

FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

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

February 3, 2005

The following participants attended the meeting:

Co-Chairs:

Thomas Macchiarella Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Navy Co-chair

Jean Sweeney Restoration Advisory Board (RAB) Community Co-chair

Attendees:

Steve Ballister Community Member

Doug Biggs Alameda Point Collaborative (APC)

Glenna Clark Naval Facilities Engineering Command, Southwest Division (SWDIV) Remedial Project Manager (RPM)

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

Nancy Cook Department of Toxic Substances Control (DTSC)

David Cooper EPA

Ardella Dailey RAB/Alameda Unified School District

Tommie Jean Damrel Tetra Tech EM Inc. (Tetra Tech)

Doug Davenport Tetra Tech

Claudia Domingo SWDIV RPM

Steven W. Doremus, Ph.D. Director, Environmental Radiation Programs Naval Sea Systems Detachment (NAVSEADET)

Jennifer Gibson Sullivan International Group

Judy Huang Regional Water Quality Control Board (RWQCB)

George Humphreys RAB

Elizabeth Johnson City of Alameda (City)

Joan Konrad RAB

James D. Leach RAB

Marcia Liao DTSC

Lea Loizos	RAB/ARC Ecology
Frank Mataresse	Alameda City Council
Darren Newton	BRAC PMO West
Robert O'Brien	Weston Solutions
Kurt Peterson	RAB
Kevin Reilly	RAB
Mark Ripperda	EPA
Peter Russell	Russell Resources/City of Alameda
Michael Schmitz	RAB
Matthew Slack	Navy Radiological Affairs Support Office (RASO)
Bill Smith	Community Member
Dale Smith	RAB/Sierra Club/Audubon Society
Jim Sweeney	RAB Vice Community Co-chair
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

Ms. Sweeney, Community Co-Chair, called the meeting to order at 6:30 p.m.

Mr. Sweeney asked for comments on the meeting minutes from January 6, 2005. Mr. Humphreys, Mr. Leach, Mr. Reilly, Mr. Schmitz, and Mr. Torrey provided the comments summarized below.

Mr. Humphreys' Comments

- On page 7 of 11, fourth paragraph, last line; revise "Mr. Humphreys suggested that Vasco Road and Kettleman Hills were two locations" to read "Mr. Humphreys suggested that Vasco Road, Kettleman Hills, and Altamont were three landfills."
- On page 9 of 11, fourth paragraph, add the line "Mr. Humphreys noted that without reinforcement, the concrete will crack in several years."
- On page 9 of 11, fifth paragraph, first line; revise "the new play structure in the small play area would permeate" to read, "the new play structure in the small play area would penetrate."
- On page 11 of 11, second paragraph, eighth line; revise "Mr. Ripperda noted that radium dials were discovered" to read, "Mr. Ripperda noted that radium was discovered".
- On page 11 of 11, fourth paragraph, fourth line; revise "Mr. Ripperda stated that this pit would have to be removed." to read, "Mr. Ripperda stated that at least this pit would have to be removed."

Mr. Leach's Comment

- On page 11 of 11, third paragraph, third line, revise “the concrete runway was dug up” to read “the landfill was dug up and placed on the runway”

Mr. Reilly's Comment

- On page 6 of 11, sixth paragraph, first line, revise “Mr. Reilly stated that he was glad Alternative 7 did not include incineration” to read, “ Mr. Reilly stated that he was appalled that the Navy was considering the use of incineration in Alternative 7 but was glad it was cost-prohibitive.”

Mr. Schmitz's Comment

- Throughout the meeting minutes, “Mr. Schmidt” should read “Mr. Schmitz”.

Mr. Torrey's Comment

- On page 9 of 11, second paragraph, first line, revise “from the cats that use the sand area” to read “from the cats that use the sand area to bury their kitty litter”.

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

II. Co-Chair Announcements

Ms. Sweeney stated that she brought copies of the map showing the water channels at Alameda Point (Attachment B-1). This map is permanently located in the back of Suite 140 in Building 1.

Ms. Sweeney stated that she received two copies of the Operable Unit (OU)-5 feasibility study (FS). She would provide the document to any RAB member interested in reading it.

