

FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

<http://www.efds.w.navy.mil/environmental/AlamedaPoint.htm>
Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

May 11, 2004

The following participants attended the meeting:

Co-Chairs:

Thomas Macchiarella Naval Facilities Engineering Command, Southwest Division (SWDIV),
Base Realignment and Closure (BRAC) Environmental Coordinator
(BEC), Navy Co-chair

Jim Sweeney Restoration Advisory Board (RAB), Vice Community Co-chair

Attendees:

Doug Biggs Alameda Point Collaborative (APC)

Cassie Cioci U.S. Coast Guard (USCG)

Glenna Clark SWDIV Remedial Project Manager (RPM)

Neil Coe RAB

Anna-Marie Cook U.S. Environmental Protection Agency (EPA)

David Cooper EPA

Judy Huang Regional Water Quality Control Board (RWQCB)

George Humphreys RAB

Craig Hunter Tetra Tech EM Inc. (Tetra Tech)

Elizabeth Johnson City of Alameda (City)

Marcia Liao Department of Toxic Substance Control (DTSC)

Julie Lincoln Tetra Tech

Lea Loizos RAB/ARC Ecology

Bert Morgan RAB

Darren Newton SWDIV RPM

Lona Pearson Tetra Tech

Kevin Reilly RAB

Michael Schmitz RAB

Michael John Torrey RAB/Housing Authority of the City of Alameda

The meeting agenda is provided in Attachment A.

MEETING SUMMARY

I. Approval of Minutes

Mr. Macchiarella, Navy Co-chair, called the meeting to order at 6:35 p.m.

Mr. Macchiarella asked for comments on the April 13, 2004, meeting minutes. Mr. Humphreys provided the comments summarized below.

- On page 1 of 8 under “Co-Chairs,” Mr. Macchiarella’s title has been corrected to “Navy Co-chair”.
- On page 4 of 8, first paragraph, sixth line; “Ms. Daily” has been corrected to “Ms. Dailey.”
- On page 5 of 8, third paragraph, last line; volatile organic carbons has been changed to volatile organic compounds.

The minutes were approved based on incorporation of the comments summarized above.

II. Co-Chair Announcements

Mr. Sweeney indicated that he would be filling Mrs. Sweeney’s position as co-chair tonight since she is absent. Mr. Sweeney stated that the following documents are now available for review in the Information Repository:

- Installation Restoration Sites 1, 2, 3, 5, 6, 7, 8, 9, 14, 16, 25, and 27, Summer 2003 through Spring 2004 Groundwater Monitoring Report, April 16, 2004.
- Groundwater Monitoring Program Winter 2003 Data Report, 4 CD Set, May 7, 2004.
- Revision 0, Twelve Month Post Remediation JP-5 Hydrocarbon Spill Report at Building 397. April 27, 2004.
- Revised Draft Radiological Survey Workplan at Installation Restoration Site 1, the 1943 – 1956 Disposal Area. April 30, 2004.
- Revised Draft Radiological Survey Workplan at Installation Restoration Site 2 – West Beach Landfill. April 30, 2004.
- Draft Final Remedial Investigation (RI) Workplan Addenda Site 27, Phase IV Field Sampling Activities.
- Navy’s Response to Comments on the Draft RI Workplan Addendum 2.

Mr. Sweeney asked if there were any other announcements. Ms. Loizos commented that during the last focus group meeting there was some discussion about forming a new focus group to review the document being presented tonight, Operable Unit (OU)- 2B RI report. She stated that the discussion to form a new focus group could be continued with RAB members that are interested after the presentation.

Mr. Macchiarella announced that he has created for the RAB a list of upcoming significant Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) document submittals that are anticipated in May and June 2004. The documents listed are: Site 2 (West Beach Landfill) draft RI workplan, Site 29 (Skeet Range) draft final RI report, Site 25 (Estuary Park and Coast Guard Housing Area) revised draft feasibility study (FS) for soil, and Economic Development Conveyance (EDC)-5 site inspection (SI) report. A handout was provided and is included as Attachment B-1. Mr. Macchiarella stated that the list presented at the June RAB meeting will be for June and July 2004, and then July will be July and August, etc.

Mr. Macchiarella also announced as a reminder, that starting next month on June 3, 2004, the RAB meetings would be held on the first Thursday of each month.

Mr. Schmitz commented that recent newspaper articles on the Agency for Toxic Substances and Disease Registry (ATSDR) health assessment and the City's golf course/hotel proposal for Alameda Point have confused the public on the status of cleanup and redevelopment activities at Alameda Point. Mr. Schmitz asked if there is a way to help the public understand the progress and processes used for Alameda Point's cleanup and redevelopment and how the processes might affect and also benefit the public. He stated that it would be extremely helpful if there were a way to provide information to the public that would wrap-up reports by the Navy, RAB, and City into an understandable format.

The RAB discussed Mr. Schmitz's comment and provided a few suggestions, including; conducting a community information day, having an informational booth at the upcoming arts and wine festival, and preparing an overview of Alameda Point to run in a local newspaper or as a fact sheet. Mr. Macchiarella added that there could be more frequent program updates on the interaction between the City's redevelopment process and the Navy's environmental. Mr. Macchiarella stated that the Spring 2004 newsletter is currently in print and will be distributed on May 21, 2004.

Ms. Johnson stated that the City would like to add to the Navy newsletter a timeline or discussion of the Master Developer processes so that people could see the relationship between the redevelopment process and the cleanup process. Ms. Johnson stated that as part of the City's negotiations with the Master Developer, the Navy requested that the reuse plan reflect the most profitable economic return because the property is slated for an economic development conveyance (EDC). The market sectors are changing over the course of the cleanup and the revised land use plan will reflect those changes. A series of meetings will be scheduled to present the new Master Development concept to the community. She stated that between herself and Doug DeHaan, representative to the RAB from the Alameda Point Advisory Committee, the RAB should stay well informed of the reuse process.

Mr. Coe asked about the status of contamination at Site 1 (landfill) and the proposed golf course. Mr. Macchiarella stated that Site 1 is in the FS phase of the CERCLA program. Mr. Coe commented that it has been a year since Site 1 has been discussed. Mr. Macchiarella replied that a remedy has not been selected. Mr. Humphreys commented that he is concerned that all of the studies might not be completed before the Sea Plane Lagoon (SPL) dredge or other soils are placed on the landfill. Mr. Macchiarella replied that he shares Mr. Humphreys concern; however, the Navy does not have any plans of importing soil at this time and that remedies have not been selected for Site 1 or the SPL.

Mr. Schmitz reiterated that the information should be available to the public and kept current to keep them fully engaged.

III. Draft Operable Unit-2B Remedial Investigation Presentation

Ms. Clark introduced Mr. Hunter to provide the presentation on the draft OU-2B RI (Sites 3, 4, 11, and 21) that was distributed on April 1, 2004. This document is currently available for review; comments should be received by the end of May. A handout was provided and is included as Attachment B-2. Mr. Hunter discussed the objectives of the RI and described each OU-2B site in terms of history, site features and activities, nature and extent of contamination, background comparisons, and risk assessment results.

Mr. Hunter described exposure scenarios evaluated in the human health risk assessment (HHRA) as residential, commercial/industrial, and construction worker. Recreational use was not evaluated because the proposed land use at OU-2B is commercial/industrial according to the land use classifications. In addition, the residential and commercial/industrial exposure scenarios would be conservative enough to be protective of a recreational user as well.

Mr. Hunter stated that the ecological risk assessment (ERA) evaluated terrestrial receptors (small mammals, passerine birds, and raptors) by using a food chain analysis. The ERA evaluated aquatic receptors where applicable, by comparing groundwater concentrations to published water quality criteria.

Mr. Reilly asked if the HHRA evaluated exposure routes in pregnant women or children. Mr. Hunter replied that the EPA's standards were used for the HHRA. He went on to say that EPA's standards specifically call out adults and children, but he was unaware if pregnant women are considered separate from the adult standards. Mr. Reilly stated that a pregnant woman could be employed at a commercial building. Ms. Cook said she would consult EPA's toxicologist on this question and report back to the RAB.

Mr. Hunter stated that the OU-2B sites are contiguous and located east of SPL in the eastern area of Alameda Point and north of OU-2A. Mr. Hunter stated that OU-2B has a groundwater plume that is under each of the OU-2B sites; Building 360 (Site 4) appears to be one of the main sources for the groundwater contamination. The OU-2B groundwater plume will be evaluated in the FS.

Site 3

Mr. Hunter stated that Site 3 was previously used as a fuel storage area and previously contained four 10,000-gallon concrete underground storage tanks (UST) and one 10,000-gallon steel UST that were used for aviation gas. Navy public works records estimate that approximately 365,000 gallons of fuel leaked from the USTs. The site contains Corrective Action Areas (CAA) 3A, 3B, and 3C because of the UST leaks and is being evaluated under the total petroleum hydrocarbon (TPH) program. The site also contains Building 112, which was used as a ship painting and repair facility, generator accumulation point (GAP) 10, and numerous other small buildings used by the Navy Exchange for retail sales.

Mr. Reilly asked how the CAA boundary outlines are determined. Mr. Hunter replied that a separate program for TPH contamination determines the CAA boundaries; the CERCLA program site boundaries are determined by preliminary site assessments and historical investigations.

Mr. Hunter discussed the soil analytical results for chemicals that were used at the site (see Slide 10 of the handout). He stated that other than the elevated TPH constituents, a few elevated pesticides results, which could be attributed to common use, were also found at the site.

