiba 12169 Spec. Conductance Meter: Same
pH 4.0 = 3.95 @ 13.1 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.45 µmhos/cm @ 13.1 °C
~~pH 10.0~~ = _____ @ _____ °C Turbidity Meter: -2
Dissolved Oxygen Meter: 10.79 Other: Sal - 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity / D.O.	Clarity, Odor PID Readings, Other:
2/17 0	bail	1015	15.1	7.66	0.810	215/0.98	Sal: .03 / Slight solvent odor
5	"	1025	15.0	7.57	0.708	191/1.20	" .03 / " " Same
10	"	1035	15.2	7.32	.509	411/2.28	" .02 / " "
15	"	1040	15.3	7.26	.468	999/2.57	" .01 / Same
20	"	1050	15.5	7.25	.459	999/2.38	.01 / Same
25	"	1100	15.4	7.24	.455	999/2.38	.01 / Same
30	"	1105	15.4	7.25	.456	999/2.39	.01 / Same
2/19 35	"	0930	14.8	7.22	.522	999/2.40	DTW: 10.09 / Sal 0.0
40	"	0950	15.0	7.22	.525	999/2.6	Sal: 0.02 / Slight Sheen + odor
SAMPLE @		2/19/99 -			1215		

Development Completed at 40 Gallons Discharged. Date: 2/19/99 Time: 1000

Criteria: 4 Casing volumes, parameters stabilized Personnel: Hall

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-86 Sheet 1 of 1

Project Phase II RI
Project No. 069 112B 0403
Date(s) of Installation
Date(s) of Development 2/17
Personnel/Company Hall / TTEMI

Type of Rig Used

Casing Diameter/Type 4"
Borehole Diameter 8"
Screened Interval(s) 10-17
Total Length of Well Casing
Measured Total Depth (TOC) Initial 17.18
Final

Initial Depth to Water (TOC) 10.50 Date 2/17/99 Time 1130
Stabilized Depth to Water (TOC) 10.58 Date 2/19/99 Time 1010

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

• TPH-P + BTEX + Aromatic Volatiles
• TPH-E

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water:
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water:

PURGE VOLUME CALCULATION

Casing Volume:
10.5 Ft. of water x 0.653 Gallons/Foot
= 6.9 Gallons per Single Casing Volume

Sand Pack Volume:
7.5 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 19.5 Gallons (in borehole)
- 6.9 Gallons of Casing Vol. for Saturated Interval
= 12.6 x 0.3 (assuming porosity = 30%)
= 3.8 Gallons Within Sand Pack

Single Purge Volume: 10.7 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 32 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 gallon bucket
Rate of Development _____ Gallons/Minute (Hour,D
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y (N) Thickness
Calibration Date 2/17/99 See Sheet ____ of ____

INSTRUMENT CALIBRATION
pH Meter: horiba 12169 Spec. Conductance Meter: same
pH 4.0 = 3.95 @ 13.1 °C Standard 4.49 µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading 4.45 µmhos/cm @ 13.1 °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: -2
Dissolved Oxygen Meter: 10.79 Other: Sal = 0.22

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/17 0	bail	1140	16.8	12.06	5.99	320/5.54	Sal = .31/No odor
5	"	1150	16.5	11.78	3.68	85/3.79	" 0.16/Cloudy odor
10	"	1155	16.4	11.06	1.21	400/3.06	" 0.05/ " "
15	"	1200	16.4	9.50	.939	999/3.83	" 0.04/Solvent odor
20	"	1210	16.5	8.95	.980	999/4.30	" 0.04/odor/Slight Sh
25	"	1217	16.4	8.66	1.05	999/4.35	0.04/Same↑
30	"	1224	16.7	8.47	0.96	999/4.26	0.04/Increasing Sheen
35	"	1230	16.5	8.31	0.93	999/4.25	0.04/Same
2/19 DTW: 10.58 40	"	1010	16.1	8.39	1.05	999/2.69	Sal 0.06/Solvent odor Silty
45	"	1017	16.0	7.82	1.0	999/3.53	Sal: 0.04/Same/Slight

Development Completed at 45 Gallons Discharged. Date: 2/19/99 Time: 1100

Criteria: Near 4.5 Casing Volumes, Sampled 2/19/99 Personnel: Hall

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

SAMPLE @ 2/19/99

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-83 Sheet 1 of ___

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 5.3 - 13.3
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 12.95
Final _____

Initial Depth to Water (TOC) 8.15 Date 3/4/99 Time 1015
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	Stainless
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
4.8 Ft. of water x 0.653 Gallons/Foot
= 3.1 Gallons per Single Casing Volume

Sand Pack Volume:
4.8 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 19.2 Gallons (in borehole)
- 3.1 Gallons of Casing Vol. for Saturated Interval
= 16.1 x 0.3 (assuming porosity = 30%)
= 4.8 Gallons Within Sand Pack

Single Purge Volume: 8 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 24 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 Gallon bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date 3/4/99 See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

Horiba # 12169

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = 4.04 @ 14.6 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.49 µmhos/cm @ 14.6 °C
~~pH 10.0~~ = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: 10.65 Other: Sal: 0.23

3/4/99

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
0	bail	1030	16.6	7.92	1.24	223/5.44	Silicous / cloudy, No sheen No odor
5	"	1040	16.8	7.48	.857	173/3.79	0.03 / Same
15	"	1050	17.0	7.48	.654	999/4.99	0.02 / Same
25	"	1100	17.2	7.39	.635	999/4.78	0.02 / Same
35	"	1120	17.1	7.39	.618	999/5.14	0.02 / Same
40	"	1130	17.2	7.42	.621	999/5.25	0.02 / Same
SAMPLE @			1415				

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

GROUND WATER SAMPLING DATA SHEET

PAGE 1 OF 1

DATE 3/8/99

WELL NAME MW11-83

PROJECT PT MOLATE PHASE II R1

PROJECT No. 60069-1123 D403

WELL LOCATION DRUM-LOT 1

SAMPLE DATE 3/4/99

SAMPLING PERSONNEL D. HALL, JOHN CONSOLETTI

SAMPLE ID MW11-83

DUPLICATE ID NA

STATION ELEVATION _____ GND ___ TOC ___

STATIC WATER LEVEL(from TOC) 8.15

WELL STICK UP _____

STATIC ELEVATION _____

WELL DEPTH 12.95 MEAS ✓ RPTD ___

FEET OF WATER 4.80

GALLONS/FOOT _____

CASING VOLUME _____

IMMISCIBLE PHASES PRESENT YES ___ NO ✓

TYPE _____

MEASURED WITH _____

PID READINGS (backgrnd) _____

PID READINGS (TOC) NA

WELL INSTALLED BY _____

INSTALLATION DATE _____

DEVELOPMENT DATE(S) 3/4/99

FIELD CHEMISTRY CALIBRATIONS

DATE/TIME _____ SPEC. CONDUCTANCE: STANDARD _____ UMHOS/CM AT 25C READING _____ UMHOS/CM AT ___ C

pH: pH 4.00 = _____ AT _____ C pH 7.00 = _____ AT _____ C pH 10.00 = _____ AT _____ C SLOPE _____

DISSOLVED OXYGEN: D.O. METER _____ MG/L AT ___ C PID: CALIBRATION GAS _____ PPM _____ SPAN _____ READING _____

	TIME	DISCHARGE RATE (GPM)	DISSOLVED OXYGEN (MG/L)	pH	Eh/ORP	TEMP (C)	SPECIFIC CONDUCT. (UMHOS/CM AT C)	TURBID. (NTU)	CUMULATIVE VOL. OF WATER REMOVED (PURGED) GALLONS	CASING VOLS	PID/OVA READING LOCATION	VALUE	COMMENTS
	SAMPLE	@	1415	ON		3/4/99							
	WELL	WAS	SAMPLED			IMMEDIATELY					AFTER		DEVELOPMENT
	SEE	DEVELOPMENT				SHEET			FOR		DATA		
PUMPED													
BAILED													

PUMPED PARAMETERS STABLE (Y/N) | PUMPED=BAILED PARAMETERS (Y/N) | CONDITION OF WELL: _____

REMARKS _____

FIELD EQUIPMENT

pH METER * SERIAL NUMBER _____

SPEC. COND. METER * SERIAL NUMBER _____

PUMP _____ SERIAL NUMBER _____

BAILER 4" STAINLESS SIZE 4"

WATER LEVEL METER _____ SERIAL NUMBER _____

D. O. METER * SERIAL NUMBER _____

FILTER APPARATUS _____ FILTERS _____

TEMPERATURE MEASURE *

INTERFACE PROBE HAZCO 9434224 SERIAL NUMBER _____

PID/OVA _____ SERIAL NUMBER _____

FIELD CHEMISTRY CALIBRATIONS

FRACTIONS VOC, SVOC, TPH-P, TPH-E, TDS

NUMBER OF BOTTLES 10

SAMPLE DEPTH 10'

FIELD NOTEBOOK PHASE II R1 JANUARY 99

SAMPLE METHOD POLY DISPOSABLE BAILER

DISCHARGE WATER CONTAINERIZED

YES ✓ NO ___

I:\FORMS\GW_SHEETS\GW_SAMP2.FRP /jja /04-10-98

* HARIBA 12169

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-88 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 11.4 - 20.4
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 20.0
Final _____

Initial Depth to Water (TOC) 14.35 Date 2/24/99 Time 0.25
Stabilized Depth to Water (TOC) 14.10 Date 2/25/99 Time 1130

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
5.7 Ft. of water x 0.653 Gallons/Foot
= 3.7 Gallons per Single Casing Volume

Sand Pack Volume:
5.7 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 23 Gallons (in borehole)
3.7 ~~19.3~~ Gallons of Casing Vol. for Saturated Interval
= 19.3 x 0.3 (assuming porosity = 30%)
= 6 Gallons Within Sand Pack

Single Purge Volume: 10 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 30 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/24	5	bail	1240	15.8	8.68	1.24	999/1.34	Sheen / Solvent odor sal: 0.05
	10	"	1250	16.2	8.37	.6645	999/2.06	sal: 0.02 / same
	17 ~~28~~	— Dewater - Recharge @ 1"/7sec = 1'/1.5 min						
Return → 2/25	28	bail	1750	15.1	8.23	.445	999/2.7	DTW: 14.33 sal: 0.04
	35	bail	1145	16.5	8.44	.449	999/4.44	DTW: 14.10 / sal: 0.04
			Sampled			2/25/99		

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW11-89 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 13 - 20.5
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 20.4
Final _____

Initial Depth to Water (TOC) 12.32 Date _____ Time _____
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

___ Jetting (Airlift) _____
___ Surge Block _____
___ Bailing _____
___ Pumping _____
___ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
8 Ft. of water x 0.653 Gallons/Foot
= 5.2 Gallons per Single Casing Volume

Sand Pack Volume:
9.5 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 38 Gallons (in borehole)
- 5 Gallons of Casing Vol. for Saturated Interval
= 33 x 0.3 (assuming porosity = 30%)
= 10 Gallons Within Sand Pack

Single Purge Volume: 15 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 45 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Da
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity / D.O.	Clarity, Odor PID Readings, Other:
2/24	5	bail	1200	15.6	7.61	.192	999/4.38	Cloudy / Silty / NO odor Sol: 0.01
Dewater →	15	"	1210	15.7	7.74	.214	999/4.7	sol: 0.00 / silty / Solvent-oo Slight Sh
recharge = → return 1"/30sec	20	bail	1725	15.2	7.61	.220	999/5.59	Sol: 0 DTW: 12.89 / Same
Dewater →	30	"	1740	15.1	7.75	.200	999/5.8	sol: 0 / Same
2/25 dewater →	43	bail	1120	15.6	7.68	.187	999/4.69	DTW: 13.25 / Same Sol: 0.0
	50	bail	1430	16.0	7.31	.180	143/2.89	Sol: 0.0 /
				SAMPLE	2/25			

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. MW 11-94 Sheet 1 of 1

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____

Type of Rig Used _____

Casing Diameter/Type 4"
Borehole Diameter 10"
Screened Interval(s) 5-15
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 15.15
Final _____

Initial Depth to Water (TOC) 8.98 Date 2/18/99 Time 1110
Stabilized Depth to Water (TOC) 9.14 Date 2/19/99 Time 0900

DEVELOPMENT

TECHNIQUE(S) EQUIPMENT TYPE/CAPACITY

____ Jetting (Airlift) _____
____ Surge Block _____
____ Bailing _____
____ Pumping _____
____ Other _____

PURGE VOLUME CALCULATION

Casing Volume:
6.2 Ft. of water x 0.653 Gallons/Foot
= 4 Gallons per Single Casing Volume

Sand Pack Volume:
6.2 Ft. of Saturated Sand Pack
x 4 Gallons/Foot (borehole diameter)
= 25 Gallons (in borehole)
- 4 Gallons of Casing Vol. for Saturated Interval
= 21 x 0.3 (assuming porosity = 30%)
= 6.3 Gallons Within Sand Pack

Single Purge Volume: 10.3 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 31 Gallons
Actual Purge Volume: 34 Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: (Y) N Thickness Globs
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/18	0	bail	1120	15.7	6.67	1.80	999/2.89	Sal=0.07/heavy sheen
	5	"	1125	16.0	6.87	1.06	161/2.46	" 0.07/ same
	6	"	1130	–	–	–	–	Dewatered
Dewatered again @	12.6	"	1249	15.7	6.67	1.21	999/5.73	Sal=0.05/heavy sheen butter globs
	17	"	1500	15.5	7.95	1.06	999/4.64	sal=0.04/DTW=9.03
	22	"	1700	15.5	6.66	1.04	999/5.17	0.04/heavy sheen butter globs
2/19	N/A	Calibrate	0845	12.8	3.95	4.51	0/0.5	Calibration/DTW:
Dewatered DTW: 9.14	28	bail	0900	15.8	6.45	1.11	999/4.29	Sal:0.04/Same
	34	"	1050	15.8	6.48	1.19	999/4.43	Sal 0.05/ Same
	Sampled @ 2/19/99 1300							

Development Completed at 34 Gallons Discharged. Date: 2/19/99 Time: 1100

Criteria: 3+ Casing volumes / Stabilized / SAMPLE Personnel: Hall

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR 11-90 Sheet 1 of __

Project Phase II R.I.
Project No. 60069 112 B 04 03
Date(s) of Installation ~~3/4-3/7/99~~ DH
Date(s) of Development 3/4-3/7/99
Personnel/Company Hall / Consonetti

Type of Rig Used _____

Casing Diameter/Type 2"
Borehole Diameter 8"
Screened Interval(s) 63.4 - 68.4
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 68.3
Final _____

Initial Depth to Water (TOC) 10.38 Date 3-4-99 Time 1545
Stabilized Depth to Water (TOC) 11.18 Date 3/7/99 Time 1038

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" Stainless
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
58 Ft. of water x .163 Gallons/Foot
= 9.5 Gallons per Single Casing Volume

Sand Pack Volume:
7 Ft. of Saturated Sand Pack
x 2.6 Gallons/Foot (borehole diameter)
= 18.2 Gallons (in borehole)
- 1.2 Gallons of Casing Vol. for Saturated Interval
= 17 x 0.3 (assuming porosity = 30%)
= 5 Gallons Within Sand Pack

Single Purge Volume: 15 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 45 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: 5 Gallon bucket
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd)
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date 3/4/99 See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

Not by 12109

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = 4.04 @ 14.6 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0 =~~ _____ @ ____ °C Reading 4.48 µmhos/cm @ 14.6°C
~~pH 10.0 =~~ _____ @ ____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: 10.68 Other: Sal: 0.23

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity / D.O.	Clarity, Odor PID Readings, Other:
3/4	0	bail	1555	17.0	7.66	0.96	999/1.38	Sal: 0.04 / effervescence / silty
Dry →	10							
3/5	12	bail	840	16.3	6.63	2.17	72/1.34	sal: 0.10 DTW 12.54
	15	bail	850	17.1	6.64	2.07	40/11.47	SAL. 0.09
Dewater →	20	Bail	905	16.2	6.69	2.15	340/1.74	SAL: 0.10
3/6/99	25	BAIL	825	16.4	6.67	2.11	22/1.95	DTW 11.03 / sal 0.10
	30	BAIL	850	17.1	6.65	2.15	23/2.31	Sal 0.10
	35	BAIL	945	16.8	6.73	2.18	121/2.06	Sal 0.11
3/7	40	BAIL	1045	16.0	6.58	2.25	35/2.97	DTW. 11.18 / Sal: 0.11
	45	BAIL	1115	17.1	6.55	2.36	590/1.96	Sal 0.11

Development Completed at ~~3/4/99~~ 45 Gallons Discharged. Date: 3/7/99 Time: 1115

Criteria: 4 Casing Volumes + stabilization Personnel: Hall / Consonetti

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Sample 3/7/99 @ 1300

Tetra Tech EM Inc.

GROUND WATER SAMPLING DATA SHEET

PAGE 1 OF 1

WELL NAME BR11-90

DATE 3/7/99

PROJECT Ft. Malone Phase II R.I.

PROJECT No. G00169 112B 04 03

WELL LOCATION Drum Lot 1

SAMPLE DATE 3/7/99

SAMPLING PERSONNEL Hall / Consoletti

SAMPLE ID BR11-90

DUPLICATE ID N/A

STATION ELEVATION _____ GND ___ TOC ___

STATIC WATER LEVEL(from TOC) 11.18

WELL STICK UP _____

STATIC ELEVATION _____

WELL DEPTH 68.3 MEAS ✓ RPTD ___

FEET OF WATER _____

GALLONS/FOOT _____

CASING VOLUME _____

IMMISCIBLE PHASES PRESENT YES ___ NO ✓

TYPE _____

MEASURED WITH _____

PID READINGS (backgrnd) _____

PID READINGS (TOC) _____

WELL INSTALLED BY _____

INSTALLATION DATE _____

DEVELOPMENT DATE(S) 3/4-3/7/99

FIELD CHEMISTRY CALIBRATIONS

DATE/TIME _____ SPEC. CONDUCTANCE: STANDARD _____ UMHOS/CM AT 25C READING _____ UMHOS/CM AT ___ C

pH: pH 4.00 = _____ AT _____ C pH 7.00 = _____ AT _____ C pH 10.00 = _____ AT _____ C SLOPE _____

DISSOLVED OXYGEN: D.O. METER _____ MG/L AT ___ C PID: CALIBRATION GAS _____ PPM _____ SPAN _____ READING _____

	TIME	DISCHARGE RATE (GPM)	DISSOLVED OXYGEN (MG/L)	pH	Eh/ORP	TEMP (C)	SPECIFIC CONDUCT. (UMHOS/CM AT C)	TURBID. (NTU)	CUMULATIVE VOL. OF WATER REMOVED (PURGED) GALLONS	CASING VOLS.	PID/OVA READING LOCATION	VALUE	COMMENTS
	SAMPLE @ 1300hrs on 3/7/99												
	Well was sampled immediately following												
	development, see development sheet for date.												
PUMPED													
BAILED													

PUMPED PARAMETERS STABLE (Y/N) | PUMPED=BAILED PARAMETERS (Y/N) | CONDITION OF WELL: Good

REMARKS _____

FIELD EQUIPMENT

pH METER * SERIAL NUMBER _____

SPEC. COND. METER * SERIAL NUMBER _____

PUMP _____ SERIAL NUMBER _____

BAILER 2" Stainless SIZE _____

WATER LEVEL METER _____ SERIAL NUMBER _____

D. O. METER * SERIAL NUMBER _____

FILTER APPARATUS _____ FILTERS _____

TEMPERATURE MEASURE *

INTERFACE PROBE Hazco SERIAL NUMBER 9434224

PID/OVA _____ SERIAL NUMBER _____

*= horiba # 12169

FIELD CHEMISTRY CALIBRATIONS

FRACTIONS VOCs SVOCs TPH-P TPH-E TDS

NUMBER OF BOTTLES 10

SAMPLE DEPTH 15' bgs

FIELD NOTEBOOK yes / Phase II RI JG 9

SAMPLE METHOD poly disposable bailer

DISCHARGE WATER CONTAINERIZED

YES ✓ NO ___

I:\FORMS\GW_SHEETS\GW_SAMP2.FRP /jja /04-10-98

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR 11-96 Sheet 1 of 2

Project _____
Project No. _____
Date(s) of Installation _____
Date(s) of Development _____
Personnel/Company _____
Type of Rig Used _____

Casing Diameter/Type ~~4"~~ 2"
Borehole Diameter 8"
Screened Interval(s) 38 - 49
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial 47.91
Final _____

Initial Depth to Water (TOC) 12.58 Date 2/18/99 Time 0923
Stabilized Depth to Water (TOC) _____ Date _____ Time _____

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
___ Bailing	
___ Pumping	
___ Other	

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

PURGE VOLUME CALCULATION

Casing Volume:
35.3 Ft. of water x 0.16 Gallons/Foot
= 5.6 Gallons per Single Casing Volume

Sand Pack Volume:
13 Ft. of Saturated Sand Pack
x 2.3 Gallons/Foot (borehole diameter)
= 33.8 Gallons (in borehole)
- 5.6 Gallons of Casing Vol. for Saturated Interval
= 28.2 x 0.3 (assuming porosity = 30%)
= 8.46 Gallons Within Sand Pack

Single Purge Volume: 14 Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: 42 Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,D
Pumping Rate/Depth _____ @ ____ Ft. (Below Gr
Immiscible Phases Present: Y (N) Thickness _____
Calibration Date _____ See Sheet ____ of ____

INSTRUMENT CALIBRATION

pH Meter: horiba 12169 Spec. Conductance Meter: _____
pH 4.0 = 3.95 @ 14.5 °C Standard 4.49 µmhos/cm@ 25°C
~~pH 7.0~~ = _____ @ _____ °C Reading 4.49 µmhos/cm @ 14.5 °C
~~pH 10.0~~ = _____ @ _____ °C Turbidity Meter: Ø
Dissolved Oxygen Meter: 10.0 Other: Sal: 0.23

	Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity or D.O.	Clarity, Odor PID Readings, Other:
2/18	0	Air 1	0944	17.5	8.27	.455	999/1.84	Sal = 0.01/ brown slight HC odor
	5	"	0959	17.0	7.97	.847	999/2.31	0.03/ Same +
	10	"	1007	17.4	7.01	3.04	999/5.17	0.15/ Same - No odor
	15	"	1030	17.3	6.80	3.50	572/4.25	0.17/ Less cloudy slow reading / No od
	20	"	1051	–	–	–	–	Will return later
	25	"	1155	16.1	6.75	3.58	578/2.77	0.18/
	30	"	1205	–	–	–	–	Dewatered
Dewater →	35	"	1530	16.2	6.80	4.00	1367	Sal: 0.20/ DTW = 12.24
2/19	DTW: 12.45		0915	DTW @ MW 11-93 = 13.15				
2/22	DTW = 12.40		1550					

Development Completed at _____ Gallons Discharged. Date: _____ Time: _____

Criteria: _____ Personnel: _____

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

Tetra Tech EM Inc.

WELL DEVELOPMENT DATA SHEET

BORING NO. _____ WELL NO. BR11-96 Sheet 2 of 2

Project Pt Molate
Project No. 90069 112 B0403
Date(s) of Installation _____
Date(s) of Development 2/2
Personnel/Company HARL / BOWMAN
Type of Rig Used _____

Casing Diameter/Type _____
Borehole Diameter _____
Screened Interval(s) _____
Total Length of Well Casing _____
Measured Total Depth (TOC) Initial _____ Final _____
Initial Depth to Water (TOC) _____ Date _____ Time _____
Stabilized Depth to Water (TOC) 16.4 Date 2/25/99 Time 1055

DEVELOPMENT

TECHNIQUE(S)	EQUIPMENT TYPE/CAPACITY
___ Jetting (Airlift)	
___ Surge Block	
X Bailing	2" STAINLESS STEEL
___ Pumping	
___ Other	

PURGE VOLUME CALCULATION

Casing Volume:
_____ Ft. of water x _____ Gallons/Foot
= _____ Gallons per Single Casing Volume

Sand Pack Volume:
_____ Ft. of Saturated Sand Pack
x _____ Gallons/Foot (borehole diameter)
= _____ Gallons (in borehole)
- _____ Gallons of Casing Vol. for Saturated Interval
= _____ x 0.3 (assuming porosity = 30%)
= _____ Gallons Within Sand Pack

Single Purge Volume: _____ Gallons (Casing Vol. + Sand Pack Vol. + Fluids Added)
Minimum Purge Volume: _____ Gallons
Actual Purge Volume: _____ Gallons
Volume Measured by: _____
Rate of Development _____ Gallons/Minute (Hour,Day)
Pumping Rate/Depth _____ @ ____ Ft. (Below Grd.)
Immiscible Phases Present: Y N Thickness _____
Calibration Date _____ See Sheet ____ of ____

FLUIDS ADDED

Lost Drilling Fluid: _____ Gallons
Lost Purge Water: _____ Gallons
Water During Installation: _____ Gallons
Total Fluids Added: _____ Gallons
Source of Added Water: _____
Parameters of Added Water Measured: Y N
Sample Collected of Added Water: Y N
Sample Designation of Added Water: _____

INSTRUMENT CALIBRATION

pH Meter: _____ Spec. Conductance Meter: _____
pH 4.0 = _____ @ _____ °C Standard _____ µmhos/cm@ 25°C
pH 7.0 = _____ @ _____ °C Reading _____ µmhos/cm @ _____ °C
pH 10.0 = _____ @ _____ °C Turbidity Meter: _____
Dissolved Oxygen Meter: _____ Other: _____

Total Volume Discharged	Rate of Discharge	Time	Temp	pH	Specific* Conductance	Turbidity ~~or~~ D.O.	Clarity, Odor PID Readings, Other:
2/23 45	bail	1750	17.3	8.09	3.51	490/2.4	DTW: ~~11.37~~ 12.27' Horiba 13205 Sal: 0.15
2/24 55 DTW = 12.21	BAIL	1156	17.5	6.74	3.62	592/2.85	SAL 0.18; CLOUDY
	BAILED DRY @ 59 GALLONS						
65		1730	17.1	6.72	3.81	542/3.15	Sal: 0.19; Cloudy
[redacted]							
2/25 70	BAIL	1045	16.6	6.63	3.87	82/1.99	0.19 SALINITY 0.19; CLOUDY to CLEAR
1130	SAMPLED						

Development Completed at 70 Gallons Discharged. Date: 2/25/99 Time: 1045
Criteria: _____ Personnel: HARL / BOWMAN

* Specific Conductance readings temperature compensated to 25°C, if not, report temperatures at which reading obtained.

APPENDIX E

MONITORING WELL CONSTRUCTION SUMMARY

APPENDIX E
NFD POINT MOLATE
BASE-WIDE MONITORING WELL CONSTRUCTION SUMMARY

Well Number	Date Installed	Date Abandoned (If Applicable)	Casing Diameter (Inches)	Elevation Ground (AMSL)	Elevation TOC (AMSL)	Screened Interval (BGS)	Screened Interval (Elevation)	Geology Of Screened Interval
IR Site 1 – Waste Disposal Area								
MW02-01	2/16/94		4	134.98	137.14	7.56 – 22.53	127.42 - 112.45	Fill to 17, colluvium to TDS
MW02-04	2/18/94		4	48.42	49.7	18.55 – 28.53	29.87 - 19.89	Colluvium
MW02-06	7/26/94		4	112.69	114.33	13.2 – 28.2	99.49 - 84.49	Fill
MW02-07	7/27/94		4	48.53	50.89	11.6 – 21.6	36.93 - 26.93	Colluvium to 14.0' weathered bedrock to TDS
MW02-13	1/26/99		4	88.19	88.05	14.8 – 19.8	73.39 - 68.39	Weathered bedrock
MW02-15	2/2/99		4	80.82	84.53	14.0 – 19.0	66.82 - 61.82	Colluvium
MW02-16	1/27/99		4	70.97	73.84	7.6 – 16.6	63.37 - 54.37	Fill To 8.0; colluvium to 12.83; weathered bedrock to TDS
MW02-17	2/3/99		4	26.27	29.62	15.1 – 25.1	11.17 - 1.17	Colluvium
BR02-18	1/23/99		2	156.6	160.09	15.0 – 19.0	141.6 - 137.6	Bedrock
BR02-19	1/26/99		2	88.19	91.56	26.4 – 30.4	61.79 - 57.79	Bedrock
BR02-20	2/2/99		2	49.67	51.79	38.2 – 43.2	11.47 - 6.47	Bedrock
ERM-EW1	3/13/90		4	?	106.29	19.5 – 29.5		Colluvium
ERM-EW2	3/15/90		4	60.86	63.1	1.5 – 11.5	59.36 - 49.36	Colluvium
PZ02-01	1/22/99		2	109.08	112.23	14.20 – 23.9	94.88 - 85.18	Colluvium to 22.5, weathered bedrock to TDS
PZ02-02	1/21/99		2	138.32	141.63	14.2 –24.2	124.12 - 114.12	Weathered bedrock
PZ02-03	1/22/99		2	146.85	149.87	15.3 – 20.5	131.55 - 126.35	Weathered bedrock
PZ02-04	1/21/99		2	132.41	135.86	7.00 – 9.80	125.41 - 122.61	Colluvium
PZ02-04A	1/26/99		2	134.8	136.17	28.0 – 32.0	106.8 - 102.8	Weathered bedrock
PZ02-05	1/25/99		2	120.37	123.14	19.20 – 23.9	101.17 - 96.47	Weathered bedrock
IR Site 3 – Treatment Ponds Area								
MW11-09	1/31/92		4	17.7	17.55	10.04 – 20.07	7.66 - (-2.37)	Fill to 19.0; alluvium to TDS
MW11-10	1/31/92		4	17.6	17.26	10.78 – 20.8	6.82 - (-3.2)	Fill to 19.3; alluvium to TDS
MW11-11	1/30/92		4	17.7	17.45	10.50 – 20.53	7.2 - (-2.83)	Fill to 19.0; alluvium to TDS
PZ11-11A	3/25/92		2	17.75	17.85	8.86 – 18.90	8.89 - (-1.15)	Fill
MW11-12	1/30/92		4	17.87	17.63	11.15 – 21.18	6.72 - (-3.31)	Fill to 15.0; alluvium to TDS
MW11-13	1/30/92		4	18.08	17.52	11.37 – 26.38	6.71 - (-8.3)	Fill to 14.0; alluvium to TDS
MW11-14	1/29/92	1/12/00	4	18.51	18.08	10.50 – 25.57	8.01 - (-7.06)	Fill to 13.0; alluvium to TDS
MW11-15	2/3/92	12/20/99	4	17.64	17.26	11.00 – 20.99	6.64 - (-3.35)	Fill to 12.5; alluvium to 19.3; Bay Mud to TDS
MW11-16	2/12/92	1998	4	17.11	16.78	9.93 – 19.93	7.18 - (-2.82)	Fill to 10.2; alluvium to 18; Bay Mud to TDS
MW11-25	2/7/92	12/21/99	4	19.35	21.19	9.74 – 19.81	9.61 - (-0.46)	Fill to 13.7; alluvium to TDS
MW11-26	2/10/92		4	16.74	16.43	8.82 – 18.82	7.92 - (-2.08)	Fill to 13.8; alluvium to TDS
MW11-27	2/10/92	12/20/99	4	16.89	16.57	8.40 – 18.42	8.49 - (-1.53)	Colluvium to 11.1; alluvium to TDS
PZ11-27A	3/19/92	12/20/99	2	17.02	16.92	8.35 – 18.37	8.67 - (-1.35)	Fill
PZ11-27B	3/20/92	12/21/99	4	16.79	16.61	4.11 – 14.15	12.68 - 2.64	Fill
MW11-28	2/11/92	12/21/99	4	16.86	16.57	8.92 – 18.92	7.94 - (-2.06)	Alluvium to 15.0; Bay Mud to TDS
MW11-29	2/12/92	12/21/99	4	19.53	19.12	5.95 – 10.95	13.58 -8.58	Colluvium to 8.5; alluvium to TDS
MW11-30	2/13/92		4	16.65	16.41	6.03 – 16.02	10.62 - 0.63	Fill to 14.5, alluvium to TDS
MW11-31	2/13/92		4	17.27	17.05	7.18 – 17.18	10.09 - 0.09	Fill to 16.0; alluvium to TDS
PZ11-31A	2/17/92		2	17.13	16.97	6.96 – 17.01	10.17 - 0.12	Fill

APPENDIX E
NFD POINT MOLATE
BASE-WIDE MONITORING WELL CONSTRUCTION SUMMARY

Well Number	Date Installed	Date Abandoned (If Applicable)	Casing Diameter (Inches)	Elevation Ground (AMSL)	Elevation TOC (AMSL)	Screened Interval (BGS)	Screened Interval (Elevation)	Geology Of Screened Interval
IR Site 3 – Treatment Ponds Area (Continued)								
MW11-32	2/13/92		4	17.48	17.12	7.52 – 17.77	9.96 - (-0.29)	Fill
MW11-33	2/14/92		4	17.72	17.55	4.95 – 14.97	12.77 - 2.75	Fill
PZ11-33A	2/18/92		2	17.71	17.63	2.75 – 12.77	14.96 - 4.94	Fill
PZ11-34	2/17/92		2	17.32	19.17	2.94 – 12.96	14.38 - 4.36	Fill
PZ11-35	2/17/92		2	16.98	19.04	2.45 – 12.46	14.53 - 4.52	Fill
MW11-36	2/18/92		4	17.68	17.43	5.60 – 15.72	12.08 - 1.96	Fill to 14.0; alluvium to TDS
MW11-37	2/19/92		4	18.37	18.02	7.11 – 17.13	11.26 - 1.24	Fill to 14.5; alluvium to TDS
PZ11-37A	2/20/92		2	18.49	18.24	6.63 – 16.66	11.86 - 1.83	Fill
PZ11-37B	3/25/92		2	18.11	18.16	7.54 – 17.58	10.57 - 0.53	Fill
MW11-38	2/20/92		4	18.85	18.65	7.09 – 17.12	11.76 - 1.73	Fill
PZ11-38A	3/20/92		2	18.81	18.74	6.94 – 16.97	11.87 - 1.84	Fill
MW11-40	2/21/92		4	20.67	22.88	5.07 – 15.09	15.6 - 5.58	Fill
MW11-41	3/27/92		4	20.38	22.47	3.97 – 13.99	16.41 - 6.39	Fill
MW11-43	3/12/92		4	19.63	22.05	2.41 – 17.45	17.22 - 2.18	Fill to 17.2; Bay Mud to TDS
MW11-44	3/12/92		4	18.9	21.28	3.79 – 18.83	15.11 - 0.07	Fill to 17.6; Bay Mud to TDS
MW11-45	3/13/92		4	19.55	19.85	5.93 – 15.92	13.62 - 3.63	Fill
MW11-46	3/13/92		4	20.52	23.16	6.04 – 16.04	14.48 - 4.48	Fill
MW11-47	3/17/92		4	20.55	22.9	3.03 – 18.05	17.52 - 2.5	Fill to 13.8; alluvium to 15.0; colluvium to 16.0; intertidal sediment to TDS
MW11-49	3/17/92		4	20.86	20.98	1.78 – 6.79	19.08 - 14.07	Colluvium
MW11-51	3/19/92		4	23.79	25.78	6.76 – 16.77	17.03 - 7.02	Colluvium
MW11-52	3/23/92	12/20/99	4	18.3	18.11	9.20 - 19.22	9.02 - (-1.00)	Fill to 10.0; alluvium to TDS
MW11-53	3/24/92		4	17.62	19.76	7.68 – 17.69	9.94 - (-0.07)	Fill to 17.5; Bay Mud to TDS
MW11-91	9/21/90		4	39.22	40.18	19.04 – 29.04	20.18 - 10.18	(PRC #1) (logged as B123-2); colluvium
MW11-92	9/27/90		4	17.69	17.69	8.62 – 18.62	9.07 - (-0.93)	(PRC #2); Fill
MW11-93	9/27/90	12/21/99	4	18.44	17.66	12.50 – 22.58	5.94 - (-4.14)	(PRC #3); Fill
MW11-94	2/9/99		4	17.82	17.2	5.0 – 15.0	12.82 - 2.82	Fill to 11.5; colluvium (?) to TDS
BR11-96	2/9/99	12/20/99	2	18.19	18.19	39.0 – 49.0	-20.81 - (-30.81)	Bedrock
IR Site 3 - Extraction Trench Wells								
EW-A	1995		12	18.2	21.34	14.60 – 20.77	3.6 - (-2.57)	Trench backfill gravel; TD=20.76 (8/29/95)
EW-B	1995		12	18.9	21.51	16.9 – 23.62	2 - (-4.72)	Trench backfill gravel; TD=23.62 (8/29/95)
EW-C	1995		12	18.4	20.44	9.6 – 26.6	8.8 - (-17)	Trench backfill gravel; TD=26.86 (8/29/95)
EW-D	1995		12	17.9	20.41	10.2 – 24.92	7.7 - (-7.02)	Trench backfill gravel; TD=24.05 (8/29/95)
MW-1	1995		6	18.0	16.68	14.4 – 21.27	3.6 - (-3.27)	Trench backfill gravel; TD=21.26 (8/29/95)
MW-2	1995		6	17.6	19.55	14.8 – 18.15	2.8 - (-0.55)	Trench backfill gravel; TD=18.72 (8/29/95)
MW-3	1995		6	18.2	19.92	1.1 – 23.42	17.1 - (-5.22)	Trench backfill gravel; TD=22.78 (8/29/95)
MW-4	1995		6	20.3	21.39	13.7 – 19.91	6.6 - 0.39	Trench backfill gravel; TD=19.94 (8/29/95)
MW13+27	1996		2	17.2	19.64	9.95 – 20.2	7.25 - (-3.00)	Fill
MW16+25	1996		2	17.6	20.8	9.82 – 20.07	7.78 - (-2.47)	Fill

APPENDIX E
NFD POINT MOLATE
BASE-WIDE MONITORING WELL CONSTRUCTION SUMMARY

Well Number	Date Installed	Date Abandoned (If Applicable)	Casing Diameter (Inches)	Elevation Ground (AMSL)	Elevation TOC (AMSL)	Screened Interval (BGS)	Screened Interval (Elevation)	Geology Of Screened Interval
IR Site 4 – North Shoreline								
MW11-02	1/25/92		4	22.43	24.3	14.0 – 24.0	8.43 - (-1.57)	Fill to 15.5; Bay Mud to 16.5; colluvium to TDS
MW11-04	1/25/92		4	21.49	23.47	12.0 – 22.0	9.49 - (-0.51)	Fill to 15.7; Bay Mud to 18.8; colluvium to TDS
MW11-05	2/1/92		4	20.79	22.91	10.3 – 20.3	10.49 - 0.49	Fill to 16.5; Bay Mud to 19.3; colluvium to TDS
MW11-06	1/25/92		4	20.6	22.6	12.04 – 22.04	8.56 - (-1.44)	Fill to 17.5; Bay Mud to 21.0; colluvium to TDS
MW11-07	1/31/92	1/10/00	4	19.8	20.4	11.40 – 21.42	7.84 - (-2.18)	Fill to 18.0; Bay Mud to TDS
MW11-08	1/31/92	1995	4	18.35	20.28	10.23 – 20.26	8.12 - (-1.91)	Fill to 18.2; Bay Mud to TDS
ERM-03	3/26/90		4	?	23.61	14.0 – 19.0		Colluvium; alluvium from 16 to 17
IR Site 4 – Drum Lot No. 1								
MW11-19	2/5/92		4	17.8	20.31	11.0 – 21.0	6.64 - (-3.36)	Fill
MW11-20	2/6/92		4	19.32	19.06	12.75 – 27.53	6.57 - (-8.21)	Fill to 13.0; alluvium to TDS
MW11-21	2/6/92		4	20.71	20.45	12.06 – 22.11	8.65 - (-1.40)	Fill to 13.5; alluvium to TDS
MW11-22	2/7/92		4	19.6	21.74	9.31 – 19.32	10.29 - 0.28	Fill to 16.7; alluvium to 19.0; Bay Mud to TDS
MW11-23	2/7/92		4	20.11	22.02	9.22 – 19.22	10.89 - 0.89	Alluvium to 16.5; Bay Mud to TDS
MW11-54	2/15/94		4	17.3	17.42	8.58 - 23.53	8.72 - (-6.23)	Alluvium to 22.5; Bay Mud to TDS
MW11-55R	2/17/99		2	?	?	9.57 – 19.57		Fill to 15.0; alluvium to TDS; original well installed in Feb. 1994
MW11-56R	2/16/99		2	?	?	9.57 – 19.57		Fill to 11.5; alluvium to TDS; original well installed in Feb. 1994
MW11-57	2/11/94		4	17.87	17.74	7.77 - 23.03	10.1 - (-5.16)	Fill to 14.0; alluvium to TDS
PZ11-70	9/10/96		2	17.6	17.29	10.4 – 20.65	7.2 - (-3.05)	Fill
PZ11-71	9/10/96		2	17.8	17.92	9.73 – 19.98	8.07 - (-2.18)	Fill
PZ11-72R	2/16/99		2	?	?	8.83 - 18.83		Fill; original well installed in Sept. 1996
PZ11-73	9/6/96		2	18.0	17.76	10.34 – 20.59	7.66 - (-2.59)	Fill
PZ11-74	9/6/96		2	15.5	14.99	10.6 – 20.85	4.9 - (-5.35)	Fill
PZ11-75R	2/17/99		2	?	?	9.0 - 19.0		Fill; original well installed in Sept. 1996
PZ11-76	9/6/96		2	17.7	17.32	9.82 – 20.07	7.88 - (-2.37)	Fill
PZ11-77	9/10/96		2	19.4	19.39	10.08 – 20.33	9.32 - (-0.93)	Fill
PZ11-78	9/11/96		2	20.6	20.35	10.33 – 20.58	10.27 - (-0.02)	Fill
PZ11-79	9/11/96		2	21.0	20.71	10.38 – 20.63	10.62 - 0.37	Fill
MW11-80	2/5/99		4	18.52	18.25	11.75 – 19.75	6.77 - (-1.23)	Fill
MW11-81	2/4/99		4	22.28	22	9.5 – 19.5	12.78 - 2.78	Fill
MW11-82	2/5/99		4	18.62	18.49	12.5 – 20.0	6.12 - (-1.38)	Fill
MW11-83	2/5/99		4	19.02	18.58	5.30 – 13.30	13.72 - 5.72	Fill
MW11-85	2/11/99		4	16.31	16.23	7.0 – 17.0	9.31 - (-0.69)	Fill
MW11-86	2/11/99		4	17.02	16.76	10.0 – 17.0	7.02 - 0.02	Fill
MW11-88	2/7/99		4	19.66	19.3	11.5 – 20.5	8.16 - (-0.84)	Fill
MW11-89	2/7/99		4	20.08	19.84	13.0 – 20.5	7.08 - (-0.42)	Fill
BR11-90	2/6/99		2	17.93	17.56	63.5 – 69.0	-45.57 - (-51.07)	Bedrock

APPENDIX E
NFD POINT MOLATE
BASE-WIDE MONITORING WELL CONSTRUCTION SUMMARY

Well Number	Date Installed	Date Abandoned (If Applicable)	Casing Diameter (Inches)	Elevation Ground (AMSL)	Elevation TOC (AMSL)	Screened Interval (BGS)	Screened Interval (Elevation)	Geology Of Screened Interval
IR Site 4 – South Shoreline								
MW10-02	2/3/94	12/22/99	4	22.27	22.34	4.74 – 9.85	39.47 - 34.36	Fill
MW10-03	2/1/94	12/22/99	4	21.9	21.61	9.10 – 19.03	12.8 - 2.87	Fill
MW10-04	2/2/94		4	21.61	21.43	11.15 – 21.1	10.46 - 0.51	Fill
MW10-05	2/2/94		4	21.9	21.79	9.50 – 19.43	12.4 - 2.47	Fill
MW10-08	2/7/94		4	21.84	21.65	9.86 – 24.84	11.98 - (3.00)	Colluvium
MW10-09	2/4/94		4	22.48	22.38	9.55 – 19.64	12.93 - 2.84	Peat to 11.0; colluvium to 19.0; bedrock to TDS
MW10-10	2/4/94		4	20.73	20.56	11.33 – 21.33	9.4 - (0.60)	Colluvium
MW10-11	2/8/94		4	19.51	19.41	6.40 – 21.52	13.11 - (-2.01)	Colluvium
MW10-12	2/7/94		4	17.12	16.9	3.40 – 18.38	13.72 - (-1.26)	Fill to 8.5; colluvium to TDS
MW10-14	2/9/94		4	19.68	19.61	9.56 – 19.54	10.12 - 0.14	Colluvium
MW10-15	2/9/94		4	41.42	42.82	3.98 – 14.53	37.44 - 26.89	Colluvium to 14.0; bedrock to TDS
MW10-17	2/10/99	12/22/99	4	21.8	21.61	14.0 – 21.0	7.8 - 0.8	Colluvium to 20.0; bedrock to TDS
MW10-18	2/10/99	12/22/99	4	21.76	21.52	15.0 – 20.0	6.76 - 1.76	Weathered bedrock
BR10-19	2/3/99		4	21.85	21.64	18.2 – 23.2	3.65 - (1.35)	Bedrock
ERM10-1	3/2/90	12/22/99	4	23.21	22.69	14.0 – 24.0	9.21 - (-0.70)	Colluvium to 17.5; gravel to 21.0; Bay Mud to TDS
ERM10-2	3/6/90	12/22/99	4	22.62	22.36	14.0 – 19.0	8.62 - 3.62	Fill to 15.5; Bay Mud (?) to 17.0; fractured siltstone to TDS
UST Wells								
MWTB-02	12/14/98		2	72.68	75.74	8.6 - 18.6	64.08 - 54.08	Fill
MWTB-01	12/16/98		2	65.9	68.66	6.0 - 28.0	59.9 - 37.9	Fill and colluvium
MWTC-01	12/15/98		2	55.19	57.71	11.0 - 21.2	44.19 - 33.99	Fill and colluvium
MWT02-01	12/9/98		2	128.82	131.12	10.35 - 19.5	118.47 - 109.32	Fill
MWT02-02	12/9/98		2	142.21	141.9	20.9 - 31.25	121.31 - 110.96	Fill
MWT02-03	12/9/98		2	138.17	140.63	14.8 - 29.8	123.37 - 108.37	Fill and weathered bedrock
MWT03-01	12/10/98		2	134.37	136.99	17.0 - 25.2	117.37 - 109.17	Fill and weathered bedrock
MWT03-02	12/10/98		2	143.52	145.57	22.5 - 33.0	121.02 - 110.52	Fill and weathered bedrock
MWT05-02	12/3/98		2	211.33	213.55	21.9 - 29.9	189.43 - 181.43	Fill and weathered bedrock
MWT05-04	11/17/99		2	198.83	201.93	9.9 - 19.4	188.93 - 179.43	Weathered bedrock
MWT06-02	12/3/98		2	157.36	159.92	20.3 - 29.1	137.06 - 128.26	Fill and weathered bedrock
MWT06-03	12/3/98		2	161.08	163.76	23.17 - 30.22	137.91 - 130.86	Fill and weathered bedrock
MWT06-04	11/17/99		2	147.12	150.42	10.3 - 20.7	136.82 - 126.42	Competent bedrock
MWT07-02	12/3/98		2	265.31	268.11	24.72 - 29.77	240.59 - 235.54	Fill and weathered bedrock
MWT08-01	12/3/98		2	186.95	188.78	18.4 - 23.6	168.55 - 163.35	Fill
MWT08-04	11/16/99		2	182.24	184.84	10.1 - 19.9	172.14 - 162.34	Fill and weathered bedrock
CHT11-01	12/21/98		2	195.11	198.76	30.7 - 42.8	164.41 - 152.31	Competent bedrock
MWT12-02	12/8/98		2	310.43	313.05	22.5 - 29.5	287.93 - 280.93	Fill and weathered bedrock
MWT12-03	12/8/98		2	309.61	312.13	20.2 - 27.2	289.41 - 282.41	Fill and weathered bedrock
CHT12-03	12/21/98		2	308.87	311.53	32.2 - 42.4	276.67 - 266.47	Competent bedrock
CHT13-01	12/20/98		2	382.28	385.12	41.6 - 53.8	340.68 - 328.48	Competent bedrock
MWT13-[illegible]	12/4/98		2	396.64	399.72	23.43 - 33.[illegible]	373.21 - 363.01	Fill and weathered bedrock

APPENDIX E
NFD POINT MOLATE
BASE-WIDE MONITORING WELL CONSTRUCTION SUMMARY

Well Number	Date Installed	Date Abandoned (If Applicable)	Casing Diameter (Inches)	Elevation Ground (AMSL)	Elevation TOC (AMSL)	Screened Interval (BGS)	Screened Interval (Elevation)	Geology Of Screened Interval
UST Wells (Continued)								
MWT13-04	11/18/99		2	383.85	386.65	14.9 - 24.3	368.95 - 359.55	Weathered bedrock
MWT15-01	11/20/98		2	274.34	276.25	22 - 29.5	252.34 - 244.84	Weathered bedrock.
CHT15-01	12/17/98		2	274.34	276.73	31.5 - 39.0	242.84 - 235.34	Competent bedrock
MWT15-02	11/20/98		2	278.58	281.35	23.0 - 28.0	255.58 - 250.58	Weathered bedrock.
MWT15-04	11/19/99		2	269.38	272.01	16.8 - 26.2	252.58 - 243.18	Fill and weathered bedrock
MWT18-01	11/20/98		2	171.83	174.4	19.5 - 24.5	152.33 - 147.33	Fill and weathered bedrock
CHT18-01	12/18/98		2	172.14	174.4	27.6 - 37.8	144.54 - 134.34	Competent bedrock
MWT19-01	11/24/98		2	124.27	126.68	20.5 - 28	103.77 - 96.27	Fill and weathered bedrock
CHT19-03	12/19/98		2	127.91	130.86	31.2 - 40.0	96.71 - 87.91	Competent bedrock
MWT21-01	12/16/98		2	271	271.12	13.0 - 23.2	258 - 247.8	Fill and weathered bedrock
Drainage Area Wells								
MW01-01	12/16/98		4	45.8	48.3	9.85 - 20.2	35.95 - 25.6	Colluvium
MW01-02	12/18/98		2	58.26	60.36	7.85 - 18.75	50.41 - 39.51	Colluvium
MW03-01	1994		4	41.68	41.51	19.3 - 29.3	22.38 - 12.38	Screened depth is estimated
MW03-02	2/11/99		4	75.53	74.96	10.33 – 20.5	65.2 - 55.03	Colluvium to 20.0; bedrock to TDS
MW03-03	12/16/98		2	102.01	104.02	8.0 - 18.0	94.01 - 84.01	Colluvium
MW04-02	7/27/94		2	56.31	55.98	24.50 – 34.5	31.81 - 21.81	Colluvium
MW04-03	12/19/98		4	56.35	56.09	9.7 - 19.7	46.65 - 36.65	Colluvium
MW04-04	12/18/98		2	71.28	73.8	15.25 - 25.75	56.03 - 45.53	Colluvium
MW07-01	12/19/98		2	50.37	53.58	12.0 - 25.0	38.37 - 25.37	Colluvium
EBS Wells (Building 87)								
MW30-08	11/22/99		2	24.06	23.6	10.25 – 19.4	13.81 - 4.66	Colluvium
MW31-01	11/22/99		2	17.83	17.53	7.45 – 16.9	10.38 - 0.93	Colluvium

Notes:
AMSL: Above mean sea level (Elevations are in feet AMSL)
BGS: Below ground surface
EW: Extraction well
TOC: Top of casing; "?" indicates survey data is pending
TDS: Total depth of screen
Survey data are still pending at elevations noted with "?"