Mr. Macchiarella provided the RAB with a list of upcoming significant Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) document submittals that are anticipated in February and March 2005. The list is included as Attachment B-2 to these minutes.

Mr. Macchiarella stated that the draft proposed rule on RABs was published in the Federal Register. Comments are being accepted on this rule through the end of March. Mr. Macchiarella will provide the Internet link to anyone interested. Ms. Smith noted that it was difficult for some people to open the Adobe Acrobat (pdf) file on the website to read the proposed rule.

Mr. Macchiarella stated that a concerned community member at the January RAB meeting asked for information on whether the marsh crust ordinance had been followed during the installation of eight utility poles in the parking lot of the Officer's Club on Main Street. Mr. Macchiarella stated that the marsh crust ordinance in this area pertains to depths of 10 feet below ground surface. The utility poles were likely driven into place, which does not require a waste management plan. Mr. Humphreys stated that these poles belonged to Alameda Power & Telecom. Mr. Macchiarella added that the poles were likely used for utility technician training purposes.

Mr. Macchiarella stated that a public meeting for the Proposed Plan for the Site 29 Skeet Range would be held in March. The Navy was planning to schedule this meeting to coincide with the RAB meeting. Mr. Macchiarella stated that a notice would be mailed out and an ad would be placed in the local paper.

Mr. Mataresse stated that the Alameda Reuse and Redevelopment Agency (ARRA) moved their public meeting to 7 pm, since this time provided better availability to the public. Ms. Konrad stated that an ARRA workshop was already scheduled for 7 pm that evening. Ms. Johnson stated that the ARRA meeting was one of a series of six, and that it addresses land use planning. Mr. Peterson stated the ARRA meetings would provide a chance to get more involvement in the RAB meetings if the meetings were tied together somehow. Mr. Peterson noted that the topics discussed at the RAB and ARRA meetings were linked. Ms. Johnson stated that the ARRA agenda was already full and the purpose of the meeting was to discuss what to do with the land once the City receives it from the Navy, which is outside the realm of the RAB. Mr. Macchiarella stated that the Navy is currently working on a fact sheet on land use planning and suggested that a stack of these fact sheets could be provided at the meeting. Ms. Johnson stated that she would look into this matter further. Ms. Johnson added that the City was currently working on a website for Alameda Point and that a link to the RAB web site could be added to this site.

Ms. Loizos stated that this would be her last RAB meeting because she will be relocating to Long Island, New York. Mr. Torrey asked if a new representative from Arc Ecology would be attending. Ms. Loizos responded that she was not sure at this time. Ms. Loizos praised the RAB members for all their hard work and accomplishments. Mr. Peterson asked Ms. Loizos to provide her contact information and Ms. Loizos agreed to provide this to the RAB.

III. Historical Radiological Assessment Presentation

Ms. Domingo introduced Dr. Doremus, NAVSEADET, and Mr. Slack, RASO. Ms. Domingo stated that Mr. O'Brien from Weston Solutions would provide an overview of the upcoming Historical Radiological Assessment (HRA) at Naval Air Station (NAS) Alameda (Attachment B-3).

Mr. O'Brien stated that the HRA would provide documentation of the radiological history of the site and would serve as a tool to determine future radiological actions at the site (Slide 3). The HRA would be conducted in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) guidance. Mr. O'Brien provided a handout (Attachment B-4) that contains an excerpt from the MARSSIM guidance and another set of guidelines to be used in this assessment that were developed by the California Department of Health Services for the radiological evaluation of military bases.

Mr. O'Brien stated that the previous HRA for NAS Alameda was conducted in 1997, and consisted of two volumes (Slide 4). The first volume documented the Naval Nuclear Propulsion Program work. The second volume provides a history of the use and disposal of the general radioactive material (GRAM). GRAM includes items such as periscopes, night vision, and radiography.

Mr. O'Brien noted that the preparation of the HRA at Hunters Point Shipyard (HPS) identified new historical information about radiological operations at NAS Alameda (Slide 5). Additional information was also found at Treasure Island that impacted the HRA at NAS Alameda. The HPS HRA also established an expanded process and format for preparation of Navy GRAM HRAs. The second draft of the Alameda HRA will be prepared using the process and format identified in the HPS HRA.