Mr. Hunter discussed a summary of the Site 3 HHRA cancer and noncancer risks for both the residential and commercial/industrial scenarios (see Slides 11 and 12). He stated that the soil and groundwater risks

were totaled, and the groundwater risk is based on the OU-wide groundwater plume data. Most of the site risk drivers are found in the groundwater, except for arsenic and benzo(a)pyrene (PAH) in soil. The HHRA also evaluated elevated levels of lead in the soil and groundwater at the site. Slide 13 of the handout illustrates the results of the LeadSpread model, which was used to estimate potential blood lead levels for the residential use scenario using site soil combined with either the lead groundwater plume, or the OU-wide groundwater plume, or East Bay Municipal Utility District (EBMUD) supplied drinking water. Each of the three combinations produced elevated blood lead levels above 10 micrograms per deciliter ($\mu\text{g}/\text{dl}$), the threshold for lead in children. Mr. Hunter stated that the lead in soil and the lead in groundwater are located in the northern portion of Site 3. Monitoring wells are recommended to further delineate the plume of lead in groundwater.

Site 4

Mr. Hunter stated that Site 4 contains Building 360, which was an aircraft engine overhaul facility with paint shops, plating shops, solvent dip tanks, and aboveground storage tanks (AST) 360 A through 360E. Building 360 is one of the main contributors to the groundwater plume in OU-2B. In addition, Site 4 contains Building 372 a turbo propeller test cell and includes USTs 372-1 (5,000 gallons) and 372-1 (1,000 gallons); Building 414 a hazardous material storage building containing paints, solvents, cleaners, and abrasives; numerous generation accumulation points (GAPs), and numerous oil and water separators (OWS). Mr. Hunter discussed the soil analytical results for chemicals used at Site 4 (see Slide 20 and 21 of the handout). Detections include solvents, pesticides, polychlorinated biphenyls (PCB), and metals.

Mr. Hunter discussed a summary of the Site 4 HHRA cancer and noncancer risks for both the residential and commercial/industrial scenarios (see Slides 22 and 23). He stated that the soil and groundwater risks were totaled, and the groundwater result is based on the site-wide groundwater plume data. Most of the site risk drivers are found in the groundwater, except for arsenic and PAH in soil. Mr. Hunter stated that the soil risks were determined to be relatively low. Since the solvent dip tanks associated with Building 360 extended below ground surface (bgs) wide spread soil contamination is not found; however, the solvent dip tanks are believed to be a point source release for the site-wide groundwater contamination.

Mr. Hunter explained that arsenic in soil (see Slide 24) is believed to be background and not associated with site activities, as well as PAHs in soil (Slide 25), which were found in soil under paved parking lots. Mr. Reilly asked why there are no sample points within the buildings. Mr. Hunter replied that interior sampling was not included as part of this sampling plan.

Site 11

Mr. Hunter stated that Site 11 contains Building 14 the engine test cell. Building 14 was previously used for aircraft testing and repair, which includes turbine engine testing, disassembly, solvent cleaning, repair and assembly. Site 14 also contained ASTs 14A through 14D, ASTs 37A through 37D, USTs 14-1 through 14-6, and numerous OWS located around the building. Soil analytical results for chemicals used at Site 11 are shown on Slide 28. Some elevated concentrations of lead and PCBs were found.

Mr. Hunter discussed a summary of the Site 11 HHRA cancer and noncancer risks for both the residential and commercial/industrial scenarios (see Slides 29 and 30). He stated that the soil and groundwater risks were totaled, and the groundwater risk, as with the other sites, is based on the OU-wide groundwater plume data. Most of the site risk drivers are found in the groundwater, except for arsenic and PAH in soil. Lead was determined to be a risk driver because of one sample that exceeded the preliminary remediation goal (PRG). According to the LeadSpread model (see Slide 31), using site soil and the OU-wide groundwater plume numbers, the potential blood lead level is 10.3 $\mu\text{g}/\text{dl}$, which is just slightly above the threshold for lead in children of 10 $\mu\text{g}/\text{dl}$. When modeled with EBMUD numbers instead of the OU-

wide groundwater plume, the blood lead level result is 8.3 µg/dl, below the child threshold. PAH concentrations were located in the parking lot and south of Building 14.

Site 21

Mr. Hunter stated that Site 21 contains Building 162 the ship fitting and engine repair building. Site activities include overhaul and repair of aircraft engines, ship fitting, and building maintenance. In addition, Site 21 also contains Building 113, GAP 03, Building 391, Building 191, and CAA 8 for TPH. Building 113 was used for overhauling air conditioners, shipping container repair, and as a paint shop. See Slide 34 for Site 21 features.

Mr. Humphreys asked if the buildings are currently occupied. Mr. Hunter replied that some of the buildings are occupied.

Mr. Macchiarella asked if Mr. Hunter could provide an exposure scenario for commercial/industrial use, such as a concrete floor, a cracked concrete floor, exposed soil, or air. Mr. Hunter replied that the commercial/industrial scenario does account for some exposure to soil. An industrial worker working outside would be exposed to dust and could potentially ingest dust. Mr. Macchiarella surmised if the area were completely covered in concrete, then such a risk analysis would be very conservative. Mr. Hunter agreed and replied that most of the sites are completely paved and that there is very little exposed soil. Mr. Reilly asked if there are any drains inside the building that could potentially be an exposure pathway. Mr. Hunter replied that floor drains, sinks and sewer drains, historically disposed the material downwards. Ms. Cook asked if the floor represented is concrete. Mr. Hunter replied that the floor is concrete slab with building on grade.

Mr. Macchiarella asked if vapor intrusion pathways in the building have been accurately represented since there could be an inhalation exposure pathway as well as a soil contact pathway. Mr. Hunter replied that vapor intrusion from groundwater has been evaluated.

Mr. Humphreys indicated concerns of soil dust ingestion by people while eating at a restaurant located in the site area. In response, Mr. Hunter stated that the model used for soil dust exposure pathway, evaluated exposed soil as a scenario, though the actual site is completely paved. Therefore the risk assessment model is more conservative than the conditions that currently exist on the base. Mr. Humphreys asked if the restaurant was specifically taken into account for human ingestion exposure. Mr. Hunter replied that the restaurant as a pathway was not evaluated; however, the model assumed that a worker works in the soil 8 hours a day for 20 years duration. It is also assumed that the worker would get soil on his hands and ingest the soil.

Mr. Schmitz asked about the differences in cleanup assumptions for residential, commercial/industrial or recreational planned reuse. Mr. Macchiarella replied that when the Navy conducts a RI or FS at a BRAC base, it refers to the reuse plan, which dictates how the reuse authority will use the property and also provides the basis on how the property will be evaluated. Unrestricted residential use is always evaluated even if residential use is not part of the reuse plan. Unrestricted residential use cleanup standards are the most conservative.

Mr. Hunter continued with his presentation. He presented a table summarizing the soil analytical results for chemicals used at Site 21 (see Slide 35). Mr. Hunter discussed a summary of the Site 21 HHRA cancer and noncancer risk for both the residential and commercial/industrial scenarios (see Slides 36 and 37). He stated that the soil and groundwater risks were again totaled and that the groundwater risk, as with the other sites, is based on the OU-wide groundwater plume data. Most of the site risk drivers are found in the groundwater except for arsenic in soil. Lead was also found to be a risk driver because two

surficial samples exceeded the PRG and skewed the concentrations used to evaluate site-wide risk. Using the LeadSpread model (see Slide 38), blood lead levels were elevated for the residential scenario using site soil with OU-wide groundwater plume numbers (the blood lead level 13.7 µg/dl) and site soil with EBMUD numbers (blood lead level of 11.8 µg/dl). Both were above the threshold for lead in children of 10 µg/dl (see Slide 38).

Mr. Hunter presented, a figure (Slide 40) illustrating the features of OU-2B. He stated that most of the groundwater plume originate at Building 360 and extends to the SPL.

Mr. Hunter presented tables that summarize the groundwater analytical results for chemicals used at OU-2B (see Slides 41 and 42). He stated that elevated concentrations of chlorinated solvents, acetone, benzene, toluene, ethylbenzene, and xylene (BTEX) compounds from TPH and gasoline, and metals have been found in multiple samples. Cancer risk associated with residential use of the groundwater is 6.8E-02. Commercial/industrial cancer risk from vapor intrusion is 2.8E-03. The noncancer hazard index for residential use is 340 and for commercial/industrial is 2 (see Slide 43). Mr. Hunter presented the groundwater plume on Slides 44 and 45. He stated that tetrachloroethene (PCE) and its breakdown products, trichloroethene (TCE), dichloroethene (DCE) and vinyl chloride, would be evaluated for cleanup in the FS.

Summary

Mr. Hunter stated that in summary, Site 3 soil and groundwater are recommended for further evaluation for lead in the FS. Soil at Sites 4, 11, and 21 is recommended for no further action under CERCLA (see Slides 46 and 47). OU-2B groundwater is recommended for further evaluation of chlorinated solvents, benzenes, and arsenic in the FS (see Slide 48). In addition, any portions of the TPH plume that are not commingled with CERCLA chemicals will be deferred to the TPH program.

Mr. Reilly asked about the history of tidal action in the area of OU-2B and if any flooding has occurred from tidal action or rainwater. Mr. Hunter replied that although the groundwater is very near the surface (5 to 10 feet bgs) he is unaware of any flooding or historical documents recording flooding. Mr. Reilly commented that he believes the records would be somewhat helpful in assessing health risks. Mr. Reilly asked if the flooding occurred would the chemicals be brought to the ground surface. Mr. Hunter replied that the potential risks from exposure to the chemicals have been evaluated in the risk assessment. Ms. Johnson added that she is aware that the storm drains sometimes flow backwards from the SPL during high tide, but not any flooding. Mr. Sweeney stated that Atlantic Street used to flood frequently, but since the flood control project has been completed, the problem has been removed. Mr. Hunter added that the risk assessment accounts for direct contact with the groundwater in the residential use exposure including bathing and other dermal contact.