APPENDIX F

WATER LEVEL/PRODUCT THICKNESS SUMMARY

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE WATER LEVEL AND PRODUCT THICKNESS SUMMARY
1992 TO 1993

Well Name	TOC Elevation	Water/Product Elevation (Ft. msl)				Product Thickness (Ft.)			
		05/13/92	07/16/92	11/22/92	09/01/93	05/13/92	07/16/92	11/22/92	09/01/93
North Shoreline Monitoring Wells									
ERM-03	23.81	6.01	6.06	6.11	5.91				
MW11-02	24.3	6.13	6.16	6.23	6.03				
MW11-04	23.47	7.39	7.41	8.3	7.29				
MW11-05	22.91	6.43	6.43	6.69	6.25				
MW11-06	22.6	6.42	6.41	6.57	6.16				
MW11-07	21.96	6.38	6.26	6.63	5.58				
MW11-08	20.28	6.49	6.34	6.79	5.32				
Treatment Ponds Area Monitioring Wells									
PZ11-01	31.52	18.28	18	17.26	17.28				
PZ11-02	23.52	17.47	17.07	16.8	16.73				
MW11-09	17.09	4.72	4.5	5.45	3.9				
MW11-10	17.26	5.49	5.32	6.06	4.71				
MW11-11	17.45	5.42	5.29	6.04	4.15				
PZ11-11A	17.85	5.54	5.38	5.81	4.23				
MW11-12	17.63	5.61	5.485	5.74	4.79				
MW11-13	17.52	5.41	4.98	4.92	4.63				
MW11-14	16.68	5.69	5.73	4.87	4.63				
MW11-15	17.26	4.48	3.82	3.87	4.54				
MW11-16	16.78	4.3	3.69	3.63	4.1				
MW11-25	21.19	4.75	4.85	4.31	4.46				
MW11-26	16.43	6.54	5.79	5.59	5.57				
MW11-27	16.57	5.07	5.04	4.99	4.19	0.23			
PZ11-27A	16.92	5.26	5.26	4.96	4.69				
PZ11-27B	16.61	4.27	4.52	4.57	4.03	1.19			
MW11-28	16.57	5.44	5.34	5.06	4.76	0.03			
MW11-29	19.12	10.92	9.84	9.72	9.61	0.03			
MW11-30	16.41	8.33	7.88	7.06	6.56	0.01			
MW11-31	17.05	7.44	7.495	6.55	6.08	0.01			
PZ11-31A	16.97	7.85	6.37	5.87	16.97				
PZ11-35	19.04	13.89	13.56	12.75	12.79				
MW11-32	17.12	8.45	8.17	7.4	7.39				
PZ11-34	19.17	14.35	13.81	12.69	12.86				
MW11-33	17.65	13.28	13.415	12.49	12.81				
PZ11-33A	17.79	6.87	6.79	7.16	5.46				
MW11-36	17.43	7.38	7.32	7.04	6.69				
MW11-37	18.02	7.53	7.625	7.47	7.44				
PZ11-37A	18.24	7.47	7.65	7.44	6.77	0.1			
PZ11-37B	18.16	7.55	7.62	7.48	18.16	0.01			
MW11-38	18.65	7.99	7.93	7.85	7.89				
PZ11-38A	18.74	8.06	7.89	7.86	7.89				
MW11-40	22.88	13.68	13.64	13.61	13.47				
MW11-41	22.47	13.43	13.19	13.3	13.27				
MW11-43	22.05	14.77	14.21	14.52	12.3				
MW11-44	21.28	13.27	13.03	12.18	21.28				
MW11-45	19.85	12.21	9.91	9.96	9.94				
MW11-46	23.16	12.24	11.16	11.24	10.72				
MW11-47	22.9	14.92	14.64	14.68	14.64				
MW11-49	20.98	18.5	18.45	18.54	18.65				
MW11-51	25.78	18.44	16.65	16.73	17.93				
MW11-52	18.11	4.82	4.25	4.46	4.36				
MW11-53	19.76	6.13	5.67	6.54	5.11				
MW11-91	40.18	20.17	18.08	17.94	18.72				
MW11-92	17.69	5.21	5.15	5.68	4.12	0.38			
MW11-93	17.66	3.71	3.85	4.24	4.41	1.28			

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE WATER LEVEL AND PRODUCT THICKNESS SUMMARY
1992 TO 1993

Well Name	TOC Elevation	Water/Product Elevation (Ft. msl)				Product Thickness (Ft.)			
		05/13/92	07/16/92	11/22/92	09/01/93	05/13/92	07/16/92	11/22/92	09/01/93
Drum Lot No.1 Monitoring Wells									
MW11-19	20.33	4.32	4.61	4.64	4.47				
MW11-20	19.06	4.29	4.7	4.41	4.54				
MW11-21	20.49	4.32	4.7	4.24	4.49				
MW11-22	21.74	4.55	4.66	4.47	4.49				
MW11-23	22.02	4.57	4.79	4.63	4.67				

Notes:
1. TOC = top of casing; shaded values were resurveyed and changed following 1995 Treatment Ponds Area extraction trench/containment wall construction
2. msl = mean sea level
3. NM = not measured
4. DTW = depth to water

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE WATER LEVEL SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	WATER/PRODUCT ELEVATION (FEET MSL)																							
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/00	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	4/17/00
North Shoreline Monitoring Wells																									
ERM-03	23.61	6.17				NM	NM	NM	NM	6.79		6.94	8.02	6.9		7.18				7.04				7.18	8.38
MW11-02	24.3	6.26	6.04	6.11	6.93	6.59	6.13	7.77	6.8	6.18		6.41	7.55	6.45		6.67				6.53				6.74	7.64
MW11-04	23.47	7.63	7.35	10.11	8.55	7.84	7.75	9.45	8.31	7.64		7.76	9.4	8.05		8.55				8.19				8.59	9.5
MW11-05	22.91	6.49	6.33	6.21	6.81	6.76	6.53	7	6.66	5.76		6.19	6.91	6.28		6.47				6.36				6.46	7.16
MW11-06	22.6	6.38	6.3	6.15	6.73	6.75	6.08	7.25	6.03	4.24		5.56	6.87	5.27		6.17				5.99				6.3	7.14
MW11-07	20.4	6	6.14	6.2	6.77	8.19	5.48	7.95	4.01	2.48		3.95	7.61	3.16		4.5				4.01		Abandoned 1/10/00			
MW11-08	20.28	5.85	6.28	6.39	7.12	Removed during 1995 Treatment Ponds Area containment wall construction																			
Treatment Ponds Area Monitoring Wells																									
PZ11-01	31.52	17.77	16.88	16.49	17.62	18.26		NM	NM	16.52		17.5	19.9	18.41		19.7				17.49	17.91	17.94	18.91	19.49	19.59
PZ11-02	23.52	17.4	14.88	16.66	17.92	16.52		NM	NM	14.74		16.06	18.19	17.74		17.93				15.89		Abandoned 12/21/99			
MW11-09	17.55	4.18	4.53	4.69	6.05	8.08	4.61	6.66	0.9	0.59		2.06	4.85	-0.09		-0.34				1.91	NM	NM	NM	2.05	3.39
MW11-10	17.28	5.05	5.11	5.26	6.8	8.46	4.58	6.81	1.6	1.02		2.21	4.57	1.13		-0.47				1.75	NM	NM	NM	2.15	3.23
MW11-11*	17.45	4.75	4.85	5.05	6.33	8.32	3.98	4.15	2.1	1.12		2.27	4.51	1.27		-0.51	15.3	2.15	-0.2	1.73	NM	~2.15	NM	2.18	3.1
PZ11-11A	17.85	4.75	NM	4.78	6.66	8.49	4.55	4.27	1.55	1.25		2.39	4.54	1.49		-0.54					NM	NM	NM	2.22	3.25
MW11-12	17.6	5.42	5.01	5.08	7.09	8.445	4.53	6.85	1.85	1.55		2.45	4.26	1.74		0.41				1.64	NM	NM	NM	2.48	3.11
MW11-13	17.52	4.94	4.7	4.74	6.6	7.56	4.84	6.9	2.57	2.74		3.16	4.12	2.66		2.63				2.32	NM	NM	NM	3.82	4.27
MW11-14	18.05	5.98	4.66	4.73	6.68	7.39	5.5	7.18	2.06	2.54		3.23	3.36	18.05		18.05					NM	Abandoned 1/12/00			
MW11-15	17.26	3.56	3.58	4.53	6.33	Inaccessible since 1995 Treatment Ponds Area containment wall construction																Abandoned 12/20/99			
MW11-16	16.78	3.55	3.77	4.04	6.36	7.24	4.44	7.05	4.2	3.73		Removed in 1998 during Site 4 containment wall extension													
MW11-25	21.19	4.19	4.16	4.56	5.95	6.74	4.52	6.76	3.42	3.27		3.65	4.51	3.13		3.37				2.61	NM	Abandoned 12/21/99			
MW11-26	16.43	6.48	6.13	6.04	7.78	7.43	6.23	7.78	6.67	4.53		6.21	7.25	4.92		6.5				3.84	4.55	NM	NM	NM	7.49
MW11-27	16.57	4.57	4.55	4.86	6.94	7.53	4.7	7.46	2.24	1.615		3.11	4.67	2.49		2.26				1.78	2.36	Abandoned 12/20/99			
PZ11-27A*	16.92	4.84	4.56	4.87	6.14	7.45	7.45	6.78	2.36	2.74		3.14	3.32	2.57		2.32			0.77	1.85	2.39	Abandoned 12/20/99			
PZ11-27B*	16.61	4.13	3.85	4.33	5.86	4.34	4.34	3.2	2.83	2.84		3.19	3.47	2.83		2.82			2.8	2.83	2.83	Abandoned 12/21/99			
MW11-28*	16.57	4.37	4.17	5.16	5.88	6.54	6.54	4.76	3.56	3.6		4.21	4.49	3.66		3.87			2.1	3.03	3.67	Abandoned 12/21/99			
MW11-29	19.12	11.34	11.2	11.23	12.56	11.85	10.4	12.63	11.1	10.62		12.13	12.54	10.82		11.92				10.17	10.15	Abandoned 12/21/99			
MW11-30	16.41	8.43	6.58	6.06	10.38	8.81	6.59	8.71	7.4	4.7		7.84	8.31	6.61		7.66				5.18	5.27	NM	NM	7.66	9.36
MW11-31	17.05	7.28	6.72	6.35	8.69	8.43	5.93	9.55	5.5	2		4.96	6.22	2.49		3.27					3.83	6.06	9.37	6.39	7.36
PZ11-31A*	16.97	3.83	NM	2.27	2.81	5.87	2.75	7.7	4.23	2.89		4.55	5.36	3.17		3.35			1.09	2.76	3.54	5.65	8	4.92	5.91
PZ11-35	19.04	13.34	12.82	11.8	14.06	13.54	12.13	15.15	13.2	11.98		14.2	13.95	13.49		13.53				13.2	13.07	13.27	15.11	13.55	14.97
MW11-32*	17.12	8	7.67	7.23	8.77	9.32	6.47	8.1	6.98	6.09		6.515	7.37	6.11		6.27			5.28	5.21	5.38	6.45	8.81	6.92	7.87
PZ11-34	19.17	13.68	13.27	11.71	14.54	13.62	12	14.97	14.27	12.28			14.58	13.88		14.32				13.5	13.51	13.39	15.64	13.75	15
MW11-33	17.55	13.2	12.48	11.8	13.74	12.76	11.73	13.45	12.68	11.81		13.26	12.4	11.66		11.93				11.19	11.12	11.14	13.18	9.01	13.25
PZ11-33A*	17.79	6.33	5.88	5.26	8.27	8.5	5.71	8.58	5.42	5.17		5.4	6.74	5.78		5.78			Dry	5.25				6.21	7.28
MW11-36*	17.43	7.11	6.71	6.73	8.39	8.17	7.36	8.03	6.56	6.64		6.95	7.79	6.85		NM			6.85	7.1	6.89	7.55	9.58	7.51	8.02
MW11-37*	18.02	7.6	7.46	7.435	8.74	7.13	6.51	9.04	7.6	6.64		6.94	7.83	6.88		7.42			6.97	7.08	6.88	7.56	9.66	7.52	8.02
PZ11-37A*	18.24	7.14	NM	6.79	8.56	7.31	6.65	8.79	7.64	6.69		6.99	8.2	6.88		7.46			6.95	7.15	6.96	7.6	9.89	7.55	8.06
PZ11-37B*	18.16	7.61	7.46	7.45	8.84	8.31	7.54	9.13	7.53	6.66		7.02	7.81	6.88		7.47			6.97	7.17	6.97	7.61	9.74	7.55	8.08
MW11-38	18.65	8.01	7.89	7.88	9.15	8.02	8	9.15	7.97	7.45		Covered	Covered	Covered		Covered				Covered	7.78	7.91	10.12	7.99	8.11
PZ11-38A	18.74	8.06	7.94	7.87	9.3	8.68	8.24	9.52	8.06	7.3		Covered	Covered	Covered		Covered				Covered	7.78	8.03	10.1	8.24	8.4
MW11-40	22.88	13.66	13.02	13.6	13.71	13.45	13.56	13.68	13.7	13.675		13.67	13.6	13.64		13.68				13.67	13.68	13.67	13.94	13.63	13.83
MW11-41	22.47	13.59	13.46	13.29	16.68	13.48	12.53	17.69	14.68	12.29		14.01	16.14	13.86		14.13				13.82	13.25	13.67	18.78	15.08	16
MW11-43	22.05	15.01	13.45	13.09	16.02	13.8	12.33	16.15	14.97	12.14		14.87	15.05	14.09		14.99				13.99	13.74	14.95	16.75	15.37	15.76
MW11-44	21.28	13.92	12.92	11.65	16.19	13.59	12	17.08	14.53	11.69		14.97	15.92	13.74		15.21				12.45	13.34	14.93	18.15	15.75	16.76
MW11-45	19.85	12.35	12.25	12.475	16.28	14.39	11.05	14.19	11.57	11.8		15.16	15.43	13.67		14.98				12.75	12.94	13.71		NM	NM
MW11-46	23.16	12.38	12.06	12.07	14.69	13	11.51	14.17	12.67	10.99		13.04	13.94	11.51		13.08				10.95	11.28	11.65	16.19	14.11	13.87
MW11-47	22.9	14.98	15.04	14.975	16.48	14.52	13.62	15.8	15.28	13.12		15.37	16.01	14.41		15.41				14.91	14.92	15.45	17.81	16.17	16.37
MW11-49	20.98	18.78	19.28	18.39	19.31	17.42	17.18	17.6	17.83	15.77		18.05	18.5	17.67		17.88				17.65	17.59	17.66	18.56		18.091
MW11-51	25.78	17.66	17.38	17	18.34	18.36	16.97	18.5	19.07	NM		18.07	20.1	18.78		20.02				17.87	18.39	18.49	19.51	19.93	19.89
MW11-52	18.11	4.31	3.24	4.36	5.82	7.25	4.55	7.11	3.35	3.18		3.51	4.48	3.04		3.19				2.67	NM	Abandoned 12/20/99			
MW11-53	19.76	5.74	5.6	5.64	7.56	8.27	4.66	7.38	2.59	1.68		2.57	4.64	1.89		1.95				2.02	NM	5.25	6.515	2.47	3.515
MW11-91	40.18	20.4	18.06	18.02	24.7	19.78	17.95	26.43	NM	19.91		18.54	27.38	20.9		25.96				20.45	20.96	21.66		NM	25.86
MW11-92*	17.69	4.94	4.81	4.96	6.24	8.00	4.4	6.07	1.24	1.15		2.28	4.54	1.35		-0.07			0.41	1.78	NM	NM		2.305	3.205
MW11-93*	17.66	2.79	3.5	4.31	2.16	3.15	3.41	3.22	3.05	3.14	5.38	3.48	4.13	2.98		3.07			3.63	2.59	NM	Abandoned 12/21/99			
MW11-94	17.2											Installed Jan. 99		8.22		7.3				7.01	NM	NM		7.41	7.96
BR11-96	18.19											Installed Jan. 99		5.61		4.9				4.43	NM	Abandoned 12/20/99			
Drum Lot No.1 Monitoring Wells																									
MW11-19	20.31	3.87	3.95	4.22	5.51	4.51	4.2	5.36	4.49	4.24	5.53	4.44	5.47	4.05		4.07				3.93				6.06	4.64
MW11-20	19.06	3.91	3.86	4.24	5.92	4.73	4.26	5.52	4.5	4.21	5.73	4.28	5.67	4.01		4.23				3.99				4.5	4.77
MW11-21	20.45	3.89	3.87	4.28	5.67	4.94	4.29	5.48	4.4	4.18	5.66	4.2	5.5	4		4.2				3.81				4.86	4.67
MW11-22	21.74	4.24	4.29	4.31	10.83	4.79	4.33	11.02	8.99	4.29	10.68	4.47	8.84	5.56		8.4				4.04					8.28
MW11-23	22.02	4.35	4.4	4.32	9.72	4.74	4.36	8.93	5.99	4.38	10	4.68	7.65	4.72		5.35				4.17				7.32	5.34
MW11-54	17.42	3.63	3.34	4.37	2.87	3.65	4.32	1.96	4.25	4.24	5.64	3.97	5.77	4.33						3.84				5.88	4.65
MW11-55R	16.21	3.79	4.81	4.31	5.35	4.67	4.25	5.34	4.43	4.25	5.45	4.16	5.53	Rem.	Install 2/99	5.35				5.35				4.26	4.74
MW11-56R	15.04	3.78	3.88	4.04	5.28	4.37	4.13	5.2	4.39	4.21	5.5	4.46	5.44	Rem.	Install 2/99	5.35				5.35				3.94	4.6
MW11-57	17.74	3.69	3.88	4.15	5.15	4.39	4.19	5.07	4.28	4.28	5.45	4.4	5.16	4.12		3.89				4.04				4.12	4.43
PZ11-70	17.29							Installed Sept. 96		4.25	5.52	4.41	5.47											NM	NM
PZ11-71	17.92							Installed Sept. 96		4.24	5.58	4.35	5.56	4.57						4.05				4.64	NM

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE WATER LEVEL SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	WATER/PRODUCT ELEVATION (FEET MSL)																							
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/00	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	4/17/00
Drum Lot No.1 Monitoring Wells (Continued)																									
PZ11-72R	15.75							Installed Sept. 96		4.2	NM	4.47	5.46	Rem.	Install 2/99					4.05				4.54	5.36
PZ11-73	17.76							Installed Sept. 96		4.25	5.45	4.41	5.14	4.05						4.03				4.15	4.47
PZ11-74	14.99							Installed Sept. 96		4.52	5.39	4.52	5.25	4.57						3.96				3.02	5.12
PZ11-75R	17.79							Installed Sept. 96		4.28	5.475	4.49	5.24	Rem.	Install 2/99					5.6				NM	6.76
PZ11-76	17.32							Installed Sept. 96		4.5	5.45	4.4	5.24	Rem.						4.8				3.82	4.46
PZ11-77	19.39							Installed Sept. 96		4.18	5.44	4.22	5.56	3.99						3.99				4.76	4.69
PZ11-78	20.35							Installed Sept. 96		4.15	5.57	4.2	5.56	3.99						3.86				NM	NM
PZ11-79	20.71							Installed Sept. 96		4.12	5.51	4.13	5.51	3.96						3.82				5.03	4.6
MW11-80	18.25											Installed Feb. 99		4.87						3.86				NM	NM
MW11-81	22											Installed Feb. 99		10.8						8.89				NM	NM
MW11-82	18.49											Installed Feb. 99								3.87				NM	NM
MW11-83	18.58											Installed Feb. 99								8.75				NM	6.69
MW11-85	16.23											Installed Feb. 99		6.25						4.22				4.79	5.1
MW11-86	16.76											Installed Feb. 99		6.26						3.26				4.89	5.14
MW11-88	19.3											Installed Feb. 99		5.96						3.97				4.79	4.18
MW11-89	19.84											Installed Feb. 99		8.85						3.85				5.39	NM
BR11-90	17.93											Installed Feb. 99								-3.58				0.64	NM
South Shoreline Monitoring Wells																									
MW10-02	22.34	14.98	NM	12.62	15.32	13.91	13.04	15.26	14.54	13.06	15.25	14.9	15.03	13.01		13.03				14.44		Abandoned 12/22/99			
MW10-03	21.61	4.65	4.49	4.34	5.92	4.59	4.28	6.71	5.76	3.79	4.49	5.3	7.33	2.6						2.43		Abandoned 12/22/99			
MW10-04	21.43	5.43	5.19	4.92	6.08	5.18	NM	6.19	5.4	5.31	NM	5.45	6.49	5.26		5.29				5.29				5.1	5.89
MW10-05	21.79	5.43	5.21	4.94	6.08	5.19	NM	6.19	5.39	5.3	NM	5.46	6.5	5.27		5.29				5.27				5.21	5.88
MW10-08	21.65	9.8	9.65	9.5	11.8	9.84	9.75	12.93	11.99	9.84	NM	9.95	12.1	10.51		11.84								12.23	11.33
MW10-09	22.38	13.17	11.68	12.5	15.86	12.95	NM	17.13	14.7	12.68	15.31	12.56	14.79	13.06		14.28				12.57				12.59	12.39
MW10-10	20.56	8.16	6.51	6.06	14.82	7.17	NM	15.83	16.14	6.87	NM	6.14	16.07	8.63		15.16				6.5				14.22	11.95
MW10-11	19.41	13.2	12.63	12.08	12.95	12.59	NM	13.16	13.51	12.24	NM	11.59	13	12.4		13.33				11.71				13.17	13.37
MW10-12	16.9	13.97	11.98	11.19	13.04	12.19	NM	13.05	14.69	11.79	NM	11.79	14.82	14.9		14.62				11.98				14.66	14.62
MW10-14	19.61	10.82	7.43	6.72	14.01	8.46	NM	14.52	15.16	9.44	NM	9.11	15.46	9.18		13.82				6.66				13.87	13.78
MW10-15	42.82	27.42	NM	NM	28.04	32.17	NM	NM	NM	28.48	NM	28.02	28.02			28.76				28.1				31.3	30.68
MW10-16	16.24	NM	4.82	5.41	5.99	NM	NM	5.86	NM	5.7	NM	5.52	7.83	5.62		5.93				5.01				5.77	6.02
MW10-17	21.61											Installed Feb. 99		6.85						6.33		Abandoned 12/22/99			
MW10-18	21.52											Installed Feb. 99		6.95						6.38		Abandoned 12/22/99			
BR10-19	21.95											Installed Feb. 99												7.98	8.08
ERM10-01	22.69	6.45	5.8	5.95	6.71	6.385	NM	6.69	7.29	5.935	7.3	7.03	7.09	5.89		6.71				5.82		Abandoned 12/22/99			
ERM10-02	22.62	7.3	7.08	6.98	8.41	7.58	NM	8.77	8.14	7.6	8.32	7.61	8.49	7.45		7.88				7.32		Abandoned 12/22/99			
Waste Disposal Area Monitoring Wells																									
MW02-01	137.14	113.8	113.74	113.5	121.44	113.89		124.49	116.95	113.79		113.89	117.02	114.19		117.97				113.76	113.89	114.01	118.75	123.63	116.64
MW02-04	49.7	23.04	22.68	22.48	23.52	23.12		24.02	24.07	23.02		23.04	23.99	23.68		24.22				23.3	23.3	NM	25.27	24.31	23.9
MW02-06	114.33	NM	94.03	93.97	98.17	94.18		100.54	96.15	94.13	96.88	94.22	96.7	95.28		96.76				94.16	94.28	94.93	110.65	96.79	96.61
MW02-07	50.89	NM	30.59	32.27	33.65	32.24		33.91	33.63	32.4	34.97	32.28	34.12	32.28		33.37	32.14			32.07	32.1	NM	34.73	33.51	32.97
MW02-13	88.05											Installed Jan. 99		88.05						88.05	88.05	88.05	88.05	88.05	88.05
MW02-15	84.53											Installed Feb. 99		73.1			73.16			71.07	71.22	71.75	74.94	77.35	76.03
MW02-16	73.84											Installed Jan. 99		63.57						58.57	59.86	63.61	65.07	63.48	63.3
MW02-17	29.62											Installed Feb. 99		23.89						20.62	20.78	NM	24.32	23.1	22.38
BR02-18	160.09											Installed Jan. 99		150.62						150.07	150.21	150.11	150.58	150.54	150.37
BR02-19	91.56											Installed Jan. 99		91.56						90.97	91.2	90.54	91.56	91.56	91.56
BR02-20	51.79											Installed Feb. 99		41.64			40.25			39.78	39.63	NM	40.13	40.92	40.42
PZ02-01	112.23											Installed Jan. 99		100.24						97.01	97.1	97.26	102.81	98.9	98.04
PZ02-02	141.63											Installed Jan. 99									Dry	Dry	113.78	114.06	112.93
PZ02-03	149.87											Installed Jan. 99		137.06						131.91	132.68	134.46	138.36	134.96	134.69
PZ02-04	135.86											Installed Jan. 99									Dry	124.18	127.43	127.1	125.95
PZ02-04A	136.17											Installed Jan. 99		113.77						110.7	110.85	110.76	114.13	113.53	112.62
PZ02-05	123.74											Installed Jan. 99		106.43						104.05	104.09	104.09	112.17	110.75	105.17
ERM-EW1	106.29					NM		NM	101.81	89.75	99.84	87.37	100.29	90.96			91.75	87.12			88.4	93.47	105.94	101.02	97.67
ERM-EW2	63.1	58.06	NM	54.24	57.77	55.93		59.44	59.62	56.24	59.53	56.31	59.38	58.7			56.98			56.35	56.76	NM	60.98	59.19	58.23
Navy Extraction Wells																									
P86-1/2	?																						NM		
P86-9/10*	?																		17.51 (DTW)	17.31 (DTW)	17.32 (DTW)		NM		
P86-11/12	?																						?		
P86-13/14	?																						?		
P86-15/16	?																						NM		
Extraction Trench Wells																									
EW-A*	21.34				Installed in 1995		4.57	7.06	3.18	3.1	4.84	3.43	4.1			3.19			2.4	2.76	2.71	3.82	5.25	4.61	1.94
EW-B*	21.51				Installed in 1995		4.59	7.08	0.01	2.53	4.86	3.02	0			2.26			0.2	1.48	1.93	3.77	8.43	2.03	6.12
EW-C*	20.44				Installed in 1995		4.56	6.81	1.59	1.13	3.27	2.33	4.26			-0.82			-0.49	1.57	2.63	4.88	4.97	2.19	2.84
EW-D*	20.41				Installed in 1995		5.03	6.95	0.4	0.62	0.63	2.07	4.81			-0.68			0.35	1.96	2.46	4.86	2.06	0.64	3.085
MW-1*	19.68				Installed in 1995		4.53	4.83	4.2	4.22	5.48	3.81	5.29			4.01			3.29	3.6	3.37	4.21	8.72	7.225	1.58
MW-2*	19.55				Installed in 1995		4.57	6.75	2.07	1.97	3.87	2.58	4.16			Dry			Dry	1.76	2.53	3.76	5.76	2.82	3.2

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE WATER LEVEL SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	WATER/PRODUCT ELEVATION (FEET MSL)																							
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/00	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	4/17/00
Extraction Trench Wells (Continued)																									
MW-3*	19.92				Installed in 1995		4.57	7.1	1.51	1	2.01	2.2	5.16			NM			0.59	2.05	2.58	4.98	5	2.22	3.57
MW-4*	21.39				Installed in 1995		6.05	7.68	5.88	3.62	6.43	5.41	6.9			6.01			3.84	5.88	5.63	5.74	7.4	6.25	7.15
MW13+27	19.64						Installed in 1996			4.135	3.97	2.93	5.2			2.58				3.65	NM	NM	NM	2.9	7.37
MW16+25	20.8						Installed in 1996			1.15	3.3	2.33	4.32			-0.59				1.65	NM	NM	NM	2.25	3.29
UST Monitoring Wells																									
MWTB-01	68.66											Installed 12/14/98			46.39		45.72	45.18		44.04	44.05	43.83	54.49	47.695	47.84
MWTB-02	75.74											Installed 12/16/98			66.48		61.95	58.41		56.36	57.66	63.91	68.38	66.46	66.44
MWTC-01	57.71											Installed 12/15/98			46.41		35.45	34.65		35.24	42.9	45.01	46.31	46.26	44.4
MWT02-01	131.12											Installed 12/9/98			114.53		111.32	110.84		109.42	110.1	109.91	112.73	111.49	111.32
MWT02-02	141.9											Installed 12/9/98			116.17		112.16	111.2		111.21	111.83	112.09	114.41	112.35	112.35
MWT02-03	140.63											Installed 12/9/98			116.35		112.67	111.44		110.65	111.02	112.59	115.27	113.23	113.3
MWT03-01	136.99											Installed 12/10/98			114.63		113.6	113.59	113.67	113.8	113.83	113.93	115.94	114.62	114.47
MWT03-02	145.57											Installed 12/10/98			118.74		111.95	112.35	110.95	110.78	111.04	112.01	120.11	114.57	114.08
MWT05-02	213.55											Installed 12/3/98			187.84		187.39	187.24		184.38	187.6	187.73	189.38	187.74	187.7
MWT05-04	201.93																		Installed 11/17/99		Dry	Dry	Dry	Dry	Dry
MWT06-02	159.92											Installed 12/3/98			134.26		134.07	133.93	133.91	134.11	134.17	134.51	139.72	134.35	134.53
MWT06-03	163.76											Installed 12/3/98			134.63		134.27	134.15		133.89	133.75	133.64	139.77	134.86	134.71
MWT06-04	150.42																		Installed 11/17/99		126.15	Dry	Dry	Dry	Dry
MWT07-02	268.11											Installed 12/3/98			239.37		236.14	Dry		Dry	Dry	Dry	243.5	244.42	238.87
MWT08-01	188.78											Installed 12/3/98			166.68		165.33	165.28		165.31	165.33	165.94	171.26	165.53	165.94
MWT08-04	184.84																		Installed 11/16/99		167.51	168.15	172.35	168.4	168.95
CHT11-01	198.76											Installed 12/21/98			NM		NM	Dry		Dry	Dry	Dry	Dry	Dry	Dry
MWT12-02	313.05											Installed 12/8/98			284.23		281.52	280.9	Dry	280.9	283.23	284.1	292.69	284.185	285.395
MWT12-03	312.13											Installed 12/8/98			284.9		281.46	Dry		281.7	282.44	285.42	293.26	288.76	283.39
CHT12-03	311.53											Installed 12/21/98			281.31		278.59	277.27		275.54	277.91	278.32	282.77	280.27	279.62
CHT13-01	385.12											Installed 12/20/98			328.88		Dry	Dry		Dry	Dry	Dry	Dry	Dry	Dry
MWT13-02	399.72											Installed 12/4/98			369.2		367.67	367.41	367.23	367.09	366.94	367.44	371.44	370.13	368.68
MWT13-04	386.65																		Installed 11/18/99		359.56	Dry	Dry	Dry	Dry
MWT15-01	276.25											Installed 11/15/98			252.15		249.85	247.66	246.65	247.47	251.36	253.22	262.83	253.06	253.34
CHT15-01	276.73											Installed 12/17/98			239.18		238.18	237.52		237.27	238.81	238.89	240.81	240.31	239.7
MWT15-02	281.35											Installed 11/20/98			253.35		253.33	253.31		253.22	253.3	253.81	260.97	253.43	253.89
MWT15-04	272.01																		Installed 11/19/99		247.12	246.7	249.75	249.73	249.12
MWT18-01	174.4											Installed 11/20/98			151.02		148.48	150.49		148.21	148.4	151.73	153.47	151.76	142.37
CHT18-01	174.4											Installed 12/13/98			140.45		138.32	142.24		137.3	137.26	139.34	141.94	141.14	141.26
MWT19-01	126.68											Installed 11/24/98			100.33		99.62	99.3		99.15	99.38	100.87	102.88	99.83	101.62
CHT19-03	130.86											Installed 12/19/98			89.66		Dry	Dry		Dry	Dry	Dry	Dry	Dry	Dry
MWT21-01	271.12											Installed 12/16/98			248.17		249.1	Dry		249.1	249.09	248.93	249.13	249.09	249.15
Tank 18 Skim Pit																									
Drainage Area Monitoring Wells																									
MW01-01	48.3												Installed 12/16/98		47.97		47.9	46.76		45.59	45.25	45.2	45.35	47.94	48.12
MW01-02	60.36												Installed 12/18/98		51.26		50.57	49.82		48.96	48.64	48.57	49.58	51.29	51.34
MW03-01	41.51					23.02		22.35	23.6	21.21		22.27			24.81		22.06	23.08		22.06	22.45	22.47	23.49	24.23	NM
MW03-02	75.53												Installed 2/11/99		63.46		56.65	56.87		56.65	56.82	57.07	69.03	64.32	61.88
MW03-03	104.02												Installed 12/16/98		97.54		85.86	87.54		85.86	85.29	84.93	94.04	98.93	93.16
MW04-02	55.98					36.78		41.38	41.48	34.54		34.39			40.25		35.78	NM		35.78	36.06	37.66	45.48	44.94	41.89
MW04-03	56.09												Installed 12/19/98		45.04		43.7	43.25		43.7	44.09	45.3	45.17	45.81	44.93
MW04-04	73.8												Installed 12/18/98		59.5		52.45	52.4		52.42	52.34	52.47	67.12	62.21	52.83
MW07-01	53.58												Installed 12/19/98		53.58		35.38	35.28		35.38	33.31	32.75	53.58	53.58	50.55
EBS Wells																									
MW30-08	23.6																	Installed 11/22/99			18.15			23.6	23.6
MW31-01	17.53																	Installed 11/22/99			8.62			10.54	12.18
Treatment Ponds Staff Gauges																									
Pond 1	22.7																		Installed 12/18/99		14.64	15.1	16.88	16.35	16.47
Pond 2	20.8																		Installed 12/18/99		14.16	14.4	16.95	15.77	15.53
Pond 3	21.2																		Installed 12/18/99		14.08	14.32	16.22	15.99	16.42

Notes:
1. TOC = top of casing; "?" indicates survey data is pending
2. msl = mean sea level
3. NM = not measured
4. DTW = depth to water
5. No measurements were made at blank entries.
6. Wells marked with and asterisk (*) and having purple (shaded) elevations are included and reported in routine measurement under O&M (measured by I.T. Corp.)
7. See Base-wide Product Thickness Summary (Appendix F) for sources of data

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE PRODUCT THICKNESS SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	PRODUCT THICKNESS (FEET)																								
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/99	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	3/23/00	4/17/00
North Shoreline Monitoring Wells																										
ERM-03	24.5																									
MW11-02	24.3																									
MW11-04	23.47																									
MW11-05	22.91																									
MW11-06	22.6																									
MW11-07	20.4																					Abandoned 1/10/00				
MW11-08	20.28					Removed during 1995 Treatment Ponds Area containment wall construction																				
Treatment Ponds Area Monitoring Wells																										
PZ11-01	31.52																									
PZ11-02	23.52																									
MW11-09	17.55																									
MW11-10	17.28	0.00	0.01						0.48																	
MW11-11*	17.45	0.36	0.3	0.24	0.52	0.02	0.64	0.28	1.3	0.11	0	0.09		0		0.14			0	0	0	0	0		0.01	0.02
PZ11-11A	17.85	0.42	NM	0.54	0.23	0.01	0.1	0.23	0.31	0.03			0.03			0.03										
MW11-12	17.60	0.01	0.02	0.01	0.08	0.005			0.01																	
MW11-13	17.52	0.08	0.06	0.1	0.01				0.06	0.01	0.01			0.01												
MW11-14	18.05																					Abandoned 1/12/00				
MW11-15	17.26					Inaccessible since 1995 Treatment Ponds Area containment wall construction																Abandoned 12/20/99				
MW11-16	16.65												Removed in 1998 during Site 4 containment wall extension													
MW11-25	21.19	0.11	0.01	Sheen	0.01	0.1	0.08	0.11	0.05	0.03		0.01								0.005		Abandoned 12/21/99				
MW11-26	16.43												0.01													
MW11-27	16.57	0.32	0.07		Sheen	0.005				0.005	0.02	0.18	0.25	0.02								Abandoned 12/20/99				
PZ11-27A*	16.92						0.28	0.12	1.27	0.02	0.56	0.64	0.52	0.56		0.84		0.67	0.04	0.38	0.3	Abandoned 12/20/99				
PZ11-27B*	16.61	0.87	0.91	0.66	0.54	3.41	0.79	4.17	0	0.01		0.28	0.57						0	0	0	Abandoned 12/21/99				
MW11-28*	16.57	0.90	0.9	0.03	0.84	1.13	4.44	3.11	3.17	1.58	0.29	0.56	0.38	0.29		0.49		0.27	0.02	0.01	0	Abandoned 12/21/99				
MW11-29	19.12					Bunker	0.01															Abandoned 12/21/99				
MW11-30	16.41	0.01	0.03	0.12	0.2	0.1	0.1	0.08	0.09	0.02		0.005														
MW11-31	17.05	0.01	0.01	0.01	Globules	Globules	0.01		0.01												0.01		0.01			
PZ11-31A*	16.97	3.27	NM	4.04	3.6	2.93	3.22	0.25	0.19	1.53	1.35	0.13	0.32	1.35		1.28		0.01	0	0.01	0.01	0.05	0.05		0.01	
PZ11-35	19.04																									
MW11-32*	17.12	0.01	0		Globules	Oil scum	Oil scum					0.005	Bunker						0.02	Bunker	Bunker	0.23	0.24		Bunker	Bunker
PZ11-34	19.17	0.01	0.02	0.01		0.02	Bunker									0.01										
MW11-33	17.55	0.01	0	Globules																Bunker	0.005	0.04	0.02		Bunker	0.03
PZ11-33A*	17.79	0.80	0.85	0.13	0.21	0.35	0.26	0.37	0.16		0.03	0.13	Bunker	0.03		0.03		0.04	0	0.04	0.33	0.99	0.13		0.01	0.06
MW11-36*	17.43	0.70	0.8	0.77	0.43	0.12	0.17	1.14	0.23	0.68		0.57	0.58			NM			0.03	0.10	0.1	0.09	0.19		0.26	0.9
MW11-37*	18.02	Globules	Globules	0.005	Oil scum	1.25	1.11	0.08	0.96	0.73	1.47	0.57	1.15	1.47		0.76			0	0.005	0.005	0.03	0.005	0.1	0.005	
PZ11-37A*	18.24	0.70	NM	0.71	0.36	1.12	1.01	0.43	0.77	0.54		0.72	0.86	0.67		0.66			0.60	0.47	0.74	0.42	0.51	0.55	0.50	0.25
PZ11-37B*	18.16									0.51		0.88	0.37	0.88		0.57			0.69	0.58	0.8	0.32	0.05	0.32	0.37	0.14
MW11-38	18.65									0.03											0.01					
PZ11-38A	18.74																									
MW11-40	22.88	0.01	0.01	0.07	0.02	0.26	0.06	0.03	0.02	0.005		0.01								0.10	0.15	0.1	0.005			
MW11-41	22.47																									
MW11-43	22.05	Globules	Globules	Globules	0.02	Bunker		Globules	0.04				0.01	2.02				0.06								
MW11-44	21.28																									
MW11-45	19.85	Globules	Globules	0.005	0.02	Bunker	0.65	0.1	0.22	0.2		0.16	0.17	0.3		0.15		0.01		0.01	0.005	0.02				
MW11-46	23.16																									
MW11-47	22.9		Globules	0.005		Oil scum																				
MW11-49	20.98							0.25	0.41	0.75		0.03	0.11	0.03				0.02		Oily scum	0.01					0.001
MW11-51	25.78																									
MW11-52	18.11								0.02	0.02		0.005		0.01		0.01				0.01		Abandoned 12/20/99				
MW11-53	19.76																			0.07		0.01	0.005		0.01	
MW11-91	40.18																									
MW11-92*	17.69	0.19	0.34	0.35	0.66	0.37	0.21	0.37		0.12		0.06	0.03	0.02					0	0.005	0	0	0		0.005	0.005
MW11-93*	17.66	1.49	0.59	0.3	3.74	4.31	1.33	3.57		0.01	0.2	0.16		0.02					0		0	Abandoned 12/21/99				
MW11-94	17.20											Installed Jan. 99								0.005					0.07	
BR11-96	18.19											Installed Jan. 99										Abandoned 12/20/99				
Drum Lot No.1 Monitoring Wells																										
MW11-19	20.31																									
MW11-20	19.06																									
MW11-21	20.45																									
MW11-22	21.74																									
MW11-23	22.02																									
MW11-54	17.42	0.06	0.44	0.01	2.87	1.38		3.51	0.14	0.01	2.56	0.01	1.98	2.56		NM								6.61	3.89	0.03
MW11-55R	?													Rem.												
MW11-56R	?													Rem.												
MW11-57	17.74																									
PZ11-70	17.29									Installed Sept. 96																
PZ11-71	17.92									Installed Sept. 96																
PZ11-72R	?									Installed Sept. 96				Rem.												