Mr. O'Brien stated that the second draft of the HRA would not impact previous or current radiological investigations (Slide 6). The current investigations are based on previously reviewed information that will be incorporated into the second draft of the HRA.

Mr. O'Brien provided an overview of the Alameda Point HRA management team (Slide 7). RASO provides oversight of the preparation of the HRA. The main point of contact at RASO is Mr. Slack, and Ms. Domingo is the Navy RPM. The Navy contracted Weston Solutions to prepare the HRA. Terry Epperson is the project manager at Weston Solutions.

Mr. O'Brien provided details on the purpose of the HRA (Slide 8). He stated that the HRA would identify potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information. Each site will be designated as radiologically impacted or non-impacted. The radionuclides of concern will be identified for impacted sites, as well as potentially impacted media and migration sites. The HRA will make recommendations for future radiological actions.

Mr. O'Brien discussed the approach that would be used in the preparation of the second draft of the HRA (Slide 9). He stated that research of historical archives would be performed, including the review of maps, drawings, and other records. Site walks and interviews with personnel with knowledge of radiological operations at Alameda would also be performed. Mr. O'Brien noted that he has provided business cards with his contact information. He noted that notices would be placed in local newspapers to solicit information on historical radiological activities at NAS Alameda. The information from all of these sources would be assembled into a coherent history.

Mr. O'Brien noted that some radiologically impacted sites have already been identified (Slide 10). Ms. Sweeney asked about the difference between an impacted and a non-impacted site. Mr. O'Brien responded that a site would be classified as impacted if radiological material was used at the site or if a spill had occurred there. If the site was contaminated and then remediated, it would still be classified as impacted. A non-impacted site has no history of radiological usage. Mr. O'Brien added that if there were some uncertainty about the site's classification, varying levels of investigation would be conducted to obtain additional information to make a determination.

Mr. O'Brien stated that a fairly aggressive schedule was planned for the completion of the HRA (Slide 11). An internal draft would be distributed for Navy review in September 2005, followed by the distribution of the draft HRA in October 2005.

Mr. Humphreys asked if the HRA would also investigate depleted uranium. Mr. O'Brien confirmed that it would, but noted that he did not expect to find any evidence of depleted uranium. Mr. Humphreys stated that ordnance had been found in the landfill. Mr. Slack stated that the Navy strictly controlled the use of enriched uranium and it was more likely to be found on testing grounds.

Ms. Sweeney asked why the HRA was being conducted now. Mr. Slack responded that it was partly due to the availability of funds from the Navy. In addition, the HRA for HPS was recently completed. Archive records from this HRA indicated that additional research was needed on the historical activities at NAS Alameda.

Mr. Schmitz asked what information was found at Treasure Island relating to radiological operations at NAS Alameda. Mr. Slack responded that the Naval Radiological Defense Laboratory (NRDL), based at HPS, was the premier authority on radiation in the San Francisco Bay area. As a result, when the HRA was conducted at HPS, records were found of radiological activities at other sites. For example, a radium

spill occurred at Treasure Island in 1950. Experts from the NRDL were sent to clean up this spill. Mr. Slack noted that the remediation standards at that time were different from the current standards.

Ms. Smith stated that the remedial program for a radiologically impacted site at Treasure Island had begun recently. The building was being disassembled and samples were being collected from the building, foundation, and soil at that site.

Mr. Peterson asked if health and safety records for Navy personnel would be reviewed. Mr. O'Brien responded that these records, if they existed, would not likely be made available to the Navy. Mr. Humphreys added that each facility keeps its own records and there was not a centralized location for information. Mr. Humphreys added that employees used exposure badges. Mr. Reilly stated that records must exist if an employee was exposed to radiation. Mr. Slack stated that it was possible that a former employee could obtain their individual records through the Freedom of Information Act. Dr. Doremus stated that most workers had very low, if any, exposure levels.

Ms. Smith asked if any detection equipment would be used on the site walks. Mr. Slack responded that the HRA would identify where historical activities occurred, but actual sampling would occur at a later stage. The site walks would be used to identify signs or other indicators that radiological activities occurred at a given site.