Ms. Loizos inquired what happens to the plume once it reaches the SPL. Mr. Hunter replied that the plume is believed to go into the SPL. Ms. Loizos asked if the effects to aquatic species in the SPL are known. Mr. Hunter replied that there are very few or no criteria for the chlorinated solvents or volatile organic compounds (VOC). The fate of the VOCs is to degas and disperse into the atmosphere; the assumption is that there are no adverse impacts. Mr. Humphreys suggested a slurry cutoff wall be considered to stop the plume from flowing into the SPL. Mr. Hunter stated that a treatment wall could be a remedial option to treat the plume before the groundwater reaches the SPL.

Mr. Humphreys stated that there should be some information on the pesticide dichloro-diphenyl-trichloroethane (DDT) that has been detected in soil samples at OU-2B. Mr. Hunter replied that if the DDT reached the SPL it would end up in the sediment. Mr. Hunter stated that he was unsure if water concentrations of DDT were evaluated in the SPL RI/FS.

Ms. Loizos asked if any RAB members would be interested in forming a focus group with her to discuss the OU-2B draft RI; Mr. Reilly and Mr. Humphreys agreed. The RAB thoroughly discussed the timeline for comments to be submitted. It was agreed that the focus group should try and get their comments in during the draft report comment period; but that the Navy would strive to address RAB comments, even after the comment period closes.

IV. BCT Activities

Ms. Liao presented an update of the BCT activities from the previous month. A handout was provided and is included in Attachment B-3. Ms. Liao stated that the April 30, 2004 monthly BCT meeting agenda items were an overview of the draft OU-2B RI (tonight's presentation) and the kickoff of the Site Management Plan (SMP) updates.

Ms. Liao stated that a Resource Conservation and Recovery Act (RCRA) corrective action meeting was held on April 20, 2004. Ms. Liao stated that there are approximately 100 RCRA solid waste management units (SWMUs) scattered throughout the sites of Alameda Point. The meeting focused on ways to integrate each of the RCRA SWMU sites with the CERCLA and petroleum cleanup programs.

Ms. Liao stated that a SPL FS alternatives meeting was held on May 3, 2004. Five preliminary alternatives were discussed. See item 3 of Attachment B-3 for Ms. Liao's summary of the SPL preliminary alternatives. The Navy also discussed total potential dredge volumes, whether or not there would be confirmation sampling, final disposition of the dewater from the dredge spoils, disposal sites and requirements, and costs.

Mr. Reilly asked which preliminary alternative is being favored. Ms. Liao replied that no alternative was favored at the meeting and that all five alternatives were discussed.

In response to a question by Mr. Humphreys, Mr. Macchiarella replied that the purpose of the SPL meeting was to make sure the regulators were aware of the direction the Navy was taking for the FS alternatives. The alternatives have not yet been evaluated and are currently in the concept stage. The FS will evaluate several remedial alternatives using the nine National Contingency Plan (NCP) evaluation criteria.

Mr. Humphreys asked Ms. Liao for clarification on DTSC's role in the integration of RCRA, CERCLA and petroleum programs. Ms. Liao replied that DTSC has an obligation and a mandate that RCRA requirements are met. Prior to the property transfer, RCRA permits need to be terminated and corrective action cleanup requirements have to be met. That is a process that DTSC sees can be accomplished at the same time as CERCLA. Because the SWMUs are scattered throughout the base, DTSC feels that corrective action can be wrapped into the three existing programs: (1) CERCLA RI/FS governed under NCP, approximately 40 percent of base; (2) petroleum cleanup; and (3) CERCLA process before RI, preliminary assessment/site investigation (PA/SI), approximately 60 percent.

V. Community and RAB Comment Period

Mr. Humphreys stated that he appreciates everyone's comments on the ATSDR report; the review of the document was a great service to the community. Ms. Loizos added that she has the comments on the ATSDR report in writing and can provide a copy to anyone who would like one.

Mr. Humphreys also commented that a focus group meeting was held on the draft OU-1 Sites 6, 7, 8, and 16 RI, but the comment period on the document has expired. He stated it is unfortunate that the presentation was not given to the entire RAB, as was tonight's presentation. Ms. Loizos stated that after the last focus group meeting, Ms. Clark agreed that comments on the OU-1 RI would be accepted and that she has a draft comment letter for Ms. Clark.

Mr. Humphreys noted that until a presentation is given at the RAB meeting, RAB members do not respond to the documents being distributed for a review. He stated by the time the presentation is given the RAB is only left with a week to review and provide comments. Ms. Johnson replied that the handout provided by Mr. Macchiarella should help peak some interest. Mr. Sweeney suggested reading the executive summary of each document.

Mr. Biggs introduced himself as the APC representative replacing Rezsins Jaulus-Gonzales. He stated that the RAB is invited to attend the APC June-tenth Celebration on June 12, 2004, between the hours of 11:00 a.m. and 5:00 p.m. at 577 West Ranger, Alameda Point. Mr. Biggs also suggested that the RAB or Navy might want to have a booth at the celebration to provide community information.

Mr. Biggs commented that some of the sites discussed during tonight's presentation contain buildings with tenants, such as the Source Café. He suggested sending a notice and inviting the commercial tenants to the RAB meetings when the agenda items cover their particular buildings.

Ms. Loizos stated that she has some questions that should be addressed during a RAB meeting but not necessarily this meeting. She asked: (1) why the data from indoor air sampling conducted at Coast Guard housing in 2002, and referenced in the ATSDR report, were not included the OU-5 RI/FS reports for soil or groundwater, and whether those data would be included in the draft final OU-5 RI/FS reports; (2) why PAH contamination in neighboring Marina Village was not known, even though it is stated in the RAB meeting minutes, which are referenced in the ATSDR report; and (3) what is the status of the historical radiological assessment (HRA) for Alameda Point that was discussed a few months back.. She explained that the third question came out of the focus group meeting for OU-1.

Mr. Macchiarella replied that he has an answer now for questions 1 and 3. He stated that indoor air sampling results will be included in the draft final OU-5 RI/FS report, and that the Navy is working on the funding and the scope of work for the HRA, on which the Navy's radiological affairs support office (RASO) is currently helping to move forward.

Ms. Cook answered Ms. Loizos' question 2 and stated that the ATSDR report was probably in error when it mentioned PAH contamination at Marina Village Housing. Ms. Cook noted that PAH contamination was not realized as a potential problem at the base until 1998, and Marina Village Housing was not sampled for PAHs until recently. She stated that there are a lot of things wrong with the ATSDR report and that unfortunately, even though EPA commented extensively on the draft version sent to the agencies, none of our comments and concerns had been addressed.

Mr. Sweeney stated that the next meeting would be held on Thursday June 3, 2004. The meeting was adjourned at 8:33 p.m.

ATTACHMENT A

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
May 11, 2004**

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

MAY 11, 2004, 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140

COMMUNITY CONFERENCE ROOM

(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)

<u>TIME</u>	<u>SUBJECT</u>	<u>PRESENTER</u>
6:30 - 6:45	Approval of Minutes	Jean Sweeney
6:45 – 7:00	Co-Chair Announcements	Co-Chairs
7:00 – 8:05	Presentation on the Operable Unit 2B (Sites 3, 4, 11, 21) Draft Remedial Investigation Report	Glenna Clark and Craig Hunter (Tetra Tech)
8:05 – 8:15	BCT Activities	Marcia Liao
8:15 – 8:30	Community & RAB Comment Period	Community & RAB
8:30	RAB Meeting Adjournment	

ATTACHMENT B

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS**

- B-1 List of significant Navy CERCLA program documents for May and June 2004, presented by Thomas Macchiarella, SWDIV. May 11, 2004. (1 page)
- B-2 Draft OU-2B (Sites 3, 4, 11, and 21) RI Report Summary, Presented by Craig Hunter, Tetra Tech. May 11, 2004. (24 pages)
- B-3 BCT Activities Update for April 2004, Presented by Marcia Liao, DTSC. May 11, 2004. (1 page)

ATTACHMENT B-1
LIST OF UPCOMING CERCLA DOCUMENTS FOR MAY/JUNE 2004
(One Page)

**Alameda Point Restoration Advisory Board Meeting
May 11, 2004**

Significant Navy CERCLA program documents for May/June 2004

- Site 2 (West Beach Landfill) Draft Remedial Investigation Workplan
- Site 29 (Skeet Range) Draft Final Remedial Investigation Report
- Site 25 (Estuary Park & Coast Guard Housing Area) Revised Draft Feasibility Study for Soil
- EDC-5 Site Inspection Report

ATTACHMENT B-2
DRAFT OU-2B RI REPORT SUMMARY
(24 Pages)



ALAMEDA POINT
ALAMEDA, CALIFORNIA



Operable Unit 2B
Remedial Investigation Report
Sites 3, 4, 11, and 21

Glenna Clark
Remedial Project Manager
NAVFAC Southwest Division

Craig Hunter
Project Manager
Tetra Tech EMI

May 11, 2004



ALAMEDA POINT
ALAMEDA, CALIFORNIA



PRESENTATION

- Overview of remedial investigation process, including approach to human health and ecological risk assessment
 - Identify site features, activities, and chemicals used at the site that may have resulted in soil or groundwater contamination
 - Present results of human health risk assessment
 - Show the extent of major soil or groundwater contamination
 - Summarize remedial investigation report findings
-



ALAMEDA POINT
ALAMEDA, CALIFORNIA



Remedial Investigation Objectives

- Collect soil and groundwater data for characterization of the sites and in support of a FS, if necessary
- Evaluate each site's physical setting, geology, hydrogeology, and ecology
- Assess the nature and extent and fate and transport of those chemicals at each site demonstrating significant risk
- Conduct background comparisons for soil and groundwater
- Conduct a HHRA and ERA for each site