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE PRODUCT THICKNESS SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	PRODUCT THICKNESS (FEET)																								
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/99	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	3/23/00	4/17/00
Drum Lot No.1 Monitoring Wells (Continued)																										
PZ11-73	17.76									Installed Sept. 96																
PZ11-74	14.99									Installed Sept. 96																
PZ11-75R	?										0.005			Rem.												
PZ11-76	17.32									Installed Sept. 96				Rem.												
PZ11-77	19.39									Installed Sept. 96																
PZ11-78	20.35									Installed Sept. 96																
PZ11-79	20.71									Installed Sept. 96																
MW11-80	18.25											Installed Feb. 99														
MW11-81	22											Installed Feb. 99								0.02						
MW11-82	18.49											Installed Feb. 99														
MW11-83	18.58											Installed Feb. 99														
MW11-85	16.23											Installed Feb. 99														
MW11-86	16.76											Installed Feb. 99														
MW11-88	19.30											Installed Feb. 99														
MW11-89	19.84											Installed Feb. 99														
BR11-90	17.93											Installed Feb. 99														
South Shoreline Monitoring Wells																										
MW10-02	22.34					0.18	0.005	0.02		0.02												Abandoned 12/22/99				
MW10-03	21.61	0.80	1.04	1.12	1.03	1.42	1.43	0.42	0.31	0.2	0.2	0.28	0.01	0.02		NM				0.01		Abandoned 12/22/99				
MW10-04	21.43																									
MW10-05	21.79																									
MW10-08	21.65																									
MW10-09	22.38																									
MW10-10	20.56																									
MW10-11	19.41																									
MW10-12	16.90																									
MW10-14	19.61																									
MW10-15	42.82																									
MW10-16	16.24																									
MW10-17	21.61											Installed Feb. 99								0.12		Abandoned 12/22/99				
MW10-18	21.52											Installed Feb. 99										Abandoned 12/22/99				
BR10-19	21.95											Installed Feb. 99														
ERM10-01	22.69	0.04	0.2	0.01	0.01	0.005	0.005	0.005	0.05	0.005												Abandoned 12/22/99				
ERM10-02	22.62																					Abandoned 12/22/99				
Waste Disposal Area Monitoring Wells																										
MW02-01	137.14																									
MW02-04	49.70																									
MW02-06	114.33	NM	NM	0.01	Clear																					
MW02-07	50.89	NM	NM	5.12	0.11	0.1		0.08	0.08	0.05	0.005	0.02		0.005		0.02	0.02	0.02		0.05	0.02		0.005			
MW02-13	88.05											Installed Jan. 99		0						0	0	0	0			0
MW02-15	84.53											Installed Feb. 99		0			0			0	0	0	0			0
MW02-16	73.84											Installed Jan. 99		0						0	0	0	0			0
MW02-17	29.62											Installed Feb. 99		0						0	0	0	0			0
BR02-18	160.09											Installed Jan. 99		0						0	0	0	0			0
BR02-19	91.56											Installed Jan. 99		0						0	0	0	0			0
BR02-20	51.79											Installed Feb. 99		0			0			0	0	0	0			0
PZ02-01	112.23											Installed Jan. 99		0						0	0	0	0			0
PZ02-02	141.63											Installed Jan. 99									Dry	Dry	0			0
PZ02-03	149.87											Installed Jan. 99		0						0	0	0	0			0
PZ02-04	135.86											Installed Jan. 99									Dry	0	0			0
PZ02-04A	136.17											Installed Jan. 99		0						0	0	0	0			0
PZ02-05	123.74											Installed Jan. 99		0						0	0	0	0			0
ERM-EW1	106.29								0.72		0.37		0.02	0.48		0.69	0.46	0.38		0.18	0.1	0.04			0.005	0.01
ERM-EW2	63.10	0.15	NM	1.77	2.33	0.12		0.81	0.94	0.53	0.21	0.19	0.01							0.05	0.005					
Navy Extraction Wells																										
P86-1/2	?											0.37	0.24			NM				Globules						0.005
P86-9/10*	?											0.19	Bunker			0.7			0.01	0.38		0.28	0	0		0.01
P86-11/12	?											Bunker	Bunker			NM				Bunker						0.01
P86-13/14	?												0.97	0.06		0				0.02			0.01			0.65
P86-15/16	?															0				Clear						

APPENDIX F
NFD POINT MOLATE
FINAL PHASE II RI REPORT
BASE-WIDE PRODUCT THICKNESS SUMMARY (1994 TO PRESENT)

Well Name	TOC Elev.	PRODUCT THICKNESS (FEET)																							
		5/2/94	7/29/94	9/19/94	12/7/94	8/29/95	11/3/95	1/25/96	3/25/96	9/25/96	1/14/97	10/28/97	3/31/98	1/15/99	3/12/99	4/1/99	8/6/99	9/21/99	10/19/99	11/17/99	12/17/99	1/20/00	2/14/00	3/16/00	3/23/00	4/17/00
Extraction Trench Wells																										
EW-A*	21.34																		0	0	0	0	0	0	0	0.52
EW-B*	21.51									Oily smear		Globules		Sheen					0.22	0.22	0.03	0	0	0	0	0.01
EW-C*	20.44						0.04	0.04	0.15	0.01		0.31	0.2	0.1		Bunker			0.22	0.34	0.17	0.05	0.02	0.04	0.04	Bunker
EW-D*	20.41																		0	0	0	0	0	0	0	0.005
MW-1*	19.68						0.04	0.04		0.02		Oil smear		0		0.01			0.02	0.04	0.07	0.04	0.02	Sheen	0.005	0.005
MW-2*	19.55																		Dry	Dry	0	0	0	0	0	
MW-3*	19.92												Sheen	Sheen					0	0	0	0	0	0	0	
MW-4*	21.39																		0	0	0	0	0	0	0	
MW13+27	19.64									0.005	1.76	0.17	1.05							Oily scum					0.01	0.01
MW16+25	20.8									Sheen	0.005			Globules												
UST Monitoring Wells																										
MWTB-01	68.66											Installed 12/14/98					0.28	0.22	NM	0.00	0.01	0			0.005	
MWTB-02	75.74											Installed 12/16/98														
MWTC-01	57.71											Installed 12/15/98														
MWT02-01	131.12											Installed 12/9/98														
MWT02-02	141.9											Installed 12/9/98														
MWT02-03	140.63											Installed 12/9/98														
MWT03-01	136.99											Installed 12/10/98							0.34	0.19	0.29	0.12				
MWT03-02	145.57											Installed 12/10/98							0	0.02	0.01					
MWT05-02	213.55											Installed 12/3/98			0.49		0.005	0.84		1.29	0.37	0.26	0.39		0.49	0.28
MWT05-04	201.93																									
MWT06-02	159.92											Installed 12/3/98			0.03		0.36	0.29	0.27	0.24	0.29	0.33	0.81		0.23	0.17
MWT06-03	163.76											Installed 12/3/98														
MWT06-04	150.42																									
MWT07-02	268.11											Installed 12/3/98														
MWT08-01	188.78											Installed 12/3/98					0.04	0.21	NM	0.04	0.1	0.01	0.05		0.01	0.02
MWT08-04	184.84																									
CHT11-01	198.76											Installed 12/21/98														
MWT12-02	313.05											Installed 12/8/98			0.06		0.22	0.04					0.02		0.005	0.005
MWT12-03	312.13											Installed 12/8/98														
CHT12-03	311.53											Installed 12/21/98														
CHT13-01	385.12											Installed 12/20/98														
MWT13-02	399.72											Installed 12/4/98					0.5	0.5	0.43	0.48	0.45	0.05	0.02		0.66	0.2
MWT13-04	386.65																									
MWT15-01	276.25											Installed 11/15/98					0.57	0.27	0.07	0.00	0.01				0.01	
CHT15-01	276.73											Installed 12/17/98														
MWT15-02	281.35											Installed 11/20/98														
MWT15-04	272.01																									
MWT18-01	174.4											Installed 11/20/98					0.01		NM	0.00	0.01	0.01	3.73		0.9	0.64
CHT18-01	174.4											Installed 12/18/98														
MWT19-01	126.68											Installed 11/24/98			0.03		0.01	0.29	NM	0.10	0.01				0.01	
CHT19-03	130.86											Installed 12/19/98														
MWT21-01	271.12											Installed 12/16/98														
Tank 18 Skim Pit																							5.76	0.67	0.46	0.94
Drainage Area Monitoring Wells																										
MW01-01	48.3												Installed 12/16/98		0		0	0		0	0	0	0			0
MW01-02	60.36												Installed 12/18/98		0		0	0		0	0	0	0			0
MW03-01	41.51					0		0	0	0		0			0		0	0		0	0	0	0			0
MW03-02	75.53												Installed 2/11/99		0		0	0		0	0	0	0			0
MW03-03	104.02												Installed 12/16/98		0		0	0		0	0	0	0			0
MW04-02	55.98					0		0	0	0		0			0		0	0		0	0	0	0			0
MW04-03	56.09												Installed 12/19/98		0		0	0		0	0	0	0			0
MW04-04	73.8												Installed 12/18/98		0		0	0		0	0	0	0			0
MW07-01	53.58												Installed 12/19/98		0		0	0		0	0	0	0			0
EBS Wells																										
MW30-08	23.6													Installed 11/22/99							0					0
MW31-01	17.53													Installed 11/22/99							0					0

Notes:
1. TOC = top of casing; "?" indicates survey data is pending
2. msl = mean sea level
3. NM = not measured
4. Bunker = Bunker fuel too thick to measure
5. No measurements were made at blank entries.

Data Sources:
Measurements after March 2000 are included in monthly Interim Product Removal Reports or monthly base-wide water level and product thickness measurements
3/12/99 through 3/23/00 measurements are reported in the ORS Closure Interim Summary, April 18, 2000; except 3/16/00 measurements which were made at a select series of wells
1/15/99 measurements are reported in the Semiannual Groundwater Sampling Event No. 3, Data Summary, June 15, 1999
3/31/98 measurements are reported in the Semiannual Groundwater Sampling Event No. 2, Data Summary, July 31, 1998
10/28/97 measurements are reported in the Semiannual Groundwater Sampling Event No. 1, Data Summary, March 2, 1998
9/25/96 & 1/14/97 measurements are reported in the Draft Final Time Critical Removal Action Memorandum, Shoreline Areas (IR-04), February 19, 1997
8/29/95, 11/3/95, 1/25/96, and 3/25/96 measurements are reported in the Treatment Ponds Area Extraction Trench Performance Evaluation Report, May 3, 1996
5/2/94, 7/29/94, 9/19/94, and 12/7/94 measurements are reported in the December 1994 Quarterly Report, March 14, 1995
Wells marked with and asterisk (*) having purple (shaded) thickness are included and reported in routine measurement under O&M (measured by I.T. Corp.)

APPENDIX G

AQUIFER TEST DATA

APPENDIX G – AQUIFER TEST DATA

THIS APPENDIX IS NOT AVAILABLE.

EXTENSIVE RESEARCH WAS PERFORMED BY NAVFAC SOUTHWEST RECORDS OFFICE TO LOCATE THE MISSING APPENDIX. THIS PAGE HAS BEEN INSERTED AS A PLACEHOLDER AND WILL BE REPLACED SHOULD THE MISSING ITEM BE LOCATED.

FOR ADDITIONAL INFORMATION, CONTACT:

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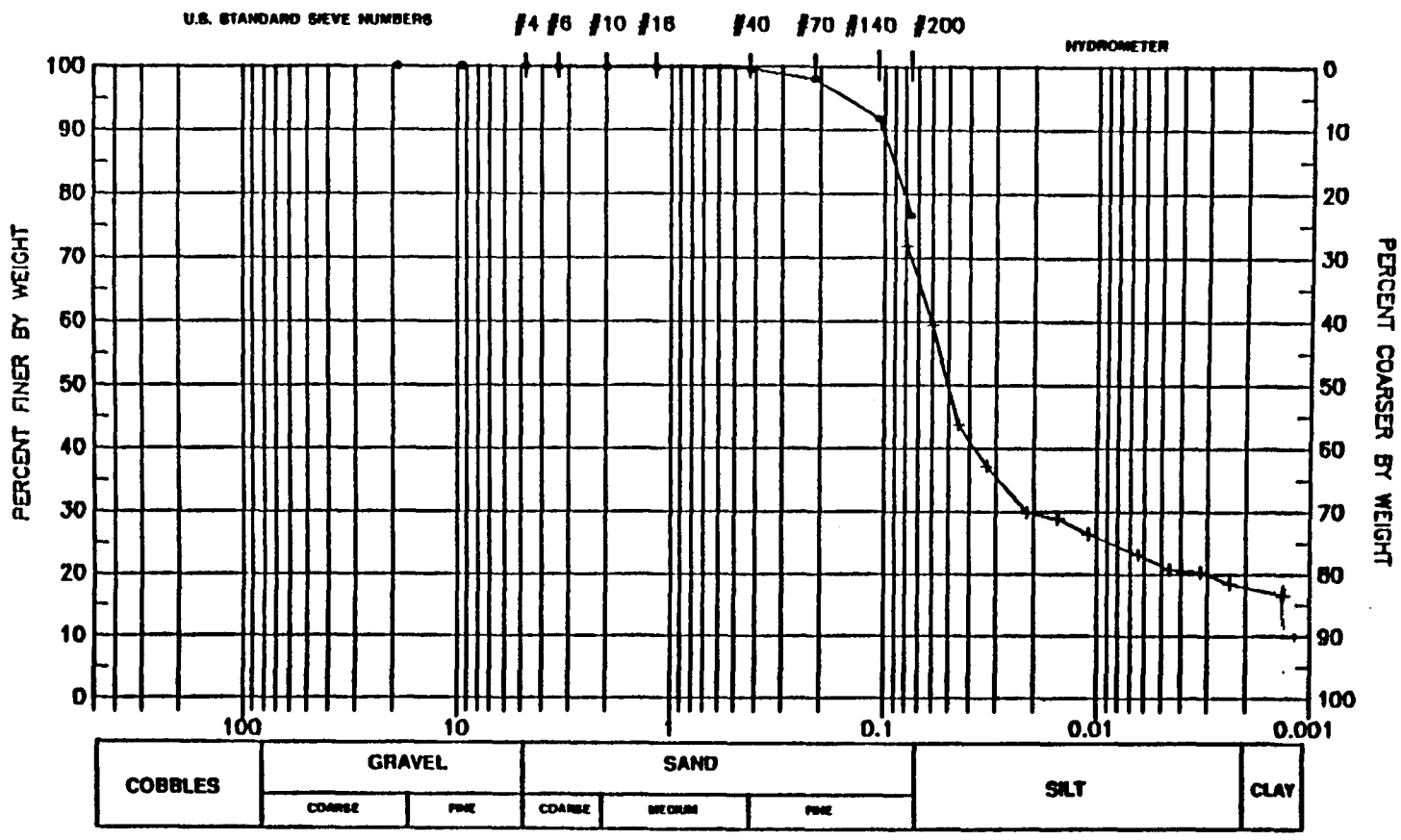
APPENDIX H

GEOTECHNICAL DATA

GRAIN SIZE DISTRIBUTION CURVES



θ_1 = 56.8 (% vol)	d_{10} = --	d_{50} = 0.050	d_{60} = 0.060	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-10 (25.5-26.0)	25.5-26.0 Ft.	Lean clay

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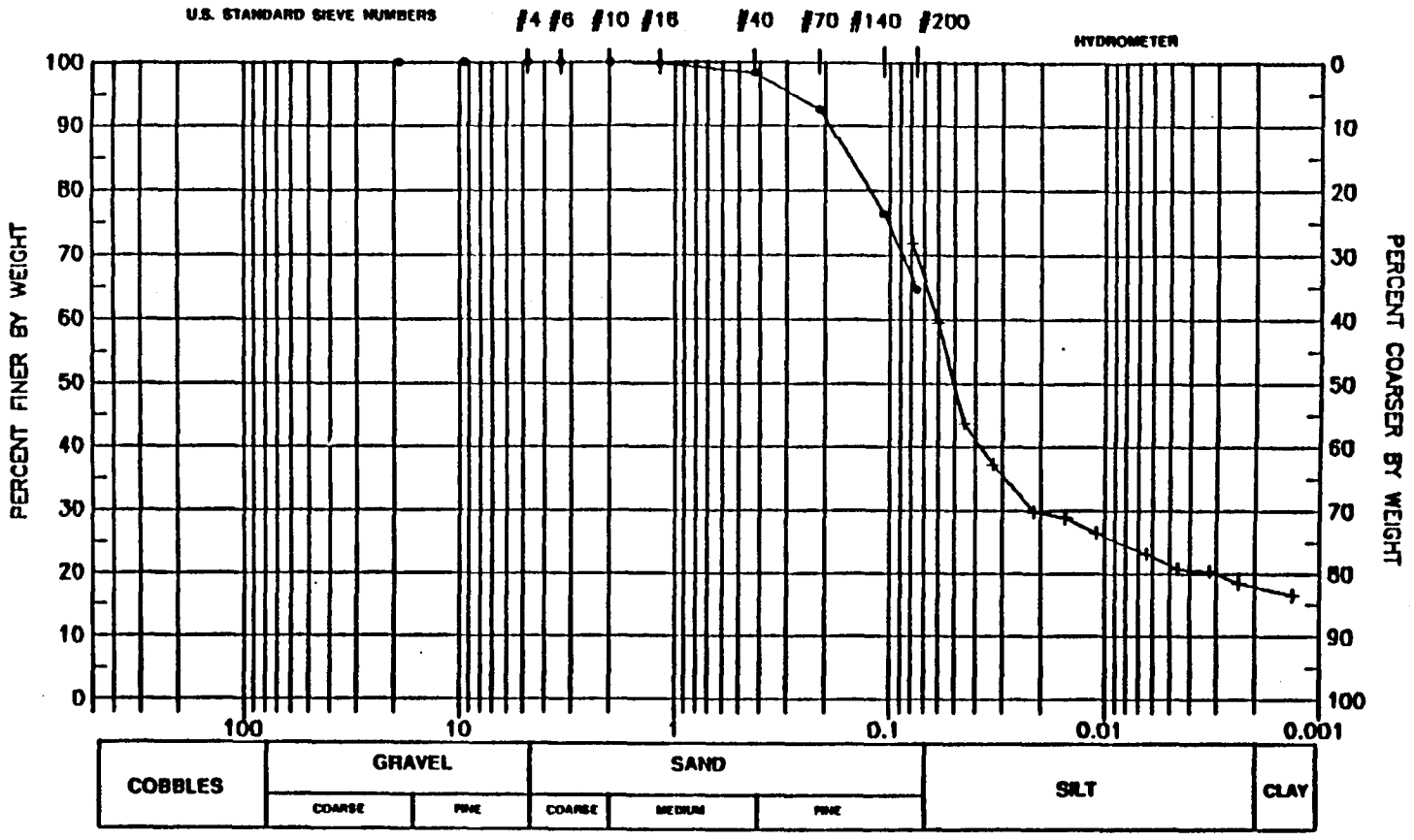

θ_1 = 54.6 (% vol)	d_{10} = --	d_{50} = 0.050	d_{60} = 0.060	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-10 (26.0-26.5)	26.0-26.5 Ft.	Sandy silt

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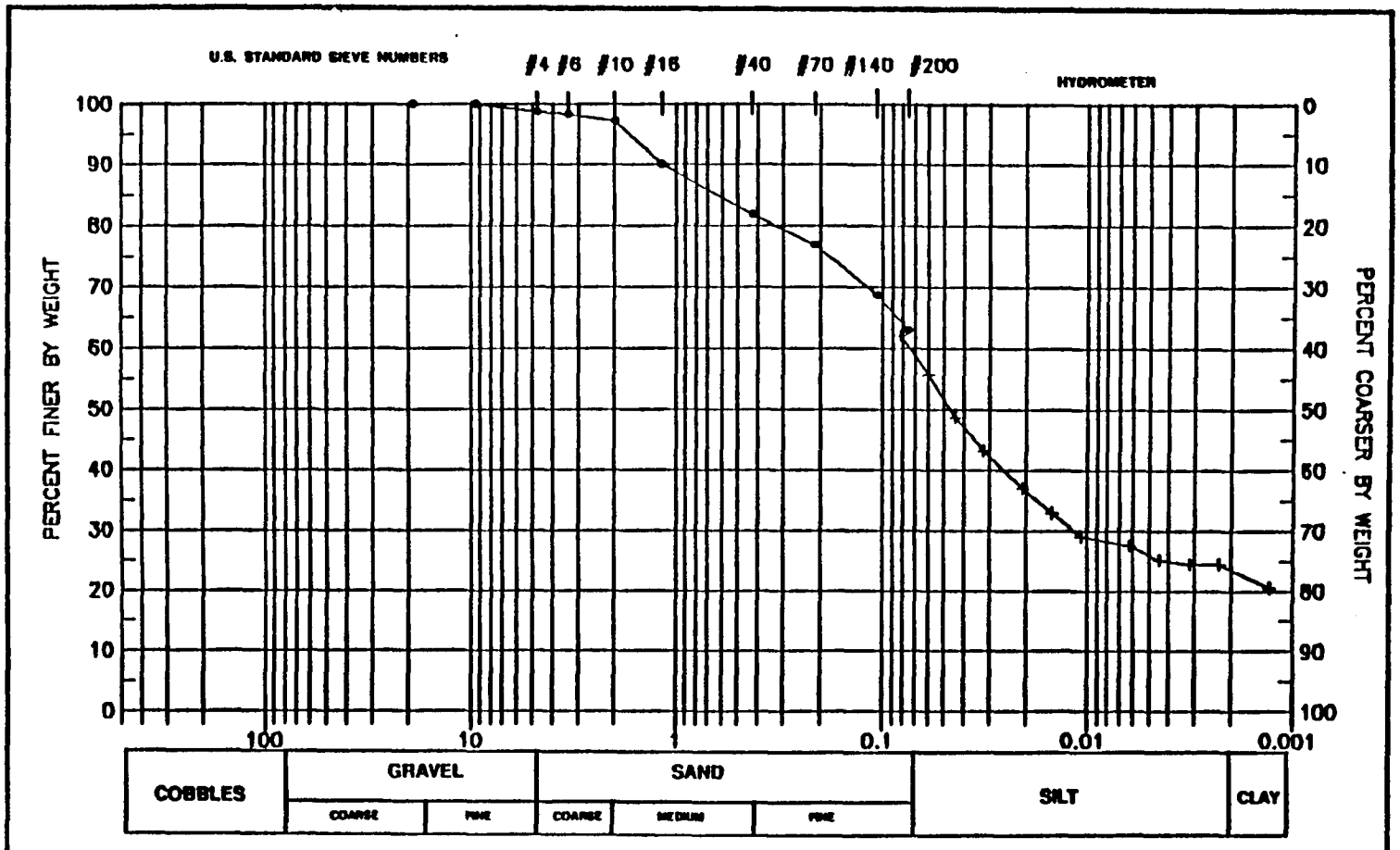

θ_l = 28.0 (% vol)	d_{10} = --	d_{50} = 0.048	d_{60} = 0.072	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-10 (42.8-43.3)	42.8-43.3 Ft.	Fat clay with silt

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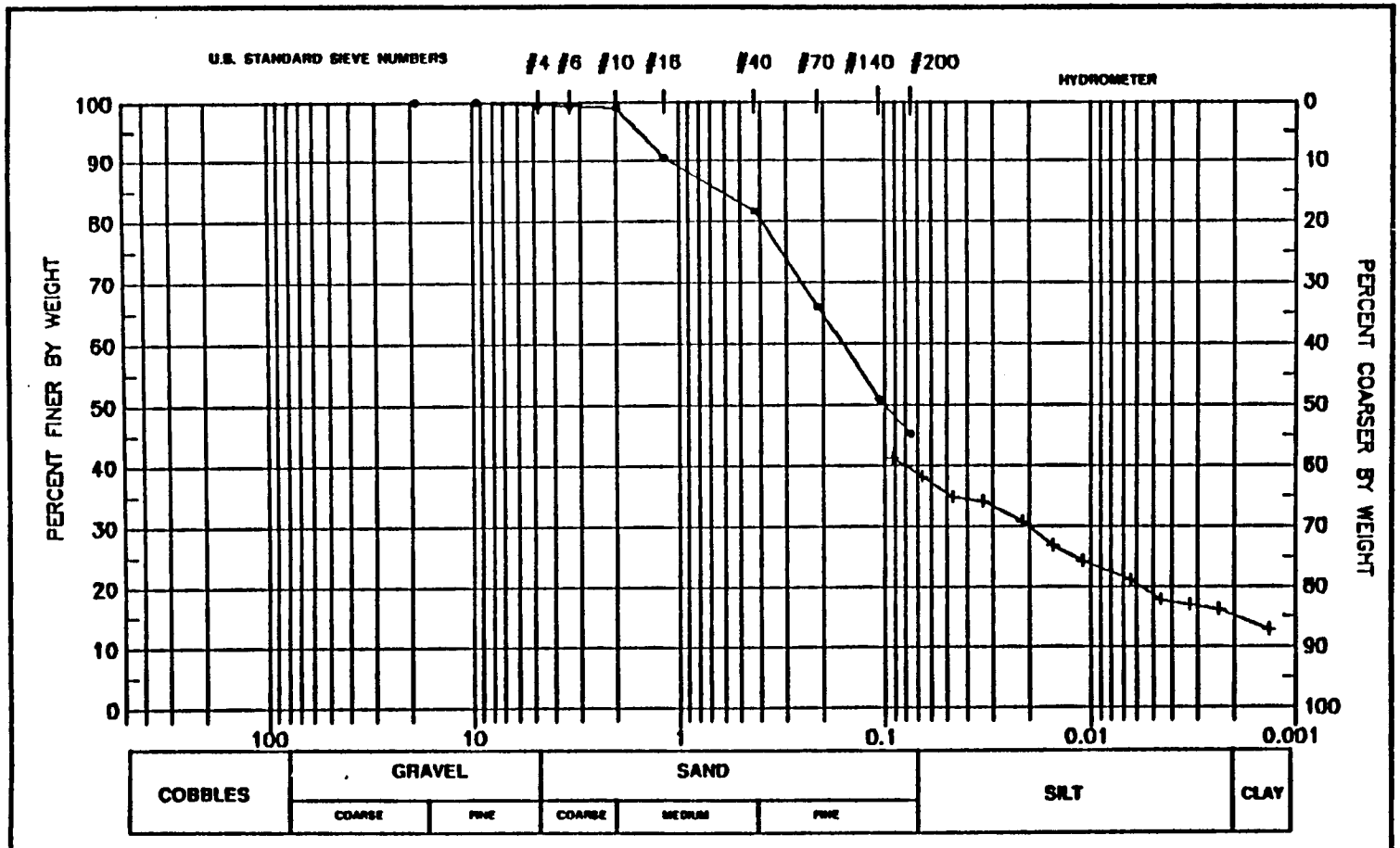

θ_l = 48.5 (% vol)	d_{10} = --	d_{50} = 0.10	d_{60} = 0.16	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-14(31.0-31.5)	31.0-31.5 Ft.	Clayey sand

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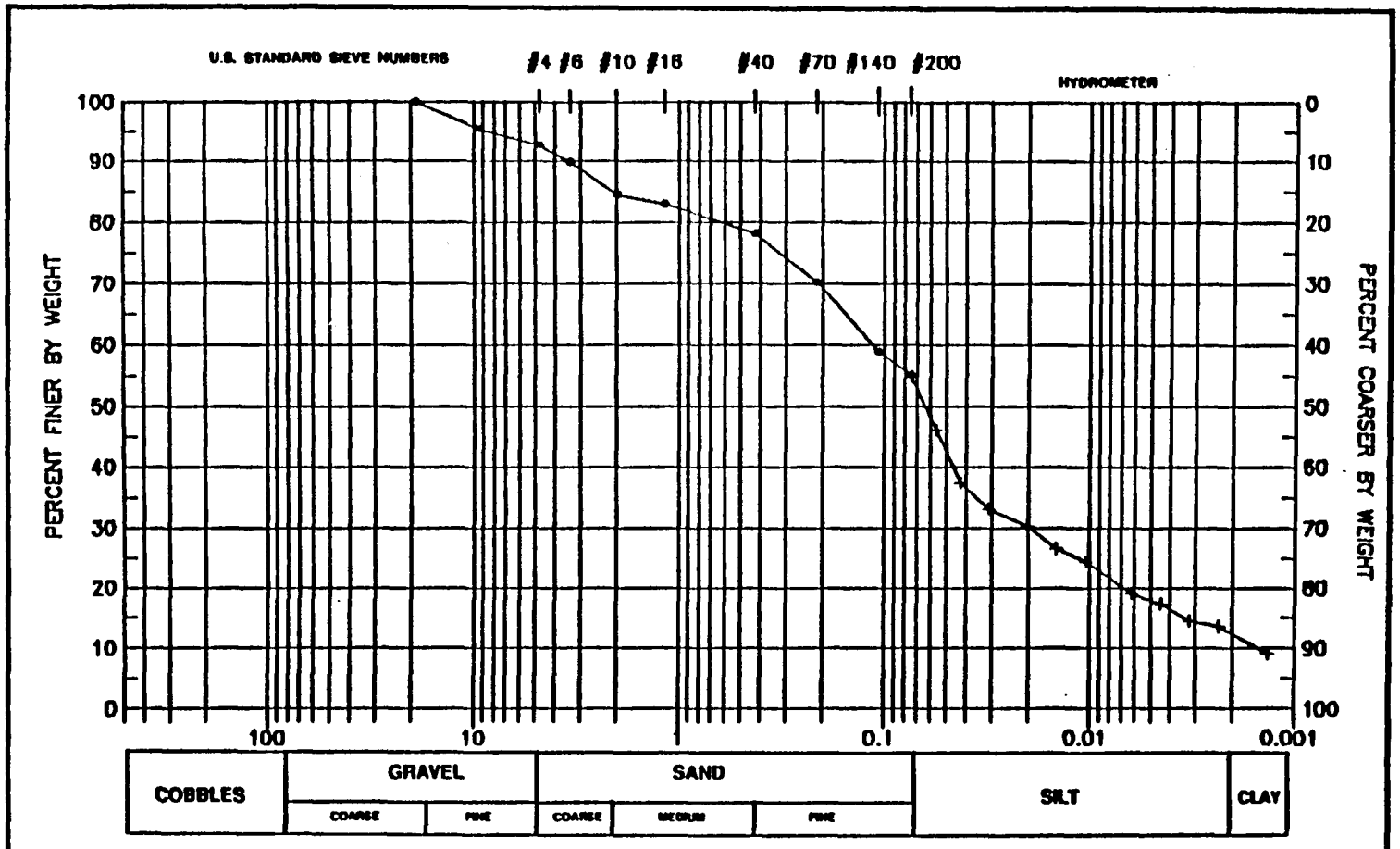

θ_l = 37.0 (% vol)	d_{10} = 0.0016	d_{50} = 0.065	d_{60} = 0.11	Cu = 69	Cc = 0.091

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-31 (10.0-10.5)	10.0-10.5 Ft.	Lean clay with silt

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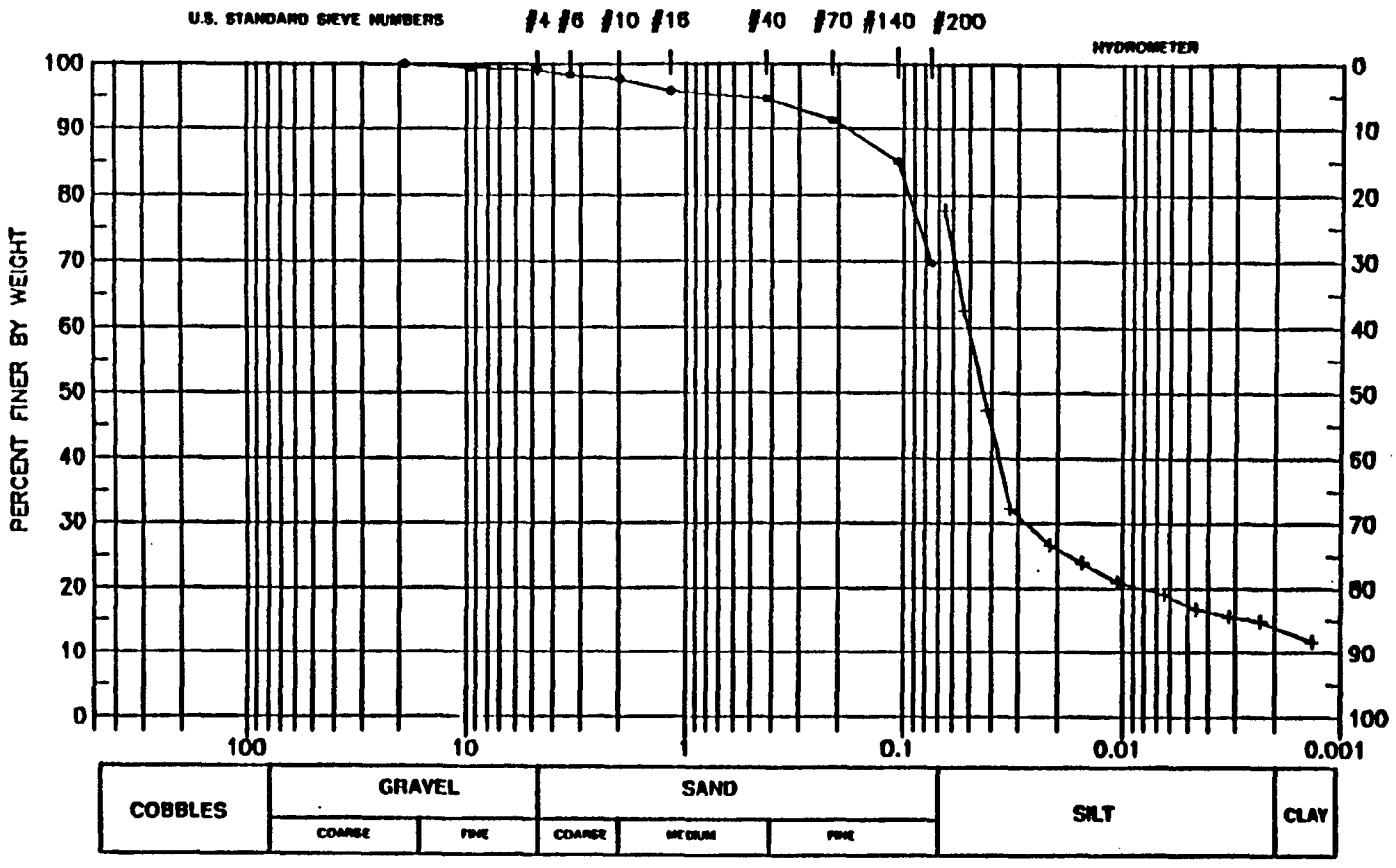

θ_1 = 53.35 (% Vol)	d_{10} = --	d_{50} = 0.045	d_{60} = 0.051	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-37B	20.5-21.0 Ft.	Gravelly fat clay with sand

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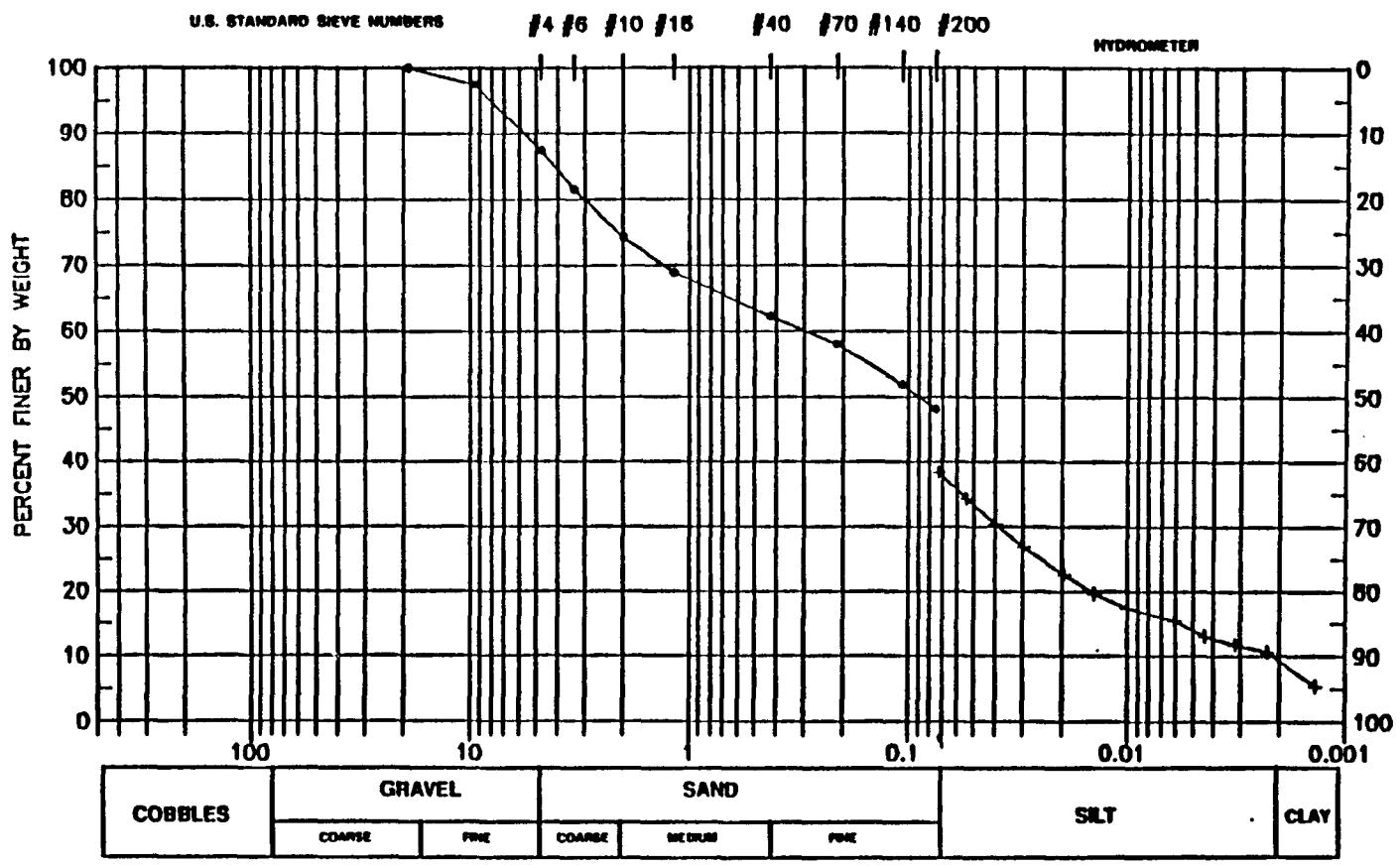

θ_l = 32.98 (% Vol)	d_{10} = 0.0021	d_{50} = 0.090	d_{60} = 0.30	Cu = 143	Cc = 2.5

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-37B	27.0-27.5 Ft.	Clayey sand

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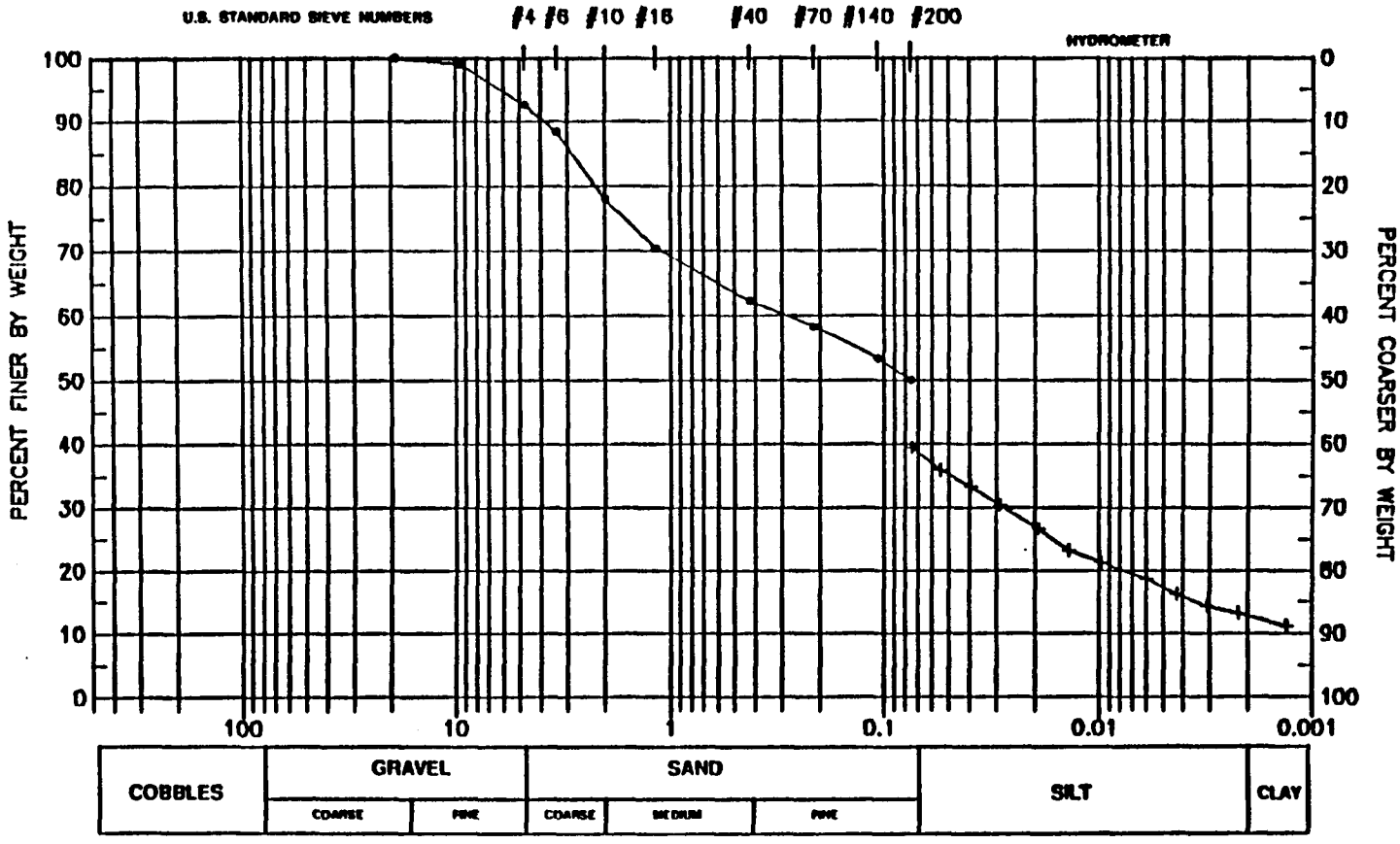

θ_I = 32.92	d_{10} = --	d_{50} = 0.076	d_{60} = 0.29	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-42	21.5-22.0 Ft.	Clayey sand

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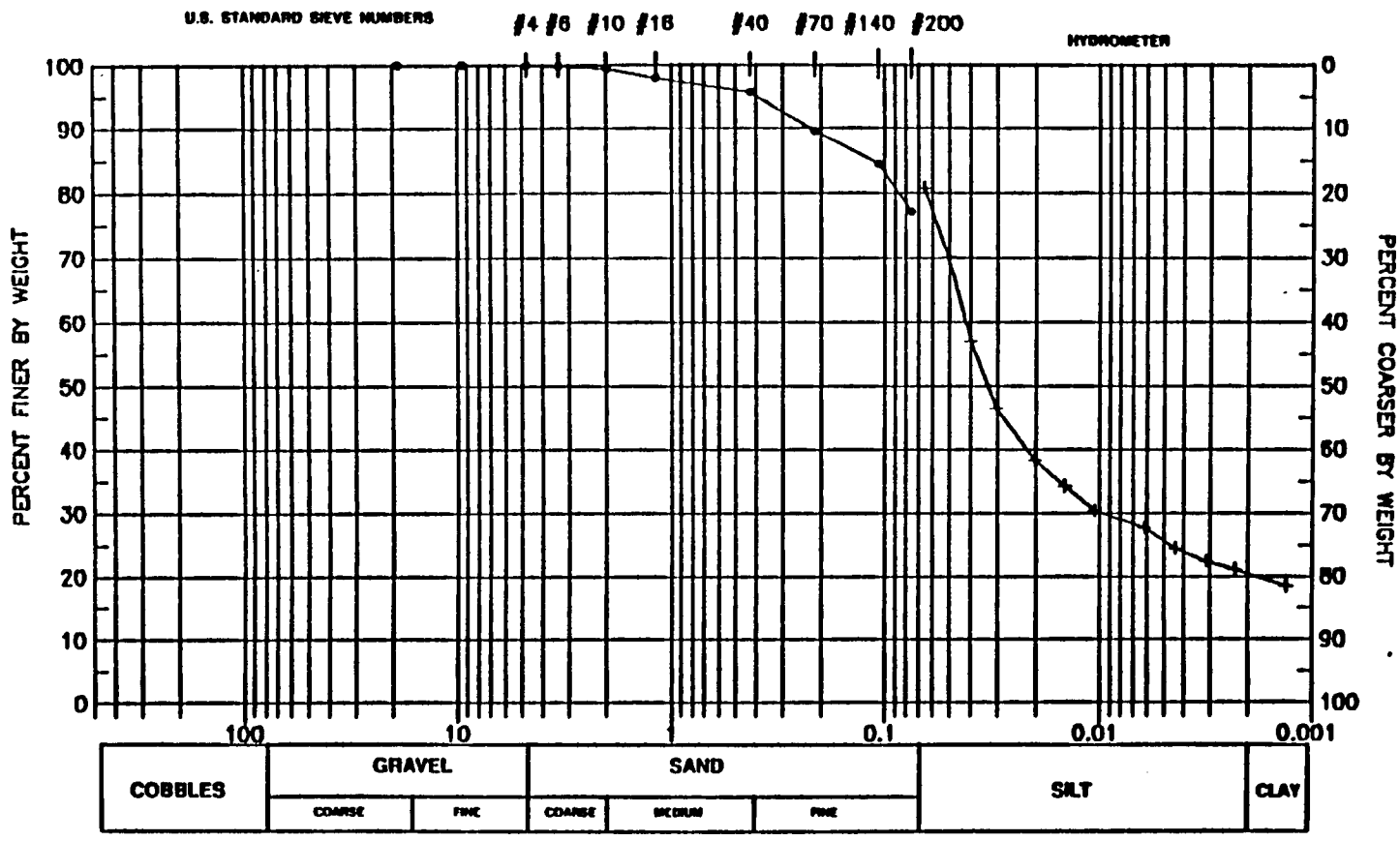

θ_1 = 55.06 (% Vol)	d_{10} = --	d_{50} = 0.034	d_{60} = 0.042	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-44	20.0-20.5 Ft.	Fat clay with sand

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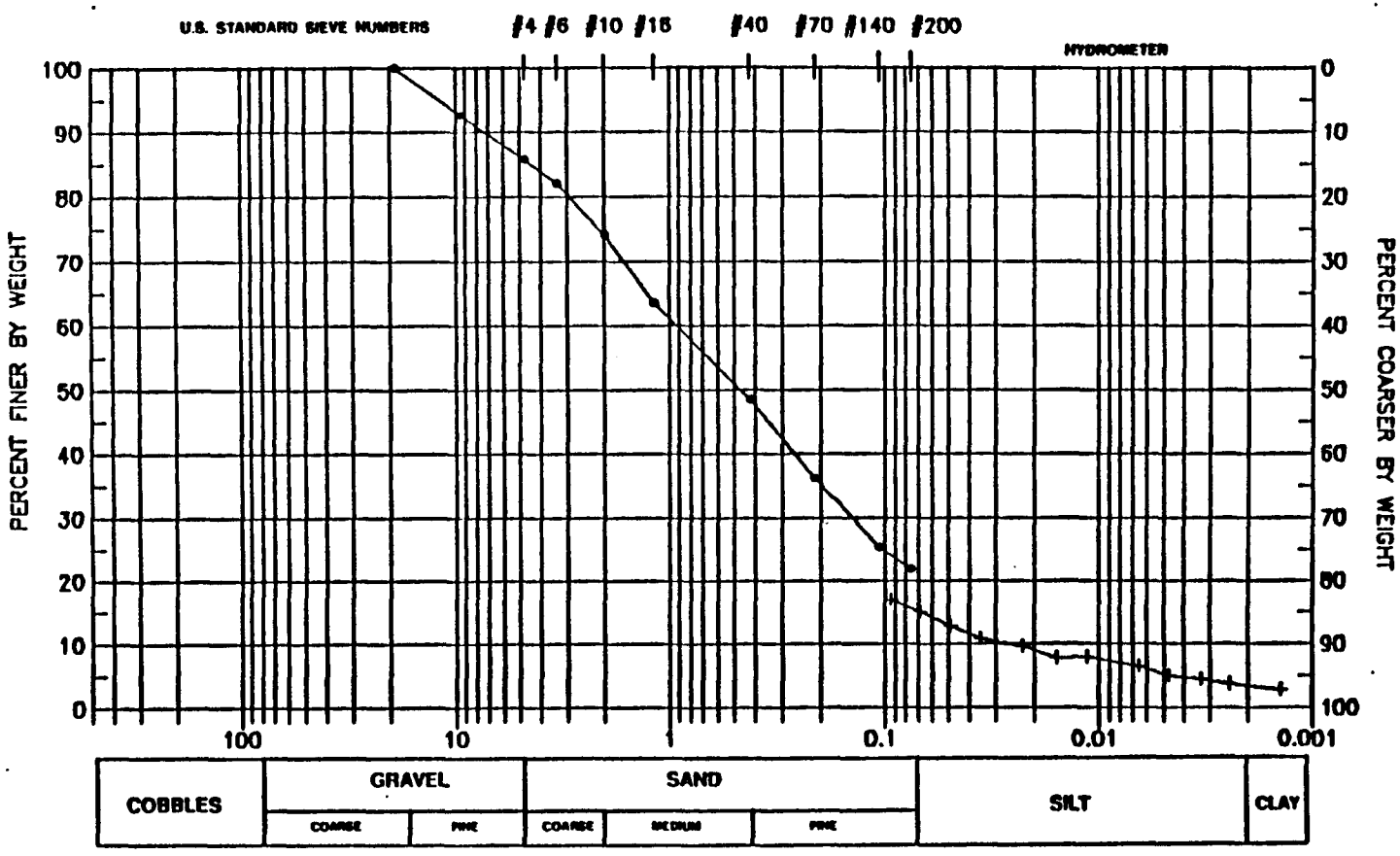

θ_1 = 34.97 (% vol)	d_{10} = 0.027	d_{50} = 0.48	d_{60} = 0.92	Cu = 34	Cc = 1.03

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-46	11.0-11.5 Ft.	Clayey sand

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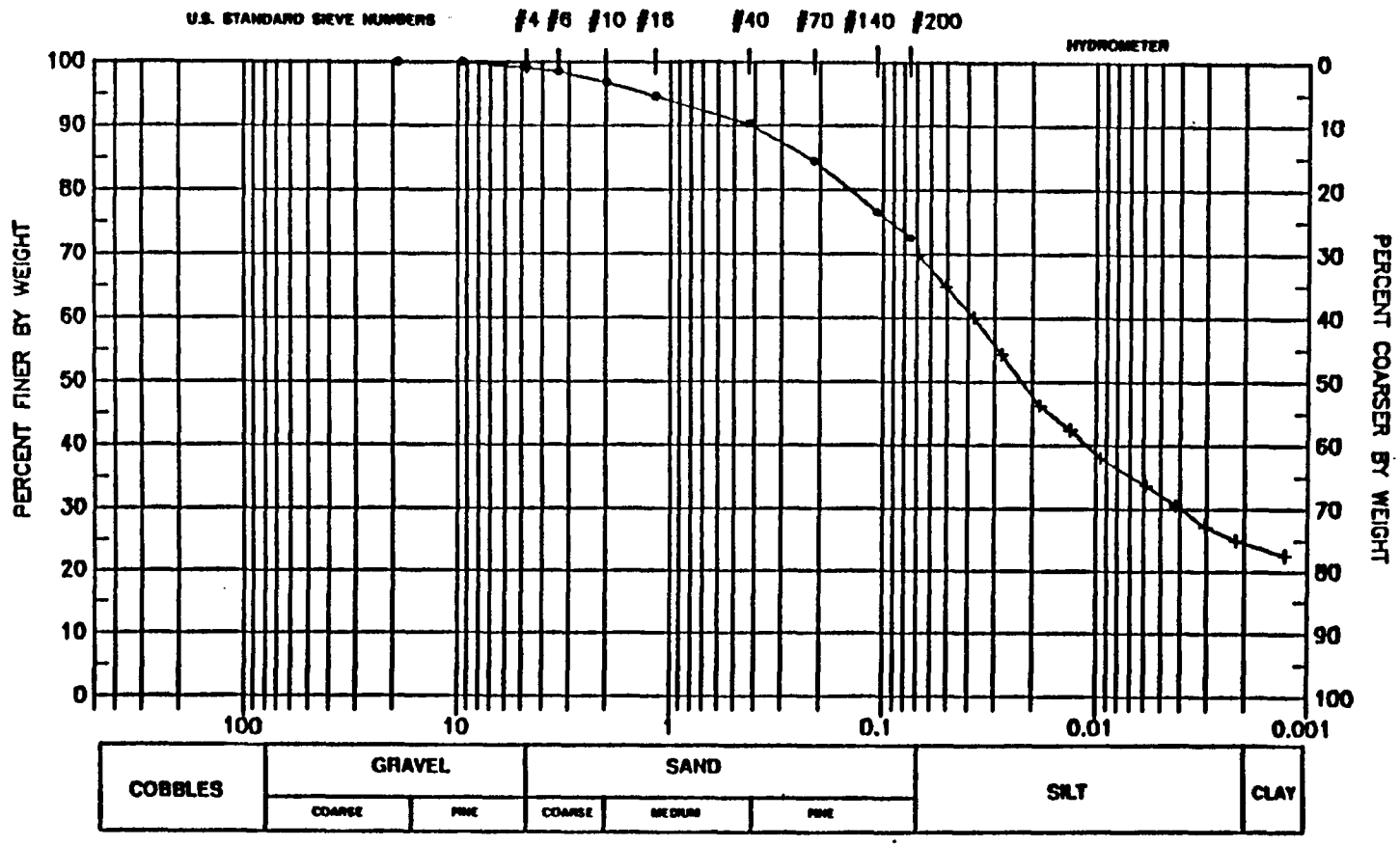

θ_l = 32.36 (% Vol)	d_{10} = --	d_{50} = 0.023	d_{60} = 0.038	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-51	11.5-12.0 Ft.	Sandy fat clay

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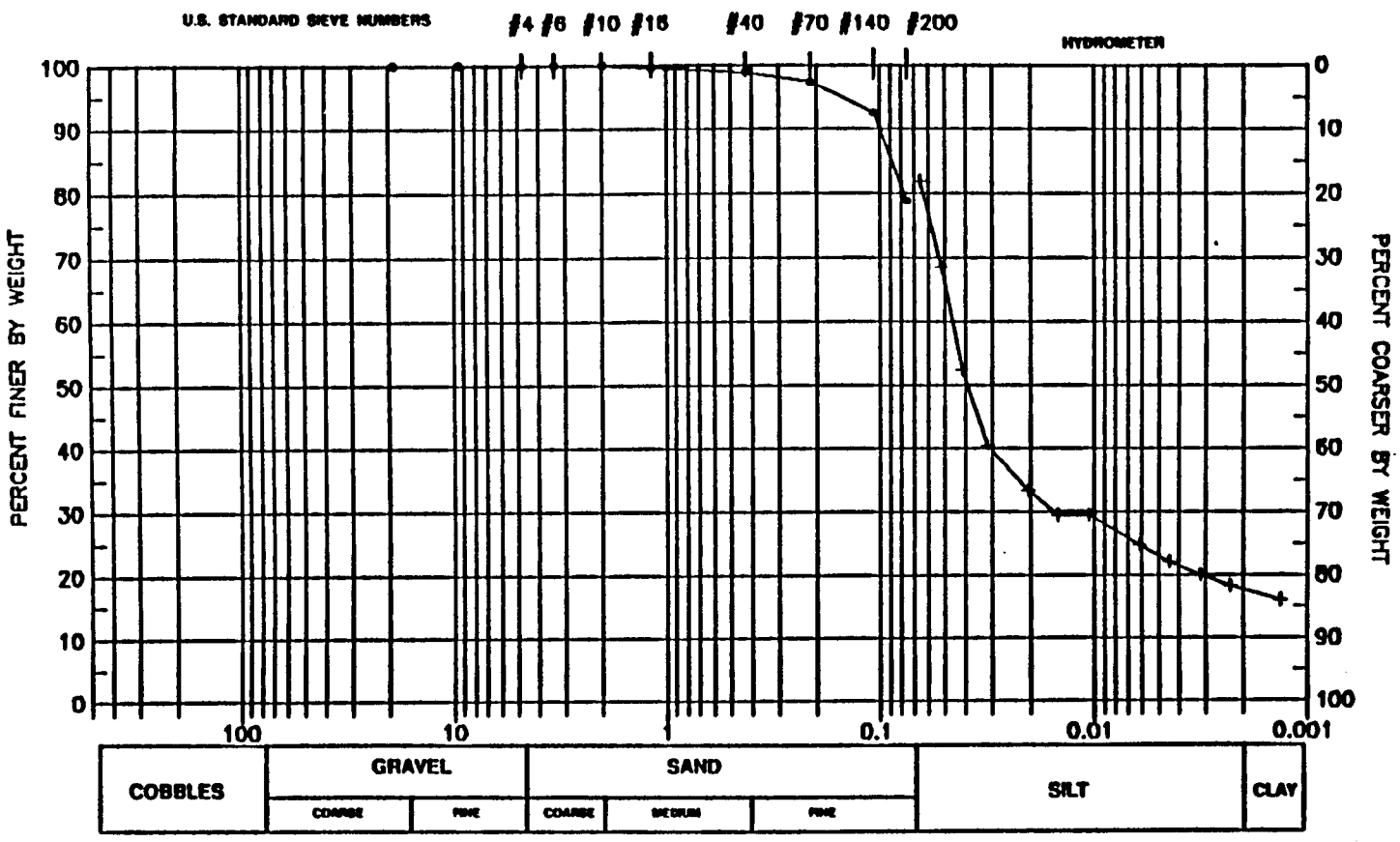

θ_l = 54.33 (% Vol)	d_{10} = --	d_{50} = ~~0.40~~ 0.040	d_{60} = ~~0.48~~ 0.048	Cu = --	Cc = --

SAMPLE NUMBER	DEPTH	USCS CLASSIFICATION
SB11-53	24.0-25.5 Ft.	Fat clay with sand

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APPENDIX I

RISK ASSESSMENT METHODS

APPENDIX I

CALCULATION OF SOIL CONCENTRATION TERMS

This appendix presents the methodology for calculating soil concentration terms for the IR Site 4 human health risk assessment (HHRA). The soil concentration terms are calculated for use in the exposure assessment step, as described in Section 6.4 of the HHRA. The methodology presented in this appendix is consistent with the guidelines of the U.S. Environmental Protection Agency (1989 and 1992).