Ms. Smith noted that regulatory standards for radiation levels and quality of cleanup had changed over the years and asked if this would be considered in the HRA. Dr. Doremus noted that current standards are higher and all sites must comply with current standards. In addition, the regulatory agencies must sign off on the report.

Mr. Reilly asked for additional information on Weston Solutions. Mr. O'Brien responded that Weston Solutions has been in business for many years and has completed several HRAs in California, including El Toro, Tustin, and Long Beach. Mr. O'Brien previously worked on the HRA for Mare Island.

Mr. Humphreys noted that former employees may be reticent to discuss former activities performed for fear of personal liability. Mr. O'Brien stated that the newspaper notices would specifically state that the Navy is not interested in prosecuting anyone, and is interested only in the facts concerning the former activities. Mr. Slack stated that each individual would be required to sign a release allowing the use of the information provided. Mr. Slack encouraged RAB members to inform the local community by word of mouth that the Navy was interested in interviewing former employees. Mr. Slack encouraged them to contact Ms. Domingo, Mr. O'Brien, or himself. Mr. O'Brien added that he has a particular interest in interviewing people from the overhaul and repair department.

Mr. Peterson stated that the Navy must have records of previous employees. Mr. Slack reiterated that the Navy does not have access to personnel records. In addition, many of the records are several decades old and may not exist anymore. It is also likely that some previous employees are deceased.

IV. Site 25 Soil FS Announcement

Mr. Newton stated that he would provide an update on the Site 25 FS (Attachment B-5). Site 25 is located at the Coast Guard Housing area. Mr. Newton presented the timeline of the project (Slide 2). The draft soil FS was released in August 2003. Mr. Newton noted that 150 pages of comments were received on this document. Kim Taylor of Camp Dresser & McKee Inc. and Dr. Linda Henry of Brown and Caldwell presented the approach to the RAB in March 2004. The final groundwater remedial investigation (RI)/FS was completed in October 2004. The draft final soil FS was distributed on January

18, 2005. In accordance with the Federal Facilities Agreement (FFA), the draft final soil FS will become final on February 18, 2005.

Mr. Newton presented the highlights of the draft final soil FS (Slide 3). The draft final soil FS includes an evaluation of five soil remedial alternatives. These remedial alternatives include institutional controls (IC), plus varying depths of excavation. The soil risk assessment was based on residential exposure criteria. The total risk was calculated, which includes risk from groundwater at OU-5.

Mr. Newton discussed the approach to the soil risk assessment (Slide 4). The residential exposure evaluates both a child and an adult for a span of 30 years. The soil risk parameters calculated include soil in contact with skin, inhalation of soil, as well as homegrown produce (Slide 5). Mr. Newton stated that the draft final soil FS is currently in agency review. Ms. Sweeney and Ms. Dailey also received a copy of the document for review.

Mr. Reilly asked about the future timeframe for this site. Mr. Newton responded that the document will be finalized on February 18, 2005. The next steps will be the preparation of a proposed plan, followed by a record of decision (ROD), and then the remedial action will be completed.

Ms. Smith asked if the Navy has responded to the comments submitted by the RAB. Mr. Newton stated that the Navy had responded to all submitted comments and these were included as an appendix in the draft final soil FS.

Ms. Konrad asked if an alternative had been selected. Mr. Newton responded that the FS only presents the alternatives. An alternative will be selected in the proposed plan.

IV. Operable Unit 1 Draft FS

Ms. Clark stated that OU-1 includes Sites 6, 7, 8, and 16. The draft FS was distributed on December 1, 2004. The Navy received a request for a 30-day extension to review the document and comments are now due on March 3, 2005. Ms. Clark stated that Mr. Hunter would present an update on the draft FS (Attachment B-6).

Mr. Hunter stated that the FS has three main objectives (Slide 2). These objectives are to eliminate or reduce human health exposure in soil and groundwater, minimize effects of contaminants on the environment, and develop remediation methods that are feasible, implementable, and cost effective. Mr. Hunter presented an overview of the topics to be discussed in the presentation (Slide 3).