ALAMEDA POINT
ALAMEDA, CALIFORNIA



HUMAN HEALTH RISK ASSESMENT

- **Residential** - incidental soil ingestion, dermal contact with soil, inhalation of particulates from soil (nonvolatile), inhalation of vapors in ambient air, inhalation of vapors in indoor air, and domestic use of groundwater (ingestion, dermal contact, and inhalation of vapors)
- **Commercial/Industrial** - soil ingestion, dermal contact with soil, inhalation of particulates from soil (nonvolatile), inhalation of VOCs in ambient air, and inhalation of VOCs in indoor air
- **Recreational** - soil ingestion, dermal contact with soil, inhalation of particulates from soil (nonvolatile), and inhalation of VOCs in ambient air
- **Construction Worker** - soil ingestion, dermal contact with soil, inhalation of particulates from soil (nonvolatile), and inhalation of VOCs in ambient air





ALAMEDA POINT ALAMEDA, CALIFORNIA



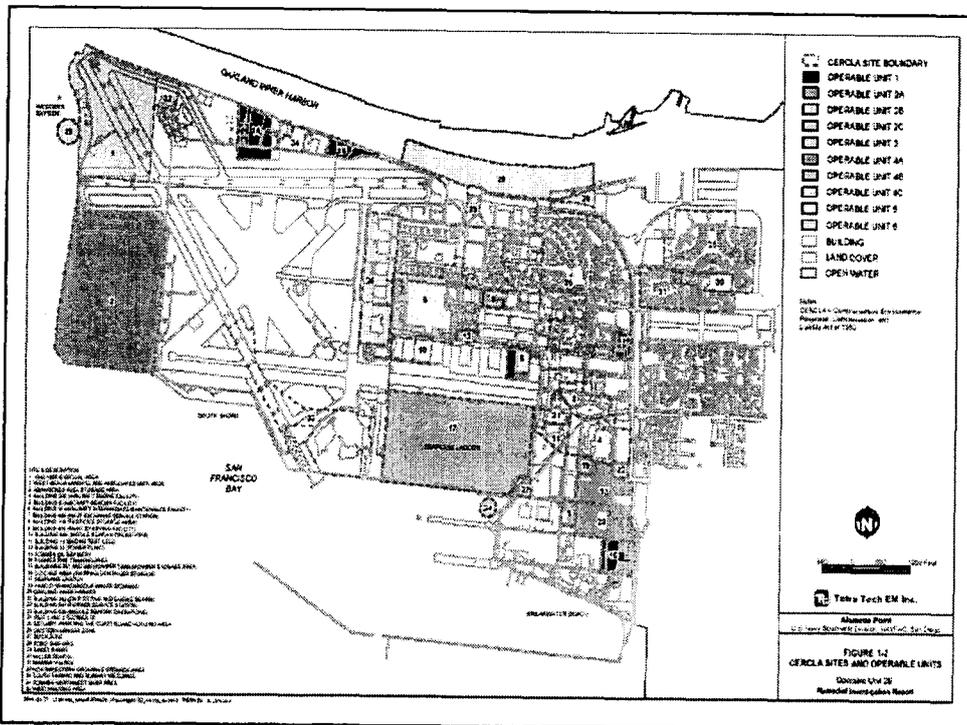
ECOLOGICAL RISK ASSESSMENT

Terrestrial Receptors

- Small Mammals (California ground squirrel)
- Passerines (American robin & Alameda song sparrow)
- Raptors (red-tailed hawk)

Aquatic Receptors

- Direct comparison with published water quality criteria





ALAMEDA POINT
ALAMEDA, CALIFORNIA



OU-2B Groundwater Plume

- The OU-2B groundwater plume covers portions of each of the OU-2B sites.
 - The main source of chlorinated solvent contamination appears to be from activities conducted in Building 360.
-

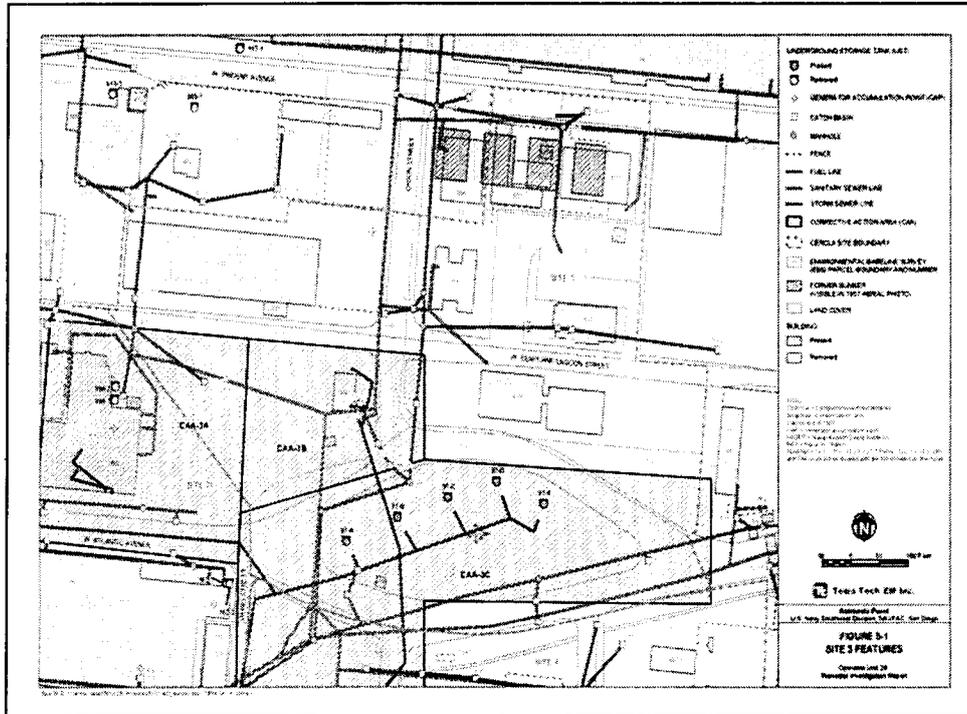


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Site 3 – Abandoned Fuel Storage Area

- 4-10,000 gallon concrete gas and 1-10,000 gallon steel USTs used for aviation gas; approximately 365,000 gallons may have leaked
 - CAAs 3A, 3B, and 3C
 - Building 112 – Ship Intermediate Maintenance Activity painting and repair facility; GAP 10
 - Numerous buildings used by Navy Exchange for retail sales
-





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SOIL ANALYTICAL RESULTS FOR CHEMICALS USED AT SITE 3

Chemical	Detection Frequency	Range of Detections (µg/kg)	PRG (µg/kg)
2-Butanone	1/63	240	NA
4,4'-DDT	2/28	7.4 to 15	1,700
2,4-Dimethylphenol	1/66	43	1,200,000
4-Methyl-2-pentanone	4/57	4 to 15,000	NA
1,2,4-Trimethylbenzene	2/9	2.4 to 4,000	52,000
1,3,5-Trimethylbenzene	1/9	2,500	21,000
Alpha-chlordane	1/21	1.9	1,600
Aroclor 1260	6/30	9.5 to 5,200	220
Benzene	11/76	1.4 to 12,000	600
Chlordane	1/7	180	1,600
Ethylbenzene	18/76	6.3 to 50,000	8,900
Gamma-BHC (lindane)	1/28	1.9	NA
Gamma-chlordane	1/21	2	1,600
Isopropylbenzene	2/9	3 to 18,000	NA
M,P-Xylene	4/9	16 to 4,000	270,000
Methylene chloride	4/66	32 to 94	9,100
O-Xylene	3/20	6.9 to 4,000	270,000
Toluene	24/77	2 to 210,000	520,000
Xylenes (total)	15/67	2 to 250,000	270,000



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Site 3 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Cancer Risk

Soil (0-8 feet bgs)-	Arsenic; benzo(a)pyrene	8.7E-05
Groundwater-	PCE; TCE; 1,2-DCE; VC; 1,1,2-TCA; 1,2-DCA; 1,4-dichlorobenzene; benzene; benzo(a)pyrene; benzo(a)anthracene; and arsenic	6.8E-02
Total Site Cancer Risk (Residential):		6.8E-02

Commercial/Industrial Cancer Risk

Soil (0-2 feet bgs)-	Arsenic	5.4E-06
Groundwater (vapor intrusion) –	TCE; VC; and benzene	2.8E-03
Total Site Cancer Risk (Commercial/Industrial):		2.8E-03



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Site 3 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Noncancer Risk

Soil (0-8 feet bgs) -	Arsenic	2
Groundwater-	TCE; 1,2-DCE; and arsenic	340
Total Site Noncancer Hazard Index (Residential):		342

Commercial/Industrial Noncancer Risk

Soil (0-2 feet bgs) -		0.02
Groundwater (vapor intrusion) –	TCE; VC; and benzene	2
Total Site Noncancer Hazard Index (Commercial/Industrial):		2





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Site 3 – HHRA Risk Characterization (Residential Scenario)