1.0 DATA SET PREPARATION

For application of the procedures described in this appendix, "data set" refers to the set of analytical results selected to derive a concentration term for a defined exposure area. The exposure areas and data sets used for the analysis will be identified in the site-specific risk assessments presented in the HHRA report. Before the concentration terms are estimated, most of the data sets will be prepared to account for nondetectable results and duplicate samples, as follows:

1. For laboratory analyses reported as not detected, half the sample quantitation limit (SQL) is substituted as a proxy concentration.

2. For duplicate samples, the values from the two samples are combined and a single datum identified as follows:

    - Both samples reported as nondetect — the value used is one-half the SQL of the sample with the lower SQL.

    - One sample reported as a detect and the other reported as a nondetect — the value used is the concentration reported for the detected sample.

    - Both samples reported as detects — the value used is the average of the two sample concentrations.

2.0 DETERMINING THE DATA SET DISTRIBUTION TYPE

Two goodness-of-fit tests are used to evaluate the data-set distribution type of all data sets with four or more detected results: Shapiro and Wilk's *W* test for data sets of between 4 and 50 samples, and D'Agostino's test for data sets with more than 50 samples (Gilbert 1987). The assumption of lognormality is first tested at a 0.05 probability level. If the assumption of lognormality is rejected, the distribution type is assumed to be normal. The *W* test and D'Agostino's test are described in the following text.

For sets of between 4 and 50 samples (and with at least four detected results), the *W* test is used to test the null hypothesis that a sample population is normally distributed, as follows:

1. The denominator d of the W test statistic for n values is computed:

$$d = \sum_{i=1}^{n} (x_i - \bar{x})^2$$

2. The data are ranked from minimum to maximum to obtain the sample order statistics:

$$x_1 \leq x_2 \leq \ldots \leq x_k \ldots \leq x_n$$

3. k is computed where:

$k = n/2$	if n is even
$k = (n-1)/2$	if n is odd

4. Coefficients $a_1, a_2, \ldots a_k$ for the n observations are identified in Table A6 by Gilbert (1987).

5. The W test statistic is computed:

$$W = \frac{1}{d} [\sum_{i=1}^{k} a_i \left(x_{[n-i+1]} - x_{[i]} \right)]^2$$

If W is less than the quantile for the specified level of significance, the null hypothesis that the population was normally distributed is rejected. The quantiles are listed in Table A7 by Gilbert (1987).
Where the number of samples exceeds 50 (and at least four detected results were in the data set), D'Agostino's test is used to test the null hypothesis that a sample population is normally distributed, as follows:

1. The data are ranked from minimum to maximum to obtain the sample order statistic:

$$x_{[1]} \leq x_{[2]} \leq \ldots \leq x_{[k]} \ldots \leq x_{[n]}$$

2. The D statistic is computed:

$$D = \frac{\sum_{i=1}^{n} [i - \frac{1}{2} (n + 1)] x_{[i]}}{n^2 s}$$

where

$$s = [\frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2]^{1/2}$$

3. The D statistic is transformed to the Y statistic:

$$Y = \frac{D - 0.28209479}{0.02998598 / \sqrt{n}}$$

If n is large and the data are drawn from a normal distribution, the expected value of Y is zero. For nonnormal distributions, Y will tend to be either less than or greater than zero, depending on the particular distribution, necessitating a two-tailed test (step 4).

4. The null hypothesis is rejected at the α significance level if Y is less than the $\alpha/2$ quantile or greater than the $1 - \alpha/2$ quantile of the distribution Y. These quantiles are listed in Table A8 by Gilbert (1987) for selected values of n between 50 and 1,000.

3.0 CALCULATING THE CONCENTRATION TERM

After the data sets are prepared and the data set distribution type is determined as described in Sections 1.0 and 2.0, a soil concentration term is calculated for each contaminant of potential concern. The 95 percent upper confidence limit of the arithmetic mean (UCL_{95}) is used as the concentration term, with some exceptions as discussed in the following paragraphs.

In some cases, the calculated mean or UCL_{95} may be greater than the maximum detected concentration in the data set, primarily when data sets are characterized by one or more of the following conditions: (1) most samples in the data set are nondetects, (2) the maximum detected concentration is less than or at the lower end of the range of reported SQLs, and (3) the coefficient of variation is large. For example, for data sets where most samples are nondetects, half the SQL is substituted for the nondetects. In cases where half the SQL is greater than the maximum detected concentration for many values in the data set, the calculated mean or UCL_{95} may exceed the maximum detected concentration. As a second example, the arithmetic mean and UCL_{95} of a lognormal data set depends on the standard deviation (see Section 3.2). For data sets where the standard deviation is relatively large, the mean or UCL_{95} may exceed the maximum detected concentration. For these cases, the maximum detected concentration is used as the soil concentration term.

The equations for calculating the concentration terms are dependent on the data-set distribution type. These equations are presented in Section 3.1 for normally distributed data sets, and in Section 3.2 for lognormally distributed data sets.

3.1 NORMALLY DISTRIBUTED DATA SETS

For normally distributed data sets and data sets where the distribution type is not tested (that is, small data sets with three or fewer samples and larger data sets with three of fewer detected results), the UCL_{95} of the arithmetic mean is calculated as follows:

1. The mean, $\bar{x}$, and standard deviation, s, are calculated:

$$\bar{x} = \frac{\sum_{i=1}^{n} x_i}{n} \qquad \text{and} \qquad s = \sqrt{\frac{\sum_{i=1}^{n} \left(x_i - \bar{x} \right)^2}{n - 1}}$$

where n is the total number of data points in the data set and x_i is an individual data point.

2. The UCL_{95} is then calculated:

$$UCL_{95} = \bar{x} + t_{n-1,95\%} \frac{s}{\sqrt{n}}$$

where t is the Student statistic. The Student statistic is a value dependent on n and the selected confidence level. For this assessment, the confidence level is 95 percent. Values of t are listed in Table A2 by Gilbert (1987).

3.2 LOGNORMALLY DISTRIBUTED DATA SETS

For lognormally distributed data sets, the UCL_{95} of the arithmetic mean is calculated in a multistep process, as follows.

1. The data set is transformed by finding the logarithm of each value, x_i

$$y_i = \ln x_i$$

2. The mean, $\bar{y}$, and standard deviation, s_y, are calculated:

$$\bar{y} = \frac{\sum_{i=1}^{n} y_i}{n} \qquad \text{and} \qquad s_y = \sqrt{\frac{\sum_{i=1}^{n} \left(y_i - \bar{y} \right)^2}{n - 1}}$$

3. The UCL_{95} is calculated:

$$UCL_{95} = \exp\left(\bar{y} + 0.5\, s_y^2 + \frac{s_y H}{\sqrt{n-1}}\right)$$

where H is the H statistic. The H statistic is a value dependent on s_y, n, and the selected confidence level. For this assessment, the confidence level is 95 percent. Values of H are listed in Tables A10 through A13 by Gilbert (1987).

REFERENCES

Gilbert, R.O. 1987. Statistical Methods for Environmental Pollution Monitoring. New York. Van Nostrand Reinhold Company.

U.S. Environmental Protection Agency (EPA). 1989. "Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual. Part A: Baseline Risk Assessment." EPA/540/1-89/002. September.

EPA. 1992. "Supplemental Guidance to RAGS: Calculating the Concentration Term." Publication 0285.7 081. May.

HEALTH EFFECTS ASSOCIATED WITH CONSUMPTION OF FISH

APPENDIX I (Continued)

HEALTH EFFECTS ASSOCIATED WITH CONSUMPTION OF FISH

It is documented that ingesting fish caught in San Francisco Bay may result in adverse health effects. The following is a summary of a study conducted by the Regional Water Quality Control Board (RWQCB) on ingestion of fish from the San Francisco Bay and the resulting health advisory for fish consumption issued by the Office of Environmental Health Hazard Assessment (California Environmental Protection Agency [Cal/EPA] 1994a and 1994b). The RWQCB study was conducted to measure the levels of chemical contaminants in fish caught by anglers in San Francisco Bay. Fish were collected between May 2 and June 10, 1994, from 16 sampling locations throughout the bay. The fish sampled are representative of those commonly eaten in all areas of the bay, and are most likely to be contaminated because of their fat content. The fish fillets were analyzed for over 100 potentially harmful chemicals. Of these chemicals, polychlorinated biphenyls, mercury, chlordane, DDT, dieldrin, and dioxins were detected at levels of concern (Cal/EPA 1995). The concentrations of chemicals found in San Francisco Bay fish are not known to cause immediate adverse health effects. Potential adverse health effects associated with chronic (long-term) exposure to high levels of these chemicals include cancer, and impaired mental and motor development in fetuses, infants and small children (Cal/EPA 1995).

Cal/EPA has issued the following interim consumption advisory covering certain fish species from San Francisco Bay (Cal/EPA 1994b).

- Adults should limit their consumption of San Francisco Bay sport fish to, at most, two meals per month. A fish meal is defined by Cal/EPA as an 8-ounce portion, prior to cooking, for a 154-pound (70 kilogram) person.
- Adults should not eat any striped bass over 35 inches.
- Women who are pregnant, may become pregnant, or who are breast feeding, and children under the age of 6, should not eat more than one meal per month and, in addition, should not eat any meals of large shark (over 24 inches) or large striped bass (over 27 inches).
- This advisory does not apply to salmon, anchovies, herring, and smelt caught in the bay; other ocean caught sport fish; or commercial fish.

REFERENCES

California Environmental Protection Agency (Cal/EPA). 1994a. "Contaminant Levels in Fish Tissue from San Francisco Bay." Final Draft Report. Regional Water Quality Control Board (RWQCB). December.

Cal/EPA. 1994b. "Health Advisory on Catching and Eating Fish, Interim Sport Fish Advisory for San Francisco Bay." Office of Environmental Health Hazard Assessment (OEHHA). December.

Cal/EPA. 1995. "Chemical Contamination in Fish from San Francisco Bay, Study Results." RWQCB and OEHHA. June.

TOXICITY PROFILE FOR POLYCYCLIC AROMATIC HYDROCARBONS

This appendix summarizes the toxicological effects of chemicals of potential concern (COPC) identified at the installation restoration site 4 public beach area. Information is presented for polycyclic aromatic hydrocarbons (PAH), the only COPCs for which estimated risks were greater than 1×10^{-6} (see Section 6 of this report).

Use, Occurrence, and Health Effects

PAHs are a diverse group of chemicals containing three or more fused aromatic hydrocarbon rings. Although not technically classified as PAHs, the 2-member ringed compounds, naphthalene and 2-methylnaphthalene are also included in this discussion of PAHs. PAHs are formed during the incomplete burning of organic substances such as coal, oil, and gas. These compounds are found in the air attached to dust particles, and they are emitted from a variety of sources, including vehicle exhausts, asphalt roads, and wood- and coal-burning furnaces. The only known use of PAHs is for research purposes.

Some PAHs have been determined to have carcinogenic effects. The following is a list of PAHs classified by U.S. Environmental Protection Agency (EPA) as carcinogens (EPA 1999):

- Benz(a)anthracene
- Benzo(a)pyrene (BAP)
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h)anthracene
- Indeno(1,2,3-cd)pyrene

All of the carcinogenic PAHs are classified by EPA as Group B2 probable human carcinogens; that is, there is sufficient evidence of carcinogenicity based on studies in experimental animals, but evidence of carcinogenicity in humans is inadequate or lacking.

The following is a list of noncarcinogenic PAHs, some of which are classified in Group D. Group D compounds are not classifiable as to human carcinogenicity because of a lack of relevant experimental data.

- 2-Methylnaphthalene
- Acenaphthene
- Acenaphthylene (Group D)
- Anthracene (Group D)
- Benzo(g,h,i)perylene
- Fluoranthene (Group D)
- Fluorene (Group D)
- Naphthalene (Group D)
- Phenanthrene (Group D)
- Pyrene (Group D)

The classifications as to the carcinogenicity of the PAHs are based on numerous studies. Animal data showing carcinogenic effects of BAP include data from dietary, gavage, inhalation, intratracheal instillation, dermal and subcutaneous studies in numerous strains of at least four species of rodents and numerous primates. The studies showed an increased incidence of total tumors and of tumors at the site of exposure, in addition to distant site tumors. Studies on benzo(a)anthracene showed mice exposed by gavage; intraperitoneal, subcutaneous and intramuscular injection; and topical application developed a variety of tumors.

Benzo(b)fluoranthene has been shown to produce tumors in mice after lung implantation, intraperitoneal or subcutaneous injection, and skin painting. Chrysene studies showed an increased incidence of carcinomas and malignant lymphoma in mice after intraperitoneal injection and skin carcinomas in mice following dermal exposure. Dibenz(a,h)anthracene produced carcinomas in mice following oral and dermal exposure and injection site tumors in several species following subcutaneous or intramuscular administration. Indeno(1,2,3-cd)pyrene was shown to produce tumors in mice following lung implantation, subcutaneous injection, and dermal exposure.

Dibenz(a,h)anthracene was the first pure chemical shown to be carcinogenic to animals in experiments during the 1920s, while coal soot, now known to be primarily PAHs, was recognized as the cause of

scrotal cancers in chimney sweeps in 1775. Several of the PAHs, including BAP, are routinely used in the laboratory to induce tumors in rodents; a few laboratory workers have developed similar tumors from accidental exposures to these chemicals. Except for those laboratory accidents, all human data are for exposure to complex mixtures where it is impossible to determine the effects of individual chemicals. PAHs are believed to be the principal carcinogenic component of tobacco smoke and similar mixtures. In mutagenicity studies, PAHs are usually highly mutagenic if activated by a metabolic system. In fact, BAP is commonly used as a positive control to check if a test system can demonstrate mutagenicity.

Single, acute oral and dermal doses of PAHs are practically nontoxic to animals; no human data are available. Repeated doses of straight-chain PAHs (for example, naphthalene and anthracene) also have little apparent effect. These PAHs in large doses produce weight loss, possibly blood effects (even aplastic anemia), and some liver and kidney lesions, but do not seem to be carcinogenic. The noncarcinogenic effects of the carcinogenic PAHs are similar to those of the straight-chain PAHs. The carcinogenic PAHs are also immunotoxic; the more potent carcinogens are also more potent immunosuppressants.

PAHs have shown little, if any, reproductive toxicity in the few available studies, except in parenteral studies of BAP in rodents. Most adverse effects were nonspecific, such as decreased birth weight and sterility, and were produced only at relatively high doses. The potency of BAP as a reproductive toxicant was markedly affected by inborn differences in metabolism among various strains of mice, emphasizing the importance of metabolism to the toxicity of these compounds. Decreased maternal weight gain and hematological changes were seen in pregnant rats administered BAP daily during gestation.

Nausea, headache, malaise, and confusion have been reported by humans exposed to moth balls which contain naphthalene. Human case studies of naphthalene exposure have reported confusion, altered sensorium, listlessness, and lethargy. Autopsy showed a separation of neural fibers, and swelling of the myelin sheaths were noted histologically. Cerebral edema occurs, probably a secondary result of hemolysis.

Absorption of BAP and other PAHs has been demonstrated indirectly, because toxic effects have been seen after oral and inhalation exposure. PAHs are oxidized in the liver by an enzyme, aryl hydrocarbon hydroxylase (AHH), to the epoxide, which hydrolyses to the hydroxy or dihydroxy derivative. The metabolites are the active forms of the chemicals; variations in the formation (amount, rate, products) of these metabolites account for the different effects of the various PAHs. PAHs also cause the synthesis of greater quantities of AHH and other drug metabolizing enzymes; therefore, simultaneous exposure to

PAHs and other toxicants may increase or decrease the toxicity of the other toxicants. A few nonmetabolic interactions also exist. For example, BAP increases the cardiac sensitization effects of trichloroethene. PAHs are excreted as a large variety of oxidized metabolites and conjugated metabolites, mostly through the bile into the feces.

Significant quantities of naphthalene can be absorbed by humans via oral ingestion. Some dermal exposures to naphthalene resulted in hemolytic anemia. Key metabolites in animals and humans are 2-naphthoquinones, which have caused hemolysis; 1,2-naphthoquinones, which have been implicated in cataract formation; and 3-glutathione adducts, which are probably involved in pulmonary toxicity. There is a possible delay in absorption from the gastrointestinal tract which could result in the prolonged excretion of naphthalene metabolites in the urine that is observed following exposure.

No information specific to 2-methylnaphthalene was available.

Toxicity Factors

The EPA oral slope factor for BAP is 7.3 (milligrams per kilogram [mg/kg] per day)$^{-1}$ (EPA 1999). This value is based on a dietary study in mice that showed an increased incidence of forestomach and squamous cell papillomas and carcinomas. The California Environmental Protection Agency (Cal/EPA) has derived an inhalation slope factor of 3.1 (mg/kg per day)$^{-1}$ (Cal/EPA 1994) based on a 96-week inhalation study in golden hamsters that showed an increased incidence of respiratory tract tumors.

Slope factors for carcinogenic PAHs other than BAP are based on EPA's toxicity equivalency factor scheme, as follows:

Compound	Toxicity Equivalency Factor Applied	Oral SF (mg/kg per day)
Benzo(a)anthracene	0.1	7.3×10^{-1}
Benzo(a)pyrene	1.0	7.3
Benzo(b)fluoranthene	0.1	7.3×10^{-1}
Benzo(k)fluoranthene	0.1	7.3×10^{-2}
Chrysene	0.01	7.3×10^{-3}
Dibenz(a,h)anthracene	1.0	7.3
Indeno(1,2,3-cd)pyrene	0.1	7.3×10^{-1}

The following oral RfDs were obtained from the Integrated Risk Information System (EPA 1999):

Compound	Reference Dose (mg/kg per day)
Acenaphthene	6×10^{-2}
Anthracene	3×10^{-1}
Fluoranthene	4×10^{-2}
Fluorene	4×10^{-2}
Naphthalene	2×10^{-2}
Pyrene	3×10^{-2}

The basis for each of these oral RfDs is provided below, as presented in IRIS (EPA 1999).

The oral RfD for acenaphthene is based on a subchronic oral study in mice in which hepatotoxicity was the critical effect observed. The oral RfD for anthracene was based on a subchronic toxicity study with mice in which no effects were observed. A mouse subchronic study in which nephropathy, increased liver weights, hematological alterations, and clinical toxicity were observed was the basis for the RfD for fluoranthene. The oral RfD for fluorene was derived from a mouse subchronic study that showed decreases in red blood cell count, packed cell volume, and hemoglobin. The oral RfD for naphthalene was derived from an oral subchronic study in rats in which the critical effect was a decrease in body weight. The oral RfD for pyrene was derived from a mouse subchronic oral bioassay study that showed kidney effects. For each of these chemicals, an uncertainty factor of 3,000 was used in the derivation of the RfD to account for intraspecies variability, interspecies variability, extrapolation from a subchronic exposure period to a chronic exposure period, and database deficiencies. Confidence in each of the RfDs is low. For acenaphthene, the observed effects were adaptive and not considered adverse, and the database lacked supporting chronic toxicity and developmental/reproductive studies. Confidence was low in the RfD for anthracene because a lowest-observed-adverse-effects-level was not identified, and adequate toxicity data in a second species and developmental/reproductive studies were lacking. Developmental, reproductive, and toxicity data following oral exposure to fluoranthene and fluorene have not been adequately tested in a second species, causing confidence in the RfDs to be low. Confidence in the RfD for naphthalene was low because adequate chronic oral data and reproductive studies were not available. Confidence in the RfD for pyrene was low because of the lack of supporting subchronic, chronic, and developmental studies. Inhalation RfDs are not available from EPA for any of the PAHs.

REFERENCES

California Environmental Protection Agency. 1994. Memorandum Regarding Cancer Potency Factors: Update. From Standards and Criteria Work Group, OEHHA. To Cal/EPA Departments, Boards, and Office. November 1.

U.S. Environmental Protection Agency. 1999. Integrated Risk Information System Online Database. Office of Health and Environmental Assessment, National Center for Environmental Assessment.

APPENDIX J

PHASE I SITE 3 PRODUCT RECOVERY TEST TECHNICAL MEMORANDUM

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract Number N62474-94-D-7609
Contract Task Order 0112

Prepared For

DEPARTMENT OF THE NAVY
Mr. Larry Douchand, Remedial Project Manager
Engineering Field Activity West
Naval Facilities Engineering Command
San Bruno, California

PHASE I SITE 3 PRODUCT RECOVERY PILOT TEST TECHNICAL MEMORANDUM

NAVAL FUEL DEPOT POINT MOLATE RICHMOND, CALIFORNIA

September 25, 1998

Prepared By

TETRA TECH EM INC.
135 Main Street, Suite 1800
San Francisco, California 94105
(415) 543-4880

for
Gary Miller, Project Manager

Tetra Tech EM Inc.

1099 18th Street, Suite 1960 ◆ Denver, CO 80202 ◆ (303) 295-1101 ◆ FAX (303) 295-2818

September 25, 1998

Mr. David Song
Engineering Field Activity West
Naval Facilities Engineering Command
900 Commodore Drive, Building 206
San Bruno, California 94066-2402

Subject: **Phase I Site 3 Product Recovery Pilot Test Technical Memorandum, Naval Fuel Depot (NFD) Point Molate, CLEAN II Contract No. N62474-94-D-7609, Contract Task Order 0112**

Dear Mr. Song:

Enclosed are three copies of the Phase I Site 3 product recovery pilot test technical memorandum for NFD Point Molate. This technical memorandum presents results from the pilot testing conducted earlier this summer during May and June. Please advise us if you would like additional copies or if we should send copies of the report to the regulatory agencies or others.

If you have any questions, please call me at (303) 312-8886.

Sincerely,

Steve Annecone

Steve Annecone, P.E.
Project Engineer

SA:cmg

Enclosures

cc: Larry Douchand, EFA West
Ken Spielman, EFA West
Gary Miller, TtEMI

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A BASELINE PRODUCT RECOVERY DATA

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1.0 INTRODUCTION

Tetra Tech EM Inc. (TtEMI) initiated Phase I free-phase product recovery testing at Site 3, Naval Fuel Depot (NFD) Point Molate, during spring 1998. Various free-phase petroleum products, including bunker and diesel fuels, are currently floating on the water table in various areas of Site 3. Apparent product thickness measured in Site 3 monitoring wells typically ranges from less than 6 inches to approximately 1 foot. Product viscosity ranges from very viscous weathered bunker fuel in the northern portion of Site 3 to much less viscous bunker and diesel mixtures (or other fuel mixtures) in the southern portion of Site 3. Figure 1 shows the Site 3 area and includes the locations of all wells used during testing.

The purpose of Phase I product recovery testing was threefold: (1) To evaluate the technical and economic feasibility of product recovery using conventional oil skimming equipment, vacuum enhancement, and other technologies, (2) to gain site-specific information and design parameters useful in evaluating or designing a full-scale product recovery system, and (3) to maximize the total recovery of free product within a time frame constrained by the existing budget.

This technical memorandum presents and discusses Phase I test results. Testing procedures used were presented in the Site 3 Phase I product recovery field work plan (TtEMI 1998). Prior to field testing, free product samples were collected from Site 3 monitoring wells and were analyzed for viscosity and density over a range of temperatures. Section 2.0 presents these viscosity test results. Initial field activities were conducted at Site 3 over a 4-week period from May 19, 1998 through June 12, 1998. This field work included baseline recovery testing using oil skimmers (Section 3.0), baildown testing (Section 4.0), vacuum-enhanced recovery testing (Section 5.0), soil respiration testing (Section 6.0), and surfactant testing (Section 7.0). After initial test activities, long-term product recovery was initiated using belt skimmers, as discussed in Section 8.0. References are presented in Section 9.0.

2.0 VISCOSITY TESTING

Free product samples were collected from monitoring well MW11-36 and product recovery wells P86-1/2 and P86-11/12. These product samples were analyzed in a laboratory for density and viscosity over a range of temperatures. Test temperatures used were 15 degrees Celsius (°C), (representing the approximate in situ soil temperature), 40 °C, 65 °C, and 95 °C. Viscosity and density results are presented and graphed in Figure 2.

As seen in Figure 2, the viscosities measured for all three samples showed a significant decrease as temperature was increased. Some product viscosities, such as from well P86-1/2, decreased by more than two orders of magnitude over a temperature increase from 15 to 95 °C. The most significant reduction in viscosity appeared to occur over the range of 15 to 40 °C. These results suggest that soil heating technologies may be useful in reducing product viscosities and thereby potentially allowing higher rates of product recovery. Product densities measured from the samples decreased slightly over this same temperature range.

3.0 BASELINE RECOVERY TEST RESULTS

Baseline product recovery testing was conducted to evaluate the effectiveness of conventional oil skimming equipment without any additional enhancements. Numerous wells were tested using skimmers throughout the Site 3 area. Wells were selected for testing primarily based on apparent product thicknesses measured in wells, with wells containing the thickest product layers given preference. However, a range of wells containing a variety of product types and viscosities was also a goal in selecting wells.

Baseline testing at each well included an evaluation of product recharge into wells and the overall product recovery rates. Test procedures consisted of measuring depth to product (DTP) and depth to water (DTW) using an interface probe, removing product with a skimmer and recording amount recovered, evaluating product thickness changes, and then continuing to recover product if recharge was significant. Data collected during baseline product recovery testing are summarized in Tables A-1 through A-7 of Appendix A.

Skimmer equipment used for product recovery testing included two pneumatic, float-based skimmers (a Xitech ADJ 1000 and a Clean Environment Equipment [CEE] Genie) and a DPI belt skimmer. The pneumatic skimmers were set up to operate on compressed nitrogen gas cylinders, and each was equipped with hydrophobic filters on floats to prevent water entry, as well as adjustable timers. The belt skimmer included a hydrophobic belt designed to minimize water uptake and an adjustable cycle timer. Skimming results for each well tested are presented in the following subsections.

3.1 MONITORING WELL MW11-27

Monitoring well MW11-27 is located in the southern portion of Site 3 on Diesel Road and, since it is located in an area containing mostly diesel fuels, is representative of a relatively low-viscosity product for Site 3. An initial product thickness of 0.19 feet was measured on May 19, 1998. On May 21, 1998

the CEE skimmer was used to reduce the product to an immeasurable sheen. This well showed no substantial product recharge over the next several days; therefore, no further product was removed from this well. A total of approximately 0.12 gallons of product was recovered.

Figure 3 plots DTP, DTW, and product thickness over the entire course of testing at well MW11-27, which includes changes due to vacuum testing (discussed in Section 5.0). The apparent product thickness is the difference between the DTP and DTW. As seen in the figure, product and water levels were dropping significantly before any product recovery was initiated. This is likely due to settling back to stable levels following rain over the weekend before testing was initiated. It appears that even relatively small rain storms result in infiltration and groundwater recharge into the Site 3 area, as demonstrated by an approximate 1.3 foot increase in the water level at well MW11-27 during and after the May 27 through May 30 rainfall event.

3.2 MONITORING WELL MW11-28

Monitoring well MW11-28 is also located along Diesel Road in the southern portion of Site 3. An initial product thickness of 0.52 feet was measured on May 19, 1998. The CEE skimmer was used for baseline recovery testing on May 21, 1998. After 1 hour of operation, there was only a thin layer measured at 0.03 feet remaining in the well. The CEE skimmer was then set up to run overnight. Approximately 0.04 gallons of product was recovered overnight, and the skimmer was moved the next morning. Over the next 2 to 3 weeks, a maximum product thickness of approximately 0.2 feet was measured, suggesting a relatively slow rate of product recharge during this period. A total of approximately 0.32 gallons was recovered from this well. DTP, DTW, and product thickness measurements are shown in Figure 4. As seen in the figure, the water table and product elevations increased significantly (almost 2 feet) during and after a period of heavy rainfall.

3.3 MONITORING WELL MW11-36

As seen in Figure 1, monitoring well MW11-36 is located in the northern portion of Site 3 near Tank E. This well typically contains a relatively viscous bunker product mix that has been characterized as medium to heavy bunker. On May 19, 1998, the initial baseline readings indicated that the well contained a product thickness of 0.22 feet. However, on May 22, 1998, the product thickness had increased to approximately 0.7 feet and skimming was initiated. A total of approximately 0.02 gallons of product was recovered during the first 13 minutes of skimming, after which the recovery rate decreased substantially. The total recovered over the next 4 hours was approximately 0.2 gallons, which reduced the product thickness to 0.02 feet, and the skimmer was removed. The well was then monitored

frequently for product recharge, and slow thickness increases were observed during the next few days. However, as seen in Figure 5, both DTP and DTW decreased significantly (approximately 1 foot) during a period of heavy rainfall. As with other test wells, the large water table fluctuations, likely due to rainfall infiltration, made evaluation of product recharge after skimming difficult. The total product recovered from this well was estimated at 0.25 gallons.

3.4 MONITORING WELL MW11-37

Monitoring well MW11-37 is located near well MW11-36 in the northern portion of Site 3. Prior to baseline recovery testing, baildown testing reduced the apparent product thickness at this well from approximately 0.2 feet to less than 0.1 foot, as discussed in Section 4.0. On May 26, 1998, the Xitech skimmer was used for baseline product skimming at monitoring well MW11-37. As shown in Figure 6, the initial apparent product thickness measured prior to skimming was 0.34 feet. Approximately 0.2 gallons of product was recovered during the first 10 minutes, reducing the product thickness to 0.04 feet. On the morning of May 27, 1998, the product thickness was measured at 0.32 feet indicating that some recharge had occurred. As with other wells, water table elevations were strongly influenced by rainfall. The total product recovered was approximately 0.4 gallons.

3.5 PRODUCT RECOVERY WELL P86-1/2

This product recovery well (along with the other P86-series wells) was installed and used for product removal in 1986. However, no records are available regarding product amounts recovered or status of operation. Baseline measurements were attempted on May 22, 1998, but the DTW readings were unreliable due to the viscosity of the product. This well contains a layer of relatively viscous bunker oil, which fouls the interface probe and prevents an accurate determination of the water level elevation.

The DTP was measured at 10.13 feet from the top of the well casing on May 22, 1998. On May 28, 1998, the DTP was measured at 9.15 feet and the belt skimmer was used to recover approximately 0.5 gallons of product. By the next morning, enough recharge had occurred that an additional 0.25 gallons could be recovered. The well was checked again on June 6, 1998, and almost no product recharge had occurred over the approximately 8-day period.

3.6 PRODUCT RECOVERY WELL P86-9/10

This well also contained a layer of viscous bunker fuel, although the exact thickness of the layer could not be accurately determined due to interface probe fouling. However, an approximate thickness of 1.6 feet was estimated before product recovery was initiated at this well. On May 26, 1998, the belt

skimmer was set up at recovery well P86-9/10 and approximately 4.5 gallons of product was recovered during the first hour of operation. Product appeared to recharge rapidly relative to other wells tested, and an additional 0.75 gallons was recovered the next day. Over the next few days, some recharge of product continued and the total product recovered by June 6, 1998 was approximately 12 gallons.

On May 28, 1998, the Xitech skimmer was tested at this well to evaluate the feasibility of using a float-based skimmer for viscous product recovery. However, no product was recovered with the Xitech skimmer, as product appeared to be too viscous to enter the hydrophobic filter. Water was also noted to be entering the well from upper portions of the screened interval above the product layer, likely rendering the hydrophobic float ineffective.

3.7 PRODUCT RECOVERY WELL P86-11/12

As with other P86-series wells, the product found at recovery well P86-11/12 was too viscous allow an accurate depth to water measurement. Both the CEE and Xitech skimmers were used to attempt to recover product. However, neither skimmer could recover any product with the hydrophobic filters in place. With the filters removed, both skimmers were able to recover product and water mixtures, and a combined total of approximately 1.5 gallons of product was recovered with the two skimmers.

3.8 PRODUCT RECOVERY WELL P86-13/14

On May 20, 1998 an initial product thickness of 0.99 feet of diesel was measured at this well, and the CEE skimmer recovered approximately 0.13 gallons of product. The Xitech skimmer was set up the next day and recovered a total of 2 gallons within 30 minutes. The Xitech was then set up for intermittent recovery and was left in place to run overnight. By the following morning, the Xitech skimmer had reduced the product thickness to 0.15 feet. The depth to product and water measurements are shown in Figure 8. The total product recovery during this initial stage of testing was approximately 2.1 gallons.

As seen in Figure 8, a significant rise in the water table, approximately 7 feet, was seen during a period of rainfall. Although application of vacuum to the wellhead (discussed in Section 5.0) likely accounts for about 1 foot of this rise, other factors appear to be contributing to the majority of this increase. Potential explanations for this observed phenomena include: (1) large amounts of rainfall accumulating on a large catchment area above Site 3 were rapidly infiltrating into groundwater; and (2) the barrier wall (part of the extraction trench system) downgradient of well P86-13/14 was contributing to groundwater mounding near this well, as pumping rates probably were less than regional infiltration rates.

3.9 MONITORING WELL MW13+27

This well was not originally intended to be part of the pilot test. However, on May 29, 1998, an apparent product thickness of 4.19 feet was noted in the well casing, as seen in Figure 9. This well, containing a product characterized as diesel fuel, is located adjacent to the groundwater extraction trench seen in Figure 1. On May 30, 1998, the belt skimmer was used to recover product and was run intermittently from May 30, 1998 through June 10, 1998. Product recovery was initially steady but began to slow after June 6, 1998, with only minimal recharge from then on. A total of approximately 17 gallons of product was removed from this well.

3.10 TANK E SUMP

The sump is a vertical corrugated tin pipe approximately 3 feet in diameter and is located approximately 30 feet southwest of Tank E (see Figure 1). Although it is unknown how the sump communicates with groundwater at this location, it was observed that the sump contained a layer of viscous product and it is likely screened across the product layer and water table.

On May 27, 1998, the belt skimmer was set up at the sump and approximately 1.2 gallons of bunker fuel was recovered. The next day, the field team recovered another 3 gallons from the sump although a thin lens of product was still visible on the water table. However, visual observations did not indicate whether product was recharging at the sump. On the afternoon of June 8, 1998, the belt skimmer was again set up at the sump. The skimmer was run for approximately 30 minutes and had recovered 0.75 gallons of product; an additional gallon of product was recovered the next day, leaving no visible product layer. The total product recovered from the sump was approximately 6 gallons.

3.11 BASELINE RECOVERY SUMMARY

In general, product recharge rates to all Site 3 wells tested were relatively low and skimming appeared to affect very little product surrounding the well borehole. Recovery volumes removed were typically approximately equivalent to volumes that would be expected to reside in the well casing and borehole annular regions. Once this initial product volume was removed, most wells required many days to recharge to the point where additional product recovery was practical. Figure 10 summarizes the estimated product volumes recovered at each well during baseline recovery testing.

Both the CEE and Xitech pneumatic skimmers were generally effective in rapidly removing product from most Site 3 wells. However, in the wells containing more viscous product, such as those found in the northern portion of Site 3, these skimmers were frequently ineffective. The belt skimmer, although

slower and resulting in some minor water recovery, was capable of product recovery in all Site 3 wells. However, since very little regional product appeared to be influenced by product skimming at a single well, it is unlikely that product skimming alone could be successfully used to recover all available product at the site.

As noted above, all wells monitored during the period of rainfall, May 26 through May 29, 1998, were significantly influenced with respect to water and product elevations. Water table elevations typically increased by 1 or 2 feet, with up to a 6- to 8-foot increase at well MW13+27 and product well P86-13/14. These increases in the water table, presumably occurring during or after every significant rain storm, would have implications for the operation of a remedial system since screened intervals targeted for product recovery or some product recovery systems may be unusable or ineffective during these periods. Also, it is likely that vertical smearing of product through soil profiles is occurring during these rain events, potentially reducing the effectiveness of a product recovery system. These large water table fluctuations noted in the field also complicated the analysis of product recharge or declines due to skimming and vacuum operation.

4.0 BAILDOWN TEST RESULTS

Baildown testing was employed in an attempt to evaluate the actual thickness of product in the formation. Wells from both the southern and northern portions of Site 3 (PZ11-27B and MW11-37, respectively) were used for testing. The thickness measured at well PZ11-27B was 0.97 feet prior to bailing on May 20 and 0.61 feet at well MW11-37 prior to bailing on May 21, 1998. Using the baildown method presented in Testa and Paczkowski (1989), product was removed from both wells using a bailer until product thickness was at or near a sheen. Product and water levels were then closely monitored over the next few hours and days after bailing to evaluate water table and product thickness rebound. However, both the product and water table elevations continued declining over time, rather than eventually rebounding according to theory, and the method for estimating true product thickness was therefore not applicable. This declining water table noted at both wells may be due to regional declines evidenced at other Site 3 wells, likely due to a regional drop following elevated levels after a prior rain event. Approximately 1.4 gallons of product were removed from recovery well PZ11-27B and 0.3 gallons were recovered from monitoring well MW11-37 during the baildown tests.

An empirical approach based on subtracting the corrected depth to water (the static water level expected without overlying product depression) and the estimated capillary fringe thickness from the product elevation is also presented in Testa and Paczkowski (1989). Using this approach, and assuming a capillary fringe thickness of 1 inch for coarse sands and gravels (Bear 1979), actual product thicknesses

near both wells PZ11-27B and MW11-37 were estimated at less than 2 inches, well under half of the initial apparent product thickness measured at the wells.

5.0 VACUUM-ENHANCED RECOVERY TEST RESULTS

A soil vapor extraction (SVE) system was used at several wells to evaluate whether product recovery could be enhanced via application of a vacuum. Vacuum has been effective in establishing a steeper effective gradient toward the recovery well and thereby enabling higher rates of recovery at other sites (Blake and others 1990). Relatively low vacuums, typically 10 to 20 inches of water, were applied to wells MW11-27, MW11-28, MW11-32, MW11-37, and P86-13/14 while DTP and DTW were closely monitored and recorded. The corresponding extracted air flowrates ranged from about 1 to 33 standard cubic feet per minute (scfm). In general, none of the wells showed an increase in product thickness during vacuum testing. Air flowrates induced by the vacuum, vacuum responses at nearby monitoring wells, and flame ionization detector (FID) values measured from extracted offgases were also measured and recorded during testing.

Table 1 summarizes vacuum test results. As seen in the table, offgas FID values varied considerably from less than 40 to more than 21,000 parts per million by volume (ppmv). These values should be considered approximate only as the FID was not calibrated to bunker or diesel fuel vapor standards of known concentrations. This range in offgas concentrations reflects a wide range of product types, mixtures, and volatilities throughout the site. The highest FID concentrations were measured from well MW11-27, in the southern portion of Site 3, which historically has contained fuels characterized as diesel. Although none of the wells evidenced product thickness increases due to vacuum application, significant quantities of petroleum mass were recovered in the vapor phase from wells MW11-27 and MW11-37 (estimated at 272 pounds and 42 pounds, respectively). It should be noted that mass recovered in the vapor phase due to SVE operation at these wells was far greater than product mass recovered from these same wells during skimming, suggesting that product recovery via SVE may be a viable and effective option at some Site 3 locations.

The zone of influence (ZOI) at each well was estimated by measuring vacuum responses at nearby monitoring wells. Although vacuum distribution induced by the SVE system is not necessarily radial, these ZOIs are assumed to be somewhat radial in nature and were estimated based on distances from vacuum wells to the nearby monitoring wells. The monitoring wells used to assess ZOI at each well are listed in Table 1. As seen in this table, estimated ZOIs ranged from 37 to more than 60 feet. Considering the relatively short exposed screen lengths and shallow depths of the screened intervals in the vadose zone, typically 9 to 12 feet below ground surface (bgs), these ZOIs are large and suggest that

Site 3 soils are permeable and conducive to air flow. The relatively high flowrates obtained at low vacuums also suggest that the soils are conducive to air flow, as expected in soils containing large percentages of coarse sands and gravels.

As seen in Figures 3, 4, 6, and 7, DTW and DTP decreased in all vacuum wells during SVE operation, suggesting a localized upwelling of water due to vacuum. This upwelling may have been significant enough to impede product flow into the wells due to vacuum forces as product thickness increases were not observed over time. However, soil capillary forces and resistance to flow due to the high viscosity of the various free-phase products also likely contribute to difficulties in product recharge using vacuum only and may be the primary reasons that product thickness did not increase during vacuum application. It is possible that vacuum application in conjunction with water table depression would result in better product recovery, although this theory was not tested in the field. Water table depression as a result of more than 2 years of groundwater pumping at the extraction trench system on the western edge of Site 3 has not resulted in any noticeable product mobilization or increases in product thicknesses in extraction or monitoring wells located in the extraction trench, suggesting that groundwater pumping without vacuum may not be effective in mobilizing free product. Again, it is possible that resistance to flow due to the viscosity of the product would prevent effective product recovery, even under vacuum-enhanced groundwater pumping conditions.

6.0 RESPIRATION TESTING

Monitoring well MW11-37 was selected for respiration testing to evaluate site-specific soil hydrocarbon biodegradation rates induced by air flow due to vacuum testing. While respiration testing was not a required part of product recovery testing, it was conducted because the equipment was already available on site and as an aid in the evaluation of soil remedial alternatives. Prior soil gas sampling results obtained in November 1997 indicate that Site 3 wells screened in contaminated soils contain soil gases that are typically very low in oxygen concentrations and high in carbon dioxide concentrations. Conversely, Site 3 wells screened in clean soils contain soil gases that are typically high in oxygen and low in carbon dioxide. These observations suggest that intrinsic biodegradation of petroleum hydrocarbons in soils has been occurring.

Prior to vacuum testing, oxygen levels in soil gas at well MW11-37 were measured at 3.6 percent. After vacuum testing, the SVE system was reconfigured to inject air into soils to further increase the high oxygen levels (approximately 18 to 20 percent) remaining at the end of vacuum testing. Air was injected at a rate of approximately 2 scfm on June 8 and 9, 1998, which raised oxygen levels to 20.4 percent. At this point, the well casing was sealed airtight, as was the casing at background monitoring well MW11-

05. These wells were then monitored regularly for oxygen and carbon dioxide levels over the next 3 days. These respiration results are plotted in Figure 11. As seen in this figure, carbon dioxide levels at well MW11-37 increased during this period of monitoring while oxygen levels decreased significantly. However, no significant changes in soil gas levels were noted in the background well during the same period, suggesting that the changes in soil gas composition at monitoring well MW11-37 were due to aerobic biodegradation of hydrocarbons. Using the slope of the oxygen depletion curve shown in Figure 11, the oxygen consumption rate was estimated at 0.567 percent per hour. This rate, using the method presented by AFCEE (1992), corresponds to an estimated soil hydrocarbon biodegradation rate of 10.7 milligrams per kilogram per day (mg/kg/day) or 3,894 mg/kg/year. This relatively high rate of biodegradation suggests that remedial options employing venting, such as SVE, multiphase extraction (MPE), bioslurping, or bioventing may be successful in reducing soil contaminant levels.