Mr. Hunter presented the background of each of the sites (Slide 4). Site 6 was used as an aircraft intermediate maintenance department. Site 7 was the Naval Exchange Service Station area and Site 8 was a pesticide storage area. Site 16 was a shipping container storage area and includes Building 608, which was a self-serve auto repair facility.

Mr. Hunter discussed the chemicals of concern (COC) for soil and groundwater at each site (Slide 5). Mr. Hunter noted that the COCs are determined by a cancer risk of 1×10^{-6} or a hazard quotient greater than 1. The COCs in groundwater at Site 6 include tetrachloroethylene (PCE), trichloroethylene (PCE), and their degradation products. The COCs in the soil debris area at Site 7 include arsenic, cadmium, and lead. There are no COCs for groundwater at Site 7 evaluated in the FS. Mr. Hunter noted that the groundwater at Site 7 does contain a petroleum spill that is being cleaned up under the Corrective Action Program. Ms. Smith asked if there was any evidence of burning at Site 7. Mr. Hunter responded that there was evidence of an incinerator but that no burn residuals, such as polycyclic aromatic hydrocarbons

(PAH) or dioxins, were detected. The COCs at Site 8 soil include Aroclor-1254, Aroclor-1260, dieldrin, and lead. The COCs in groundwater at Site 16 include PCE, TCE, 1,3-dichlorobenzene (DCB), 1,4-DCB, and vinyl chloride.

Mr. Hunter presented the remedial action objectives for each site (Slides 6 and 7). He stated that the regulatory agencies identified data gaps at the oil and water separators (OWS) at Site 6 and 16. The FS proposes additional sampling to evaluate if additional remediation is needed at these sites.

Mr. Peterson asked if there were plans to remove the old storage containers. Mr. Macchiarella stated that the Navy has no plans to remove any of the structures at NAS Alameda.

Mr. Hunter discussed the initial technology screening at Site 6 (Slide 8). The four alternatives evaluated include no action, land use controls (LUC), excavation with off-site disposal, and active remediation. The components of active remediation retained for costing include air sparging, in-situ chemical oxidation, and hydrogen release compounds. The four alternatives evaluated at Site 16 include no action, LUCs, excavation with off-site disposal, and active remediation. The components of active remediation retained for costing include in-situ chemical oxidation, hydrogen release compounds, pump and treat with advanced oxidation processes, and pump and treat with air stripping (Slide 9). Mr. Hunter stated that excavation would likely be selected for Sites 7 and 8.

Mr. Hunter briefly discussed each of the retained remedial technology methods (Slides 10, 11, 12, 13, and 14). Ms. Smith asked if the air sparging system would capture any volatiles released. Mr. Hunter responded that it would include a capture system, such as a carbon filter.

Mr. Hunter presented a matrix showing the remedial alternatives for each site compared with the National Contingency Plan (NCP) criteria (Slides 15, 16, 17, and 18). Ms. Smith noted that each alternative for Site 6 would involve LUCs. Mr. Hunter responded that the duration of LUCs prescribed for a given remedial alternative depends on the length of time needed for that alternative to meet the cleanup goals. For some alternatives, LUCs may be required only during the time of active remediation. For example, remedial alternative 4 would allow for unrestricted reuse immediately following active remediation.

Mr. Hunter discussed the remaining steps for OU-1 (Slide 19). The draft FS is currently in agency review. The draft final FS is scheduled for submittal on May 2, 2005. After the FS is finalized, the proposed plan will be completed, followed by the ROD.

Ms. Sweeney asked if the timeframe for the petroleum cleanup in groundwater at Site 7 would coincide with the Site 7 soil activities. Mr. Hunter responded that the soil excavation would likely be completed first.

Mr. Humphreys noted that the expected cost for Site 7 is fairly low. Mr. Hunter replied that Site 7 is small in area.

V. BRAC Closure Team Activities

Ms. Liao distributed a handout that summarizes the BCT activities in January 2005 (Attachment B-7). One BCT meeting was held on January 18, 2005.