Lead Spread

Site Soil & Lead Groundwater Plume

Site Soil & OU-wide Groundwater Plume

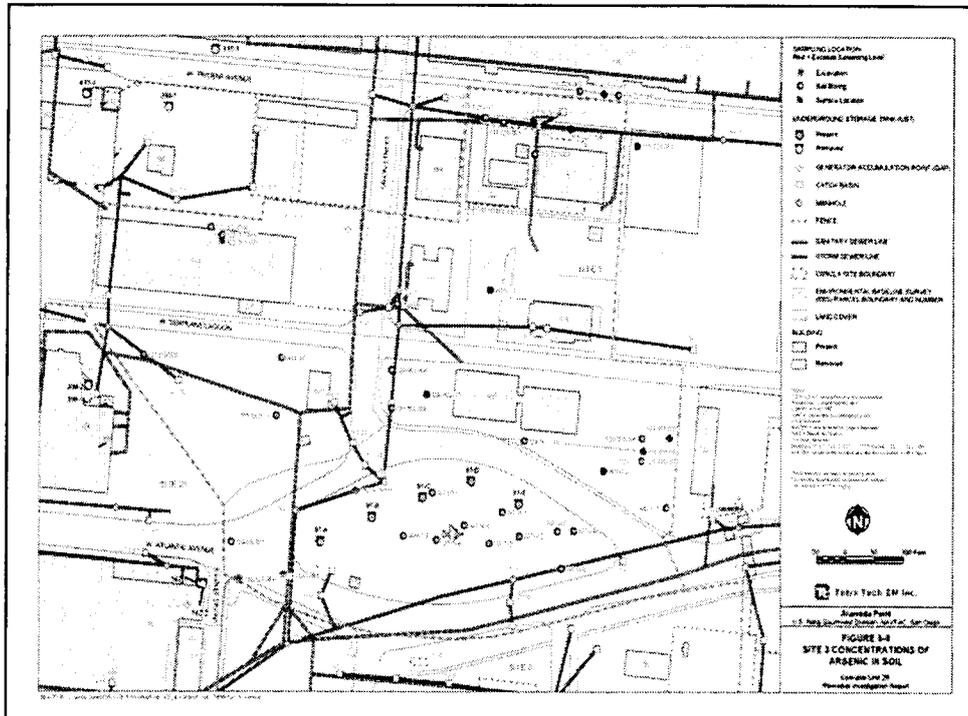
Site Soil & EBMUD

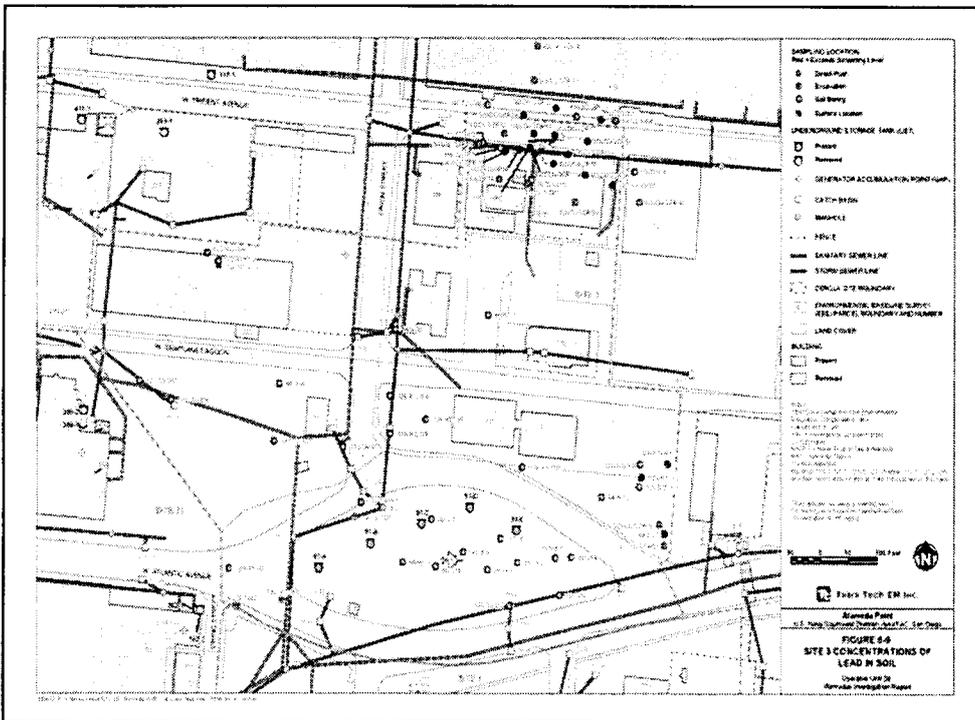
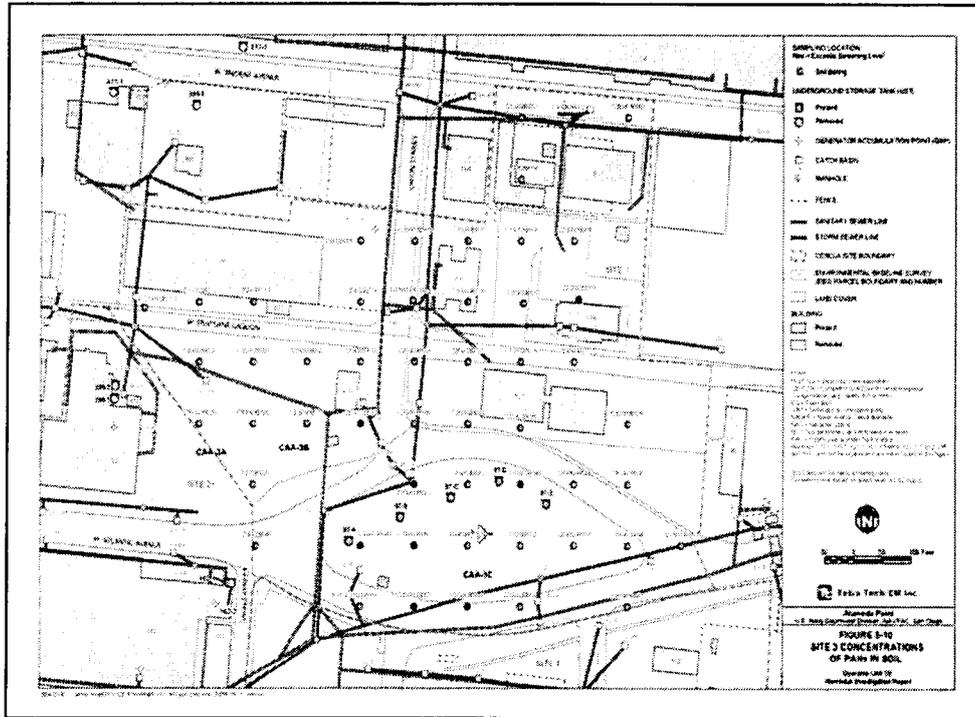
Blood Lead Level

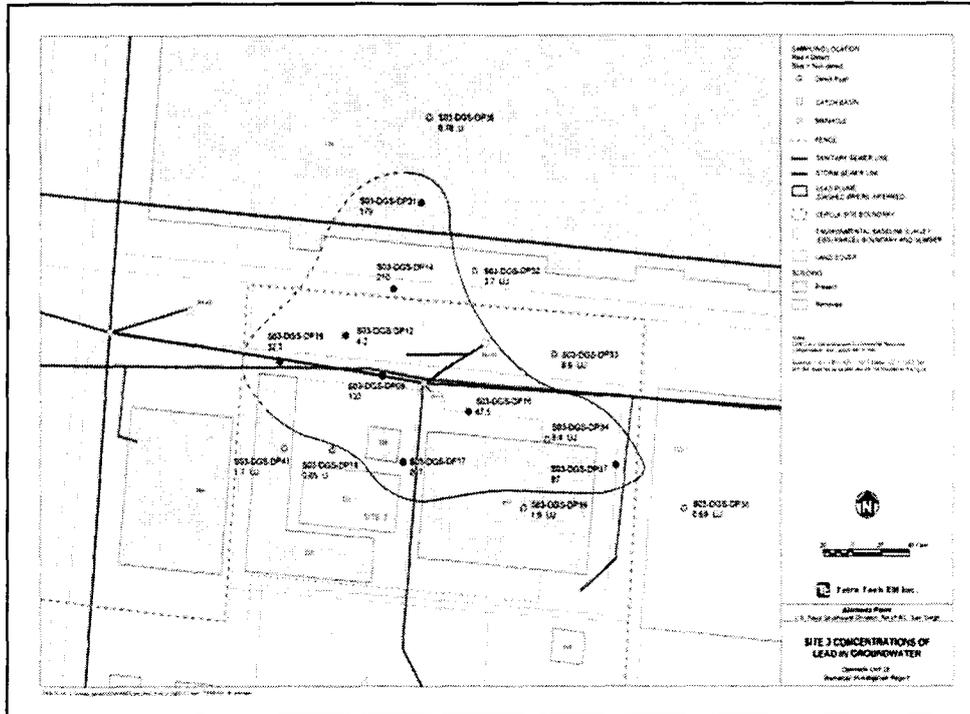
88.8 µg/dL

18.1 µg/dL

16.2 µg/dL



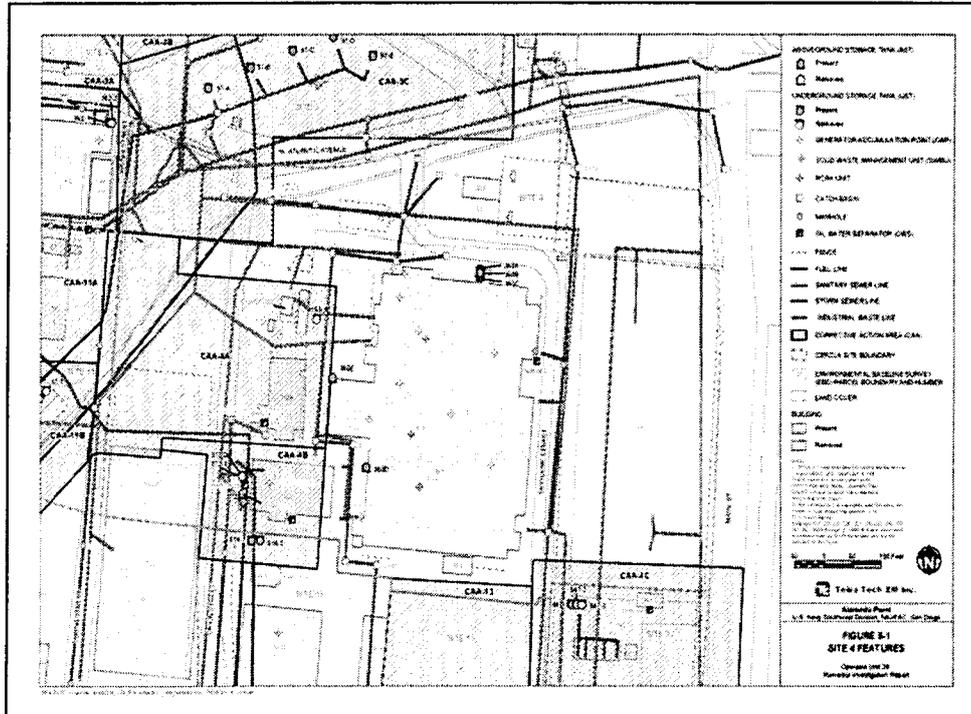




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Site 4 – Building 360
Aircraft Engine Facility