7.0 SURFACTANT TESTING

Bench-scale testing and laboratory analysis were used to evaluate the ability of various surfactants to mobilize free product from soils. On June 24, 1998, TtEMI excavated a trench to approximately 12.5 feet bgs at Site 3 to collect soils contaminated with bunker fuel. This excavation and soil sampling location is shown on Figure 1. Over the next 2 days, the contaminated soils were subjected to several column tests designed to evaluate the ability of four different biodegradable surfactants to mobilize bunker fuel from soils in the column. Soils were also sent to a laboratory for surfactant testing and analysis.

7.1 FIELD TESTING

During excavation, the first visibly stained soils were encountered at approximately 11.5 feet bgs. Further excavation revealed a layer of visibly stained sandy soils with a strong fuel odor located 12 to 12.5 feet bgs, approximately 1 foot above the water table. Four 5-gallon buckets were filled with heavily contaminated soils from this interval. Large aggregates, greater than about 2.5 inches in diameter, were removed and the remaining soils were mixed in a large plastic tub. The samples were homogenized to provide contaminated soils with similar concentrations for all phases of the surfactant column testing, including laboratory analysis.

The soils were then packed into clear, 30-inch long by 2.5-inch-diameter polyvinyl chloride (PVC) columns constructed for column testing. The bottoms of the columns were closed with threaded caps and 1/4-inch holes were drilled into the caps to allow leachate drainage during testing. To achieve consistency in column packing, each of the four columns was packed to the approximate density of the

appearance in the field using a controlled packing technique. The columns were filled with contaminated soil to 10 inches from the base. A 2-inch diameter wooden stake was placed into the column and struck with a hammer 10 times. The stake was pounded using the weight of the hammer to drop onto the stake from a height of 6 inches. This procedure was repeated when the soil height within the column reached 20 inches and again at 30 inches. Three inches were left at the top of each column to accommodate the surfactant solutions.

Preliminary column testing began the morning of June 25, 1998. Four commercially available, biodegradable surfactant solutions (Bio T Max, Enzyme Technologies, HazClean SR, and Simple Green) were prepared using surfactant and deionized water ratios according to the manufacturers instructions. These surfactants were chosen for their ability to mobilize heavy fuel products while remaining biodegradable and nontoxic. The 1-liter solutions were poured into the columns to the rim of the PVC column and allowed to percolate through the soil matrix into 2,000 milliliter (ml) graduated cylinders positioned under the columns. No visible channeling occurred in any of the columns. The solutions achieved breakthrough of the columns in the following order: Bio T Max, HazClean SR, Enzyme Technologies, and Simple Green. The columns were refilled with each solution to maintain the level at the top of the column until the entire liter was consumed. The columns were then allowed to drain over a 12-hour period to maximize surfactant recovery and mobilization of bunker fuels.

When the 12 hour draining period was complete, each surfactant leachate was visually analyzed to estimate free product recovery and solubilization of product. Bio T Max appeared to be the best performer, mobilizing 40 mL of visible free product and displaying obvious staining of the existing surfactant solution. The second best performer was HazClean SR, mobilizing approximately 5 ml of visible free product, and displaying staining of the existing solution. Simple Green and Enzyme Technologies mobilized no visible free product, and only Enzyme Technologies displayed a minimal staining of the existing surfactant solution.

To evaluate potential differences in performance due to soil bulk density differences, the HazClean SR and Enzyme Technologies columns were repacked more loosely than originally using additional contaminated soils and the tests were run again as discussed above. The HazClean SR solution mobilized 10 to 15 mL of free product and displayed visible staining of original solution. The Enzyme Technologies produced 1 to 2 mL of visible product and displayed little staining of the existing solution.

A second flush at the same ratio was also performed on the Bio T Max column using the existing soils in the column. The purpose of this flush was to assess the ability of surfactant solutions to continue mobilizing product through multiple applications. This second 1-liter flush using the Bio T Max

solution produced an additional 10 mL of visible free product and more solution staining. One final flush with a liter of deionized water was poured through the existing Bio T Max column to determine if a water flush may mobilize existing surfactants and any additional product. An additional 5 to 10 mL of free product was found to be mobilized using the water flush.

7.2 LABORATORY TESTING

Based on the bench-scale tests conducted on site and described above, it was concluded that the two best surfactants were Bio T Max and HazClean SR. The remaining contaminated soil was packed in freezer bags, placed on ice, and sealed in two coolers. The soil, along with the remaining Bio T Max and HazClean SR surfactants, were shipped to a laboratory for further analysis and testing. The soils were first analyzed for total petroleum hydrocarbons (TPH) using U.S. Environmental Protection Agency (EPA) method 8015M to establish a baseline for bunker fuel contamination. A baseline for TPH contamination in the soils was established at 39,000 milligrams per kilogram (mg/kg). Results of these analyses are presented in Table 2.

After a TPH contamination baseline was established for the soils, three flushes using the surfactant solutions were repeated over a period of 72 hours. Each flush consisted of 1.5 liters of the surfactant/water solution using a 1:4 ratio, poured over a 24-hour period. Leachate from individual flushes were then analyzed for extractable TPH. These results are also presented in Table 2. The Bio T Max surfactant solution mobilized an average of 3,703 milligrams per liter (mg/L) during each of the three flush volumes. Using the leachate concentration data, an estimated total of 16,660 mg was removed from the column over the 72-hour period. The Hazclean-SR surfactant solution mobilized less product, with an average 166 mg/L during each of the three flush volumes. A total of 747 mg was removed from the Hazclean-SR column over the 72-hour period.

After the third surfactant solution flush was completed, an additional three flushes using deionized water was performed for each column. Each deionized water flush was poured at the rate of 1.5 liters over a 24-hour period and the leachate subsequently analyzed for TPH using EPA method 8015M. The deionized water flush continued to remove TPH contamination from the column. The Bio T Max column yielded an additional average of 210 mg/L for each water flush. The three flushes collected a total of 945 mg of additional TPH contamination. The Hazclean-SR column yielded an average of 40 mg/L for each deionized water flush. A total of 180 mg was removed from the Hazclean-SR column during the 72-hour period.

Finally, after the third 1.5 liter deionized water flush, the remaining column soils were analyzed for extractable TPH using EPA method 8015M. Analysis of the soils provided quantitative data used to compare the original baseline concentration with the amount extracted during the subsequent surfactant and water flushes.

The Bio T Max column was analyzed following the final deionized water flush and was found to contain 23,000 mg/kg of TPH contamination. This level represents the reduction of approximately 16,000 mg/kg of TPH contamination from the column. The total sum of all TPH product extracted from the column during the leaching procedure yielded 17,605 mg. Seventy-five percent of the of the reduction in the Bio T Max column can be directly attributed to mobilization occurring from contact with the surfactant solution. Any discrepencies in the data can be attributed to the problems associated with analyzing the leachate. The naturally occurring terpene oil found in the Bio T Max solution created some unique matrix effects encountered during the analysis.

The Hazclean-SR column was analyzed following the final deionized water flush and was found to contain 12,400 mg/kg of TPH contamination. This level represents a reduction of approximately 26,000 mg/kg of TPH contamination from the column. However, analysis of the contamination produced from the surfactant and water leaching procedure yielded only 927 mg, suggesting that the final (and possibly initial) soil sample may not be representative of the average soil concentrations present. The leachate data suggest an approximate 3 percent of the reduction of TPH contamination in the Hazclean-SR column. Like the Bio T Max, this difference may also be attributed to analytical sample matrix effects created by surfactant mixture. It was difficult to extract the petroleum from the leachates produced by both surfactant products without carrying over some of the surfactants into the analytical sample.

8.0 LONG-TERM PRODUCT RECOVERY

At the conclusion of the field testing described in Sections 3.0 through 6.0, long-term product recovery activities were initiated. On June 11, 1998, the belt skimmer was installed at product recovery well P86-9/10. This well was chosen due to continued product recharge noted at this well during earlier testing. The skimmer was operated intermittently through each day using cycles set by the timer controller, with operation cycle times being set farther apart as recovery rates slowed. As of September 17, 1998, a total of approximately 93 gallons of product was recovered from this well, although recovery rates were noted to slow significantly by mid-August 1998. The sitewide product recovery total during Phase I testing as of mid-September is estimated at 123 gallons.

A second belt skimmer was used to supplement the existing skimmer operation and increase total product recovered in September 1998, although product recovery totals are not available at the time of this report. Long-term product recovery is anticipated to continue at Site 3 wells for at least the remainder of 1998, with the goal of maximizing total product recovered.

9.0 REFERENCES

Air Force Center for Environmental Excellence (AFCEE). 1992. Test Plan and Technical Protocol for a Treatability Test for Bioventing. May.

Bear, J. 1979. Hydraulics of Groundwater. McGraw-Hill Book Co.

Blake, S., B. Hockman, and M. Martin. 1990. Applications of Vacuum Dewatering Techniques to Hydrocarbon Remediation. In: Proceedings of Petroleum Hydrocarbons and Organic Chemicals in Groundwater: Prevention, Detections, and Restoration. Houston, Texas.

Tetra Tech EM Inc. (TtEMI). 1998. Site 3 Phase I Product Recovery Field Work Plan. NFD Point Molate, Richmond, California. April 24.

Testa, S. and M. Paczkowski. 1989. Volume Determination and Recoverability of Free Hydrocarbon. Groundwater Monitoring and Remediation. Winter.

TABLE 1

SITE 3 PHASE 1 PRODUCT RECOVERY TECHNICAL MEMORANDUM
VACUUM-ENHANCED RECOVERY TEST RESULTS SUMMARY

Test Well	Dates Tested	Vacuum (in H_2O)	Flowrate (scfm)	Offgas FID Values[1] (ppmv)	Hydrocarbon Mass Removed (lbs)	Estimated ZOI (Feet)	Vacuum Monitor Wells Used
MW11-27	May 26-27, 1998	20	16-18	16,900-21,500	272.5	37	MW11-26, PZ11-27A, PZ11-27B
MW11-28	May 22-23, 1998	10-35	3-8	NA	NA	NA	NA
MW11-32	June 9-10, 1998	16-20	3-5	40-200	0.2	<55	MW11-10, PZ11-34, PZ11-35
MW11-37	June 2-8, 1998	10-17	26-33	205-2,200	42.3	62	MW11-36, PZ11-37A, PZ11-37B
P86-13/14	May 27-June 2, 1998	10	1	40-200	0.4	>47	MW11-12, MW11-31, PZ11-31A

Notes:

in. H_2O Inches of water vacuum
scfm Standard cubic feet per minute
FID Flame ionization detector
ppmv Parts per million by volume
lbs pounds
ZOI Zone of influence, based on detection of vacuum at monitor wells.
NA Not available

[1] All FID values presented are approximate ranges measured in the field using a Foxboro TVA-1000.

TABLE 2

PHASE I SITE 3 PRODUCT RECOVERY TECHNICAL MEMORANDUM
SURFACTANT ANALYTICAL RESULTS

Analysis	Laboratory ID	Matrix	Result	Units	Solution
Baseline Extractable TPH	L19501-01	Soil	39,000	mg/kg	NA
Bio T Max Column Surfactant Flush #1	L19501-06	Leachate	4,000	mg/L	1:4 surfactant/water
Bio T Max Column Surfactant Flush #2	L19501-07	Leachate	2,810	mg/L	1:4 surfactant/water
Bio T Max Column Surfactant Flush #3	L19501-08	Leachate	4,300	mg/L	1:4 surfactant/water
Bio T Max Column DI Flush #1	L19501-09	Leachate	491	mg/L	DI Water
Bio T Max Column DI Flush #2	L19501-10	Leachate	107	mg/L	DI Water
Bio T Max Column DI Flush #3	L19501-11	Leachate	31	mg/L	DI Water
Bio T Max Column Post Leach Baseline	L19501-02	Soil	23,000	mg/kg	NA
Hazclean-SR Column Surfactant Flush #1	L19501-18	Leachate	81	mg/L	1:4 surfactant/water
Hazclean-SR Column Surfactant Flush #2	L19501-19	Leachate	297	mg/L	1:4 surfactant/water
Hazclean-SR Column Surfactant Flush #3	L19501-20	Leachate	120	mg/L	1:4 surfactant/water
Hazclean-SR Column DI Flush #1	L19501-21	Leachate	69	mg/L	DI Water
Hazclean-SR Column DI Flush #2	L19501-22	Leachate	32	mg/L	DI Water
Hazclean-SR Column DI Flush #3	L19501-23	Leachate	19	mg/L	DI Water
Hazclean-SR Column Post Leach Baseline	L19501-04	Soil	12,400	mg/L	NA

Notes:

NA Not applicable
mg/L Milligrams per liter
mg/kg Milligrams per kilogram

DATE: 09/23/9_ MVT DN FILE NAME: R:\069\112B\0301\FIG-1.DWG

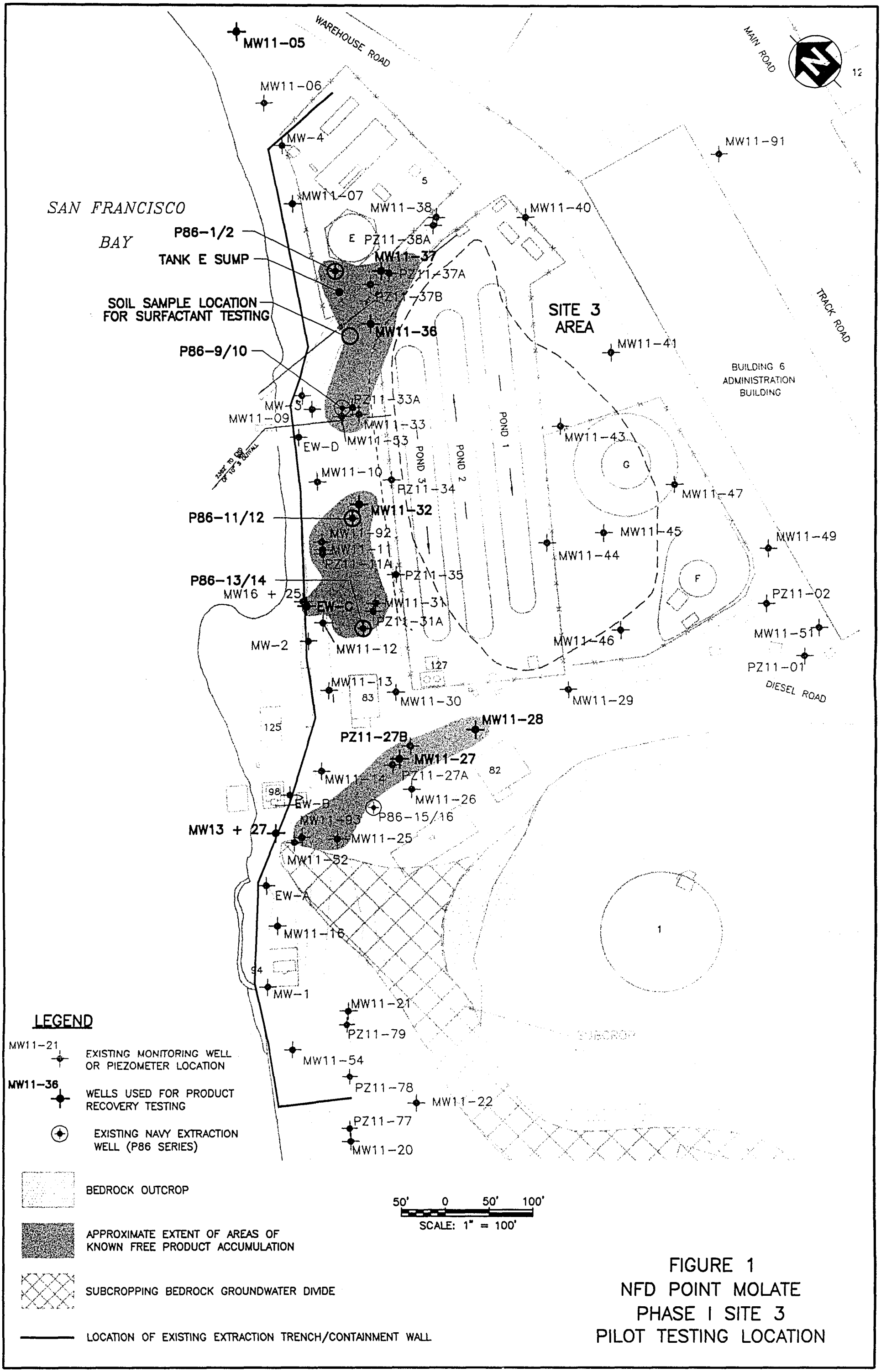
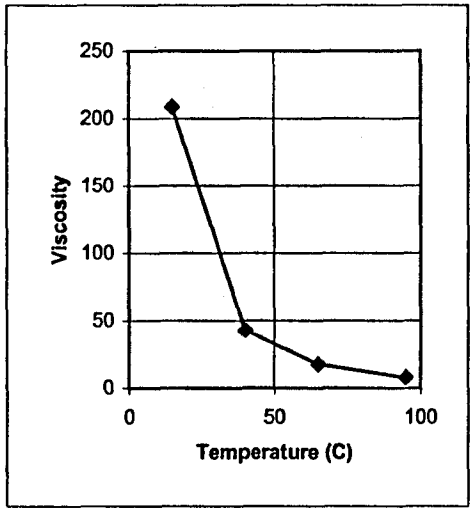


FIGURE 1
NFD POINT MOLATE
PHASE I SITE 3
PILOT TESTING LOCATION

FIGURE 2
NFD POINT MOLATE
SITE 3 PHASE I TECHNICAL MEMORANDUM
PRODUCT VISCOSITY AND DENSITY DATA

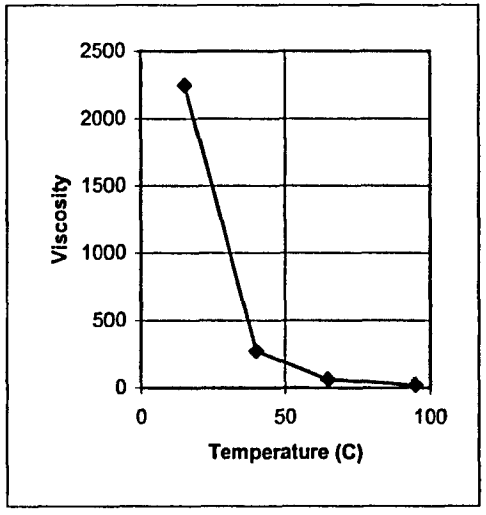
Well MW11-36:

Temp (C)	Viscosity (cSt)	Density
15	208.24	0.9417
40	42.55	0.9251
65	17.05	0.9085
95	7.53	NA



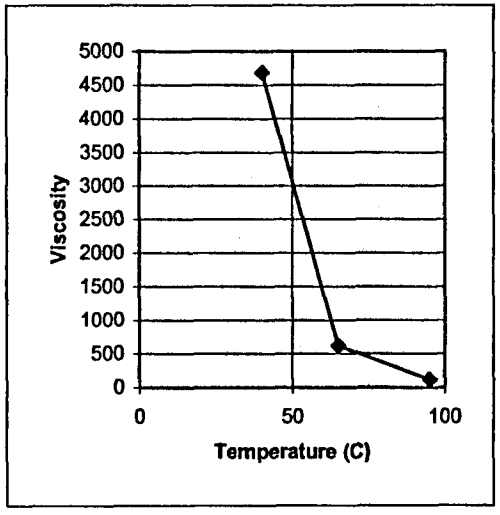
Well P86-1/2:

Temp (C)	Viscosity (cSt)	Density
15	2244.36	0.971
40	268.98	0.9543
65	59.57	0.9374
95	18.72	NA



Well P86-11/12:

Temp (C)	Viscosity (cSt)	Density
15	NA	0.9942
40	4679.14	0.9817
65	612.11	0.9585
95	112.12	NA



Notes:
C Degrees Celcius
cSt Viscosity in centistokes
NA Not able to analyze

All samples collected March 4-5, 1998
Density data presented above are in specific gravity units (grams per milliliter)

FIGURE 3
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICALMEMORANDUM
WELL MW 11-27 PRODUCT THICKNESS DATA

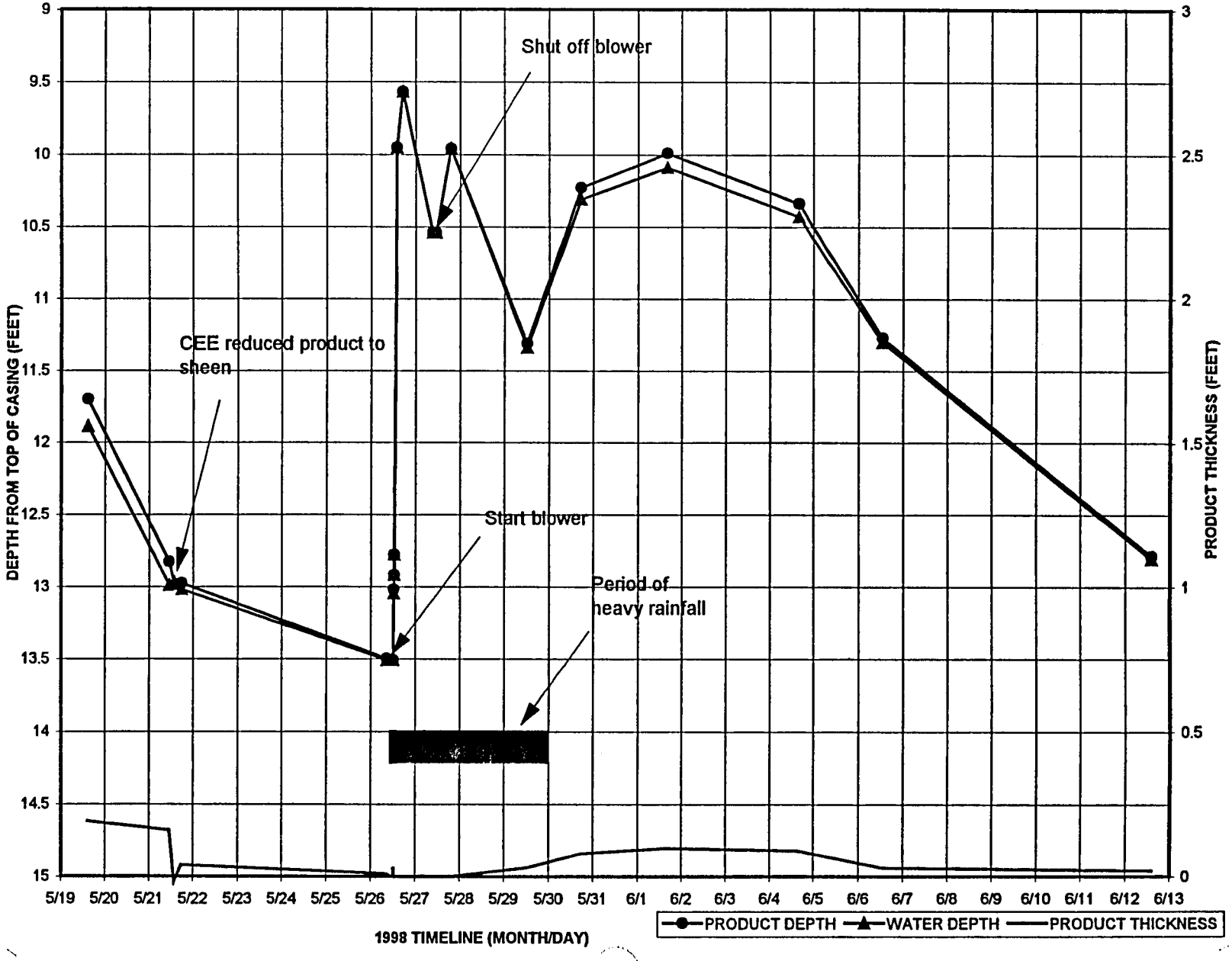


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FIGURE 4
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-28 PRODUCT THICKNESS DATA

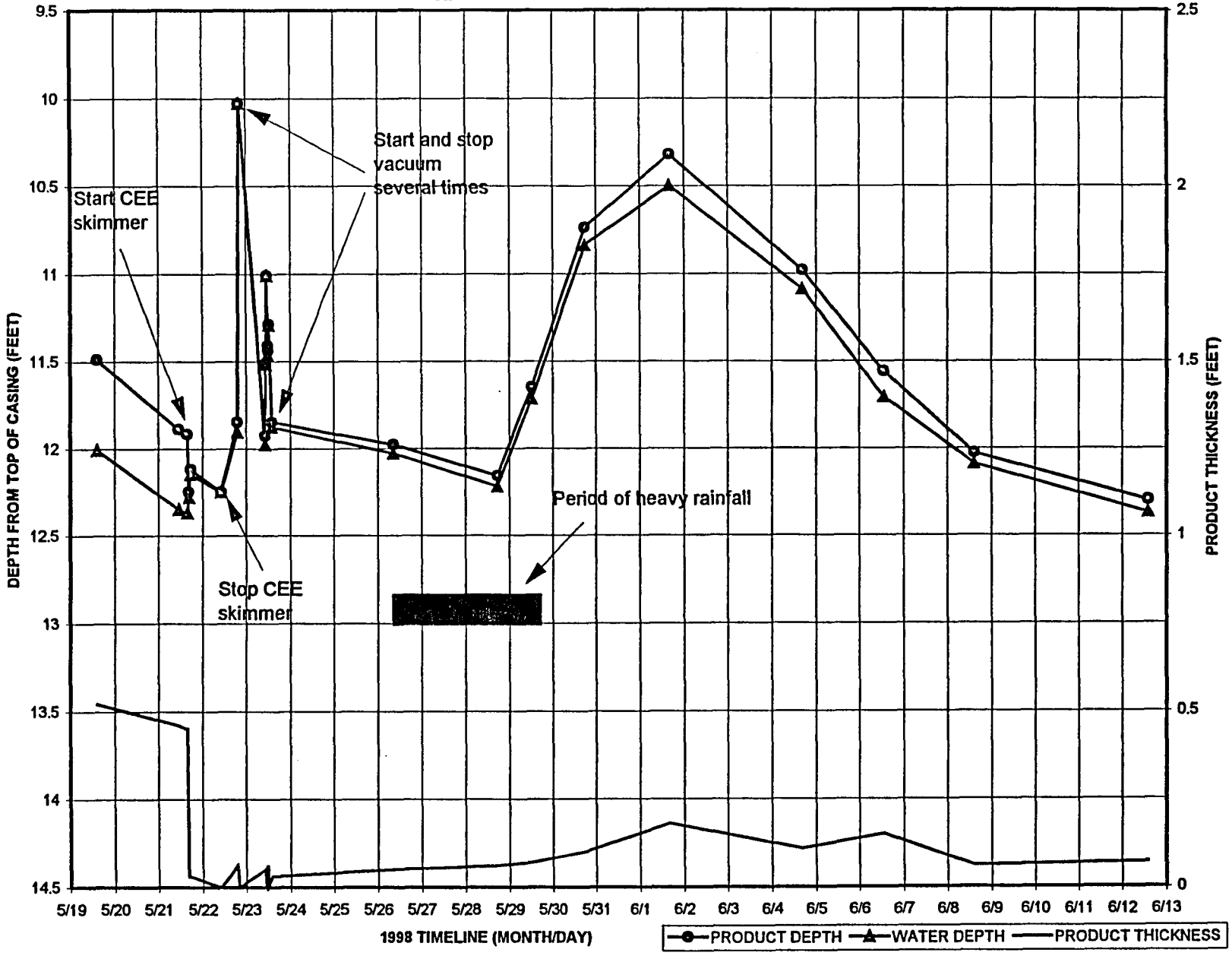

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FIGURE 5
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-36 PRODUCT THICKNESS DATA

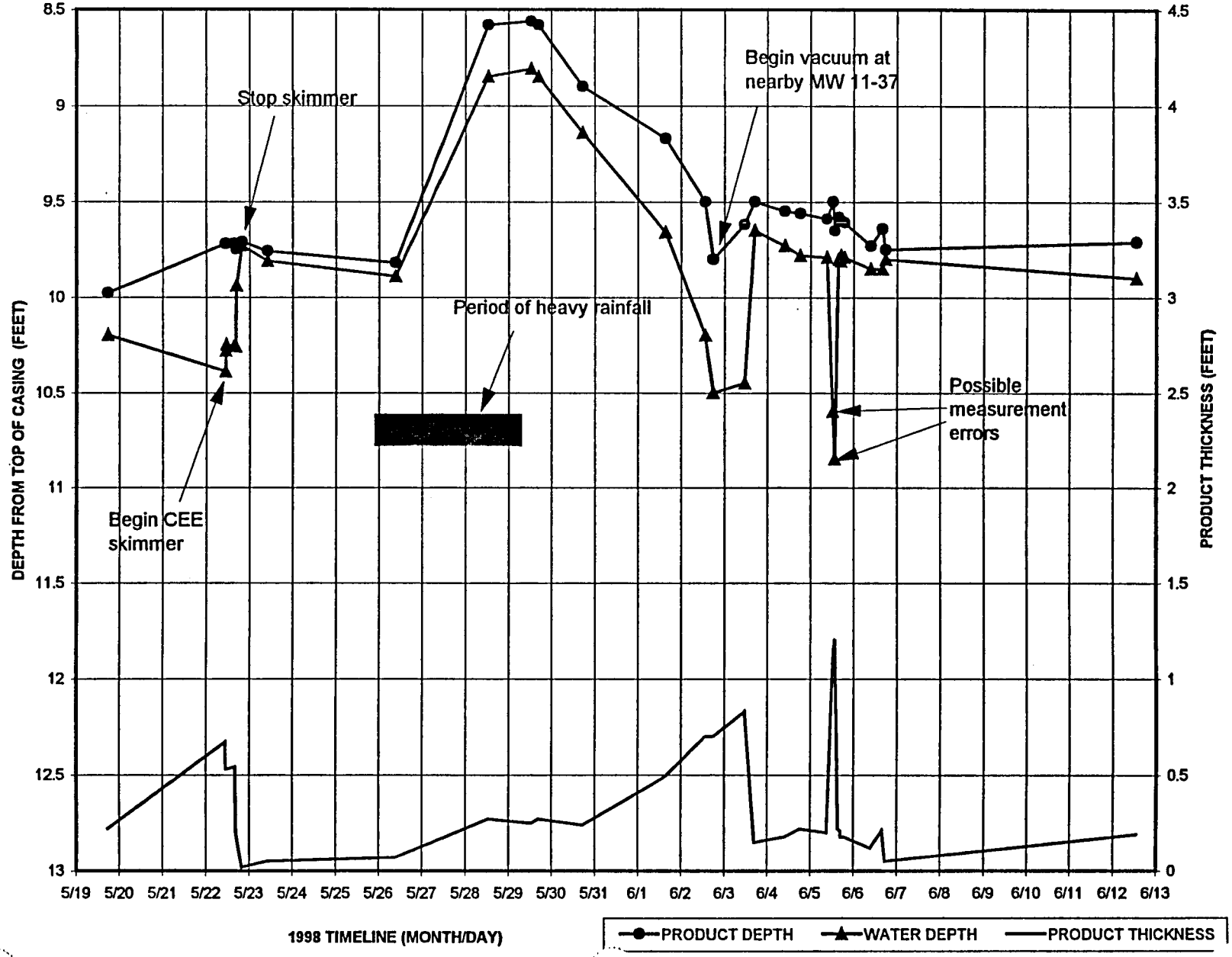

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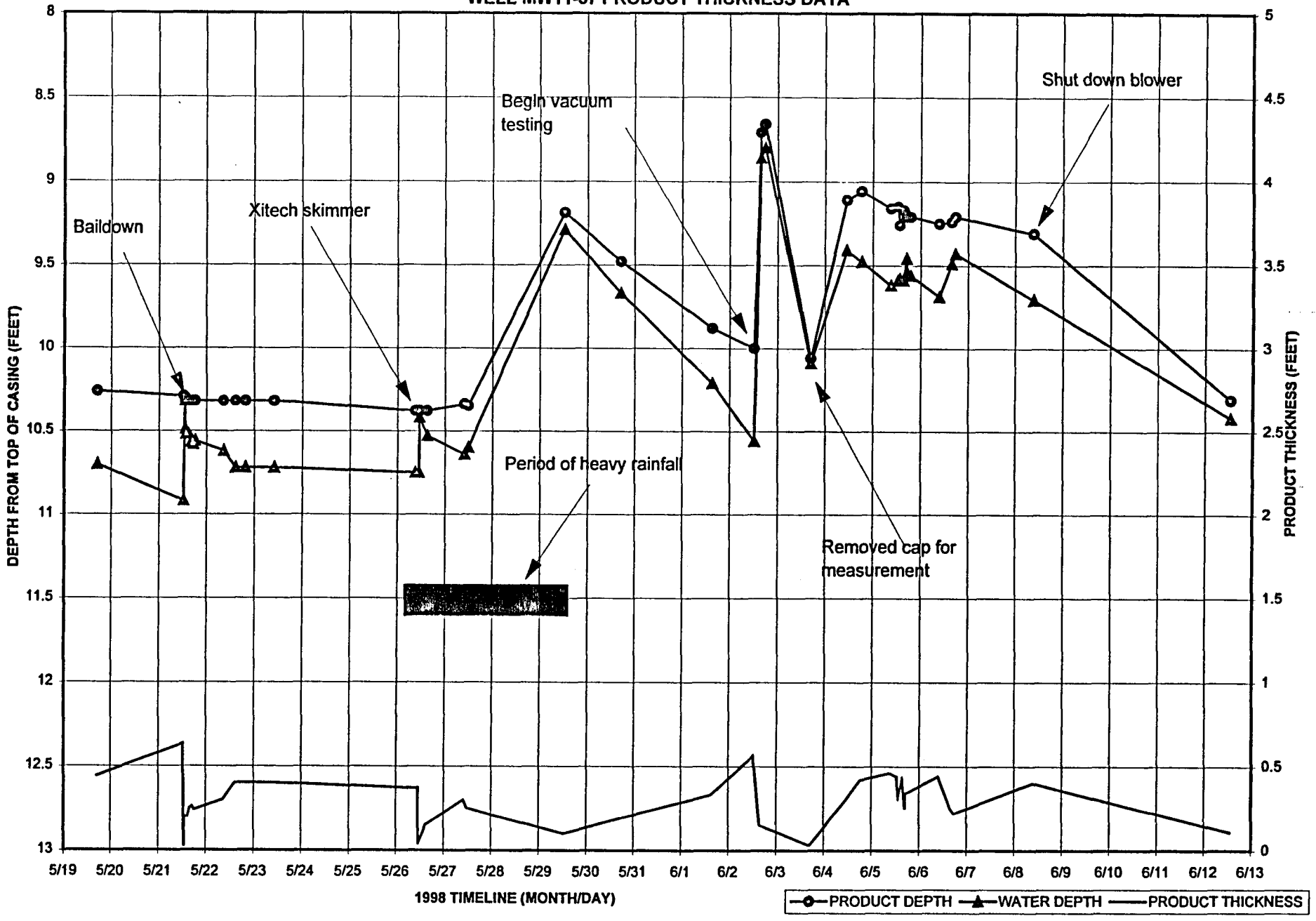
FIGURE 6
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW11-37 PRODUCT THICKNESS DATA



S:Project\Ptmolate\112\Site3pilot\Tech Memo Field Data.xls\09\23\98\dg

FIGURE 7
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL P86-9/10 PRODUCT THICKNESS DATA

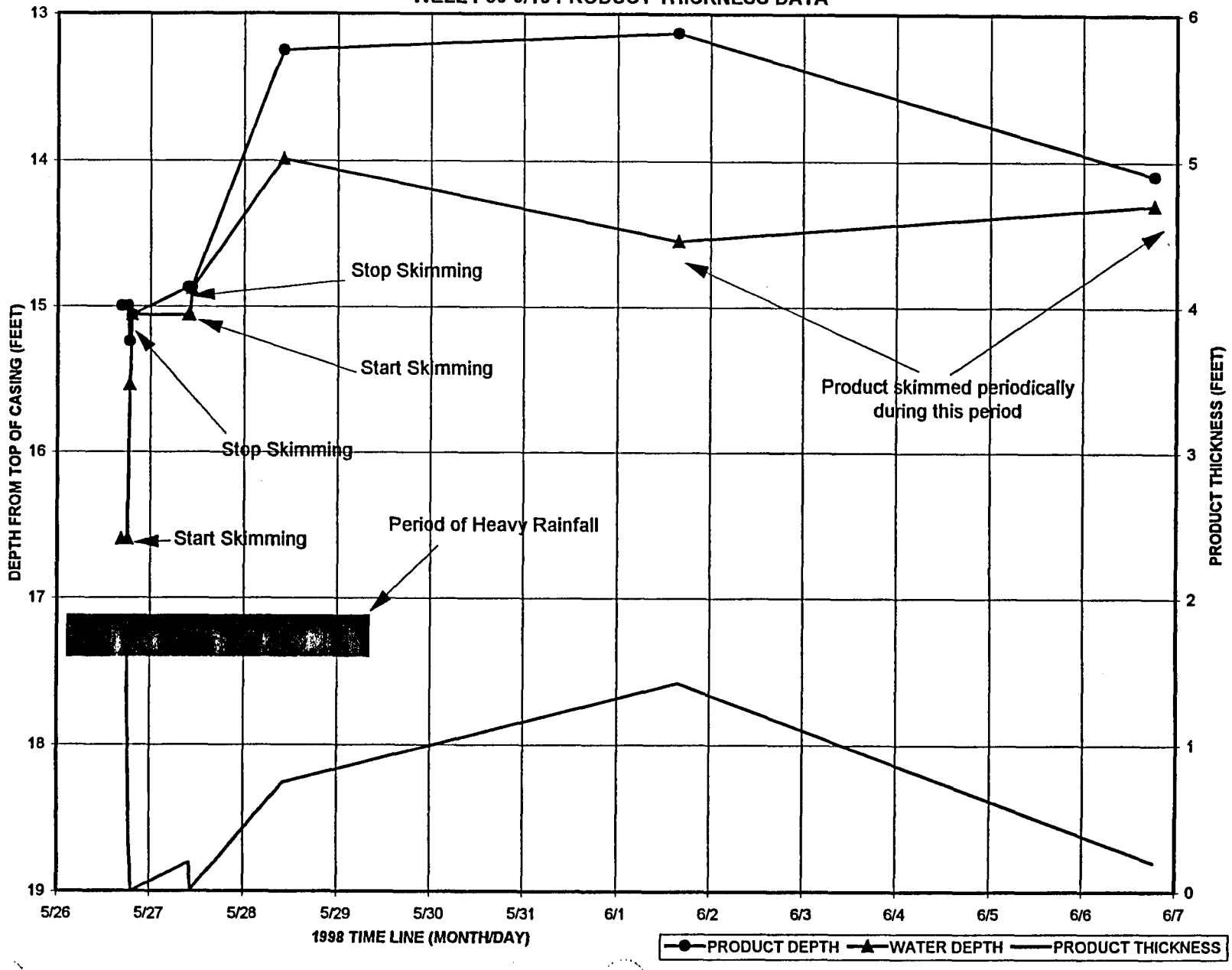


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FIGURE 8
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL P86-13/14 PRODUCT THICKNESS DATA

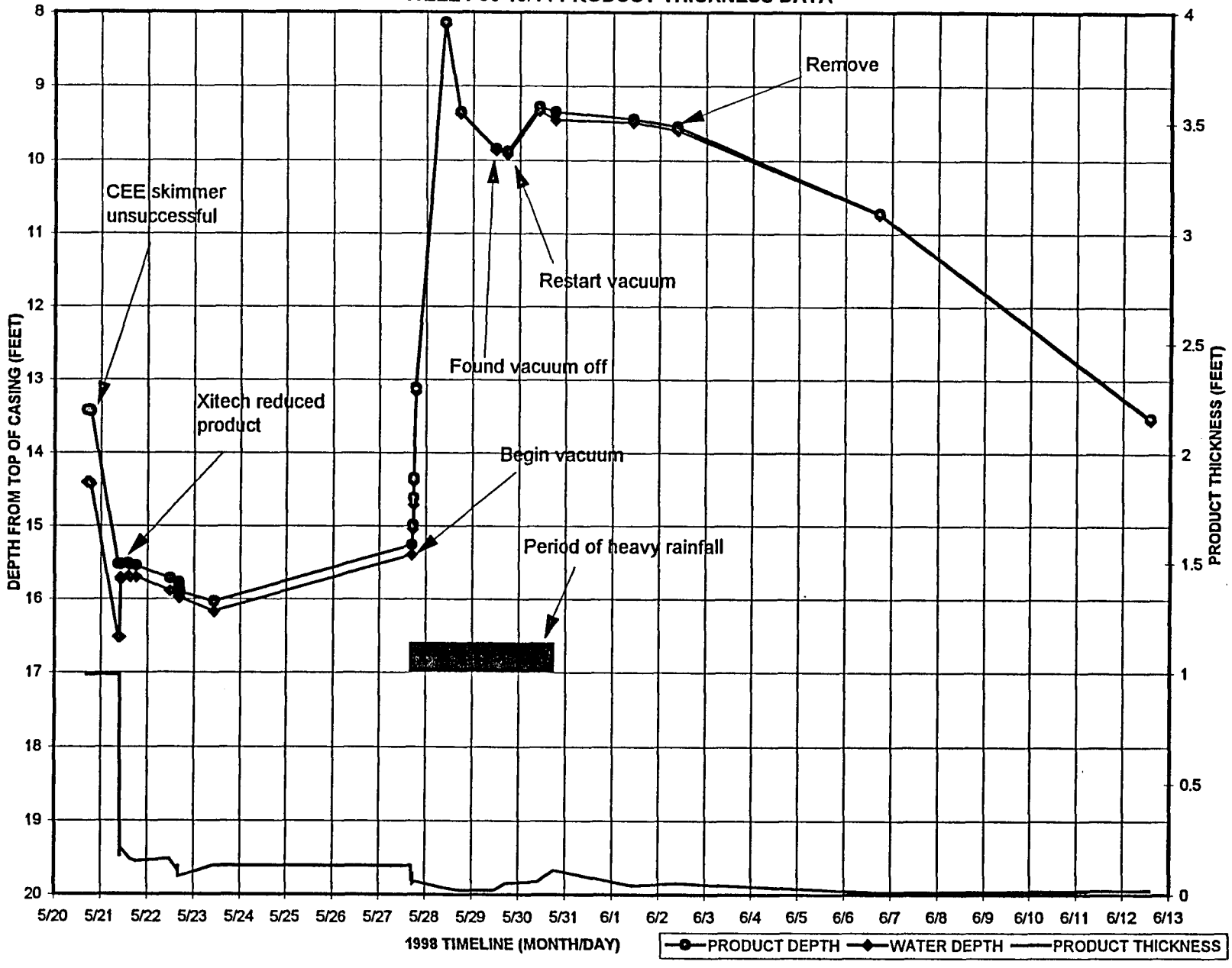

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FIGURE 9
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW-13+27 PRODUCT THICKNESS DATA

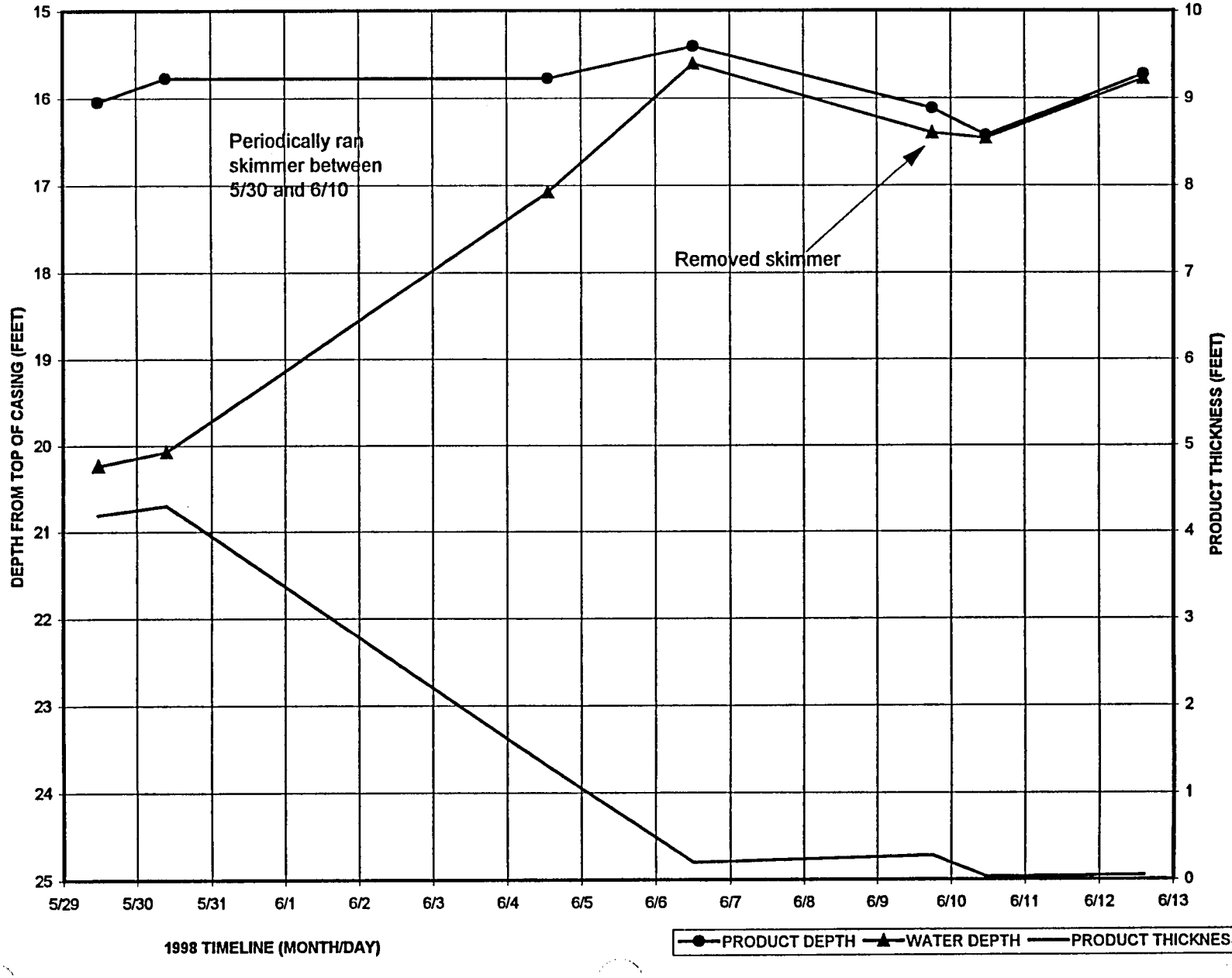

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FIGURE 10
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
TOTAL PRODUCT RECOVERED DURING BASELINE TESTING