The BCT members discussed the City's plans to stockpile and dewater dredge spoils on the Northwest Territory for the golf course project. The City plans to obtain the material from the Port of Oakland and from other sources of opportunity. The dredged material would be placed on about 214 acres in the

Northwest Territory and would encompass 5 CERCLA sites (Sites 1, 14, 15, 32, and 34). The BCT discussed containment, protection of existing monitoring wells, suitability of sediment, and the required permits for the project. Ms. Liao stated that the regulatory agencies provided input on this project and the City will submit a proposal.

Ms. Liao stated that a presentation on the upcoming HRA took place at the BCT meeting. Ms. Liao noted that the RAB had just received an overview of the HRA.

The third topic discussed at the BCT meeting was the Navy's fiscal year 2005 financial execution plan. Ms. Liao stated that the priorities for funding would be discussed at the February BCT meeting. Ms. Dailey stated that the RAB typically is not notified of the planned priorities until it is too late to provide input. Ms. Dailey asked if a discussion of priorities would also occur during a RAB meeting. Mr. Macchiarella stated that the site management plan (SMP) would be revised in June, and a discussion of priorities could occur at the May or June RAB meeting. Mr. Ripperda stated that the discussion would need to be held sooner to allow input from the RAB.

Mr. Humphreys asked when the dredged material would be placed on the site. Ms. Johnson stated that 2007 is the earliest year in which that material would be placed on the site. Dredged materials would not be placed on Site 1. Mr. Reilly asked if the City had signed a contract with the Port of Oakland. Ms. Johnson responded that it had not. Mr. Reilly asked about the volume of dredged material that would be needed. Ms. Johnson replied that the upper range of material needed was 1.2 million cubic yards. The main source of dredged material would be from maintenance dredging of the Estuary.

Ms. Konrad asked if the material dredged from Seaplane Lagoon would be used. Ms. Johnson stated that Seaplane Lagoon would not provide a sufficient quality of dredged material. Mr. Russell noted that one alternative considered in the FS for Seaplane Lagoon is to place the dredged material in a corrective action management unit (CAMU). Mr. Newton added that the FS evaluates several alternatives for the dredged material, including placement on-site in a CAMU, off-site disposal, or treatment.

VII. Community and RAB Comment Period

Mr. Schmitz asked Mr. Macchiarella for additional information on the budget plans for 2006/2007. Mr. Macchiarella stated that he submits a funding request but he is not involved in the entire funding process. Mr. Faiq Aljabi is the business line team leader and handles most of the financial aspects. Mr. Macchiarella stated that he is hoping to have the Navy's initial FY06 budget request available by the February BCT meeting. The funding will cover all planned activities in the SMP. Mr. Schmitz asked if the funding would allow the projects to catch up from the prior monetary shortfall. Mr. Macchiarella stated that all the projects should be on track. He hoped that the control number provided would match the Navy's request. If not, then the projects would need to be prioritized. Mr. Macchiarella stated that this information should be available in the next few months.

Ms. Smith stated that the draft final FS for Site 25 does not include responses to the RAB comments. Ms. Smith stated that these must be included for review by the RAB. Mr. Newton stated that he would provide an update to the RAB by e-mail.

Mr. Ripperda stated that the comment period for the Seaplane Lagoon FS had been extended by 30 days. Comments are now due at the end of February. Ms. Sweeney thanked Mr. Ripperda for his comments on this report.

There were no further comments. The meeting was adjourned at 8:30 p.m.