- Aircraft engine and airframe overhaul facility – paint shops; plating shops; solvent dip tanks; ASTs 360A through E
- Building 372 – turbo propeller test cell, includes USTs 372-1 (6,000 gallons) and 372-1 (1,000 gallons)
- Building 414 – hazardous material storehouse for paints, solvents, cleaners, abrasive blast media
- Numerous GAPS throughout the site
- Numerous OWS throughout the site





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SOIL ANALYTICAL RESULTS FOR CHEMICALS USED AT SITE 4

Chemical	Detection Frequency	Range of Detections (µg/kg)	PRG (µg/kg)
1,1,1-Trichloroethane	12/213	2 to 170	1,200,000
1,1,1,2-Tetrachloroethane	3/194	90 to 600	410
1,1-Dichloroethane	4/195	4 to 31	2,800
1,1-Dichloroethene	7/213	1 to 1,400	120,000
1,2-Dichlorobenzene	2/193	2 to 4,000	370,000
1,2-Dichloroethene (total)	12/216	1 to 7,400	43,000 (cis)
1,4-Dichlorobenzene	1/193	9 to 810	3,400
4,4'-DDD	5/21	1.5 to 9.3	2,400
4,4'-DDE	5/21	1 to 15	1,700
4,4'-DDT	6/21	3.2 to 32	1,700
Alpha-BHC	1/21	1	NA
Alpha-chlordane	3/21	2.4 to 11	1,600
Aroclor 1254	2/35	29 to 1,300	220
Aroclor 1260	4/35	17 to 38	220
Benzene	11/237	1 to 5,800	600
Beta-BHC	1/21	3.5	NA
Cadmium (mg/kg)	95/225	0.06 to 105	37
Chlorobenzene	3/194	2 to 6	150,000



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**SOIL ANALYTICAL RESULTS FOR CHEMICALS USED AT SITE 4
(CONTINUED)**

Chemical	Detection Frequency	Range of Detections (µg/kg)	PRG (µg/kg)
Total Chromium (mg/kg)	198/227	5.8 to 1,530	210
Chromium (hexavalent) (mg/kg)	26/38	0.076 to 7.81	30
Copper (mg/kg)	185/215	4.3 to 326	2,900
Dieldrin	1/21	1.7	30
Endrin Ketone	1/21	16	NA
Ethylbenzene	45/237	0.7 to 17,000	8,900
Gamma-chlordane	3/21	2.9 to 8.6	1,600
Heptachlor Epoxide	2/21	2.6 to 9.1	53
M,P-Xylene	2/20	950 to 9,300	270,000
Methoxychlor	2/22	6 to 83	310,000
O-Xylene	2/21	950 to 4,700	270,000
Silver (mg/kg)	41/215	0.07 to 81.1	390
Styrene	1/193	1	1,700,000
PCE	1/210	2	1,500
Toluene	54/241	0.8 to 26,000	520,000
TCE	17/213	1 to 6,300	53
Vinyl Chloride	1/213	290	79
Xylene (total)	50/217	1 to 110,000	270,000
Zinc (mg/kg)	88/91	13,000 to 1,260,000	23,000



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**Site 4 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)**

Residential Cancer Risk

Soil (0-8 feet bgs) -	Arsenic; benzo(a)pyrene	1.7E-05
Groundwater -	PCE; TCE; 1,2-DCE; VC; 1,1,2-TCA; 12-DCA; 1,4-dichlorobenzene; benzene; benzo(a)pyrene; benzo(a)anthracene; and arsenic	6.8E-02
Total Site Cancer Risk (Residential):		6.8E-02

Commercial/Industrial Cancer Risk

Soil (0-2 feet bgs) -	Arsenic	3.5E-06
Groundwater (vapor intrusion) -	TCE; VC; and benzene	2.8E-03
Total Site Cancer Risk (Commercial/Industrial):		2.8E-03



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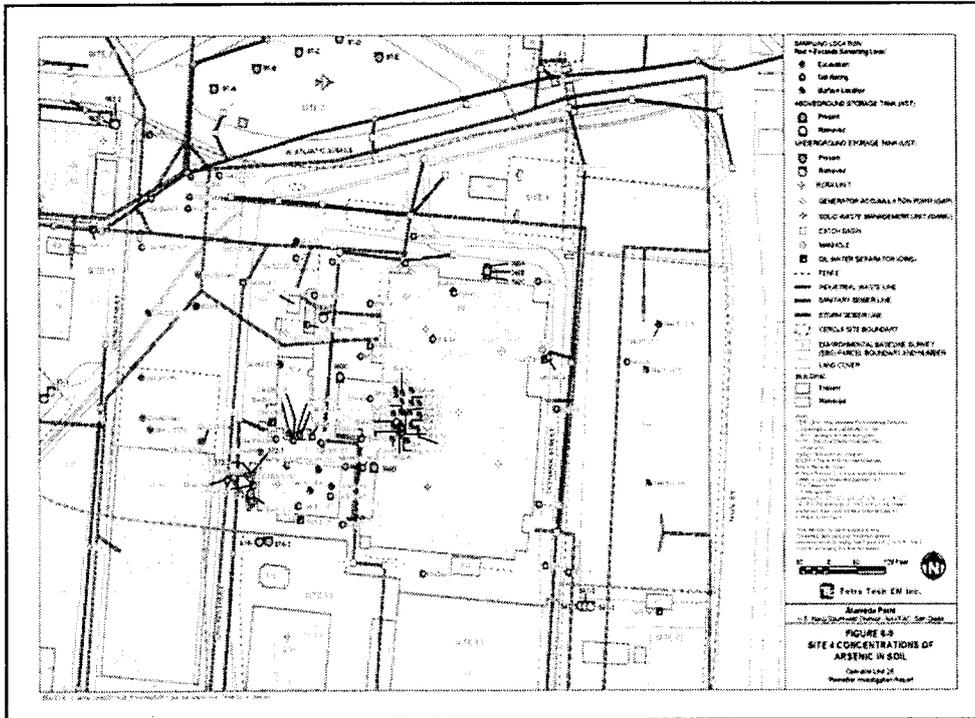
Site 4 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Noncancer Risk

Soil (0-8 feet bgs) -	0.3
Groundwater - TCE; 1,2-DCE; and arsenic	340
Total Site Noncancer Hazard Index (Residential):	340

Commercial/Industrial Noncancer Risk

Soil (0-2 feet bgs) -	0.05
Groundwater (vapor intrusion) – TCE; VC; and benzene	2
Total Site Noncancer Hazard Index (Commercial/Industrial):	2





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Site 11 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Cancer Risk

Soil (0-2 feet bgs)	Arsenic*, benzo(a)pyrene	1.3E-05
Groundwater	PCE; TCE; 1,2-DCE; VC; 1,1,2-TCA; 1,2-DCA; 1,4-dichlorobenzene; benzene; benzo(a)pyrene; benzo(a)anthracene; and arsenic	6.8E-02
Total Site Cancer Risk (Residential):		6.8E-02

Commercial/Industrial Cancer Risk

Soil (0-2 feet bgs)	Arsenic*	4.6E-06
Groundwater (vapor intrusion)	TCE; VC; and benzene	2.8E-03
Total Site Cancer Risk (Commercial/Industrial):		2.8E-03

* Background



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Site 11 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Noncancer Risk

Soil (0-2 feet bgs) -		0.1
Groundwater -	TCE; 1,2-DCE; and arsenic	340
Total Site Noncancer Hazard Index (Residential):		340

Commercial/Industrial Noncancer Risk

Soil (0-2 feet bgs) -		0.01
Groundwater (vapor intrusion) -	TCE; VC; and benzene	2
Total Site Noncancer Hazard Index (Commercial/Industrial):		2





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Site 11 – HHRA Risk Characterization (Residential Scenario)