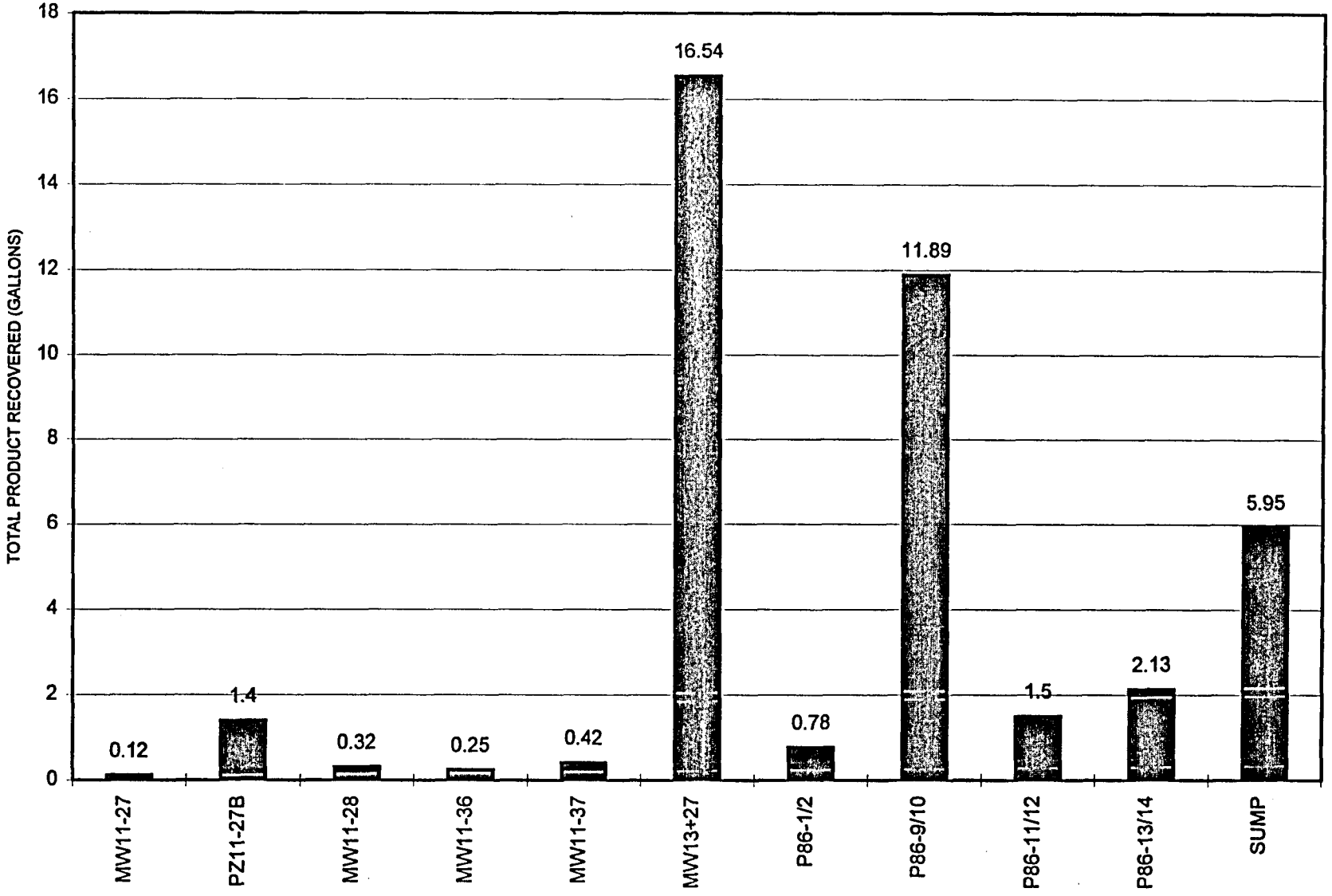

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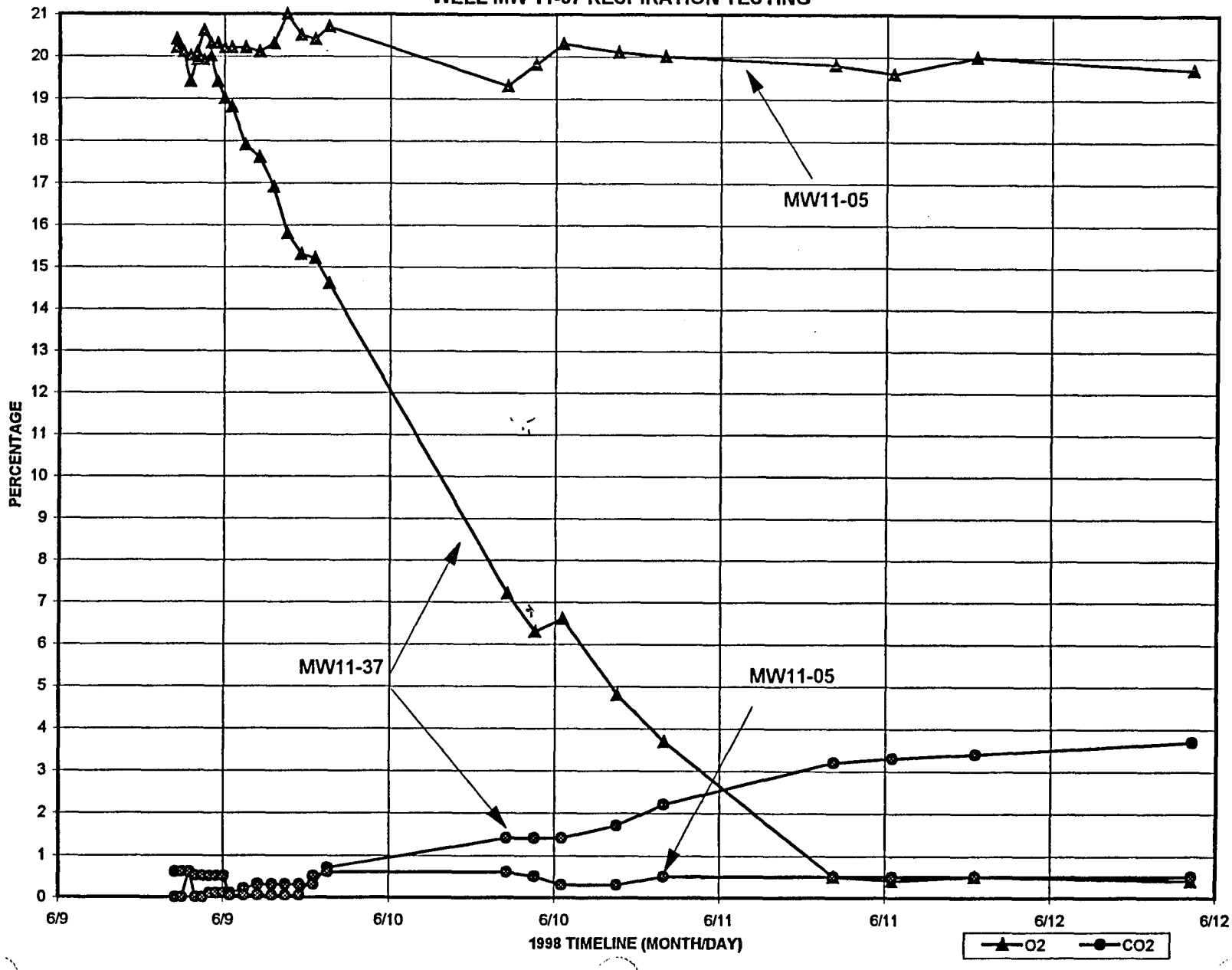
FIGURE 11
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-37 RESPIRATION TESTING



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APPENDIX A

BASELINE PRODUCT RECOVERY DATA

TABLE A-1
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-27 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/19/98 14:26	11.7	11.89	0.19	
5/21/98 10:40	12.83	12.99	0.16	
5/21/98 13:30	12.99	12.97	-0.02	CEE to sheen
5/21/98 17:29	12.98	13.02	0.04	
5/26/98 8:20	13.5	13.51	0.01	
5/26/98 11:10	13.51	13.51	0	Sheen
5/26/98 11:57	13.51	13.51	0	Start blower
5/26/98 12:10	13.02	13.05	0.03	
5/26/98 12:23	12.92	12.92	0	
5/26/98 12:25	12.78	12.78	0	
5/26/98 13:37	9.95	9.95	0	
5/26/98 16:55	9.57	9.57	0	
5/27/98 9:07	10.54	10.54	0	
5/27/98 10:43	10.54	10.54	0	Shut-off blower
5/27/98 19:00	9.96	9.96	0	Sheen
5/29/98 12:00	11.31	11.34	0.03	
5/30/98 17:12	10.23	10.31	0.08	
6/1/98 16:03	9.99	10.09	0.1	
6/4/98 15:39	10.34	10.43	0.09	
6/6/98 12:37	11.27	11.3	0.03	
6/12/98 14:08	12.79	12.81	0.02	

Note: DTP and DTW measurements adjusted for riser

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-2
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-28 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/19/98 14:14	11.49	12.01	0.52	
5/21/98 10:45	11.89	12.35	0.46	
5/21/98 15:10	11.92	12.37	0.45	
5/21/98 15:35	11.92	12.37	0.45	Start the skimmer
5/21/98 16:20	12.25	12.28	0.03	
5/21/98 17:15	12.12	12.15	0.03	
5/22/98 10:00	12.25	12.25	0	Stop the skimmer
5/22/98 18:51	11.85	11.91	0.06	
5/22/98 18:56	11.85	11.91	0.06	Start blower
5/22/98 19:50	10.03	10.03	0	Shut-off
5/23/98 10:06	11.93	11.98	0.05	Start blower
5/23/98 10:36	11.51	11.52	0.01	
5/23/98 11:02	11.01	11.01	0	Shut off
5/23/98 11:30	11.41	11.47	0.06	
5/23/98 11:41	11.44	11.47	0.03	Start blower
5/23/98 12:00	11.29	11.295	0.005	Shut off
5/23/98 13:50	11.85	11.88	0.03	
5/26/98 8:10	11.98	12.03	0.05	
5/28/98 17:15	12.16	12.22	0.06	
5/29/98 12:15	11.65	11.72	0.07	
5/30/98 17:40	10.74	10.84	0.1	
6/1/98 15:55	10.32	10.5	0.18	
6/4/98 16:15	10.98	11.09	0.11	
6/6/98 13:09	11.56	11.71	0.15	
6/8/98 14:29	12.03	12.09	0.06	
6/12/98 14:01	12.3	12.37	0.07	

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-3
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-36 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/19/98 17:15	9.98	10.2	0.22	
5/22/98 10:32	9.72	10.39	0.67	
5/22/98 10:53	9.72	10.28	0.56	
5/22/98 10:58	9.72	10.25	0.53	
5/22/98 15:10	9.72	10.26	0.54	
5/22/98 16:08	9.72	10.26	0.54	Start the skimmer
5/22/98 16:45	9.75	9.94	0.19	
5/22/98 19:45	9.71	9.73	0.02	Stop the skimmer
5/23/98 10:00	9.76	9.81	0.05	
5/26/98 8:50	9.82	9.89	0.07	Low Tide
5/28/98 12:22	8.58	8.85	0.27	1 Tablespoon recovery w/ CEE
5/29/98 12:34	8.56	8.81	0.25	
5/29/98 16:30	8.58	8.85	0.27	Restart skimmer/skimmer failure
5/30/98 17:05	8.9	9.14	0.24	
6/1/98 15:25	9.17	9.66	0.49	
6/2/98 13:15	9.5	10.2	0.7	Begin vacuum test at MW 11-37
6/2/98 17:45	9.8	10.5	0.7	
6/3/98 11:08	9.62	10.45	0.83	
6/3/98 16:47	9.5	9.65	0.15	
6/4/98 9:30	9.55	9.73	0.18	
6/4/98 18:15	9.56	9.78	0.22	
6/5/98 9:05	9.59	9.79	0.2	
6/5/98 12:27	9.5	10.6	1.1	
6/5/98 13:25	9.65	10.85	1.2	
6/5/98 15:22	9.58	9.8	0.22	
6/5/98 16:48	9.6	9.81	0.21	
6/5/98 16:58	9.6	9.78	0.18	
6/5/98 18:52	9.61	9.79	0.18	
6/6/98 9:18	9.73	9.85	0.12	
6/6/98 15:38	9.64	9.85	0.21	
6/6/98 17:33	9.75	9.8	0.05	
6/12/98 12:41	9.71	9.9	0.19	Final baseline

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-4
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-37 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/19/98 16:45	10.26	10.7	0.44	
5/21/98 12:20	10.29	10.92	0.63	Start bailing
5/21/98 13:03	10.3	10.32	0.02	Stop bailing
5/21/98 13:10	10.32	10.49	0.17	
5/21/98 13:20	10.32	10.52	0.2	
5/21/98 13:30	10.32	10.52	0.2	
5/21/98 13:40	10.32	10.52	0.2	Began bailing
5/21/98 13:50	10.32	10.52	0.2	Stop bailing
5/21/98 14:00	10.32	10.52	0.2	
5/21/98 14:10	10.32	10.52	0.2	
5/21/98 14:55	10.32	10.52	0.2	
5/21/98 15:55	10.32	10.57	0.25	
5/21/98 17:05	10.32	10.58	0.26	
5/21/98 18:05	10.32	10.56	0.24	
5/22/98 8:30	10.32	10.62	0.3	
5/22/98 14:40	10.32	10.72	0.4	
5/22/98 19:35	10.32	10.72	0.4	
5/23/98 9:55	10.32	10.72	0.4	
5/26/98 9:05	10.38	10.75	0.37	Low tide
5/26/98 10:55	10.38	10.75	0.37	Start the xitech
5/26/98 11:05	10.38	10.42	0.04	Stop the skimmer
5/26/98 11:15	10.38	10.42	0.04	
5/26/98 15:00	10.38	10.53	0.15	
5/27/98 9:45	10.34	10.64	0.3	
5/27/98 11:45	10.35	10.6	0.25	
5/29/98 12:22	9.19	9.29	0.1	
5/30/98 16:55	9.48	9.67	0.19	
6/1/98 15:05	9.88	10.21	0.33	
6/2/98 12:15	10	10.56	0.56	

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-4
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 11-37 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
6/2/98 15:45	8.71	8.86	0.15	Start blower
6/2/98 17:45	8.66	8.8	0.14	
6/3/98 16:47	10.06	10.09	0.03	Removed cap
6/4/98 10:57	9.11	9.41	0.3	
6/4/98 18:15	9.06	9.48	0.42	
6/5/98 9:05	9.16	9.62	0.46	
6/5/98 12:27	9.15	9.59	0.44	
6/5/98 13:25	9.26	9.58	0.32	
6/5/98 15:22	9.17	9.59	0.42	
6/5/98 16:48	9.21	9.46	0.25	
6/5/98 16:58	9.2	9.54	0.34	
6/5/98 18:52	9.21	9.56	0.35	
6/6/98 9:18	9.25	9.69	0.44	
6/6/98 15:38	9.24	9.49	0.25	
6/6/98 17:33	9.21	9.43	0.22	
6/8/98 9:15	9.31	9.71	0.4	
6/12/98 12:55	10.31	10.42	0.11	

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-5
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL P86-9/10 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/26/98 16:30	15	16.6	1.6	
5/26/98 18:00	15	16.6	1.6	Start the skimmer
5/26/98 18:36	15.24	15.54	0.3	
5/26/98 19:15	15.06	15.06	0	Sheen, Stop the skimmer
5/27/98 9:37	14.87	**15.06**	0.19	
5/27/98 10:00	14.87	**15.06**	0.19	Start the skimmer
5/27/98 10:30	14.87	**14.88**	0.01	Stop the skimmer
5/28/98 10:09	13.25	13.99	0.74	
6/1/98 15:45	13.13	14.55	1.42	
6/6/98 18:13	14.1	14.3	0.2	

Bold numbers: estimated values

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-6
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL P86-13/14 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/20/98 16:45	13.42	14.41	0.99	
5/20/98 17:45	13.42	14.41	0.99	Start CEE
5/20/98 18:35	13.44	14.43	0.99	Stop CEE
5/21/98 8:55	15.53	16.52	0.99	
5/21/98 9:30	15.53	16.52	0.99	Start Xitech
5/21/98 9:56	15.53	15.73	0.2	
5/21/98 9:58	15.54	15.71	0.17	Stop Xitech
5/21/98 10:07	15.53	15.74	0.21	
5/21/98 14:08	15.52	15.69	0.17	
5/21/98 15:06	15.54	15.7	0.16	Start Xitech
5/21/98 18:02	15.55	15.7	0.15	Stop Xitech
5/22/98 11:23	15.73	15.89	0.16	
5/22/98 15:45	15.78	15.89	0.11	
5/22/98 16:05	15.83	15.96	0.13	
5/22/98 16:08	15.91	15.99	0.08	
5/22/98 16:32	15.91	15.99	0.08	
5/23/98 10:15	16.04	16.17	0.13	
5/27/98 16:40	15.27	15.4	0.13	
5/27/98 17:05	14.99	15.05	0.06	Start vacuum at 16:50
5/27/98 17:30	14.62	14.72	0.1	
5/27/98 17:40	14.35	14.4	0.05	
5/27/98 18:35	13.11	13.17	0.06	
5/28/98 9:30	8.14	8.17	0.03	
5/28/98 17:20	9.36	9.38	0.02	

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-6
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL P86-13/14 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/29/98 11:25	9.85	9.87	0.02	Found vacuum off
5/29/98 17:30	9.88	9.93	0.05	Restart vacuum at16:00
5/30/98 10:05	9.28	9.34	0.06	
5/30/98 18:25	9.35	9.46	0.11	
6/1/98 10:18	9.45	9.49	0.04	
6/2/98 8:55	9.55	9.6	0.05	Shut off at 10:30
6/6/98 17:20	10.73	10.74	0.01	
6/12/98 13:52	13.53	13.55	0.02	

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

TABLE A-7
NFD POINT MOLATE
PHASE 1, SITE 3 TECHNICAL MEMORANDUM
WELL MW 13 + 27 PRODUCT THICKNESS DATA

Date and Time	DTP	DTW	PT	Notes
5/29/98 11:25	16.05	20.24	4.19	
5/30/98 9:20	15.78	20.08	4.3	
6/4/98 13:06	15.78	17.08	1.3	
6/6/98 12:13	15.41	15.61	0.2	
6/9/98 17:47	16.12	16.4	0.28	
6/10/98 11:10	16.43	16.46	0.03	
6/12/98 14:22	15.73	15.78	0.05	high tide

DTP: Depth to product from top of casing (in feet)
DTW: Depth to water from top of casing (in feet)
PT: Product Thickness (in feet)

APPENDIX K

RESPONSE TO AGENCY COMMENTS ON DRAFT PHASE II RI REPORT

Tetra Tech EM Inc.

1099 18th Street, Suite 1960 ◆ Denver, CO 80202 ◆ (303) 295-1101 ◆ FAX (303) 295-2818

February 3, 2000

Ms. Michelle Gallice Sondrup
Remedial Project Manager
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5181

Subject: **Response to Comments on Draft Phase II Remedial Investigation Report, Naval Fuel Depot Point Molate**

Dear Ms. Gallice Sondrup:

Please find enclosed the Tetra Tech EMI (TtEMI) responses to comments on the Draft Phase II Remedial Investigation Report for Naval Fuel Depot Point Molate in Richmond, California. All comments received from Base Realignment and Closure (BRAC) Cleanup Team (BCT) members including the California Regional Water Quality Control Board (RWQCB), U.S. Environmental Protection Agency (EPA) Region 9, and the City of Richmond are addressed in the enclosed responses.

After the BCT members concur with the responses to comments, the Final Phase II Remedial Investigation Report will be prepared at the Navy's direction. Please call me at (303) 312-8834 if you have any questions.

Sincerely,

Gary Miller

Gary Miller, P.G.
Senior Hydrogeologist
Project Manager

GM/rkr

cc: Ms. Violetta Limcolioc

contains recycled fiber and is recyclable

RESPONSES TO COMMENTS
DRAFT PHASE II REMEDIAL INVESTIGATION REPORT
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA
JUNE 30, 1999

1.0 INTRODUCTION

This document presents the Navy's responses to comments received from the Base Realignment and Closure (BRAC) Cleanup Team (BCT) made up of the Regional Water Quality Control Board (RWQCB), the U.S. Environmental Protection Agency (EPA), and the City of Richmond on the Draft Phase II Remedial Investigation (RI) Report for Naval Fuel Depot (NFD) Point Molate, dated June 30, 1999. Comments were received from Ms. Linda Dorn of RWQCB in a letter dated September 27, 1999 (Section 2.0). Comments were received from Mr. Phillip Ramsey of the U.S. EPA Region 9 in a letter dated October 11, 1999 (Section 3.0). Comments were received from Mr. Kent Kitchingman of Richmond in a letter dated November 11, 1999 (Section 4.0).

2.0 RESPONSES TO RWQCB COMMENTS

GENERAL COMMENTS

Comment 1: The report is comprehensive in nature and does a good job of summarizing and centrally locating historical data from previous investigative work over the last 10 years. Generally, the presentation of the data is not confusing, therefore allowing the reader to agree or disagree with the conclusions proposed in Section 8.

Response: Comment acknowledged.

Comment 2: Information collected as part of the current UST [underground storage tank] investigation should be included where the data is relevant to an installation restoration (IR) site. Please include this data where appropriate in the Draft Final RI Report. The site conceptual model for the site has historically shown the primary migration of contaminants along the backfill of buried pipelines. The laboratory analytical results of soil samples collected during the Site 4 pipeline removal do not indicate the backfill of the pipelines is a preferential product migration pathway. The site conceptual models should be refined to reflect all information collected to date.

Response: Pertinent data from the UST investigation will be included. However, please note that many areas of the UST investigation are not proximal to IR sites and have no relevance to IR site characterization. IR Site 4 pipeline removals at the time the Draft Phase II RI Report was written were mostly in areas where pipelines were shallow and perpendicular to the shorelines. These areas may not be representative of all pipelines based on previous results. Conceptual models have been and are being refined for the Final Phase II RI Report.

Comment 3: In discussing fate and transport of bunker fuel please expand on what actions can be taken to better understand the future significance of hydraulic flushing in the migration of contaminants at the site.

Response: Information about hydraulic flushing will be added. No specific actions have been taken in the field to investigate hydraulic flushing at this time.

Comment 4: Preferential migration pathways should include a discussion of geologic features such as bedding planes, fractures, and faults. Point Molate is located in an area dominated by highly fractured Franciscan Formation bedrock. The interbedded shale observed in outcrops at Point Molate should be evaluated as a preferential migration pathway for pollution.

Response: The bedrock has not functioned as a significant migration pathway at Point Molate because light nonaqueous phase liquid (LNAPL) contaminants tend to remain at the capillary fringe and upper water table. In addition, the water table is within fill or colluvium at most areas of IR Site 1 and at all areas of IR Sites 3 and 4. Some discussion of the potential for migration within fractured rock and other structural features will be included; however, it is not considered a significant pathway. As pointed out in Chevron documents (BDEM 1992), fractures are often short, do not cross bedding planes, are usually filled with clay or secondary minerals, and are omnidirectional. This information is presented in Section 3.4.3 of the Draft Phase II RI Report.

Comment 5: The Final Phase II Remedial Investigation Report must be signed and stamped by a California registered civil engineer, California registered geologist, or a California certified engineering geologist, according to the Business and Professions Code for the State of California, Division 3, Section 6735 and Chapter 12.5, Articles 3, Sections 7835 and 7835.1.

Response: The Final Phase II RI Report will be reviewed and signed by a California registered geologist.

Comment 6: A summary table of all groundwater measurements in all wells, not just wells measured as part of a quarterly or semi-annual monitoring event, should be supplied either with each IR site discussion of the nature and extent of contamination or as an appendix.

Response: A table of all groundwater and product elevations and measured free product thicknesses since 1994 will be included in an appendix in the final report.

SPECIFIC COMMENTS

Comment 1: Section 1.3.1, Site Description and Regulatory Stakeholders. The RWQCB is the lead agency and has issued Board Order 97-124 specifying Site Cleanup Requirements and Board Order 97-125 setting a Time Schedule for cleanup and establishing administrative civil liabilities for late reports.

On page 1-5, What removal action occurred at IR1?

Response: RWQCB was identified as the lead regulatory agency in Section 1.3.1. The board orders will be added.

No previous removal action occurred at IR Site 1. The statement refers to the June 1998 BCT strategy meetings that advocated moving the IR Site 1 Waste Disposal Area into an engineering evaluation and cost analysis (EE/CA) and a removal action rather than pursuing a lengthy feasibility study (FS) process.

Comment 2: Section 1.3.3.10, Chevron Richmond Investigations. Chevron completed an Additional Hydrogeologic Investigation, S.P. Hill Tankfield, by BEDM, April 30, 1993. Wells 366F and 423F, installed adjacent to tanks which previously did not have leak detection bottoms, contained measurable separate phase petroleum hydrocarbons. Well 366F was installed with a screen interval starting at approximately 80 feet bgs and well 423F was installed with a screen interval starting at approximately 125 feet bgs. Both wells were installed in the interbedded Sandstone, mudstone, and siltstone (KJss).

Response: Relevant bedrock data from the 1993 Chevron report will be added to Section 1.3.3.10.

Comment 3: Table 2-2, Soil Borings, Monitoring Wells Development and Sampling Data. Please include material/soil type, with screen interval.

Response: The material and soil type and the screened interval will be included in Table 2-2.

Comment 4: Section 2.3.3, Groundwater Sampling, page 2-8. Not all new wells were sampled. Well MW02-15 was not sampled. Please include field data sheets for wells not sampled due to groundwater not recharging into the well.

Second paragraph on page 2-8, please identify which existing wells were redeveloped for sampling and specify method used to redevelop the wells.

Response: The text will be changed to indicate that well MW02-15 was not sampled because it was pumped dry and did not recharge sufficiently during the sampling event.

The field development sheet for well MW02-15 will be included as a figure.

Redevelopment information will be added to this section.

Comment 5: Section 3.4.2, Point Molate Geology. The Chevron facility at S.P. Hill tank field contains geologic information from the western side of the Potrero Hills, the same side of the ridge as Point Molate. Why was the Additional Hydrogeologic Investigation, S.P. Hill Tankfield, by BEDM, April 30, 1993 not used to compare or add additional geologic information?

Response: The referenced report was not located in the RWQCB library at the time these records were researched in July 1998. This material will be reviewed for comparison, and additional information will be added as appropriate.

Comment 6: Section 3.4.3, Bedrock Structures, page 3-8. The majority of fractures are noted as being closed or healed with quartz and oxidation. Please quantify the extent to which the bedrock fractures were closed.

Response: The geologist who logged the bedrock cores estimated that 90 to 95 percent of the fractures were filled with secondary minerals, clay, and silt. The extent of closure of these fractures in situ is impossible to estimate because drilling and coring stresses tend to reopen these existing fractures by breaking this mineralization.

Comment 7: Section 3.6, Hydrogeology, The Additional Hydrogeologic Investigation, S.P. Hill Tankfield, by BEDM, April 30, 1993 should be used as a source for hydrogeologic conditions similar to Point Molate since these two sites are in the same groundwater basin, the San Francisco Basin.

The statement is made "A true aquifer....does not exist at Point Molate." Looking at bedrock wells in the IR1 area, there exists a saturated permeable geologic unit, which appears by the calculated hydraulic conductivity values to be transmitting water. Please discuss why this does not qualify as a true aquifer.

The third paragraph of page 3-13 states "bedrock of a lower permeability than the overlying fill or naturally occurring sediments." In reviewing table 3-2, Hydraulic parameters, the hydraulic conductivity and Darcy Flow velocity indicate greater permeability of the bedrock than the colluvium, fill, and Bay mud. This discrepancy needs to be discussed.

Please discuss in detail your suspicions regarding a groundwater divide. Do you propose to collect more data to verify the groundwater divides?

Page 3-14, Please clearly identify on Plate 16, in cross-section, where the bedrock groundwater divide is located.

Page 3-20, Thank you for stating the bedding planes provide secondary porosity in the bedrock. This could also be considered a potential preferential pathway for migration.

Response: See response to Comment 5 regarding the inclusion of geologic information from Chevron.

There are many definitions of an aquifer. A geologic unit that is saturated and exhibits (at least localized) moderate hydraulic conductivity are a portion of the possible criteria. Several definitions from well-known hydrogeologic texts are:

"An *aquifer* is best defined as a saturated permeable geologic unit that can transmit significant quantities of water under ordinary hydraulic gradients (Freeze and Cherry 1979)."

"An *aquifer* may be defined as a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs. This implies an ability to store and to transmit water" (Todd 1980).

"Webster defines and aquifer as 'a water-bearing bed or stratum of earth, gravel, or porous stone.' Some strata are good aquifers, whereas others are poor. The most important requirement is that the stratum must have interconnected openings or pores through which water can move. The nature of each aquifer depends on the material of which it is composed, its origin, the relationship of the constituent grains or particles and associated pores, its relative position in the Earth's surface, its exposure to a recharge source, and other factors" (BOR 1981).

"An aquifer is a saturated bed, formation, or group of formations which yields water in sufficient quantity to be economically useful. Water-bearing formations and groundwater reservoirs are synonyms for the word aquifer. To be an aquifer, a geologic formation must contain pores or open spaces (both of these are often called interstices) that are filled with water. These interstices must be large enough to transmit water toward wells at a useful rate" (Driscoll 1986).

As shown in these examples, there are many definitions of an aquifer. The characteristics of saturation (localized at Point Molate) and possessing moderate hydraulic conductivity (also a variable characteristics that may not be representative over areas outside of the immediate vicinity of a specific well) are not a definite indication that a geologic unit is an aquifer. The Navy does not believe the majority of

Point Molate could sustain long-term groundwater withdrawal without dewatering in upland areas or ravines, or causing salt water intrusion in shoreline areas. The text will be modified to describe Point Molate as overlying a poor-quality aquifer unlikely to be used as a source of potable water.

The text does not specify that all bedrock is of lower permeability than overlying fill or naturally occurring sediments. It states that there may be some effects on groundwater flow in areas where it is of lower permeability.

The interpretation of existing groundwater divides has been presented in Point Molate documents since the early investigations. Because this interpretation has no effect on characterizing the nature and extent of petroleum-hydrocarbon contamination, this interpreted feature will not be investigated further.

Plate 16 will not be modified per the above response.

Regarding bedding planes and their effectiveness is providing secondary permeability, also see response to RWQCB General Comment 4. As noted in the response to General Comment 4, the fractures are generally short in the KJMS units (interbedded sandstones and mudstones), do not cross bedding planes, are usually filled with secondary minerals, silt, or clay, and are omnidirectional, providing poorly connected flow paths. The KJMS unit is interpreted to underlie the IR Site 1 area, and would provide a poor migration pathway for contaminant movement.

Comment 8. Section 3.6.5, Hydraulic Gradients and Velocities states, "Data indicate the bedrock is saturated, under water table, and possibly localized confined conditions..." does not correspond with the statement in Section 3 regarding whether a true aquifer exists at Point Molate.

The interpretation of the high hydraulic head in the ravine area being attributed to recharge in the coarse colluvium and weathered bedrock to the bedrock fracture system in IR Site 1 should be related to preferential migration pathways for migration of pollution.

Response: The text in Section 3 will be changed to further discuss the migration pathway's potential for containment movement. See response to Comment 7.

The Navy does not consider recharge to the bedrock fractures in IR Site 1 a potential preferential pathway. The term preferential pathway is intended to define areas where petroleum hydrocarbon or other contaminants would tend to migrate in a relatively confined area such as in pipeline bedding rather than within the primary matrix of the surrounding geologic unit. The bedrock fracture system at IR Site 1 and potential contaminants in the area probably do not constitute such a pathway for the following reasons: the bedrock flow may be too diffuse if the fractures (secondary porosity) are not interconnected enough to concentrate contaminant movement; the bedrock exhibits an upward gradient; and the contaminants in the area are LNAPLs and are prone to transport at the top of the water table. Analytical results from groundwater in bedrock wells upgradient and downgradient of IR Site 1 (BR02-18, BR02-19, and BR02-20) were all nondetect for total petroleum hydrocarbon (TPH) constituents. These results also indicate the lack of petroleum hydrocarbon migration within bedrock underlying the IR Site 1 ravine.

Comment 9: Section 3.7, Preferential Migration Pathways. The Navy should discuss why geologic features such as bedding plane, fractures, and faults are not mentioned as potential migration pathways.

Page 3-22, Geology, and geomorphology control topography. Perhaps the preferential migration pathway for the Tank 19 spill is fractured/weathered bedrock. Also, well MW02-07 is completed with 8 feet of a 10-foot screen completed in bedrock. Please include all the potential preferential pathways.

Response: See the response to the second part of Comment 8. Discussion will be added to Section 3.7 about the potential for bedding planes, fractures, and faults to function as migration pathways. Please note that no significant transport of hydrocarbons has ever been documented in bedrock at Point Molate. The Navy included all available information on the characteristics of bedrock bedding planes, fractures, and faults in Section 3.0 to document these features as possible migration pathways. However, the relatively low volume of secondary permeability, especially effective secondary permeability, makes these bedrock pathways unlikely transport paths for the majority of contaminant transport. The Navy's discussion of preferential pathways is focused, and has been focused for some time at Point Molate, on the routes of transport for the bulk of petroleum hydrocarbons, which pose the largest threat of contamination.

Anecdotal information from site personnel suggests that most of the release at Tank 19 traveled as surface flow. Phase I UST investigations in the vicinity of Tank 19 substantiate that hydrocarbon staining downgradient of the tank was encountered only in soil from 0.3 to 2.0 feet below ground surface (bgs) in fill and colluvial materials. Recent results from Phase II of the UST field program revealed no hydrocarbon staining below 0.75 feet bgs in a trench downgradient of Tank 19 near the confluence of "C" and "D" Roads (John DeAngelis, Tetra Tech EM Inc., personal communication, December 6, 1999).

It appears the release was carried off rapidly by the roadside drainage ditches and steep topography and migrated primarily on the surface until it spread out on lower-gradient soils near Catch Basin 2. A large amount of product was captured in Catch Basin 2 and recovered. There is no record of the volume captured.

Monitoring well MW02-07 is screened with 2.4 feet above the interpreted bedrock contact. The history of measured product in well MW02-07 does indicate it is within a path of petroleum migration in this area. However, it is not interpreted to be caused by a preferential pathway within the unweathered bedrock. As discussed in the geology section (3.0) of the Draft Phase II RI Report, the transition from colluvium downward to weathered bedrock is a gradational contact in some areas such as this area. The boring log for SB02-07 indicates a "sandstone and mudstone, severely fractured, clayey sand between fragments."

When the soil boring was logged, the first stained interval was noted to be approximately 14 feet bgs, coincident with the top of the horizon logged as weathered bedrock. The weathered bedrock is the primary horizon conducting water in this area.

The well was constructed to intercept and characterize groundwater, and not to monitor an overlying, dry horizon. Research on historical water levels in monitoring well MW02-07 indicates the shallowest recorded depth to groundwater was 13.56 feet bgs (January 1997) and that the deepest recorded depth to groundwater was 17.94 feet bgs (July 1994). These records indicate that the groundwater table is within, or just over, the logged depth of the weathered bedrock. These records describe a water table condition within a horizon of fractured rock fragments within a clayey sand matrix. This horizon has already been defined in Section 3.0 as water-bearing materials in this ravine.

Comment 10: Table 3-2, Hydraulic Parameters, SB02-01 was collected at 24-24.5'. The boring log written description calls the material collected at this depth colluvium, but the unified soil classification system (USCS [US Geological Survey]) calls it a gravel (GM). Also looking at the blow counts indicates a different material from what was located immediately above the 24-24.5' range.

Response: The colluvium generally consists of varying amounts of angular, weathered bedrock fragments in a matrix of varying proportions of sand and clay. In some areas, it could be described as a gravel, although this description generally does not account for the finer-grained matrix materials.

The variation in blow count occurs when the driven split spoon encounters the numerous large rock fragments in the materials. Higher blow counts indicate the spoon was being driven onto a rock fragment until it shattered, displaced out of the spoon's path, or caused refusal.

Comment 11: Table 3-3, Vertical Gradients Between Bedrock and Unconsolidated Materials. The first well pair is completed in bedrock, therefore the vertical gradient is between bedrock wells, not unconsolidated material and bedrock wells. Well MW02-07 has 8' of a ten-foot screen interval completed in bedrock; therefore two of the four well pairs are comparing vertical gradients between bedrock wells. The Navy should use well pairs screened appropriately in unconsolidated material and bedrock to compare a vertical gradient between the two material types.

Response: The title of Table 3-3 will be changed to "Vertical Gradients Between Well Pairs." As discussed extensively in the response to Comment 9, even though monitoring well MW-02-07 is completed in material logged as weathered bedrock, the water table is virtually always below the horizon regarded as the base of the colluvium. Therefore, the data on upward vertical gradients presented are a valid representation of the hydraulic regime in this area.

In regards to the first well pair, BR02-09 and MW02-13, a careful review of the boring log for monitoring well MW02-13 indicates that during drilling, "no evidence of water saturation" was logged in the 9.4 to 14.6 foot bgs interval, coincident with the base of the colluvium. The footnote on the base of the log indicates, "saturated conditions not observed during drilling." Based on actual observations made while drilling, the experienced field geologist installed the well in an interval, using professional judgment, likely to provide enough groundwater to enable collection of samples.

The judgment was made in the field to obtain a representative sample of groundwater downgradient of the IR Site 1 fill rather than target a potentially dry geologic unit that would provide no characterization data on groundwater quality and that may essentially waste a portion of the field budget.

Based on this information, the data will be used to define vertical gradients within the saturated zone and not between materials (in other words, the potentially dry overlying colluvium).

Comment 12: Section 4.1.1, Site History and Previous Investigations, page 4-2. The first paragraph of this section states the area was actively used for waste disposal from the 1940's to the mid 1980's. Please provide documentation to show the last time waste was deposited in the waste disposal area. The Basewide EBS Report provides documentation for Site 1 disposal history (PRC 1996a).

Response: According to reviews of aerial photographs, disposal was first visible in a 1957 photograph, but was not apparent in the previous facility aerial photograph in 1953. Aerial photographs show that disposal ceased by 1979, but the area appeared active in the previous facility aerial photograph in 1975 (PRC 1996a). After 1979, some debris and green waste were dumped on the surface of the disposal area. This text will be included in the Final Phase II RI Report.

Comment 13: Section 4.1.2 Sources. Three sources are identified in this section. The first source, petroleum wastes disposed of in the landfill is discounted as "not a significant source", the second identified source, upgradient sources is considered "to be dissipating", and the third source, releases from pipelines paralleling D road and the landfill, is discounted as "no longer a large mass". Separate phase free product measurements in well ERM-EW1 are increasing. Please address the source for this free product.

Also a 1990 release, identified in Waste Disposal Area Draft Phase I Report October 7, 1994, page 2-3, along D Road between vault boxes 7 and 8 is primarily JP-5. Therefore, it is understandable that the TPH-e found during the Phase II RI is primarily JP-5 and appeared "relatively fresh".

The fact the newly installed wells downgradient of the waste disposal area did not contain significant concentrations of petroleum hydrocarbons most likely can be explained by the screen interval being completed in bedrock and artesian groundwater conditions. These wells are not measuring any petroleum constituents leaching from the waste disposal area through the colluvium. Well MW02-15 is the closest in proximity to the waste disposal area that is appropriately screened to measure concentrations of petroleum leaching from the landfill. I understand this well was not sampled because it bailed dry quickly, please supply the field data sheets with the Draft Final Report for all wells sampled, or attempted to be sampled.

In IR Site 1, please explain why the groundwater sample collected from BR02-19 did not have any detectable petroleum hydrocarbon constituents. The bedrock sample collected at 24-25 feet below ground surface (bgs) contained greater than 18,000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH) (summing TPH as gasoline and TPH extractable as JP-5 range organics).

Response: The free product in well ERM-EW1 is attributed to possible leaks near Tank 18, piping from Tank 18 to Valve Box 7, Valve Box 7 releases, and releases between Valve Box 7 and Valve Box 8. Preliminary results from the Phases I and II UST investigations appear to substantiate this interpretation. Well ERM-EW1 is cross-gradient from (and at a higher elevation than) the IR Site 1 waste disposal area footprint, so that the waste disposal area proper cannot be the source of product in well ERM-EW1. As to the thickness of product in well ERM-EW1, it appears to be fluctuating based on measurements during product removal, and is probably apparent only and overestimates the amount of free product on the water table. Based on Phase I UST characterization, the section of pipeline near Valve Box 7 was recommended for inclusion in the basewide pipeline removal.

The JP-5 leak near Valve Box 7 was identified in 1990 and can be assumed to be "relatively fresh" at that time.

Although detectable TPH was found in soil samples from newly installed monitoring well BR02-19, no TPH was detected in groundwater samples. This difference likely occurred because the soil TPH represents residual, low solubility compounds that are strongly sorbed upon the soil matrix and are not receptive to dissolution. In effect, the mobile phase of the hydrocarbons is gone and the residual phase is all that remains. Thus, the retention capacity can be very high, depending on soil texture and natural soil organic carbon content.

The Navy does not agree with "The fact the newly installed wells downgradient of the waste disposal area did not contain significant concentrations of petroleum hydrocarbons most likely can be explained by the screen interval being completed in bedrock and artesian groundwater conditions." As stated in the responses to comments 9 and 11, much of the shallower geological material (colluvium) is unsaturated or irregularly saturated with only minor staining from petroleum hydrocarbons. Monitoring well MW02-15 is a good example. No saturation was observed during drilling. A well was still installed but yielded very small quantities of water. No free product was observed. Colluvium within the landfill footprint is partially saturated, however. The Navy interprets the lack of "significant concentrations of petroleum hydrocarbons" simply to the prior passage of mobile-phase hydrocarbons and the result that only residual, sorbed petroleum remains in the fill. Data for monitoring well MW02-06 support this interpretation, as only low levels of dissolved TPH and no free product are present. This well is far enough downgradient in the fill (and appropriately screened) that any "significant concentrations" would have been detected.

Comment 14: Section 4.1.3, Soil. The first paragraph discusses sludge deposited in the fill area. Please identify the industrial processes that generated the sludge. On page 4-6 describe the seasonal water table fluctuation in terms of feet. Also, describe the petroleum hydrocarbon wastes below the water table in terms of feet. When will the mapping of the waste disposal area be complete? Collecting samples to document the worst case scenario is the best sampling practice when using models to evaluate risk.

Response: All waste materials referred to as "sludge" (a terminology first used in the Phase I RI for the Waste Disposal Area) are petroleum-hydrocarbon wastes possibly from cleaning tanks (tank bottoms) or excavated materials. These wastes may have been generated when the former wooden valve boxes were demolished and replaced by concrete valve boxes.

The water table fluctuations will be described in terms of feet in this section.

The potential hydrocarbon wastes will be discussed in terms of feet below the water table.

Mapping of the Waste Disposal Area is complete. The footprint of the landfill shows where the majority of the waste is present. Additional debris at and immediately below the surface was found downgradient of the landfill footprint. This miscellaneous debris will be identified in the Engineering Evaluation and Cost Analysis (EE/CA) and included as part of any remedy at IR Site 1.

Nearly all judgmental samples at the IR sites have been collected because they represented potentially the most contaminated part of the population of the matrix encountered. However, for risk assessment, using the worst-case samples is not recognized as a representative method. Rather, the reasonable maximum exposure (RME) method is the most correct method for evaluating risk.

Comment 15: Section 4.1.4 Groundwater. When discussing free product measurements please use the most current data collected and discuss the amount of product historically in terms of feet. The data from the January 1999 sampling event shows .48 feet of floating product in well ERM-EW1. Please include historical cumulative tables for all wells summarizing groundwater elevations, depth to water, free product thickness, screen intervals, and unit the screen interval is completed in. Well MW02-07 has increasing concentrations of Total Petroleum Hydrocarbons (TPH) when the concentrations of all petroleum hydrocarbons are summed. The concentrations for summed TPH for well MW02-07 are summarized in the following table.

Sample Date	8/3/94	12/21/94	10/30/97	04/09/98	1/20/99
TPH-summed (micrograms/Liter)	73,071	340	338	16,580	52,400

Regional Board staff agrees the hydraulic conductivity value of weathered fractured bedrock is higher and therefore the flow rate is greater. Table 4-14 is referred to in the text on page 4-7, but is actually located in Section 3, as Table 3-3.

The Regional Board staff does not agree with the statement of a steady decline in free product, a decline in concentrations in groundwater downgradient of IR Site 1, and a diminishing source. The Regional Board developed guidance for low risk groundwater sites. The following three requirements have not been met:

A. Free product/source removal
B. Decreasing concentrations
C. Stable and attenuating plume.

Additionally there is not a plan to continue groundwater monitoring at this IR site to demonstrate whether product levels and increasing concentrations of Total TPH are due to seasonal changes and whether natural attenuation is occurring. Therefore, Regional Board staff does not agree with the conclusion that unless a human health risk assessment indicates a risk, no further scoping of remedial action for groundwater is warranted.

Response: The most recent data were provided in the Draft Phase II RI Report in Table 2-4. Comprehensive tables are being created. Because of the amount of data, these specific parameters may be divided between two or more tables.

These data for MW02-07 were reviewed and recalculated, and the following sums for all TPH constituents were:

Date	Results
8/3/94	473 mg/L
12/21/94	21 mg/L
10/30/97	38 mg/L
4/9/98	17 mg/L
1/20/99	52 mg/L

Note: mg/L = milligrams per liter

Summing TPH concentrations tends to "double count" hydrocarbons because of the chromatographic overlap of these purgeable and extractable carbon ranges analyzed. Also, for different standards of each fuel type. Benzene, toluene, ethylbenzene, and xylene (BTEX) compounds are already accounted for in the individual product types. Summing is in fact an overly conservative mean to estimate total hydrocarbons present.

The typographical error on Table 3-3 will be corrected.

Sources from the Waste Disposal Area fill and the ravine upgradient have demonstrated a decrease in petroleum hydrocarbon concentrations based on groundwater data. Cross gradient areas near well ERM-EW-1 have not shown steady decline, but are *unassociated* with the Waste Disposal Area fill. This area is part of the ongoing UST characterization.

In response to the three requirements of the regional board:

B. Free product is being removed and UST characterization may lead to further removal of sources, including pipelines near Valve Box 7.

C. Concentrations, when viewed over the whole area and not just in samples from one well, are decreasing.

D. The plume may still be migrating, as possibly shown in samples from well MW02-07, but attenuation has and is taking place. Also, wells ERM-EW1, MW02-14, MW02-15, MW02-16, MW02-17 and MW02-07 will be evaluated during the UST characterization and remediation work.

There are plans to continue groundwater monitoring at this IR site. For example, the area of the ravine downgradient of the Waste Disposal Area, including monitoring wells MW02-14, MW02-15, MW02-16, MW02-17 and MW02-07 are being sampled quarterly under the UST site characterization program. Monthly water levels and product measurements have been collected in monitoring well ERM-EW1 since September 1999.

Comment 16: Section 4.1.5, Surface Water, Plate 7B indicates artesian conditions at the toe of the waste disposal area. Are wetlands associated with this surface water? If a small wetland area exists please include the area on all plates associated with IR1.

Have the two ponds upgradient of ERM-EW2 ever been sampled for petroleum constituents? If the ponds have not been sampled please explain why they have never been sampled.

Why are these surface water bodies not discussed in the Surface Water section?

Response: Surface water ephemerally collects at three locations downgradient of IR Site 1. Characteristics of these three areas are common to coastal freshwater marshes, as described in an assessment of wetland resources at Point Molate (Tetra Tech Inc. 1996). These characteristics include the presence of hydrophytic vegetation, hydric soils, and a hydrologic regime that includes periodic soil saturation for some period during the growing season. Hydrophytic vegetation observed in the three areas includes arroyo willows (*salix lasiolepsis*) with sedges (*Cyperus eragrostis, Scirprus* spp.) and rushes (*Juncus* spp.) in the understory (Tetra Tech Inc. 1996).

Even though characteristics of these three areas are common to freshwater marshes, these three low-lying areas were specifically developed as collection ponds during the 1970s. The low-lying, manmade areas tend to accumulate water, particularly after rain, from natural seeps associated with the ravine. Petroleum products associated with past UST, pipeline, and valve box releases have affected groundwater and surface water (as seeps) that eventually may drain into these three areas. This area will be indicated on plan maps for IR Site 1.

These ponds have not been sampled. They were excavated to collect surface flows of fuels from releases, probably from Valve Box 9. A hydrocarbon sheen is occasionally visible around these areas. Sampling would only confirm the areas once captured fuel releases and not be indicative of natural surface waters, the same as other containment basins. They are ephemeral also and may not always contain enough water to sample.

These surface water collection basins will be discussed in the text as above.

Comment 17: Section 4.2.1, Site History and Investigations. Please explain what is meant by "high K based on recharge of the well."

When was the light non-aqueous phase detected in well MW11-22?

What aquifer tests were performed?

Why was boring SB11-95 not completed as a well? The last paragraph of this page is confusing. Only two wells were to be installed per the Field Work Plan, but 4 soil borings were installed. Three of the soil borings were converted to monitoring wells-2 unconsolidated, and one bedrock. Why were the extra borings drilled? Why was the fourth boring not converted to a monitoring well?

Please list the pilot tests that have been or are being performed.

Please convert pounds of free product to gallons.

Response: The phrase "high K based on recharge of the well" simply means the observed recharge of the given well is very rapid in response to water withdrawal, which infers a relatively high hydraulic conductivity in the immediate area of the well. That is, the well recharges rapidly when bailed or pumped.