ATTACHMENT A

**NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
February 3, 2005**

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

FEBRUARY 3, 2005 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140

COMMUNITY CONFERENCE ROOM

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

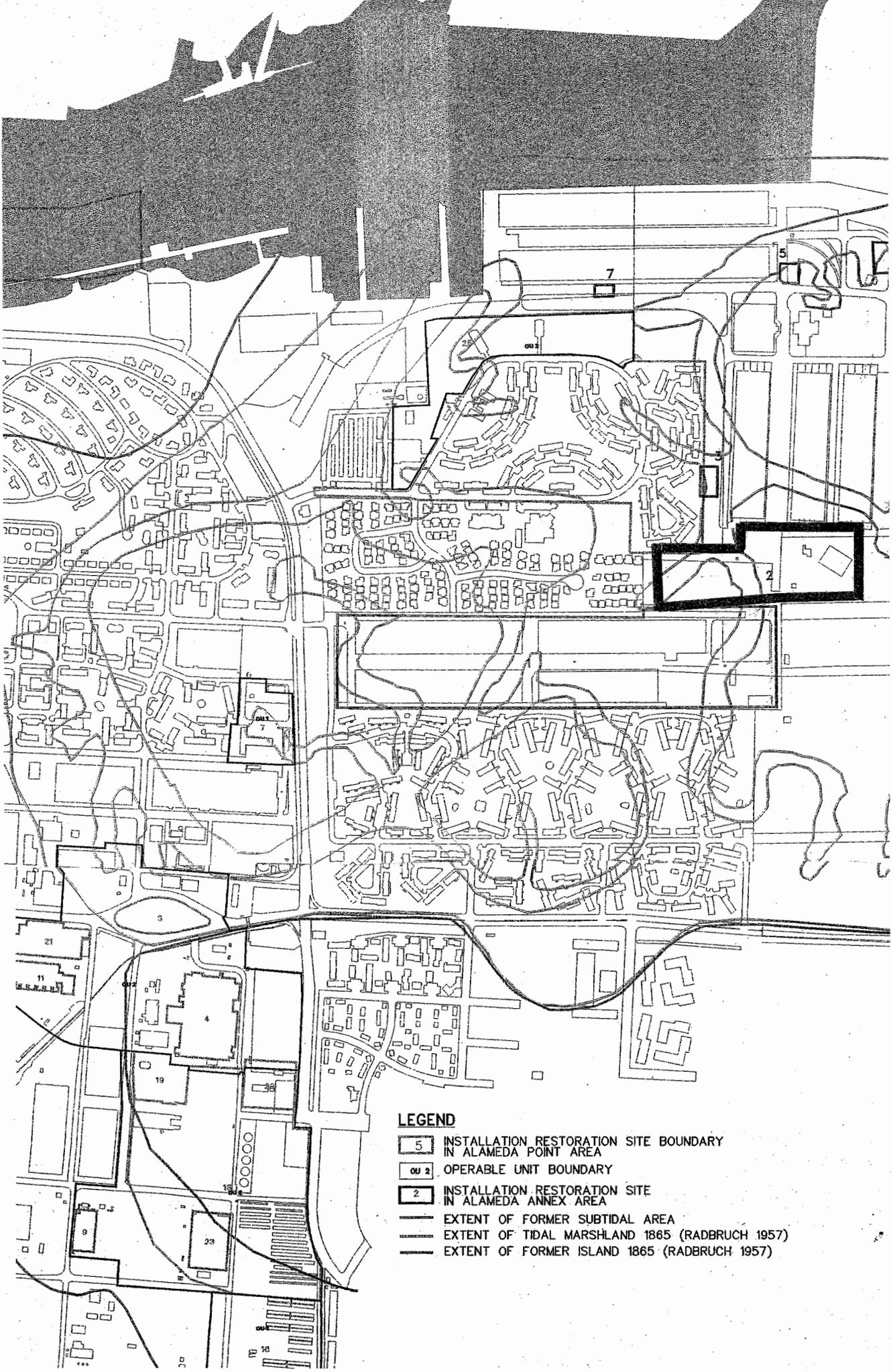
<u>TIME</u>	<u>SUBJECT</u>	<u>PRESENTER</u>
6:30 - 6:45	Approval of Minutes	Jean Sweeney
6:45 - 7:00	Co-Chair Announcements	Co-Chairs
7:00 – 7:40	Historical Radiological Assessment	Claudia Domingo
7:40 – 7:45	Site 25 Soil FS Announcement	Darren Newton
7:45 – 8:05	Operable Unit 1 Draft FS	Glenna Clark
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 Photocopy of Alameda Point map. Provided by Jean Sweeney, RAB. (1 page)
- B-2 List of significant Navy CERCLA program documents for February/March 2005, presented by Thomas Macchiarella, BRAC PMO-West. February 3, 2005. (1 page)
- B-3 Historical Radiological Assessment Presentation. Presented by Claudia Domingo, SWDIV, and Bob O'Brien, Weston Solutions. (6 pages)
- B-4 Historical Radiological Assessment evaluation handouts. (4 pages)
- B-5 Installation Restoration Site 25, Draft Final Soil Feasibility Study Announcement. Presented by Darren Newton. February 3, 2005. (3 pages)
- B-6 Draft Feasibility Study Report, Operable Unit 1. Presented by Glenna Clark, SWDIV, and Craig Hunter, Tetra Tech EMI. February 3, 2005. (10 pages)
- B-7 January 2005 BCT activities update. Presented by Marcia Liao, DTSC. February 3, 2005. (1 page)