Lead Spread

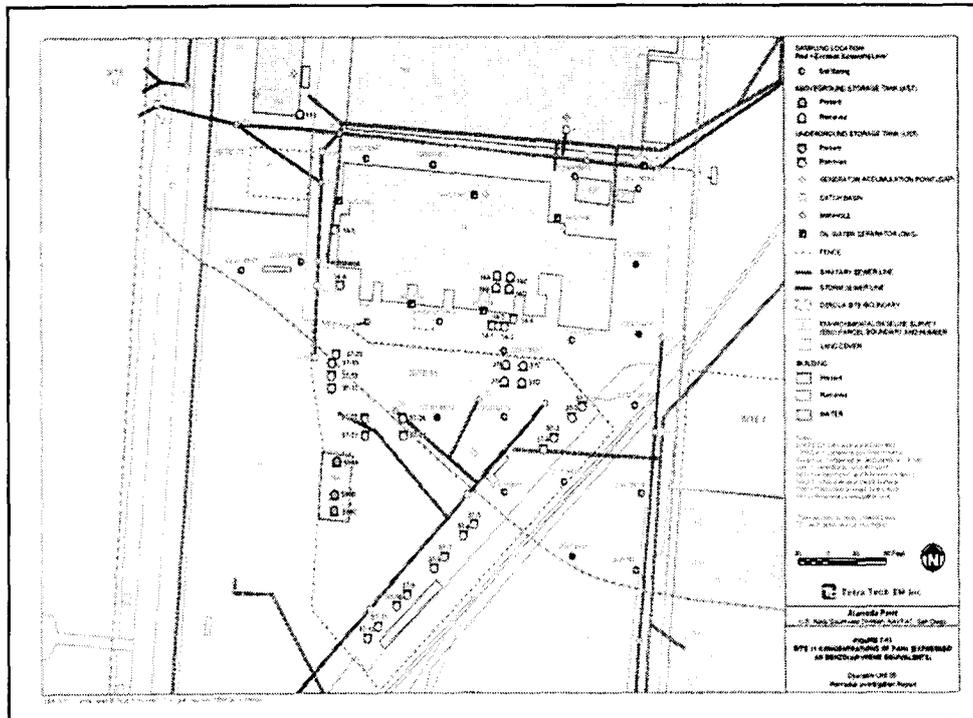
Site Soil & OU-wide Groundwater Plume

Site Soil & EBMUD

Blood Lead Level

10.3 µg/dL

8.3 µg/dL





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SOIL ANALYTICAL RESULTS FOR CHEMICALS USED AT SITE 21

Chemical	DETECTION FREQUENCY	Range of Concentrations (µg/kg)	PRG (µg/kg)
4,4'-DDD	1/22	12	2,400
4,4'-DDT	1/22	58	1,700
Aluminum (mg/kg)	43/44	3,410 to 21,600	76,000
Aroclor 1260	1/22	140	220
Acetone	2/46	5 to 12	1,600,000
Benzene	2/71	30 to 620	600
Copper	64/68	4.3 to 148	3,100
Lead (mg/kg)	66/78	1.4 to 450	150 (Cal-modified)
Mercury (mg/kg)	12/68	0.15 to 3.6	23
Toluene	3/71	3 to 11	520,000
TCE	1/51	5	53
Xylene (total)	7/68	2 to 390	270,000



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Site 21 – HHRA Risk Characterization

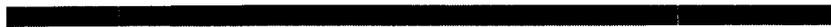
(Residential and Commercial/Industrial Scenarios)

Residential Cancer Risk

Soil (0-2 feet bgs) - Arsenic	4.9E-05
Groundwater - PCE; TCE; 1,2-DCE; VC; 1,1,2-TCA; 1,2-DCA; 1,4-dichlorobenzene; benzene; benzo(a)pyrene; benzo(a)anthracene; and arsenic	6.8E-02
Total Site Cancer Risk (Residential):	6.8E-02

Commercial/Industrial Noncancer Risk

Soil (0-2 feet bgs) - Arsenic	1.2E-05
Groundwater (vapor intrusion) – TCE; VC; and benzene	2.8E-03
Total Site Cancer Risk (Commercial/Industrial):	2.8E-03





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Site 21 – HHRA Risk Characterization
(Residential and Commercial/Industrial Scenarios)

Residential Noncancer Risk

Soil -	Arsenic	0.9
Groundwater -	TCE; 1,2-DCE; and arsenic	340
Total Site Noncancer Hazard Index (Residential):		341

Commercial/Industrial Noncancer Risk

Soil (0-2 feet bgs) -		0.08
Groundwater (vapor intrusion) –	TCE; VC; and benzene	2
Total Site Noncancer Hazard Index (Commercial/Industrial):		2



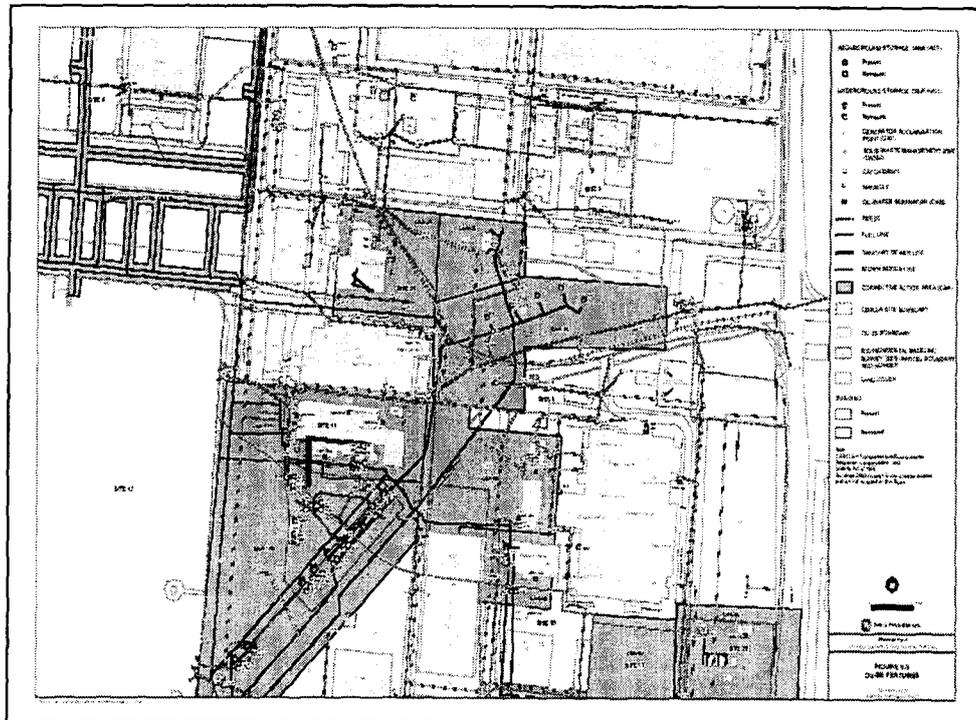
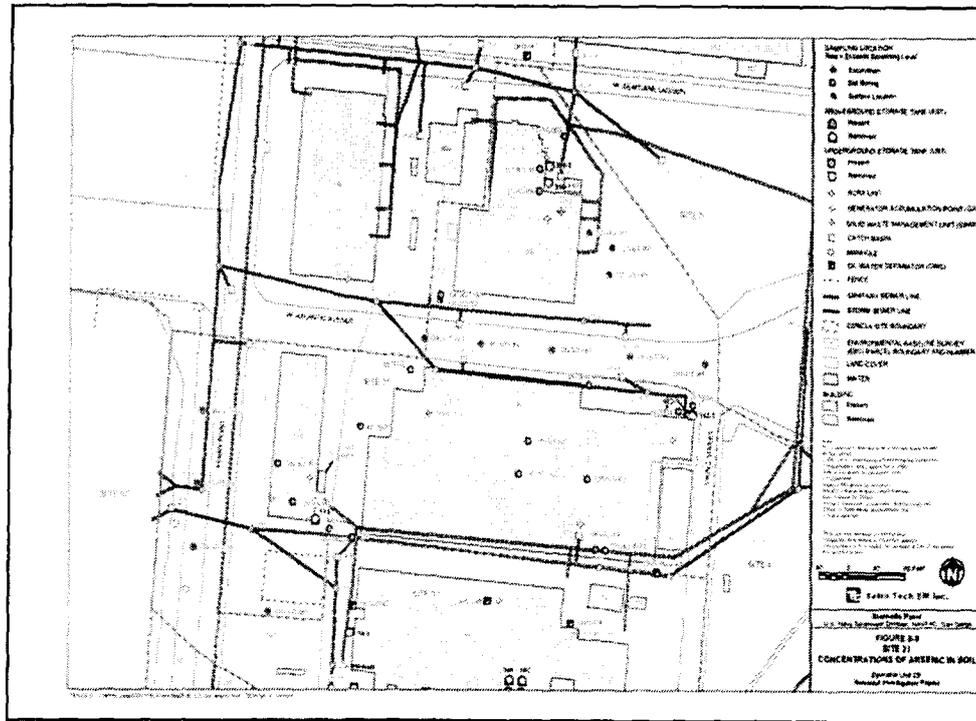
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Site 21 – HHRA Risk Characterization
(Residential Scenario)

<u>LeadSpread</u>	<u>Blood Lead Level</u>
Site Soil & OU-wide Groundwater Plume	13.7 µg/dL
Site Soil & EBMUD	11.8 µg/dL







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**GROUNDWATER ANALYTICAL RESULTS FOR
CHEMICALS USED AT OU-2B**

Chemical	Detection Frequency	Range of Concentrations (µg/L)	PRG (µg/L)
1,1,1-TCA	104 / 1,537	0.4 - 120,000	3,200
1,1,2-TCA	46 / 1,326	0.4 - 270	0.2
1,1-DCA	227 / 1,355	0.1 - 6,200	2.0
1,1-DCE	376 / 1,535	0.1 - 190,000	340
1,2,4-Trimethylbenzene	10 / 183	0.4 - 46	12
1,2-Dichlorobenzene	59 / 563	0.1 - 320	370
1,2-DCA	98 / 1,537	0.2 - 1,100	0.12
1,2-DCE (total)	444 / 1,535	0.1 - 19,000	61 (cis)
1,3,5-Trimethylbenzene	7 / 183	0.2 - 20	12
1,3-Dichlorobenzene	12 / 562	0.07 - 4.5	5.5
1,4-Dichlorobenzene	39 / 562	0.3 - 73	0.5
Acetone	38 / 389	0.5 - 63,000	610
Benzene	157 / 1,119	0.1 - 4,600	0.34
Ethylbenzene	108 / 1,119	0.2 - 3,364	2.9