LNAPL was detected one time in samples from well MW11-22 in July 1992. The well had been sampled once previously, on May 29, 1992, and contained no LNAPL. The LNAPL may have been induced to enter the well after extensive well development (250 gallons removed) and purging (80 gallons removed during purging for the May 1992 sampling). See PRC Environmental Management, Inc. (PRC) 1994, the Treatment Ponds Final Site Characterization Report, for further information on this event. No LNAPL has been detected again in samples from this well during or since the May 1994 quarterly sampling program.

Aquifer tests (limited pumping tests) were performed to estimate potential sustainable pumping rates for the extraction trench wells, the potential radius of influence for extraction wells, and the potential for salt-water intrusion caused by pumping. Analysis of data from these tests was limited to these specific objectives.

As stated in the Field Sampling and Analysis Plan (TtEMI 1998b), soil borings at SB11-94 and SB11-95 were proposed to "Further evaluate residual product and areas for product removal under the Site 3 pilot test." Neither boring was originally scoped to be completed as a monitoring well. Boring SB11-94 encountered silty clay fill with bunker fuel, but the geologist on site used field judgment that the boring would not produce a good well in the clay material. Boring SB11-95 encountered good water-producing fill (sandy gravel), and the field geologist judged this downgradient location a more useful place for a monitoring well.

Originally, the field work plan called only for an unconsolidated monitoring well, MW03-02, (to evaluate B and C tanks and the diesel road area) and a bedrock monitoring well, BR11-96, to be used to evaluate bedrock. The other two borings were for soil information only, as stated above.

The Phase I Pilot Test Memorandum was presented as Appendix G of the Draft Phase II RI Report.

The units will be converted to gallons; however, as stated on page 4-11 of the Draft Phase II RI Report, pounds were used as units because removals included vapor-phase as well as liquid-phase petroleum hydrocarbons. Product removed consisted of several types (densities) of product as well as mixtures. Therefore, establishing a representative density to convert to gallons will necessarily be an estimate and not necessarily accurate.

Comment 18: Section 4.2.2, Sources, page 4 -12. When are the treatment ponds scheduled for closure?

Page 4-11/4-12, Please include the data collected from well MW03-02 and any other data relevant to an IR site which was collected under the current UST investigation into the Draft Final Phase II RI.

Appendix G shows three samples analyzed for viscosity, not two. At 15 degrees Celsius viscosity was 208.24 not 20824 and 2244.36. Also mention that viscosities at 65 degrees Celsius showed an order of magnitude decrease in centistokes. Please include a brief description of what the unit of measurement for viscosity actually means.

Response: The schedule for closure of the treatment ponds has not been finalized. Currently, the treatment ponds are being used to treat stormwater runoff.

Data collected from well MW03-02 were included in the Draft Phase II RI Report (the well was installed as part of the Phase II RI). Relevant validated data from the UST investigations will be included in the Final Phase II RI Report.

Three samples were analyzed for viscosity, and the text will be changed accordingly.

The typographical error reporting viscosity will be corrected.

The decrease in viscosity will be noted in the text, although the reference in the text was intended to characterize the existing conditions at IR Site 3 and the petroleum hydrocarbons in situ, and not to discuss pilot-bench scale manipulation of these materials.

Centistoke is a measure of kinematic viscosity. The definition will be added to this section.

Comment 19: Section 4.2.3, Soil. What is the significance of more widespread pollution in the treatment pond area?

Page 4-15, In discussing each cross section, please explain exactly how the geologic condition will affect the potential remedial options of excavation, water extraction or circulation of fluids and water.

Have bedrock samples ever been analyzed for TPH in the treatment pond area? If so please identify the borings that have been sampled and analyzed for TPH and discuss the results. Boring SB11-44 showed elevated levels of volatile organic compounds (VOCs) at 17 feet bgs. Were these concentrations ever verified?

Response: The significance of more widespread contamination involves estimates of materials and contaminant mass for assessing remedial options.

The purpose of the remedial investigation is to assess the nature and extent of potential contamination and document physical conditions at the site. Normally, detailed discussion of the effects of geologic materials on remedial technologies is deferred to the feasibility study or an EE/CA.

A discussion of how the geologic characteristics may affect remedial options will be added, but should not be construed as limiting or excluding any potential remedial options for the Treatment Pond Area.

Bedrock samples have never been analyzed for TPH at IR Site 3 or any IR site.

Photoionization detector (PID) readings recorded on the borelog for SB11-44 were elevated in the interval at 17 feet bgs. Samples from this interval were submitted only for TPH analysis. Groundwater samples from June 1992 contained several VOCs. These data were discussed in the Treatment Ponds Area Final Site Characterization Report (PRC 1994). The VOCs detected were attributed to localized soil that remained after the former sump pond was excavated and not to widespread VOC contamination. This well has not been sampled again. Wells in this area have not been sampled regularly since the containment wall and extraction trench system were installed.

Comment 20: Section 4.3.2, Soil. Was the area around SB11-85 and SB11-86 exposed or excavated during pipeline removal?

Response: This area was excavated to the depth of the pipeline (approximately 6 to 7 feet bgs). This will be stated in the Final Phase II RI Report.

Comment 21: Section 4.3.4, Groundwater. Were water level measurements taken in May 1999? If so please supply this data in a groundwater measurement summary table.

We do not agree no further action is an appropriate recommendation for this IR site at this time because the soil sampling results of the pipeline removal could indicate the need for additional investigation. At a minimum, a monitoring schedule should be to demonstrate natural attenuation.

Response: Water levels were actually measured in late April 1999. These data were presented in Table 2-4 of the Draft Phase II RI Report.

Additional monitoring needs for the IR Site 4 pipeline removal area will be evaluated as part of facility-wide groundwater monitoring program.

Comment 22: Section 5.1.1, Bunker Fuel. Please compare book values to field measured values for viscosity of bunker fuel (page 5-3).

Response: Literature values for bunker fuel viscosity will be researched and included for comparison to the measured values presented.

Comment 23: Section 5.2.1, Hydrogeology. Please identify preferential flow pathways observed along Diesel Road and Tank G.

Response: Fuel migrating from Tanks B and C, as well as pipeline leaks along Diesel Road, have been identified as following the pipeline bedding down Diesel Road. This will be discussed in Section 5.2.1.

Comment 24: Section 5.3.1, Contaminant Fate at Sites 1, 3, and 4. Please add dissolution to groundwater to the fate options for migration to San Francisco Bay for IR Sites 1, 3, and 4.

Response: Dissolution will be added to the section.

Comment 25: Section 5.3.1.2, Site 3. Please explain why the Bunker Fuel migration will eventually stop.

Response: A finite mass of bunker fuel was left in soil and groundwater when the sump pond was closed in 1975. No new fuel bunker sources have been available. Removal of bunker fuel by the Navy and natural attenuation continue to reduce the finite mass of bunker fuel. Eventually, only bunker fuel sorbed on soil as a residual phase will remain and no significant amount of the mobile phase will be released without human physical intervention such as soil heating. However, the timeframe of attenuation is likely to be prolonged so that action will be necessary.

Comment 26: Section 5.3.2.5, Biodegradation. Is bunker fuel released during storm events? If it is then how effective is the extraction trench during storm events?

Response: Bunker fuel is sometimes affected by prolonged rainfall (rainy season) and appears to migrate into wells. This process is not completely understood in terms of where and how much of the petroleum is moving during these events. In fact, these changes may be attributable to capillary fringe effects on wells that cause changes in apparent thickness of LNAPL.

The extraction trench was designed to control water levels behind the containment wall. The containment wall has effectively controlled migration (that is, prevents migration to the bay) of bunker fuel, during both storm events and clear weather. The containment wall was not designed to control fuel migration on groundwater upgradient of the wall.

Comment 27: Section 6.1, Risk Assessment Scope, IR Site 1. As discussed in the August 4, 1999 BCT meeting a presumptive remedy of a CAP on the landfill may require a Risk Assessment before implementing a remedy.

Response: Consistence with EPA's landfill presumptive remedy guidance, alternatives being evaluated in the EE/CA for Site 1 will prevent future potential exposure pathways to debris, contaminated soils, and groundwater within the footprint of the landfill. No risk assessment is necessary before implementing these alternatives. However, future risk assessment may be necessary for the vicinity of Site 1 if potentially complete exposure pathways are identified (for example, to downgradient groundwater).

Comment 28: Section 6.4.2.2, Exposure Pathways. Deliberate soil and sediment ingestion is not uncommon among children under the age of four, which are not being evaluated.

Surface water does exist as freshwater in the IR 1 site area.

Are any additional discharges expected from Point Molate to the public beach area?

Response: The text will be revised to delete statements on pica behavior in children. The soil ingestion rate (200 milligrams per day) used for the child recreational visitor is consistent with Department of Toxic Substances Control (DTSC) (1992) and EPA (1991a) risk assessment guidance.

The text will be revised to state that fresh water does not exist at the public beach or at IR Site 4, the only area evaluated in this human health risk assessment (HHRA).

No discharges from other areas of Point Molate to the public beach area are expected.

Comment 29: Section 6.4.4.4.1, General Exposure Parameters, Exposure Frequency, Exposure Time, and Exposure Duration. What is the source for the child recreational visitor exposure parameters? Is the 95% Upper Confidence Limit used in estimating these parameters? Please clarify why the adult shellfisher is exposed for 2h/day for 26 days but the adult shellfisher is exposed for 350 days for the shellfish ingestion pathway.

Response: As stated in Sections 6.4.4.1 through 6.4.4.5, the exposure parameters for the child (and adult) recreational visitors were based on professional judgment. Available EPA and DTSC risk assessment guidance does not provide default values for the assessment of recreational receptor. Although general information is available on time-activity patterns (EPA 1997b), this information does not address the site-specific factors that would influence the amount of time and types of activities that would occur at the public beach area. Thus, exposure parameters for recreational receptors are typically based on professional judgment, taking into consideration site location, physical features, regional climate, and other determinants of exposure. The selected values were intended to represent the reasonable maximum exposure (RME) case for these receptors.

One of the purposes of the RI work plan prepared for Point Molate (TtEMI 1998b) was to reach agreement with the regulatory agencies on the exposure parameters to be used in the risk assessment, particularly given the absence of default values for the recreational visitor. The work plan was reviewed by the regulatory agencies and the exposure parameters were accepted at that time. With one exception (adjustment of the total shellfish consumption rate by the fraction of shellfish collected at the site), the exposure parameters were unchanged from the work plan. (Shellfish consumption is discussed further under RWQCB Comment 30.)

As noted on page 6-15 of the Draft Phase II RI Report, the shellfish ingestion rate of 9.2 milligrams per day (mg/day) was selected to correspond to the average daily ingestion rate rather than the amount of shellfish ingested per meal. Typically, agency guidance list fish (and shellfish) ingestion rates as a daily average, rather than the amount ingested per meal. Assuming a daily ingestion rate of 9.2 grams per day from all sources, the total amount of shellfish ingested per year would be 3,200 grams (9.2 g/day x 350 days/year). This total amount was modified in the risk assessment to reflect the fraction of shellfish ingested that were collected at Point Molate. (See also response to RWQCB Comment 30.)

Comment 30: Section 6.4.4.5, Equation and Exposure Parameters for Ingestion of Shellfish. The sporadic sightings should refer to who is making the sightings and a specific frequency. Therefore adjusting the total consumption rate to 20% may not be appropriate, and to error on the side of conservatism would be better to reduce concerns about uncertainties.

Also, a child is included as a shellfish receptor, but Section 6.4.2.1 states only an adult shellfisher will be considered for ingestion of shellfish. What is the rational for the child ingestion rate of shellfish?

Response: The shoreline and intertidal areas at the public beach area are distant from the former operations areas of Point Molate. Therefore, observations of shellfishing were incidental to activities by remedial investigation personnel working in the field; dates and frequency of sightings were not documented. Staff relating these sightings stated that sightings were infrequent. No information on species or quantity of shellfish collected is available.

Additional discussion of the uncertainties associated with the shellfish pathway will be presented in the final report. In particular, a range of risks associated with shellfish ingestion will be presented. That is, risks will be presented assuming that 20 to 100 percent of the shellfish ingested by an individual are collected from along the Point Molate shoreline. This information will provide a more complete characterization of the potential risks associated with this pathway and address uncertainties regarding the amount of shellfish that could be collected along the shoreline in the future. Information on risks associated with ingestion of shellfish collected from a reference location (that is, background risks) will also be presented.

Section 6.4.2.1 will be revised to state that shellfish ingestion is evaluated for both the adult shellfisher and a child.

As stated in Section 6.4.4.5, the shellfish ingestion rate was based on the body weight ratios of the child (38 kg) and adult (70 kg), or 54 percent. This is, the shellfish ingestion rate for the child was assumed to be 54 percent of the adult rate.

Comment 31: Section 6.5.3, Assessment of Total Petroleum Hydrocarbons. At Point Molate in general the primary pollutant is heavier fuels, but heavier fuels are not the "only" fuels expected to be present.

Response: In general, light fuels and VOCs have not been detected in samples of sediment or surface soils at Point Molate. No hydrocarbon constituents other than heavier-end fuels and their constituents have been detected at the public beach area and no releases in this area have been documented. This information will be added to Section 6.5.3.

Comment 32: Section 6.6.2, Cancer Risks. The Navy states U.S. EPA guidance generally does not address risks less than 10^{-4}. The U.S. EPA actually generally requires remediation when a cancer risk level exceeds 10^{-4}. The range of cancer risk between 10^{-4} to 10^{-6} is considered a risk management range where remediation may or may not be required based on site specific conditions. The current land use is recreational and a potential future land use of adjacent property is residential therefore a cancer risk level of 10^{-6} should be used as a point of departure.

Response: Consistent with the EPA position outlined in "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (EPA 1991b), the Navy contends that action is generally not required unless risks exceed 10^{-4}. However, the Navy recognizes that EPA Region 9 and DTSC generally consider cancer risks between 10^{-4} and 10^{-6} to be within the risk management range where remediation may or may not be required based on site-specific conditions. The discussion in Section 6.6.2 was intended to provide the reader with benchmarks to help interpret the risk results and not to make risk management decisions. The text will be revised to better achieve this purpose.

Comment 33: Section 7.0, Background Soil Investigation for PAHs. Where were the background soil samples collected?

Response: Plate 1 shows the background sample locations. A citation to Plate 1 will be added to the text.

Comment 34: Section 8.1.1, Nature and Extent of Contamination. Please see specific comments in Section 4.1.2, Sources.

Response: Please see response to RWQCB comment 13.

Comment 35: Section 8.1.2, Fate and Transport. Increasing amounts of floating product at ERM-EW1 and increasing concentrations of total TPH in well MW-02-07 do not indicate attenuation is occurring. In August 12, 1999 the Regional Board requested the Navy to submit a plan for free product removal by September 14, 1999. To date the plan has not been received.

Not enough groundwater monitoring events have been performed to demonstrate natural attenuation. Proving seasonal fluctuation is difficult with only one sampling event from the fall, representing the dry season.

Response: A plan for free product removal (TtEMI 1999a) was submitted on September 17, 1999. Free product has been removed monthly since September 1999. A monthly report on product removal has been submitted to RWQCB after each removal event. Personnel from the Regional Board were present and observed product removal in November 1999.

Please see response to RWQCB comment 15.

Comment 36: Section 8.1.4, Conclusions IR Site 1. Additional data needs should be identified as part of the Draft EE/CA. The identified data gaps need to be completed before finalizing the Draft EE/CA.

The last sentence of the first paragraph states there is little evidence of floating product, well ERM EW-1 has over ½ a foot as evidence of floating product.

The last paragraph should state "Additional groundwater remediation measures maybe needed downgradient and cross gradient of the Waste Disposal Area." Selected clean up levels alone will not determine appropriate responses and the need for additional groundwater monitoring. The RWQCB's low risk guidance should be followed:

B. Removal of floating product as a primary source
C. Demonstrate stable plume
D. Decreasing concentrations of contaminants

Groundwater monitoring in this area should occur by fall 1999. On July 7, 1999 the Navy and their consultant, Tetra Tech EM, were sent a list of wells, via e-mail, which should be sampled.

Response: These data gaps appear to be relevant to the UST program, but not to IR Site 1. Well ERM-EW1 is not within the footprint of the Waste Disposal Area fill. This well is cross gradient and is influenced by releases that do not originate in IR Site 1. The Phase I and Phase II UST investigations have examined this area. Based on Phase I UST characterization findings, the pipelines near wells UB 7 and ERM-EW1 are recommended for removal as part of the basewide pipeline removal. Results of the Phase II investigation are not available at the time of this response, but will be submitted during early 2000.

RWQCB's low-risk guidance will be followed under the UST program. Product removal is being implemented. (See response to comment 35.) Plume stability and contaminant concentrations have been monitored since 1992 and will continue to be monitored.

Groundwater monitoring has been conducted in this area as part of the UST program.

Comment 37: Section 8.2, Summary for IR Site 3-Treatment Pond Area. The fourth bullet under "Data gathered during the phase II RI have" states the confirmation of decreasing free product volumes.

In evaluating table 4-13, Historic Product Thickness at IR Site 3, wells PZ11-31A, PZ11-27A, MW11-37, PZ11-37B, MW11-45, ZMW11-49, and well MW13+27 have all shown increasing amounts of free product since the facility quit operations in 1995. Perhaps a plate in Section 4 with wells with historic floating product measurements would be helpful to quickly see the big picture.

Response: Although some wells have shown increasing thickness of free product during specific events (usually connected to rainfall or other recharge events), overall, nearly all wells show a continued decrease in product thickness since 1994. A table will be added with all water levels and product thicknesses for IR site wells. A figure with historical product measurements will also be added.

Comment 38: Section 8.2.1, Nature and Extent. As mentioned in the last comment not all wells have shown a decreasing amount of floating product. Also it does not appear many samples (5), were taken where the current treatment ponds and former waste disposal pond overlap.

Response: See response to Comment 37. The area where the current treatment ponds and former sump pond overlap is difficult to access with a drilling rig (the distance between the current ponds is less than 10 feet), and extensive underground pipelines and utility lines create hazardous drilling conditions. Therefore, most sampling has been peripheral to these ponds.

Comment 39: Section 8.2.2, Fate and Transport. Why will the hydrocarbon concentrations continue to decrease?

The source discussion in Section 4.2.2 does not include tanks B and C.

How has containment "measurably" removed hydrocarbon mass? Please specify the attenuation mechanisms, especially for Bunker C.

Please add currently to the statement about the Offshore Ecological Risk Assessment indicating environmental receptors in the Bay are not being impacted. Conditions could change in the future, such as hydrologic, geologic, future land use changes, that could allow for the source in the treatment pond area to impact the organisms in the Bay.

Please put an estimated date in for the fuel Risk Assessment, UST program, and product action level development report (FPALDR) development.

Are the Diesel Road pipelines leaks and sources at tank B and C the same?

Response: The mass of petroleum hydrocarbons that remained in the ground at the time of base closure in 1995 is finite. Removal and attenuation can only cause a decrease. See the response to comment 25.

Tanks B and C will be discussed in Section 4.4.2

A statement will be added indicating that the no impact results from the Offshore Ecological Risk Assessment is a current condition. The Navy does not consider future releases to have potential for impacts equal to or exceeding documented releases in the past.

The Navy will revise the master schedule in January 2000.

The Diesel Road leaks and sources at Tanks B and C are not the same; however, the migration pathways for the releases all appear to follow the pipeline bedding downgradient, along Diesel Road.

Figures

Figure 4-1: Site 1-Waste Disposal Area and Site 4 Shoreline Areas Conceptual Site Model. The March 1990 line leak between Valve Box 7 and 8 is identified as F-76, but the 1994 Phase I Remedial Investigation identified this release as JP-5. A more recent JP-5 release occurred at Valve Box 9, please identify the release as JP-5.

Response: The release will be identified as JP-5.

Figure 4-2: Site 3-Treatment Ponds Area Conceptual Site Model. Tanks B and C should be identified as sources for continuing contamination. The extraction trench should be called the extraction trench and not 1995 containment wall. Please identify where the bedrock outcrops or subcrops in this area.

Response: Tanks B and C will be identified as potential sources. The extraction trench is ancillary to the containment wall and was added to control groundwater mounding. This terminology has been employed since 1996 (PRC 1996b) and will therefore continue to be used. Bedrock outcrops will be noted.

Plates

Plate 4: IR Site 1 Waste Disposal Area Groundwater Elevations and Cross Section Locations. The line of section should be extended to include well MW02-13, and labeled A'.

Response: The line of section will be extended to MW02-13 and labeled A'.

Plates 5 and 6: IR Site 1 Waste Disposal Area Trench Cross-Sections. Under each trench title please identify which wall (north, south, east, and west) was logged.

Response: The trenches were only 36 inches wide, and danger of soil collapse required that no one enter the trenches. Therefore, trenches were logged by viewing both sides of each trench and creating a composite view representing materials exposed on both walls of each trench. All measurements and materials logged were conservative and documented the most extensive and worst potential materials encountered. As a result, no one wall was logged.

Plates7A, 7B, 8, and 9: Please include groundwater and soil concentrations at all sampling points along the lines of section.

Response: These data will be added to the plates.

Plate 11: IR Site 1 Waste Disposal Area Soil Sampling Results. Please include all soil sample results for the soil samples with DA-identifications.

Response: The DA soil samples were analyzed by Eureka Laboratories. The EPA fined this laboratory for fraudulent analysis shortly after these samples were analyzed.

Therefore, the Navy decided, with EPA guidance, not to use these data in risk assessment or other decision making. These data are included, however, in the site inspection report (PRC 1992). Also, newer data better represent current conditions.

These data are not included in the Oracle database for Point Molate for these reasons. This issue was discussed with all BCT members, including RWQCB, in scoping meetings for the Phase II RI in March 1998, May 1998, and June 1998.

Plate 14: IR Site 3 Treatment Ponds Area Geological Cross-Section Locations. Please identify the extraction trench and the cut off wall.

Response: The containment wall will be identified on Plate 14.

Plate 15: IR Site 3 Treatment Ponds Area Shoreline Cross-Section A-A' Previous Soil Sampling Results. Some soil sample laboratory results have an "x" qualifying the concentration reported but the notes do not explain what the "x" means.

Response: The "X" qualifier appearing on results for several TPH samples on Plate 15, IR Site 3, indicates the chromatographic response did not resemble a typical fuel pattern. This qualifier is comparable to the "Z" qualifier also used in the data. The "X" qualifier was used before the "Y" and "Z" qualifiers were developed. This definition will be added to figures where the "X" qualifier is used and will also be added to the list of data qualifiers in Appendix A2.

Plate 16: IR Site 3 Treatment Ponds Area and IR Site 4 Drum Lot No. 1 Cross Sections Previous Soil Sampling Results. Please clearly identify in cross-section where the bedrock groundwater divide is located.

Response: The bedrock groundwater divide is an interpreted feature. The location is approximated and will be shown as such.

Plates 15-18: Please include:

B. Well construction details on each boring completed as a well.
C. Most recent groundwater elevation in addition to June 1993 groundwater elevation.

Response: These plates were constructed to show geologic conditions and the estimated extent of soil contamination. It would be very difficult in the computer-aided drafting and design (CADD) environment to include well construction details into these already very detailed color plates and would make the plates overly crowded. A supplemental set of black- and white-plates with the well construction details may be created if the existing plates cannot be properly modified.

The most recent groundwater elevations will be added to all cross sections for IR Site 3.

Plate 18: IR Site 3 Treatment Ponds Area and IR Site 4 Drum Lot No. 1 Cross Sections Previous Soil Sampling Results. Please check the connecting of strata between SB11-22 and SB11-44.

Response: SB11-22 does not appear on Plate 18. The stratigraphic correlations on Plate 18 will be reviewed.

Plate 19: IR Site 3 Treatment Ponds Area Primary Hydrocarbon Isopach in Soil. Does the bedrock outcrop have a primary hydrocarbon thickness of 0-5'.

Response: No. The bedrock contact with the fill is dipping at an extremely steep angle and the 0- to 5-foot contour interval is meant to show the potentially contaminated soils as pinching out against this outcrop.

Plate 24B: IR Site 4 Drum Lot No 1 Pre 1997 Groundwater Sampling Results. Contouring the 1994 sampling event as was done for the 1999 sampling event, on plate 24A would help see plume configuration changes over time.

Response: These 1994 data will be contoured. However, it should be noted that the linear array of wells (whose spacing was meant to detect migration to the bay) and the large number of non-detect data may result in a plume definition with little relationship to the 1999 well array and data.

3.0 RESPONSES TO U.S. EPA COMMENTS

GENERAL COMMENTS

Comment 1: While U.S. EPA believes the Navy has made a good effort to prepare the Pt. Molate Draft RI for the former Waste Disposal Area (Site 01), the Treatment Pond Area (former sump pond) (Site 03) and Drum Lot No. 1/Shoreline Areas (Site 04), there is one major deficiency: the failure of the Navy to address Groundwater Beneficial Use.

Response: Comments acknowledged on the effort to prepare the draft RI.

Based on discussions with and the recommendation of RWQCB during the November 2, 1999, BCT meeting, the groundwater beneficial use evaluation will not be included in the Final Phase II RI Report. The more appropriate documents for beneficial use evaluation include the corrective action plan (CAP) for the UST program sites, and documents that present post-action risk assessments, if necessary, or that establish cleanup levels for the IR and environmental baseline survey (EBS) sites. The RI will identify areas where groundwater is within 10 feet of the ground surface. These are areas where a pathway would be complete for a construction worker. The construction worker exposure pathway is considered the most likely risk scenario for groundwater exposure based on projected reuse plans for Point Molate.

Comment 2: The draft RI does not evaluate Groundwater Beneficial Use based upon federal groundwater classification guidelines. The Navy statement on page 3-13, that "[a] true aquifer, a saturated permeable geologic unit that can transmit significant quantities of water under ordinary hydraulic gradients (Freeze and Cherry, 1979), generally does not exist at Point Molate" does not represent an acceptable application of state and federal groundwater classification guidelines and evaluation of groundwater Beneficial Use Determination. If the Navy has data that indicates that groundwater is not a potential drinking water source, as defined by state and federal groundwater classification guidelines, please include this information.

Response: Please see the response to EPA General Comment 1 above and RWQCB Specific Comment 7.

Comment 3: Please note that the Navy was previously notified by U.S. EPA of a potential deficiency regarding Groundwater Beneficial Use Determination following EPA's review of a draft RI outline. Also, in early June, the Navy was provided with additional clarification on applying federal criteria for determining groundwater beneficial uses for Comprehensive Environmental Response and Compensation Liability Act (CERCLA) cleanups. This information was acknowledged by the Navy, but no clarification from the Navy was requested. A copy of this Groundwater Beneficial Use Determination clarification is enclosed (see Enclosure 2).

Response: Please see the response to EPA General Comments 1 and 2 for clarification.

Comment 4: For the Waste Disposal Area (IR Site 1), please clarify how the Navy has accurately estimated the volume of hazardous waste, waste oils/sludges, and fuel contaminated soils disposed at the site which will provide necessary cost information for an alternatives evaluation. U.S. EPA notes that on a number of plates (for example, Plates 5, 6, 7B, 8, and 9) the lateral and/or vertical extent of hydrocarbon stained material is <u>undefined</u>.

Response: The Navy believes the Phase I RI and Phase II RI field characterization work provide an adequate volume estimate of total fill materials and potentially fuel contaminated soils for the EE/CA. Please note, for example, that the linear feet of trenching conducted at the Waste Disposal Area was greater than 2.5 times the estimated footage in the final field work plan. These collective data for the Waste Disposal Area define the nature and extent of the fill materials adequately to satisfy EPA guidance (EPA 1993a, 1993b, 1996, and 1997a) for presumptive remedies for landfills and the requirements of the EE/CA.

In the EE/CA, 20 percent of fill is considered clean. This estimate was conservatively estimated based on the top 5 to 7 feet of visibly clean soil.

Comment 5: Also for the Waste Disposal Area (IR Site 1), the Draft RI indicates that the Navy will evaluate risks after completion of the Engineering Evaluation/Cost Analysis (EE/CA). While it is clear how this process would be applied to a removals action, it is unclear how the Navy would be able to recommend a cap/containment alternative(s) for the site without first completing a Risk Assessment. This issue is further complicated by the Navy's failure to address groundwater Beneficial Use Determination. Because of these concerns, at the August 18, 1999 BCT mid-month conference call, U.S. EPA encouraged the Navy to continue an ongoing dialog regarding the Site 1 EE/CA, in order to assist the BCT in accelerating the production of an acceptable document and maximize the use of limited financial and human resources.

Response: For presumptive remedies no HHRA is required prior to implementation. In the event of a removal by excavation and disposal, a preremoval HHRA would be unnecessary. This approach was discussed with the BCT while scoping the Phase II RI in June 1998.

Comment 6: Data and data validation components of the Draft RI have been reviewed by Mr. Joe Eidelberg, U.S. EPA's Quality Assurance Program (QAP) chemist in Memorandum dated July 27, 1999. While QAP staff conclude that, (1) soil and groundwater samples were generally collected and analyzed as described in the planning documents; (2) the report documents cases where variances to the planned activities have been necessary; and (3) data validation was performed in accordance with the planning documents and agency guidance, a number of specific comments are provided that should be addressed. For example, QAP identifies the Navy's volatile organic compound "grab" sampling techniques as inappropriate and inconsistent with U.S. EPA sampling guidance and U.S. EPA Region 9's recent *Regional Interim Policy for the Determination of Volatile Organic Compound (VOC) Concentrations in Soil and Soil Matrices*. June 23, 1999.

Response: Mr. Eidelberg's comments are addressed in the comment and response section following Mr. Ramsey's comments.

Comment 7: U.S. EPA's Interim Policy on VOC sampling was discussed on several occasions during the RI work plan stage, and despite efforts by U.S. EPA to reach a compromise, the Navy did not comply to U.S. EPA's request, citing "Navy policy". However, U.S. EPA staff has subsequently learned that the Navy at Mare Island has agreed to sample for VOCs using techniques consistent with the June 23, 1999 Regional Interim Policy. Additional comments are provided in U.S. EPA's Quality Assurance Program Memorandum (see Enclosure 3).

Response: See response to EPA Comment 6.

Comment 8: The Human Health Risk Assessment components of the Draft RI were reviewed by Dr. Jeffrey Paul of U.S. EPA's Technical Support Section. Based upon Dr. Paul's review, no major risk assessment concerns were identified.

Response: Comment acknowledged.

Comment 9: The Navy does not reference nor present Environmental Baseline Survey (EBS) sampling data in the Draft RI Report. Analytical data collected as part of the EBS Field Sampling Program needs to be integrated into the RI. Also, regarding the EBS, has the Navy considered bringing any or all portions of the Phase II EBS sampling work plan into the IR program? Given the multiple environmental areas of concern at Building 87, Parcel 30, the Navy should consider bringing Parcel 30 into the IR program in order to consolidate Feasibility Studies.

Response: The final report of the Phase I EBS sampling was completed during the Navy internal review of the draft Phase I RI and a few days before the draft Phase I RI was released to the EPA; therefore, these data could not be included in the draft. These data, as appropriate, will be included in the Final Phase II RI Report. However, it should be noted that the Phase II EBS focuses on several narrowly defined areas with releases of a different nature than the more widespread hydrocarbon spills and leaks in the IR sites. The Navy has decided the area of Building 98 and Parcel 30 will remain under the EBS program.

Please note the Phase II EBS sampling work plan was completed during November 1999.

SPECIFIC COMMENTS

Comment 1: Executive Summary, page ES-2. The first bullet, describing potential remedial actions for the Former Waste Disposal Area (Site 1) is incomplete. As discussed by the BCT, potential remedial actions must be evaluated to address contaminated groundwater, which may be determined to be a potential drinking, agricultural or industrial water supply.

Response: As discussed in the draft Site 1 EE/CA, no active remediation of groundwater is recommended based on the declining, low-level concentrations of petroleum hydrocarbons in groundwater; however, future monitoring is recommended. In addition, institutional controls are included with alternatives that leave waste in place to prohibit use of groundwater.

Comment 2: Executive Summary, Section 1.0, Introduction, and Plate 1, Facility Base Map and IR Sites: Additional text is needed preferably in both the Executive Summary and Introduction that identifies and lists the BRAC Parcels containing each IR Site. Also, Plate 1, Facility Base Map and IR Sites, should be revised to identify the BRAC Parcels and parcel boundaries.

Response: The BRAC Parcels that contain each site will be identified in the text and on Plate 1 or a new plate.

Comment 3: Introduction, page 1-3: Text indicates "[i]f capping is the selected remedy, streamlined risk assessments will be prepared..." As indicated in the general comments, please clarify how the Navy can evaluate the effectiveness of a cap if risks have not been first evaluated. Also, in the Navy's evaluation of a capping remedy, please clarify how groundwater beneficial use determination will be integrated into the evaluation. Given that groundwater may be suitable for drinking water and/or agricultural (i.e., irrigation) please clarify how will risks to humans be evaluated. Also, please clarify what is meant by "streamlined risk assessment."

Response: A presumptive remedy (a cap) may be implemented for the Waste Disposal Area without first completing an HHRA (EPA 1993a, 1993b, 1996, and 1997a).

The groundwater beneficial use evaluation will be separate from the Waste Disposal Area presumptive remedy. (See response to the first general comment.)

A "streamlined risk assessment" means that the Navy would target specific exposure pathways based on projected land use scenarios provided in the planning documents.

Comment 4: Section 1.3.3.5, SCAPS Investigation: U.S. EPA notes that this section concludes with the statement, "[r]esults of this program have been of limited usefulness in site characterization." Given the fact that Site Characterization and Analysis Penetrometer System (SCAPS) can be a cost effective tool that has been widely used by the Navy, please briefly describe why the Navy believes SCAPS was "of limited usefulness" at Point Molate. U.S. EPA staff would also like to point out that SCAPS data collected near the fuel pier (2 or 3 years ago) identified potential product, near the fuel pump substation where contaminated soil has recently been removed.

Response: The Site Characterization and Analysis Penetrometer System (SCAPS) is acknowledged as a useful field screening tool in many applications. The SCAPS program at Point Molate was conducted as a field test. No interpretive report of findings or other characterization report was written.

Data critical to quantitative and qualitative interpretation of the penetration logs, like calibration curves, were not provided. Data were mostly collected in areas of previously known petroleum hydrocarbon contamination. Therefore, previous and subsequent soil borings, groundwater analyses, and free product measurements have been a more reliable quantification for nature and extent analysis of the IR sites.

Comment 5: Section 1.3.3.6, IR Site 4 Removal Actions (1996-1998): Please indicate if the Navy has monitored groundwater elevations up and down-gradient of the containment wall wing-wall extension and evaluated the effectiveness of the extension. If fuel product has been detected in well MW11-22, it is likely that the trench extension may not have captured all the fuel product originally detected around well MW11-54. Also, please indicate the volume of fuel product that has been removed from well MW11-54.

Response: The Navy has monitored groundwater elevations both up- and down-gradient of the wing-wall extension and the extension appears effective. No free product has been detected in well MW11-22 since 1992 (before the containment well was constructed). Approximately 20 gallons of product have been recovered from well MW11-54 as of December 1999.

Comment 6: Section 1.3.3.7, IR Site 2 Sandblast Grit Removal Action: Please update this section and indicate when the Site 2 Record of Decision (ROD) is targeted for completion.

Response: This section will be updated. The ROD should be complete February 2000.

Comment 7: Section 2.5, Aquifer Testing: It is unclear why all aquifer tests were completed from bedrock monitoring wells. As indicated by U.S. EPA in November 19, 1998 (commenting on the Navy's *Draft Final Evaluation of Beneficial Uses for Groundwater Naval Fuel Depot Point Molate*, June 26, 1998), we are concerned that the Navy has not collected adequate shallow aquifer data. In addition to re-evaluating the need for additional shallow aquifer tests, the Navy should present in Section 3.6, Hydrology, all existing aquifer test data collected at the site, (i.e., pumping test data from Drum Lot No. 1).

Response: Bedrock borings have been amenable to packer testing. The shallow, unconsolidated materials will not survive packer testing because the stresses induced will cause the formation to slough or cave into the borehole and a long-term pumping rate cannot be sustained in most areas; therefore, a pumping test cannot be conducted, and single well slug testing has not been considered a useful indicator of the overall hydraulic properties of the formation.

Pumping test data from the 1996 pumping tests in Drum Lot Number 1 will be included in the appendix with other hydraulic data.

Comment 8: Section 2.7, Deviations from the Field Work Plan, page 2-12: On the first bullet, text indicates a "stilling well" was installed in lieu of the proposed well MW02-14, due to access limitations and muddy conditions. While it is unclear how the Navy was able to install MW02-13, located further to the north of the access road, the elimination of well MW02-14 is not acceptable to U.S. EPA and needs to be installed to determine what the shallow groundwater contaminant concentrations are at the base of the Waste Disposal Area. Also, for clarity please briefly define "stilling well." The Navy should also describe this design in Section 2.3, Groundwater Monitoring Well Installation, Development, and Sampling.

Response: Continuing rain during field operations made the site inaccessible after well MW02-13 was installed.

The necessity of an additional well is questionable. A number of wells are within and downgradient of the Waste Disposal Area. Wells downgradient (MW02-13, MW02-15, and BR02-19) show little to no contamination, as does well MW02-06, which is in the middle of disposed wastes. In addition, future actions to be taken at IR Site 1 will significantly reconfigure the area, requiring existing wells to be destroyed.

A "stilling well" was meant to be a gravel-packed, slotted pipe set in a shallow backhoe hole (less than 5 feet deep) to allow a shallow seepage sample to be obtained. Extensive surface seepage was observed during the Phase II field work and it was determined after drilling the deeper well MW02-13 that a monitoring well constructed to state specifications, with a 10-foot grout surface seal, would be screened below the groundwater flow. Well MW02-13 did not encounter water in the subsurface until the boring reached 20 feet below ground surface in weathered bedrock. The concept of this "stilling well" will be eliminated based on EPA and RWQCB comments and therefore will not be described in Section 2.3.

Comment 9: Section 3.6. Hydrology: As indicated in general comments, this section must be revised to include a discussion of groundwater beneficial use based upon both state and federal groundwater classification criteria and guidelines.

Response: Please see the response to EPA General Comments 1 and 2.

Comment 10: Section 4.1.1, Site History and Previous Investigations: Consistent with past BCT discussions on the Waste Disposal Area (Site 1), U.S. EPA requests that the Navy evaluate aerial photographs as part of the RI to better characterize disposal practices.

Response: The Navy has evaluated aerial photographs of the Waste Disposal Area during the Basewide EBS. Please see the response to RWQCB Comment 12.

Comment 11: Section 4.1.1, page 4-3: Text indicates one water sample was collected from the augers during drilling SB02-09. This method of collecting a water sample is not approved by U.S. EPA and is of questionable quality, especially if collected for VOC analysis. Please include this work plan deviation in Section 2.7.

Response: The sample was considered a field screening application and will not be used for the HHRA. This addition to the field work will be included in Section 2.7.

Comment 12: Section 4.1.2, Sources: U.S. EPA does not agree with and requests clarification regarding the Navy's statement that polynuclear aromatic hydrocarbons (PAHs) "are not interpreted to be a significant source for future groundwater contamination because the remaining compounds have low solubilities". While it is true that PAHs have low solubilities, the Navy should not ignore the fact that, based upon its own estimates approximately 20,000 cubic yards of waste oil contaminated soils and sludges were disposed of in the subject area, which U.S. EPA believe represents a significant and discrete source.

Response: The Navy has not ignored the petroleum-hydrocarbon stained soils in the Waste Disposal Area and is preparing alternatives to prevent exposure through the EE/CA process. This source is acknowledged to be discrete. The significance is believed to be low in terms of potential impact to groundwater. For example, well MW02-06, directly downgradient and within only a few feet of these wastes, shows only trace levels of petroleum constituents. The Navy believes these wastes exist only at near residual, nonmobile, concentrations.

Comment 13: Section 4.1.3, Soil: Text on page 4-5 indicates "[o]ne old, rusted empty drum was encountered" during trenching work. Please verify that the RI also makes reference to the one newer 55 gallon barrel labeled "Malathion" that has been observed in the brush at the base of the Waste Disposal Area by U.S. EPA and Navy representatives during various site visits.

Response: This reference will be added to the RI. Please note this drum was removed by the Navy, found to be empty of residue, and properly disposed of in May 1999. (See response to City of Richmond Comment 11.)

Comment 14: Section 4.1.4, Groundwater, page 4-7: The statement at the end of page 4-7 states that "[u]nless a HHRA [human health risk assessment]" indicates a risk, no further scoping of remedial actions for groundwater is indicated". As indicated in General Comments, U.S. EPA is unclear how the Navy could potentially support an remedial action alternative that is not supported by a HHRA or how the Navy could potentially exclude a risk pathway without support of a HHRA.

Response: Please see response to EPA General Comment 5.

Comment 15: Section 4.2.1, Site History and Investigations: Please clarify what the Navy means by "closure [of the sump pond]" in the first and third paragraphs.

Response: "Closure" in this case indicates the sump pond was taken out of use, partially excavated, and backfilled. This information was previously presented in the Treatment Ponds Site Characterization Report (PRC 1994).

Comment 16: Section 4.2.1: On page 4-10, text indicates salt water intrusion was not evident at MW11-27. Please verify if this is the correct well, because MW11-27 is located on the upgradient side of the containment trench.

Response: The text will be modified to clarify that these results were from characterization work at the Treatment Ponds Area in 1994 before the containment wall and extraction trench were installed in 1995 and 1996.

Comment 17: Section 4.2.1: On page 4-11, please provide additional support for the statement that "[t]the trench has been effectively capturing contaminated groundwater. For example, please indicate if the Navy's determination of effectiveness was based upon a review of technical information (i.e., water elevations) and/or costs. Also, in the same paragraph, please indicate the maximum treatment/flow capacity of the package groundwater treatment system.

Response: Effectiveness of the containment wall and extraction trench in controlling migration of free product has been evaluated based on technical information, including:

B. The observed effects of trench construction
C. Visual inspection for shoreface seepage
D. Results of the Offshore Ecological Risk Assessment (Entrix and Tetra Tech EM Inc. 1999)
E. Results of the Treatment Ponds Area Extraction Trench Performance Evaluation Report (PRC 1996c)
F. Evaluation of groundwater elevation contours through time.

Text will be added to address this comment including the treatment capacity of the system.

Comment 18: Section 4.3.1, (Drum Lot No. 1/Shoreline Areas) Site History and Investigations: Third paragraph should be modified to include Phase I Environmental Baseline Survey (EBS) sampling results for BRAC Parcel 30, Building 87, where recent sampling detected the highest concentrations of volatile organic compounds (VOCs) in groundwater to date. A similar comment applies to Section 4.3.4, Groundwater.

Response: Text will be added to Sections 4.3.1 and 4.3.4 to present the results of the Phase I EBS sampling. The text will also indicate these issues in BRAC Parcel 30, Building 87 will be addressed under the EBS program and not included in further RI investigations.

Comment 19: Section 5.1.4, (Fate and Transport) BTEX: Replace "adjective" with "advective" in second paragraph.

Response: This change will be made.

Comment 20: Second 7.1 (Background PAH Data) Summary Statistics: U.S. EPA is unclear about background sample SSBK-05. Based upon text, it appears that the laboratory raised the detection limits for this one sample. Has the Navy assessed why the laboratory modified the analysis? Does the chain-of-custody sheet request low-level detections? If so, the laboratory could be requested to recollect and reanalyze a replacement sample. Also, please explain why the Navy could not eliminate this "outlier" from the background data set given the unusually high (non-detect) detection limit and the relatively low detected PAH concentrations (the maximum detected PAH was Pyrene at 5.6 µg/kg or parts per billion).

Response: A dilution of 5 times (5X) was required for sample SSBK-05. The adjusted contract required quantitation limit (CRQL) for sample SSBK-05 is below the preliminary remediation goal (PRG) for the PAHs of interest. In accordance with Navy guidance and standard statistical practices, non-detected values above the highest detected value are not used in comparisons between background and site data sets. Therefore, reanalysis of sample SSBK-05 is not considered necessary at this time.

Comment 21: Section 7.4, (Background PAH Data) Conclusion and Recommendations: Text indicates that "...it is recommended that site data for PAH compounds be evaluate by comparison with the risk-based concentrations (that is PRG values)." The recommended risk screening would be acceptable for evaluating ambient concentrations only.

Response: Comment noted. Site data will be compared with background data sets in accordance with Navy guidance (Navy 1997). PRGs were presented in Table 7-1 to evaluate the utility of the data collected. This background data set was developed for comparison with site results. See also response to Comment 20.

Comment 22: Figures 1-1 through 4-1: In general U.S. EPA found the figures to be fairly well prepared; however, some minor changes are requested for the following figures:

A. Figure 1-1, Facility Location Map: Please add Richmond, California to the map.

B. Figure 4-1, Site 1 - Waste Disposal Area and Site 4 - Shoreline Areas Conceptual Site Model: The illustrated conceptual site model (CSM) does not include any groundwater pathways. U.S. EPA recommends that a tabular CSM be developed to identify groundwater exposure pathways (see for example Alameda Point (former Naval Air Station Alameda) August 9, 1999 final OU-3 (Site 1 - Landfill) RI Report, Figure 5-3, CSM Potential Complete Exposure Pathways. Figure 4-1 should also be modified to illustrate buried waste which does represent a residual source.

Response:

A. Richmond will be added to Figure 1-1.

B. These Conceptual Site Models (CSMs) are graphic and schematic. The pink arrows on the figure and in the explanation indicate the potential groundwater pathways. Buried waste will be indicated as a potential source.

Comment 23: Plates 1 - 27A. In general, U.S. EPA found the plates fairly well prepared and organized; however, some minor changes are requested for the following plates:

A. Plate 1: U.S. EPA notes that the boundary of the Waste Disposal Area (Site 1) has an area marked "IR Site 1 Waste Disposal Area", and a downgradient area marked "Area Investigated As Part of IR Site 1". However, wells have been installed slight east of the "IR Site 1 Waste Disposal Area" that are not indicated as "Area Investigated As Part of IR Site 1". Also, given the fact the Navy has in the last year modified the boundary of the Site 1, please verify that the text includes a discussion of past boundaries for this IR site.

B. Plate 1 also identifies five "Background Areas". With the exception of Background Area 1 which conforms to the one Comprehensive Environmental Restoration and Facilitation Act (CERFA) "clean" Parcel, the "background areas" have no relevance to U.S. EPA.

C. Plate 27A, IR Site 4 South Shoreline Recent Groundwater Sampling Results. U.S. EPA requests that this plate also include EBS groundwater sampling results.

Response: A. The Navy cannot identify the wells EPA describes to the east of IR Site 1. New wells installed at Tanks 15 and 18 are related to the Phase 1 UST investigations and were not specifically targeted for IR Site 1. Please clarify the specific wells in question.

The Navy has not modified the boundary of IR Site 1. The only variation in this area boundary was presented in the sitewide EBS and indicated as the boundary of IR Site 1. The EBS boundary was a direct, and incorrect, carryover from the Phase I RI for the Waste Disposal Area, which evaluated both the landfill and UST releases. The Phase II RI indicated this boundary as the boundary for the area investigated under contract task order (CTO) 248 not as the boundary for IR Site 1. The text will indicate this issue was discussed with the BCT in June 1998.

B. Comment noted.

C. The EBS groundwater results will be added to the plates (see response to Paragraph 9 of EPA general comments).

3.1 RESPONSES TO U.S. EPA REGION 9 QAP CHEMISTS COMMENTS FROM MR. JOE EIDELBERG

CONCERNS ON QUALITY ASSURANCE ISSUES

Concern 1A: [General] Analytical data are provided in Appendix A-2 (Volume III of the report) and includes results from previous as well as the current investigation. The conclusions in the report are based on this data. Although the data are transcribed accurately from these tables to figure and tables in the report, the laboratory data were not provided and could not be compared to the results in the report. Based on the lack of substantial findings, the QA Office will not be requesting raw data for further review.

Response: Concern noted.

Concern 1B: It is recommended that the DVRs [data validation reports] include data tables with qualifier flags.

Response: Concern noted. The Navy will consider this recommendation for future sampling programs.

Concern 2: [Section 2.2.2, Hollow Stem Auger Borehole Soil Sampling] Section 2.2.2 describes the collection of soil boring samples for VOC analysis, indicating that screening with a photo-ionization detector (PID) and visual observation of staining was performed immediately upon opening the split spoon or extruding the sample from the core barrel. If PID readings were high or staining present, the sample was quickly transferred to wide-mouth sample bottles. Note that the current Region 9 policy on collection of soil samples for VOC analysis requires that samples are handled as intact soil cores in the field and laboratory, with samples transferred using a coring device which can be reliably sealed to prevent volatilization losses (such as the EnCore sampler).