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**GROUNDWATER ANALYTICAL RESULTS FOR
CHEMICALS USED AT OU-2B (CONTINUED)**

Chemical	Detection Frequency	Range of Concentrations (µg/L)	PRG (µg/L)
Methylene chloride	31 / 778	0.64 - 75	4.3
MTBE	21 / 607	0.1 - 86	6.2 (cal-modified)
PCE	41 / 1,537	0.2 - 14	0.66
Toluene	258 / 1,120	0.1 - 2,300	720
TCE	568 / 1,542	0.2 - 200,000	0.028
Vinyl chloride	243 / 1,536	0.3 - 7,800	0.02
Xylene (total)	123 / 713	0.2 - 18,707	210
Aluminum	77 / 263	5.6 - 397,000	36,000
Cadmium	72 / 273	0.054 - 183	18
Total Chromium	99 / 272	0.1 - 3,090	NA
Chromium (hexavalent)	6 / 18	0.19 - 1,020	110
Copper	105 / 262	0.079 - 280	1,500
Lead	49 / 307	0.045 - 210	NA
Mercury	12 / 256	0.041 - 0.34	11
Zinc	115/265	0.49 to 2,230	11,000





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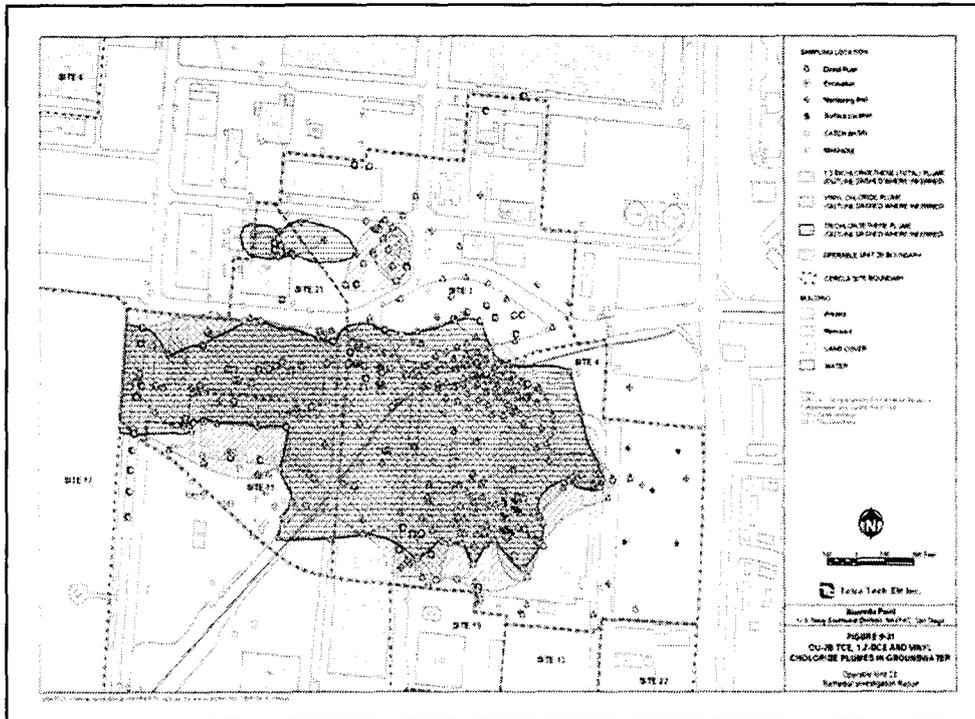
OU-2B – HHRA Risk Characterization (Residential and Commercial/Industrial Scenarios)

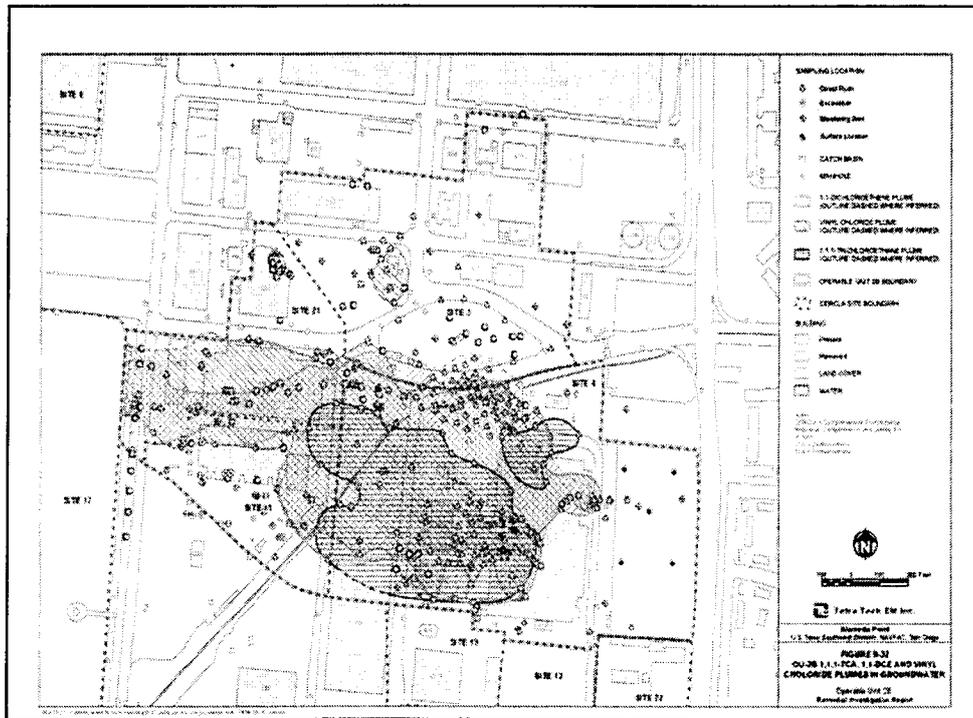
Cancer Risk

Groundwater (Residential) – PCE; TCE; 1,2-DCE; VC; 1,1,2-TCA; 1,2-DCA; 1,4-dichlorobenzene; benzene; benzo(a)pyrene; benzo(a)anthracene; and arsenic	6.8E-02
Groundwater (Commercial/Industrial; vapor intrusion) – TCE; VC; and benzene	2.8E-03

Noncancer Risk

Groundwater (Residential) – TCE; 1,2-DCE; and arsenic	340
Groundwater (Commercial/Industrial; vapor intrusion) – TCE; VC; and benzene	2





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SUMMARY

Site 3

- Soil – recommended for further evaluation of lead in soil in the northern portion of Site 3 in the feasibility study
- Lead plume – recommended for further evaluation in the feasibility study

Site 4

- Soil – recommended for no further action under CERCLA



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SUMMARY

Site 11

- Soil – recommended for no further action under CERCLA

Site 21

- Soil – recommended for no further action under CERCLA
-



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SUMMARY

OU-2B Groundwater

- Groundwater – recommended for further evaluation of PCE, TCE, 12-DCE, VC, 112-TCA, 12-DCA, 14-dichlorobenzene, benzene, benzo(a)pyrene, benzo(a)anthracene, and arsenic in the feasibility study
 - Portions of the TPH plume that are not commingled with CERCLA chemicals will be deferred to the TPH Program
-

ATTACHMENT B-3
BCT ACTIVITIES UPDATE
(One Page)

April 2004 BCT Activities

1. Monthly BCT Meeting, April 20, 2004

- Overview of OU-2B RI
- Site Management Plan updates

2. RCRA Corrective Action Meeting, April 21, 2004

Discussed ways to integrate RCRA corrective action requirements with CERCLA and petroleum cleanup.

3. Seaplane Lagoon FS Alternative Meeting, May 3, 2004

Preliminary alternatives included:

- 1) No further action
- 2) Dredging to 4 ft at the corners, no backfill, disposal (on-site or offsite disposal)
- 3) Dredging to 2 ft at the corners, and 4 ft in areas where PRGs exceed 2 ft depth, no backfill, disposal (onsite or offsite)
- 4) Dredging to 2 ft and disposal (onsite or offsite) and cap residual contamination,
- 5) Cap with 1 to 3 ft cap

Discussed dredged volumes (or backfill volumes), confirmation sampling, dewatering requirements, disposal sites, disposal requirements, and costs.

FS will be developed for Navy review in July 2004.

SulTech

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

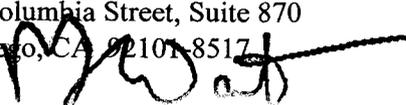
TRANSMITTAL/DELIVERABLE RECEIPT

Contract No. N68711-03-D-5104

Document Control No. TC . B010 . 10236

TO: Contracting Officer
Karen Rooney, Code 02RE
Naval Facilities Engineering Command
Southwest Division
1230 Columbia Street, Suite 870
San Diego, CA 92101-8517

DATE: 08/06/04
CTO: 010
LOCATION:
Alameda Point, Alameda, California

FROM: 
Michael Wanta, Contract Manager

DOCUMENT TITLE AND DATE:

May 11, 2004 Restoration Advisory Board Monthly Meeting Minutes

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

VERSION: Final REVISION #: NA
(e.g., Draft, Draft Final, Final)

ADMIN RECORD: Yes No CATEGORY: Confidential

SCHEDULED DELIVERY DATE: 07/30/04 ACTUAL DELIVERY DATE: 08/05/04

NUMBER OF COPIES SUBMITTED TO NAVY: 0/5C/4E

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