Samples must be analyzed or chemically preserved (using sodium bisulfate or methanol) within 48 hours of collection if any contaminant may undergo biodegradation (such as benzene, toluene, ethylbenzene, and xylenes (BTEX)). For future investigations, these measures must be implemented. It is recommended that subject report provide a discussion of this discrepancy and a rationale for why the data is of acceptable quality. In the discussion, the level of VOCs and purgeable total petroleum hydrocarbons (TPH) found in site samples should be considered as the minimum concentration in the soil.

Response: The procedure described in Section 2.2.2, Hollow Stem Auger Borehole Soil Sampling, in the final RI field work plan (TtEMI 1998b) was selected, after considerable evaluation, to (1) collect data that would be comparable to previously collected data, and (2) to avoid collection and analysis of nonrepresentative samples.

Updated EPA procedures for collection of soil samples will be considered for future investigations, per this recommendation. Text in Section 2.0 will also be amended to include a discussion of the possible impact on soil concentrations resulting from this method of sample collection.

Concern 3: [Section 2.2.3, Mud Rotary Borings] Section 2.2.3 describes the collection of groundwater samples for volatile organic compound (VOC) analyses, including purgeable total petroleum hydrocarbons (TPH-p). The description indicates if head space was present in any sample vials they were topped-off or refilled accordingly. Regional guidance recommends that sample vials be discarded if bubbles or head space are visible. Note that if vials are pre-preserved with HCl, refilling will result in an unpreserved sample. It is recommended that the subject report indicate the number of affected samples.

Response: Text in Section 2.2.3, Mud Rotary Borings, will be amended to clarify the discussion regarding topping off or refilling samples. In some instances, samples were topped off if a small amount of headspace remained after the sample container was filled. This procedure was included in the final RI field work plan (TtEMI 1998b). TtEMI does not believe this procedure affects the quality of the data.

The reference to refilling samples is misleading and will be rewritten. The intent of the statement "refilled accordingly" was to describe a situation in which the sample container could not be topped off. In this case, the sample was discarded and a new sample container was used.

Concern 4: [DVRs; General] Sample preservation, including temperature control, is not included in the list of data validation requirements, therefore verification of proper preservation and temperature control is not included in the DVRs. It is recommended that copies of the chain-of-custody forms be included as an appendix.

Since preservation is not included in the requirements, it is not certain that the proper holding time was utilized in certain cases. For example, for the analysis of benzene, toluene, ethylbenzene, and xylene (BTEX) in water samples, the holding time is 7 days without chemical preservation, but 14 days when preserved with hydrochloric acid. It is not clear from the DVRs which holding time was applied. Although the collection date is included in the data validation report, the analysis dates are not. It is recommended that these issues be resolved by inclusion in the subject report narrative text.

Response: Sample preservation, including temperature control, has not been specifically listed in the data validation requirements of the data validation reports (DVRs): however, sample preservation, including temperature control, was reviewed during the validation process. As stated in Section 5.2.3.1 of the Final Quality Assurance Project Plan dated July 17, 1998, "In accordance with the TtEMI SOW [statement of work] for data validation services, all analytical data will be validated in accordance with the EPA data validation functional guidelines for organic analyses." The stated criteria for evaluating organic holding times in the functional guidelines requires an evaluation of both sample temperature and preservation.

Therefore, even though sample preservation, including temperature control, was not explicitly identified as a review parameter on the DVR, it was reviewed during data validation. Chain-of-custody records are on file and available if additional information is requested. Text will be added to the data quality assessment in Appendix A-2 stating that preservation, including temperature control, was evaluated during data validation.

COMMENTS

Comment 1: [Appendix A1, Data Quality Assessment] The explanation of the Z flag in Appendix A1 states that the flag could indicate the presence of a volatile compound that is not a petroleum hydrocarbon, such as carbon tetrachloride, plant waxes, or other naturally-occurring organic compounds. Note the result for gasoline range organics in sample SB11-94 (1.0-2.0) is flagged Z, but no volatile constituent is reported near that concentration (6200 mg/kg) for the sample.

It is recommended that the subject report indicate whether or how, the flagged data were used.

Response: The volatile compound indicated by the "Z" qualifier flag, as described in the data quality assessment, Appendix A1, is not necessarily a target analyte and may appear as a tentatively identified compound (TIC) in the data. Since TICs are not reported, the use of "Z" qualified gasoline range organics data will actually result in a more conservative representation of this data. Text will be added to the data quality assessment in Appendix A1 which discusses this issue.

Comment 2: [General] The DVRs use one system of J (estimation) flags, while Tetra Tech uses another. For instance, DVR uses 'Jc' to indicate a qualification due to calibration problems, while the analytical tables use 'Je' to indicate a qualification due to calibration problems. It is recommended that flags be made consistent throughout the report.

Response: The inconsistency of "J" qualified estimated result flags is a result of a change in abbreviations used in data qualification. The Navy contractor, Tetra Tech EM Inc. (TtEMI), uses a system of subqualifiers that provide additional information about the sample, beyond the primary "J" qualifier. The subqualifiers used to qualify analytical data collected through approximately 1998 were changed in 1999 to be consistent with those used by other Engineering Field Activity (EFA) West facilities. The changed subqualifier does not alter the reason for qualifying the data; it merely changes the abbreviation for that qualification. TtEMI will provide a cross reference of the old and new qualifiers in Appendix A1, which can be used for reference.

4.0 RESPONSES TO CITY OF RICHMOND COMMENTS

GENERAL COMMENTS

Comment 1: Section ES-4. The "closure" mentioned in the first bullet isn't part of the CERCLA process, and its significance should be explained.

Response: This use of "closure" means removal of the former sump pond. The text will be modified to clarify the intended meaning.

Comment 2: Section 1.0. Need to mention Site 2 status.

Response: The status of IR Site 2 will be provided. The final ROD will be submitted for signature by December 31, 1999.

Comment 3: Figure 1-1. City of Richmond not indicated on map.

Response: The City of Richmond will be included on Figure 1-1.

Comment 4: Section 1.3.1. Isn't the City a BCT member?

Response: This oversight will be corrected.

Comment 5: Section 1.3.3.5. Spell out SCAPS.

Response: Site Characterization and Analysis Penetrometer System (SCAPS) will be included in the text.

Comment 6: Section 1.3.3.7. Provide latest information on Site 2.

Response: The latest information on the status of IR Site 2 will be included in the text. The final ROD will be submitted for signature by December 31, 1999.

Comment 7: Section 3.3, 4.3.5. Clarify whether Pt. Molate is on San Francisco or San Pablo Bay.

Response: Point Molate is bordered by San Francisco Bay, and the location will be clarified in these sections.

Comment 8: Figure 4-1. Does the drawing depict the total extent of migration from leaks at Tanks 5, 7, and 20. Indicate which are impacting Site 1.

Response: The figure is meant to be schematic and indicate the release. The exact extent of this release migration is not known so it cannot be accurately shown on the figure. Releases from Valve Box 9 and pipelines near Valve Box 7 are likely to have flowed into the Waste Disposal Area.

Comment 9: Figure 4-3. You may want to use a different color than dark brown, which denoted fuel leaks in other Figures.

Response: The coloring will be changed per the comment.

Comment 10: Table 4-1. Explain how the "mean" can exceed the "maximum detected level" for some contaminants. It would be nice to know the DLs, or at least know for which samples the detection limit (DL) exceeds the PRG.

Response: The "mean" values in the data summary tables, Tables 4-1 through 4-10, exceed the maximum detected concentration in several instances. This occurrence is unusual, but resulted when concentrations of detected values are low and the reporting limits for one or more values were higher for non-detected values.

The mean was calculated using a standard procedure (EPA 1989) which substitutes a value of one-half of the non-detected reporting limit into the mean calculation where results are non-detect. Higher reporting limits may be a result of interferences encountered during analysis and may also be caused by different laboratory reporting limits used for some of the samples.

Tables 4-1 through 4-10 will be modified to present a summary of the number of non-detected results that exceed established PRG values.

Comment 11: Section 4.1.3. EPA and the city observed a 55-gallon drum labeled "Malathion" in the landfill, and reported it to the BCT.

Response: The 55-gallon drum labeled "Malathion" was removed by the Navy, found to be empty of residue, and properly disposed of in May 1999. This information will be included in Section 4.1.3.

Comment 12: Section 4.1.4. Discuss the impact of closing the ORS system on groundwater. More monitoring may be necessary to support the conclusions about free product level trends (some are actually rising, i.e., MW 11-28).

Response: The oil recovery system (ORS) system was closed during October and November of 1999. The impacts of closing the ORS are not fully known but will be monitored during the rainy, winter season as a part of the UST program. Additional product measurements are being taken as part of the monthly product removal program.

Comment 13: Section 4.2. The third sentence should refer to the groundwater (GW) treatment plant as well as the extraction system.

Response: The text has been changed to also refer to the groundwater treatment plant.

Comment 14: Section 4.2.1. What is the likely source of the LNAPL described in the 1st paragraph on pg. 4-10?

Response: The LNAPL in well MW11-92 was measured at 0.66 feet in December 1994. This LNAPL (Bunker fuel) was part of the floating product plume on groundwater downgradient from the Treatment Ponds and former sump pond location and is attributed to the ponds or local pipeline leaks.

Comment 15: Section 6.4.2.2. Pg. 6-9 (soil) – Is eliminating the pica behavior consistent with EPA risk assessment guidance?

Pg. 6-10 (surface water) – On hot days (maybe 25 days/year) numerous swimmers can be found in the Bay water at Keller Beach, only 2 miles away. If Pt. Molate Beach becomes popular, there will be swimmers.

Response: Pica behavior is not typically evaluated in a HHRA. Furthermore, pica behavior is generally associated with children younger than the age group evaluated in this risk assessment. EPA (1991a) and DTSC (1992) guidance provide soil ingestion rates for evaluating the RME scenario for a child, and these rates were used in the risk assessment. The RME is defined as the highest exposure that is reasonably expected to occur at a site. The rate used in the HHRA (200 mg/day) is that recommended for younger children (1 to 6 years of age) and is higher than the ingestion rate (100 mg/day) that would typically be used for older children.

The field work plan stated that exposures to surface water would not be evaluated in the risk assessment for two reasons (TtEMI 1998b). First, any contaminants released to San Francisco Bay would disperse quickly; because concentrations from potential sources are low, concentrations in the bay would quickly reach nondetectable levels. Documentation was cited indicating that up to 24 percent of the volume of water in the bay is exchanged during each tidal cycle (TtEMI 1998b). Secondly, the work plan cited strong currents and cold water as a deterrent to swimming. Although it is still possible that individuals could wade or swim at Point Molate, potential risks associated with swimming would be similar to those incurred elsewhere in the bay. For these reasons (and as previously agreed in the work plan), this pathway will not be addressed at this time.

Comment 16: Section 6.4.3.3. Explain why Asian clams are a conservative indicator species for PAH tissue levels.

Response: Asian clams do not readily metabolize PAH compounds and tend to bioaccumulate them more than other species. This was fully discussed in the Draft Final Ecological Risk Assessment addendum to the Phase II Remedial Investigation Field Work Plan (TtEMI 1998c)

Comment 17: Section 6.5. Address the need to or not to conduct risk assessment on the following contaminants: metals; chlorinated solvents including dichloroethene (DCE), vinyl chloride; methyl tertiary butyl ether (TBE).

Response: The HHRA for the Point Molate Public Beach Area was focused on viable exposure pathways for recreational users. Chemicals of potential concern (COPCs) were chosen based on previous uses in this area, possible releases in this area, and previous analytical detections in this area. Data from the 1994 Shoreline Investigation Soil and Sediment Data Summary and the Quarterly Groundwater Sampling Program did not indicate metals, chlorinated solvents (including DCE), vinyl chloride, or MTBE to be present in elevated concentrations in soil, sediment, or groundwater. Nor have data been discovered to support any use, disposal, or releases of these contaminants in the Point Molate Public Beach area. Therefore, these COPCs were not evaluated in the HHRA, consistent with the original program presented in the Phase II RI work plan.

Comment 18: Section 6.6.2. The statement that action by the Navy generally will not be taken unless the risk exceeds 10^{-4} seems too strong, and it involves risk management, not assessment.

Response: This statement will be deleted from the text. Please also refer to the response to RWQCB Specific Comment 32.

Comment 19: Section 7.0. Refer to the map where the 16 background samples sites are shown. Explain how were they selected/determined to be background.

Response: The background sample locations are shown on Plate 1. Section 5.0 of the Phase II RI work plan contains an extensive discussion of the methodology used in selecting these samples. Basically, historical aerial photographs taken shortly after construction of the hillside tanks revealed areas that were undisturbed by construction. These areas are the shaded areas on Plate 1 that were presented in the work plan.

Comment 20: Section 8.1.4. There is 0.69' of floating product in ERM-EW1 (Table 2-4).

Response: This statement was true in April 1999. Please note that this well is cross gradient from the fill footprint of IR Site 1 and does not contribute groundwater flow through the fill of IR Site 1 at the Waste Disposal Area. This well has been further investigated during the Phase I and Phase II UST program.

Comment 21: Section 8.2.2. Mentions tanks B and C as the only source of contaminants in the area – what about the source of contamination below Diesel Road?

Response: This source will be mentioned also.

Comment 22: Section 8.2.4. Floating product levels in some wells have risen in recent years (Fig. 4-32, 4-33).

Response: This comment is correct. However, the long-term trend in product thickness has decreased since 1994. Plots of thickness against time were included for these wells as well as others showing more recent decreases to emphasize the longer-term trends since base closure. A comprehensive table of water levels and product thickness since the site investigation (SI) is being compiled for inclusion in the report.

Comment 23: Several. Note the document refers to CERCLA removal actions as remedial actions in several places (i.e., prepare an EE/CA to perform a remedial action.) This may cause some confusion.

Non-fuel related contaminants such as MTBE, chlorinated organics and metals, don't receive sufficient discussion relative to the need to gather more data, risk assessment potential, and evaluating cleanup options (biodegradation potential).

Given their importance and proximity, should contaminants around the DVECC building be included in the Site 4 RI?

Response: The text has been changed to reflect CERCLA terminology more correctly.

MTBE is a fuel-related contaminant and will be addressed concurrent with fuels. Chlorinated organics detected in the area of the Disease Vector Environmental Control Center (DVECC) building, adjacent to IR Site 4, are being addressed by the ongoing EBS program. The only other area where chlorinated organics were detected, IR Site 3, is currently contained by the containment wall and extraction trench, and will be included in the future EE/CA at IR Site 3.

Metals have been discussed during several BCT meetings. The presence of metals related to fuels is not expected nor been found at elevated concentrations. The only other source of metals at Point Molate was the sand blast grit that constituted IR Site 2. This grit has been removed and a final ROD will be submitted by February 2000.

The Navy has retained the DVECC building in the EBS program and will continue to address characterization and potential remediation under the EBS program. The Phase II EBS field investigation of this area took place in December 1999 and the results will be presented in the Phase II EBS Report in 2000.

REFERENCES

Bechtel Environmental, Inc. and Dames and Moore (BEDM). 1992. Hydrogelogic Investigation Point Orient, Poleyard, and Asphalt Tankfields. Prepared for Chevron U.S.A. Inc., Richmond, California. June 23, 1992.

DeAngelis, John. 1999. Personal communication from TtEMI employee John DeAngelis to Gary Miller. December 6.

Department of Toxic Substances Control (DTSC). 1992. Supplemental Guidance for Human Health Multimedia Risk Assessments of Hazardous Waste Sites and Permitted Facilities. July.

Driscoll, F.G. 1986. Groundwater and Wells. Johnson Division.

Entrix, Inc. and Tetra Tech EM Inc. 1999. Final Offshore Ecological Risk Assessment for Naval Fuel Depot Point Molate, Richmond, California. November 24.

Freeze, R. A. and J.A. Cherry. 1979. Groundwater. Prentice-Hall, Inc.

PRC Environmental Management, Inc. (PRC). 1992. Point Molate Naval Fuel Depot, Site Inspection, Final Summary Report. August 26.

PRC. 1994. Naval Fuel Depot Point Molate, Richmond, California. Treatment Ponds Area Final Site Characterization Report. July 29.

PRC. 1996a. Basewide Environmental Baseline Survey, Final Report, Naval Fuel Depot Point Molate. November.

PRC. 1996b. Treatment Ponds Area (Site 3) Removal Action, Action Memorandum. January 24.

PRC. 1996c. Naval Fuel Depot Point Molate Richmond, California. Treatment Ponds Area Extraction Trench Performance Evaluation Report. May 3.

PRC. 1997. PRC Statement of Work for Validation Services. November.

Tetra Tech Inc. 1996. Final Jurisdictional Wetland Delineation of Fleet and Industrial Supply Center Naval Fuel Depot, Point Molate, Richmond, California. October.

Tetra Tech EM Inc. (TtEMI). 1998a. Draft Quality Assurance Project Plan. July 17.

TtEMI. 1998b. Phase II Remedial Investigation Final Field Work Plan. November 5.

TtEMI. 1998c. Draft Final Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan Naval Fuel Depot Point Molate. September 12.

TtEMI. 1999a. Interim Product Removal Field Work Plan. September 17.

TtEMI. 1999b. Site 1 Engineering Evaluation/Cost Analysis, Naval Fuel Depot Point Molate. October 29.

Todd, D.K. 1980. Groundwater Hydrology. John Wiley and Sons.

United States Department of the Interior, Bureau of Reclamation (BOR). 1981. Ground Water Manual, A Water Resources Technical Publication. U.S. Department of the Interior Water and Power Resources Service.

U.S. Environmental Protection Agency (EPA). 1989. "Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual (Part A)." EPA Office of Emergency and Remedial Response. Interim Final. EPA/540/1-89/002. December.

EPA. 1991a. Memorandum Regarding the Human Health Evaluation Manual, Supplemental Guidance: Standard Default Exposure Factors. From Timothy Fields Jr. OSWER Acting Director. To Distribution. March 25.

EPA. 1991b. Memorandum Regarding the Role of the Baseline Risk Assessment in Superfund Remedy Selections Decisions. From Ron R. Clay, Assistant Administrator, to Directives, Various Divisions. April 22.

EPA. 1993a. Presumptive Remedy for CERCLA Municipal Landfill Sites. OSWER Directive 9355.0-49FS. EPA 540-F-93-035. October.

EPA. 1993b. Presumptive Remedies: Policy and Procedure. OSWER Directive 9355.0-47FS. EPA 540-F-93-047. September.

EPA. 1994. National Functional Guidelines for Organic Data Review. EPA 540/R-94/012. February.

EPA. 1996. Application of the CERCLA Municipal Landfill Presumptive Remedy to Military Landfills (Interim Guidance). OSWER Directive No. 9355.0-62FS. April.

EPA. 1997a. Landfill Presumptive Remedy Saves Time and Cost. OSWER Directive 9355.0-661. EPA 540/F-96/017. January.

EPA. 1997b. "Exposure Factors Handbook, Volume I, General Factors." EPA/600/P-95/002Fa. August.

U.S. Navy. 1997. U.S. Navy Policy for Statistically Analyzing Background Data Supporting Environmental Risk Assessment in the State of California. Southwest Division Policy 4444.4. October 15.

RESPONSES TO COMMENTS
ON THE NAVY'S RESPONSES TO
ORIGINAL COMMENTS
DRAFT PHASE II REMEDIAL INVESTIGATION REPORT
NAVAL FUEL DEPOT POINT MOLATE
RICHMOND, CALIFORNIA
JUNE 30, 1999

1.0 INTRODUCTION

This document presents the Navy's responses to comments on the original responses to comments received from the Base Realignment and Closure (BRAC) Cleanup Team (BCT), made up of the Regional Water Quality Control Board (RWQCB), the U.S. Environmental Protection Agency (EPA), and the City of Richmond, on the Draft Phase II Remedial Investigation (RI) Report for Naval Fuel Depot (NFD) Point Molate, dated June 30, 1999. Section 2.0 presents responses to comments received from Ms. Linda Dorn of RWQCB on March 23, 2000, and Section 3.0 presents comments received from Mr. Kent Kitchingman of the City of Richmond in a letter dated April 5, 2000.

2.0 RESPONSES TO MARCH 2000 RWQCB COMMENTS ON RESPONSES

GENERAL COMMENTS

Comment 1: To expedite the review process, please provide Regional Board staff with a strikeout version of the Draft RI, preferably by e-mail. This will allow for a quick review of what changes have been made to the draft version and will allow for a shorter response time to the Final RI.

Response: The Navy's Southwest Division Point Molate Team has made the decision that strikeout versions of documents will not be submitted to reduce time and costs of additional document preparation.

Comment 2: The two primary areas where Regional Board staff does not concur with responses are regarding:

- The fractured bedrock and bedding planes not being a pathway for migration of contaminants,
- The necessity of groundwater and soil data from the colluvium at the toe of the landfill. (Response for this is included in Comment 3 Response.)

The reason for the disagreement regarding the fractured bedrock as a migration pathway for lateral and vertical transport of contaminants is data gaps exist. Board staff viewed the bedrock cores for the Treatment Pond Area, and Underground Storage Tanks on December 17, 1999. Laboratory analytical results would verify if any contaminants migrated through the fractured bedrock.

The cores in the treatment pond area are primarily what is referred to as competent bedrock and did not appear to have staining indicative of separate phase migration. Laboratory analytical results would verify if any contaminants migrated through the bedrock. The cores from the USTs did appear to have residual staining, which indicates lateral and vertical migration. The bedrock information from the UST characterization should be included in the Final RI report, regarding fate and transport of contaminants through fractured bedrock.

In the Bechtel Environmental/Dames and More (BEDM) April 30, 1993 Additional Hydrogeologic Investigation S.P. Hill Tankfield, prepared for Chevron, the following information regarding bedrock fractures was reviewed:

- 70-100 fractures at three structural stations were measured for orientation, and included characteristics of shape, aperture width, density, length, orientation, and in-filling materials.

- Bedrock cores identified the density of fracturing typically 3 to 15 fractures per foot alternating with occasional highly fractured zone of 30-50 per foot.

- Fractures in the KJss[1] unit at a high angle to bedding were relatively short, less than 2 feet and not continuous across bedding planes.

- Within the KJms[2] units or thick sandstone beds of the KJss fracture lengths ranged from 0.5 to 50 feet, with bedding fractures continuous over much greater areas.

- The hydrogeologic setting is that fractured bedrock is the primary water-bearing unit, with groundwater saturation in the alluvial soils and fill continuous with groundwater saturation in the underlying bedrock.

Please review this report and include a section similar to section 3.7 of the BEDM report, Effects of Geology on Groundwater Flow. Fetter, C.W. (1999, Contaminant Hydrogeology) notes solute transport in fractured rock is as important a process as transport in porous media. Freeze R. A. and Cherry, J. A.,

[1] KJss-massive, very fine-to medium grained, brownish gray sandstone with rare, thin interbeds of mudstone. Individual sandstone beds, where present, are typically 0.5 to 2 feet thick with occasional massive interbeds as thick as 30 feet.

[2] KJms-thin to thick bedded, very fine-to medium-grained, brownish gray sandstone interbedded with thin-bedded, finely laminated to shaley, dark gray mudstone and thin-bedded, brown to gray siltstone. Mudstones and siltstones separating the thin-bedded sandstones are typically 2 to 8 inches thick.

(1979, Groundwater) state the dominant movement of groundwater is through fractures or along bedding planes, in many flow systems. Throughout the Bay Area examples of water bearing bedrock exist and supply drinking water wells, in some instances.

Response: The RI bedrock investigation was conducted in accordance with the RI work plan, which was approved by RWQCB. The process was scoped with the BCT to cover data gaps for the installation restoration (IR) sites and these data gaps have been addressed. The RI conclusions do not directly apply to the underground storage tank (UST) characterization. RWQCB will have the opportunity to review and comment on the UST characterization report and address data gaps at that time. Data gaps for the areas of NFD Point Molate outside the IR sites are not part of the scope of the RI.

As discussed during the April 5, 2000, meeting with the BCT, we believe the indications of staining and field screening, that are clearly discernible if present, verify that petroleum hydrocarbons have been in contact with the bedrock where staining is observed. Sampling of bedrock for laboratory analysis is questionable because of the probable extraction and analytical variations from normal soil samples (noncomparable data). Also the representativeness of samples is questionable. Removal of a small amount of material from a fracture (secondary permeability) does not represent the concentrations in the rock mass as a whole (the Franciscan bedrock has extremely low primary, matrix permeability). For these reasons, analysis of groundwater samples and physical observations are a better indicator of contaminant presence and migration.

The bedrock data presented in BEDM, 1993, Additional Hydrogeologic Investigation S.P. Hill Tankfield, are the same that were presented in the Draft Phase II RI, Section 3.4.3. However, the 1993 report will be referenced and new material representative of conditions at NFD Point Molate will be included.

The first four RWQCB bullets involve data that were provided in the Draft Phase II RI report. The last bullet is accurate for the lower-elevation slopes and ravines. The interpretation is that the primary water-bearing unit of concern is the shallow unconsolidated materials. The bedrock is a water-bearing unit that is less significant with regards to contaminants of concern (COCs). The bedrock was investigated as part of Phase II.

The BDEM, April 30, 1993, Additional Hydrogeologic Investigation S.P. Hill Tankfield report has been reviewed. Some information similar to Section 3.7 will be added as it applies to NFD Point Molate. Fetter notes that solute transport can be as important a process transport in porous media, depending on the hydrogeologic conditions. In conditions where other units have primary permeability, overlie fractured bedrock, and the COCs are light nonaqueous phase liquids (LNAPLs) transport in fractured rock may not be as important as the overlying media. The bedrock at NFD Point Molate is a water-bearing unit, less significant in transport of COCs than the overlying materials. The bedrock,

however, has been investigated in the RI program, and these data will all be presented in the Final Phase II RI Report.

Comment 3: In July 1999, Regional Board staff identified a data gap regarding concentrations of Chemical Of Concern (COCs) leaching from the landfill in the groundwater through the colluvium at the base of the landfill. In November 1999, while monitoring wells were being installed for the phase II of the UST characterization, Regional Board staff requested again that a well be installed in the colluvium at the toe of the landfill. After an hour discussion and a site visit, Regional Board staff agreed to not request data be collected from the colluvium at the toe of the landfill before completing the Draft EE/CA, assuming the data could be collected prior to finalizing the EE/CA. Also the data collected from the "stilling well", can be considered representative of surface water at the toe of the landfill. The concentration of contaminants found in the water sample collected from the stilling well or surface water sample should be included in the isoconcentration maps of the Final EE/CA. Tetra Tech's response to comments does not recognize the surface water at the toe of the landfill, but also states the stilling well will not be included in the Final RI. Regional Board staff will not concur on a Final EE/CA for IR site 1 or the Final Phase II RI unless:

- the surface water at the base of the landfill is recognized and included on maps,
- analytical results of the "stilling well" groundwater sample and/or surface water sample at the toe of the landfill are included in an isoconcentration map for contaminants at site one, and
- groundwater sample(s) are collected and analyzed from the saturated colluvium at the toe of the landfill.

Response: As discussed in Section 2.7, bullet 4 of the draft RI, a distilling well was not installed because heavy rains made the site inaccessible to the equipment. However, a sample of the surface water seep was collected from seep SW02-04 at the toe of Site 1. Although this seep was identified as one of nine ephemeral seeps, surface water (that is, a small puddle of water) has been observed by the Navy at this location throughout most of 1999. However, water has been observed seeping from the ground at this location only during the rainy season. The data from this seep location is presented in the draft EE/CA and will also be presented in the final EE/CA. In addition, the observation of puddles of water at this seep location throughout most of the year will be noted in the final RI report and final EE/CA. Additional description of surface water at the toe of Site 1 will be included in the final RI report and in the final EE/CA.

As agreed upon during the April 5, 2000, working meeting with the BCT, the Navy will undertake additional monitoring at IR Site 1. The Navy has agreed to install two wells at the toe of the landfill. One will monitor groundwater within the colluvium at the toe of the landfill, and one will monitor valve box (VB) 7, as it may be a source of groundwater contamination at the toe of the landfill. These

wells will be monitored for four quarters for total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAHs). These data will be used by the Navy and RWQCB to demonstrate the contaminants that are associated with the landfill and VB 7, and to evaluate the required time frame of post-closure monitoring. RWQCB approved proceeding with finalizing the engineering evaluation and cost analysis (EE/CA) while these wells are being planned and the data are being collected.

SPECIFIC COMMENTS

General Comment 4, Response: The response notes the water table is within fill or colluvium at most areas of IR site 1. The response to the Board's specific comment 9, notes the water table is within weathered bedrock. Additionally wells MW02-13, BR02-19, and BR02-18 are all completed in bedrock. Wells MW02-13 and BR02-19 show a water table at the surface, not within the fill or colluvium. Wells BR02-18 show the water table in bedrock.

Fractured bedrock not being considered a significant pathway is different than knowing through scientific interpretation of verified data. Please include all groundwater and soil analytical data used to verify the bedrock is not a pathway for migration of contaminants.

Response: The hydrogeology at IR Site 1 is complex. Water table conditions occur in the fill and in will BR02-18 upgradient. Confined conditions occur in downgradient wells BR02-19 and MW02-13. The Final Phase II RI Report will clarify this information.

Scientific interpretation have been applied to verified data and observations since 1990. These data are included in the Draft Phase II RI. The interpretation, based on low well yields, lack of free product, and very low to non-detect dissolved phase analytical values, still leads to the same conclusion; the bedrock has not functioned as the primary migration pathway. Shallow groundwater in the materials that overlay bedrock have been the primary transport medium of the petroleum hydrocarbon releases. The releases have been shallow, surface or near-surface releases of LNAPLs, and have generally remained in the shallow groundwater.

General Comment 6, Response: Please include groundwater and product elevation and measured free product thickness including all data, including data prior to 1994.

Response: Available pre-1994 data will be included in the table.

Specific Comment 6, Response, Section 3.4.3, Bedrock Structures: Please include the geologist estimates of percentages of filled bedrock fractures in the Final RI.

Response: The geologists' estimate of percentages of filled fractures will be included in the Final Phase II RI.

Specific Comment 7, Response, Section 3.6,Hydrogeology: The KJms unit is interpreted to underlie the IR site 1 area but is it known to underlie the IR site 1 area? The KJms unit at Chevron, SP Hill tank field can have fracture lengths from .5 to 50 feet, with bedding fractures continuous over much greater areas. Please site the data used to determine the KJms unit is a poor migration pathway?

Response: Because NFD Point Molate is heavily vegetated, subunits of the Franciscan Formation must be mapped with limited borehole, trenching, and outcrop data. Integration of all bedrock data from cores, trenches, bore logs, and outcrops indicates that the geologic unit identified as KJms on the Chevron property underlies IR Site 1.

The Chevron report Additional Hydrogeologic Investigation, S.P. Hill Tankfield states the "bedding fractures may be continuous over much greater areas." This report further states: "The low hydraulic conductivities probably result from the following: (1) fine-grained sediment on secondary crystallization filling in the fractures, (2) the discontinuous nature of fractures of the interbedded units, and (3) small apertures along fractures." This information is the basis for the interpretation of the bedrock hydrogeology. Additional data include bedrock core, packer tests, and monitoring wells with relatively low yield, lack of free product, and low levels of dissolved petroleum hydrocarbons to non-detected TPH.

Specific Comment 11, Response, Table 3-3, Vertical Gradients Between Bedrock and Unconsolidated Materials: A careful review of the boring log for SB02-09, located 21 feet to the E-NE of MW02-13, closer to the landfill, notes saturated conditions from 10-19 feet below ground surface in the colluvium. This soil boring was cored deeper into the bedrock and a well was installed in the bedrock. The field judgment to install the well in bedrock to confirm the bedrock/weathered bedrock is not a preferential pathway for IR site 1, but does not address what is leaching off the landfill in the colluvium.

Response: The boring for well SB02-19 (located 21 feet from well MW02-13) was intended for the bedrock well. When the boring for well MW02-13 was drilled, water was not encountered until the bedrock/weathered bedrock interface. As discussed in the April 5, 2000, meeting, the Navy will install and sample a colluvium well at the toe of the landfill.

Specific Comment 12, Response, Section 4.1.1, Site History and Previous Investigations: Please include legible copies of aerial photos reviewed for the disposal area use determinations.

Response: Southwest Division is currently attempting to obtain the photographs from the Navy's Engineering Field Activity West (EFA West). The Navy will evaluate methods to make the photographs available. References for the photos are in Table 5-10 of the basewide environmental baseline survey (EBS).

Specific Comment 13, Response, Section 4.1.2, Sources: Again this response states most of the colluvium is unsaturated or irregularly saturated and this does not correspond to most of the

area having a water table in the colluvium as stated in response to the Regional Board general comment number 4.

Response: The water table is within the colluvium in some areas and not in other areas. The Final Phase II RI will provide this information.

Specific Comment 14, Response, Section 4.1.3, Soil: The miscellaneous debris identified below the surface immediately downgradient from the landfill footprint was not included in the Draft EE/CA, as this response states, and should be included in the Final EE/CA.

Response: The miscellaneous debris identified immediately downgradient of the landfill footprint will be included in the Final EE/CA and the Final Phase II RI Report.

Specific Comment 15, Response, Section 4.1.4, Groundwater: Summing TPH concentrations is conservative and from a regulatory perspective is appropriate. The most downgradient well contains increasing concentrations of TPH and therefore does not fall into a low risk category. The TPH from MW02-07 is most likely from the UST and pipeline releases and will be remediated under the UST program. The statement natural attenuation is taking place is based on what? A ravine where the most downgradient well has increasing concentrations is not indicative of natural attenuation.

Response: As discussed in the April 5, 2000 working meeting, RWQCB will not include the benzene, toluene, ethylbenzene, and xylene (BTEX) compounds in summing TPH.

Natural attenuation is being evaluated and further monitoring may clarify the state of the contaminant plume. As also discussed in the April 5 meeting, data for samples from well MW02-07 through time will be analyzed and plotted by linear regression as a data assessment technique in the Final Phase II RI.

Comment 16, Response, Section 4.1.5, Surface Water: Regional Board staff has witnessed water at the surface at the toe of the landfill in wet and dry seasons, therefore not meeting the definition of ephemeral. The small surface water area at the toe of the landfill does not appear to have been developed to catch release. The surface water appears to have collected at the toe of the landfill due to artesian conditions. If this surface water location at the toe of the landfill was developed to catch surface release, please state when the work was performed and the dimensions of the catch basin. Also, animal tracks and feces have been present around the surface water at the toe of the landfill indicating terrestrial animals may use it as a drinking water source.

Response: Although this seep was identified as one of nine ephemeral seeps at Point Molate, surface water (that is, a small puddle of water) has been observed by the Navy at this location throughout most of 1999. However, water has been observed seeping from the ground at this location only during the rainy season. The data from this seep location is presented in the draft EE/CA and will also be presented in the final EE/CA. In addition, the observation of puddles of water at this seep location throughout most of the year will be noted in the

final RI report and final EE/CA. Additional description of surface water at the toe of Site 1 will be included in the final RI report and in the final EE/CA..

Comment 17, Response, Section 4.2.1, Site History and Investigations: Considering the purpose of the RI Report is to define the extent of pollution at a site and it is considered complete by Tetra Tech and the Navy, enough information should exist to estimate a representative density and convert pounds to gallons. Please convert the pounds of free product to gallons.

Response: The product was converted to 336 gallons, and this information will be included in the Final Phase II RI.

Comment 18, Response, Section 4.2.2, Sources: This section should include information about the ORS system modifications and the impact this will have on the treatment ponds treating storm water. Please identify what data is relevant from the USTs that will be included in Final Phase II RI Report.

Response: The effects of closing the oily water recovery system (ORS) system are currently begin evaluated and will not be ready for inclusion in the Final Phase II RI. However, a brief description of the ORS closure and references will be included in the Final Phase II RI Report.

The relevant data from the UST characterization are from the Diesel Road area, data from the Valve Box 7 area, and bedrock geology from all UST coreholes.

Comment 19, Response, Section 4.2.3, Soil: Bedrock samples have never been analyzed for any COCs. Laboratory analytical data of bedrock samples would support the belief that the fractured bedrock is an "insignificant" pathway for migration of contaminants.

Response: As discussed in the April 5, 2000, meeting with the BCT, the indications of staining and field screening, that are clearly discernible if present, verify that petroleum hydrocarbons have been in contact with the bedrock where staining is observed. Sampling of bedrock for laboratory analysis is of questionable use because of the probable extraction and analytical variations from normal soil samples (noncomparable data). Also, the representativeness of samples is questionable. Removal of a small amount of material from a fracture (secondary permeability) does not represent the concentrations in the rock mass as a whole (the Franciscan bedrock has extremely low primary, matrix permeability). For these reasons, analysis of groundwater samples and visual observations are better indicator of contaminant presence and migration.

Comment 30, Response, Section 6.4.4.5, Equation and Exposure Parameters for Ingestion of Shellfish: Are the sightings infrequent because the remedial investigation personnel working in the field making the sightings are infrequent? Please include this description of sightings in the final RI. The incorporation of a range of shellfish ingestion from 20% to 100% is an excellent way of dealing with the uncertainties associated with this pathway for exposure.

Response: The shoreline and intertidal areas at the Public Beach Area are distant from the former operations areas of NFD Point Molate. Therefore, observations of shellfishing were incidental to activities by remedial investigation personnel working in the field; dates and frequency of sightings were not documented. Staff relating this information stated that sightings were infrequent. No information on species or quantity of shellfish collected is available. This will be more clearly discussed in the Final RI.

Comment 31, Response, Section 6.5.3, Assessment of Total Petroleum Hydrocarbons: Information from the UST characterization regarding light fuels and surface soils, at a minimum, should be incorporated into this section.

Response: In general, light fuels and volatile organic compounds (VOCs) have not been detected in samples of sediment or surface soils at Point Molate. No hydrocarbons, other than heavier-end fuels and their constituents, have been detected in samples collected at the public beach area and no releases in this area have been documented. This information will be added to Section 6.5.3.

Comment 36, Response, Section 8.1.4, Conclusions IR Site 1: Plume stability and contaminant concentrations have been monitored sporadically at IR site 1 since 1992. Natural attenuation parameters have not been monitored, and the monitoring for the UST program most likely did not include biodegradation parameters for IR Site 1. Shallow groundwater downgradient of the toe of the landfill should be monitored to determine the attenuation of COCs leaching off the landfill.

Regional Board staff believed a compromise was established verbally between the Regional Board and the Navy regarding the concentration of COCs leaching off the landfill. The assumed compromise was that the data collected from surface water at the toe of the landfill and well MW02-15 would be included in the Final EE/CA as representing what is leaching off the landfill. Regional Board staff agreed with the compromise assuming a well would be installed in the colluvium at the toe of the landfill after the soil cover was completed. The February 1, 2000 Regional Board staff comments on the Draft EE/CA incorporated what was believed to be the compromise of using laboratory analytical results of water sample(s) collected from the surface water sample and MW02-15. The Navy has not responded to the Regional Board's Draft EE/CA comments, therefore Regional Board staff should probably not have assumed verbal agreements would be honored.

At the February 29, 2000 meeting with the Navy and their contractors to formulate Data Quality Objectives for groundwater monitoring at Point Molate, Regional Board staff was informed monitoring well(s) would not be installed through the soil cover to monitor the leachate from the landfill. Monitoring wells would be installed downgradient of the cover which actually would monitor what the Navy has claimed is contamination from the UST system and not the landfill. Regional Board staff will not concur with the Final EE/CA or the Final RI without the data from the surface water sample at the toe of the landfill and monitoring of groundwater in the colluvium at the toe of the landfill in the future for attenuation of COCs.

Response: As discussed in the April 5, 2000, meeting with the BCT, an additional well will be installed in the colluvium at the toe of the landfill and sampled for contaminants.

Plate 11, Response, IR Site 1 Waste Disposal Area Soil Sampling Results: Please include the newer data that better represents current conditions.

Response: All newer data are already presented on Plate 11 in the Draft Phase II RI.

Plates 15-18, Response : Please create the supplemental set of black and white plates with the well construction details, free product thickness, groundwater elevations, and analytical results of soil and groundwater samples, if the existing plates cannot be modified to include well construction details.

Response: Information on screened intervals and 1999 groundwater elevations will be provided in a useful format, as discussed in the April 5, 2000, working meeting with the BCT.

RESPONSES TO EPA COMMENTS ON RESPONSES

General Comment 4, Response: The response does not address the US EPA's issue of the hydrocarbon-stained material being undefined. Please address this statement by using analytical laboratory results of soil and groundwater to verify the extent has been defined.

Response: Analytical results were provided in the Draft Phase II RI. Presumptive remedy guidance (EPA 1993c, EPA 1993d, EPA 1996e, and EPA 1997b) was followed and sufficient data were generated to write an accurate EE/CA. It should be noted the Navy conducted more than three times the linear feet of characterization trenching within the Waste Disposal Area than was originally scoped with the BCT and presented in the Final Work Plan.

General Comment 9, Response: At recent BCT meetings the question of how the Environmental Baseline Survey sites will be incorporated into the IR sites has been asked. To date a definitive answer has not been given in those meetings. This response indicates the decision of what program those sites will be investigated and remediated under has been made. Exactly what does remaining in the EBS program mean? Please describe the program and how decisions regarding investigation and remediation will be made under an EBS program.

Response: The Draft Phase II EBS Report will be released in early summer 2000. This document will make recommendations for the EBS sites.

Specific Comment 3, Response: What planning document provides the scenarios for land use?

Response: The 1997 City of Richmond Reuse Plan for NFD Point Molate provides the scenarios used for future land use at NFD Point Molate.

Specific Comment 5, Response: Please include the response in section 1.3.3.6, IR Site 4 Removal Actions (1996-1998).

Response: The Navy has monitored groundwater elevations both up- and down-gradient of the wing-wall extension and the extension appears effective. No free product has been detected in well MW11-22 since 1992 (before the containment well was constructed). Approximately 20 gallons of product have been recovered from well MW11-54 as of December 1999. This information will be included in Section 1.3.3.6 of the Final Phase II RI Report.

Specific Comment 7, Response: Please document which well(s) did not survive packer testing. Slug testing can be useful information for estimating hydraulic properties of a formation. Slug test data is not adequate to determine hydraulic properties for a groundwater extraction system design.

Response: The response indicates that the materials would probably not survive in our assessment based on the extensive soil borings conducted at the site.

Pumping test data from the 1996 pumping tests in Drum Lot Number 1 will be included in the appendix with other hydraulic data.

Specific Comment 8, Response : Exceptions to state well standards can be requested from the agency overseeing well construction, and should not be considered a limiting factor unless a request was made for an exception and the request denied. The fact that water was not encountered until weathered bedrock was encountered is evidence that bedrock (weathered or not) is the geologic formation that transports fluids at Point Molate, in addition to the colluvium. Well MW02-13 and BR02-19 are bedrock wells, not representing what is leaching off the landfill in groundwater in the colluvium at the toe of the landfill. Well MW02-15 could be representative, but the Navy has stated this well represents what is coming from the UST system and not the landfill. Regional Board Site 1 Draft EE/CA specific comments 5,8,9, and 17 and specific comments on figures 3,4, and 5 address the necessity of a well in the colluvium at the current toe of the landfill.

The concept of removing the stilling well means data collected from the well will not be used. Also, laboratory analytical data from the surface water sample collected at the toe of the landfill must be included in the Final Phase II RI and the Final Site 1 EE/CA. As Regional Board staff has stated in meetings, phone conversations, and written responses to the Draft Phase II RI and the Draft EE/CA, this information is not only necessary but is required for Regional Board staff concurrence of the Final Phase II RI and the Final EE/CA, tasks 4d and 3b, respectively, of Regional Board Order 97-045.

Response: At the time of the field drilling program, we had not received a waiver on well construction. As discussed in the April 5, 2000, working meeting with the BCT, an additional well will be installed in the colluvium at the toe of the waste disposal area and sampled.

Well MW02-15 has been sampled successfully since March 1999. These results will be included in the Final EE/CA.

Specific Comment 11, Response: The grab groundwater sample for boring SB02-09 could be representative of the leachate from the landfill. What were the results from this qualitative field tool? A careful review of the boring log for SB02-09, located 21 feet to the E-NE of MW02-13, closer to the landfill, notes saturated conditions from 10-19 feet below ground surface in the colluvium. This is the area and depth which must have a well installed to verify what is leaching off the landfill before the Final EE/CA can be accepted by Regional Board staff.

Response: These data were included in the Draft Phase II RI on Plate 12. Boring SB02-09 is located in the middle of the Waste Disposal Area.

Specific Comment 12, Response: What data is used to substantiate the Navy's belief that the wastes exist at near residual, non-mobile concentrations?

Response: The petroleum components detected are nearly all very low solubility PAHs, well below their solubility constant (see Fetter 1993, Contaminant Hydrogeology, Chapter 7 and Figure 7.2).. Additionally, monitoring well MW02-06 is directly downgradient (within 40 feet) of trench TR1-7, where waste materials were found. Only low levels of TPH and associated compounds have been detected in samples from this well.

Specific Comment 13, Response: This response conflicts with no removal actions having occurred at the landfill. Additionally foaming agents were supposedly removed from the landfill in the early 1990's and should be included in the sources discussion.

Response: The terminology "Removal Action" was not used to describe the Navy's proactive removal and proper disposal of these drums. The formal term, as defined in the National Contingency Plan (NCP), refers to a release or threat of a release being necessary to drive a removal action. Because the drums were empty, free of any residue, and intact, these criteria were not present. The drums identified in the site inspection will be included in the discussion of sources.

Specific Comment 14, Response, Please put in the flow capacity for the treatment system for the extraction trench waste stream and the storm water treatment pond waste stream.

Response: These data will be included in the Final Phase II RI.

3.0 RESPONSES TO CITY OF RICHMOND COMMENTSON RESPONSES

NEW COMMENT

Comment 8: The RI Report should state whether the author thinks that releases from Tanks 5 and 7 (shown on Fig. 4-1) are capable of impacting the landfill.

Response: Tanks 5 and 7 are downgradient from IR Site 1 and releases would not impact the area of the landfill itself, but could affect the ravine downgradient. This is shown on Figure 4-1 and will be stated in the Final Phase II RI.

Comments 12, 16, 19, 22: The Navy's responses to my comments should be included in the RI Report, but there was no indication they would be.

Response: Comment 12: The impacts of closing the ORS systems are currently being monitored, and a separate preliminary report on the ORS system will be presented in May 2000. Impacts of the ORS system will not be discussed in the Final Phase II RI.

Comment 16: The use of Asian Clams as an indicator species for levels of PAHs in tissue has been thoroughly discussed in the Draft Final Ecological Risk Assessment Addendum to the Phase II Remedial Investigation Field Work Plan (TtEMI 1998) and the Draft and Final Offshore Ecological Risk Assessment Reports. These reports are referenced in the Phase II RI Report. Therefore, it will not be included.

Comment 19: The response to the original City of Richmond comments will be included in Section 7.0 of the Final Phase II RI Report.

Comment 22: The information from the original Navy response to the City of Richmond comment will be included in Section 8.0 of the Final Phase II RI Report.

Comment 14: My comment wasn't that important, but it referred to JP-5 and diesel found in MW11-22.

Response: The response to the original comment contained an error that misidentified the well as MW11-92. The data presented and the original response described the potential source for the LNAPL measured in samples from well MW11-22 in December 1994. The exact source is unknown but may have come from a pipeline leak.

The statement that the exact source of the LNAPL is not known will be included in Section 4.2.1 of the Final Phase II RI.

Comment 17, 23: The results of sampling data in Tale 4.8 (Drum Lot 1) show levels of lead and vinyl chloride exceeding the preliminary remediation goal (PRGs) in 12 and 7 samples respectively. In addition, methyl tertiary butyl ether (MTBE) (no PRG) was detected in 6 samples. I think the RI Report should discuss how these are being addressed.

Response: As discussed in the original Navy response to comments, the human health risk assessment (HHRA) at the Public Beach Area was scoped to only address that area of IR Site 4. The North Shoreline Drum Lot Number 1, and the South Shoreline IR4 areas will be addressed during an upcoming project.

Comment 20: Because of the thickness of the product in ERM-EW1 (the most recent data shows 0.69'), and the proximity of the well to the landfill, the statement that there's "little evidence of free product" may need some explanation or modification.

Response: This statement was true in April 1999. This well is cross gradient from the fill footprint of IR Site 1 and does not contribute groundwater flow through the fill of IR Site 1 at the Waste Disposal Area. This well has been further investigated during the Phase I and Phase II UST program. These data will be included in Section 8 of the Final Phase II RI Report.