ATTACHMENT B-1
PHOTOCOPY OF ALAMEDA POINT MAP
(One Page)



LEGEND

- 5 INSTALLATION RESTORATION SITE BOUNDARY IN ALAMEDA POINT AREA
- OU 2 OPERABLE UNIT BOUNDARY
- 2 INSTALLATION RESTORATION SITE IN ALAMEDA ANNEX AREA
- EXTENT OF FORMER SUBTIDAL AREA
- EXTENT OF TIDAL MARSHLAND 1865 (RADBRUCH 1957)
- EXTENT OF FORMER ISLAND 1865 (RADBRUCH 1957)

ATTACHMENT B-2
LIST OF UPCOMING CERCLA DOCUMENTS FOR
FEBRUARY/MARCH 2005
(One Page)

**Alameda Point Restoration Advisory Board Meeting
February 3, 2005**

*Significant Navy CERCLA program documents planned for
February/March 2005*

- Site 14 (Former Fire Training Area) FS Addendum
- OU-2A Draft Final RI Report
- Site 29 (Skeet Range) Proposed Plan
- Site 17 (Seaplane Lagoon) Draft Final Feasibility Study
- EDC-5 Draft Final SI Report
- Site 1, 2 Draft Radiological Survey Report
- Site 1 Draft Feasibility Study Report
- Draft Final Datagap Sampling Workplan (Offshore sediments)
- Site 30 Draft Remedial Investigation Report
- Site 30 Action Memo

ATTACHMENT B-3
HISTORICAL RADIOLOGICAL ASSESSMENT PRESENTATION
(Six Pages)

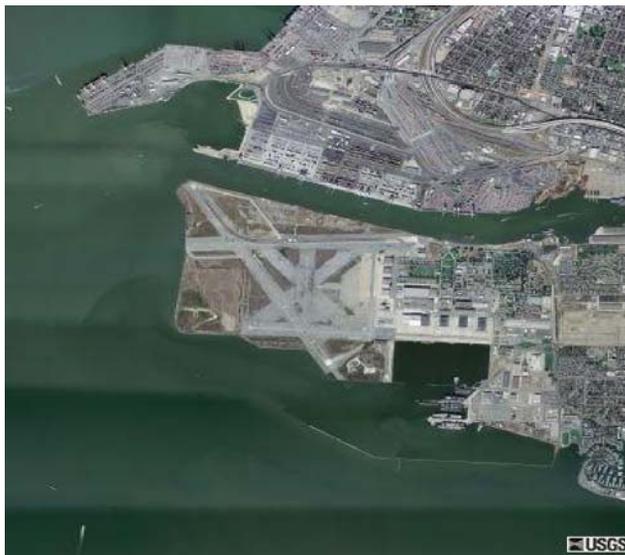


HISTORICAL RADIOLOGICAL ASSESSMENT for FORMER ALAMEDA NAVAL AIR STATION

Thursday, February 3, 2005

Prepared by:
Weston Solutions Inc.
Mare Island Office
Vallejo, Ca.

ALAMEDA NAVAL AIR STATION February 2004



WHAT IS A HRA?



- **Historical Radiological Assessment is:**
 - **Navy documentation of radiological history of site**
 - **Tool to determine future radiological actions at the site**
 - **Based on MARSSIM guidance for a Historical Site Assessment**

ALAMEDA HRA



- **Two volume document**
- **Volume I documenting Naval Nuclear Propulsion Program work published in April 2000**
- **Volume II provides history of general radioactive material (GRAM) use and disposal**
 - **Draft of Volume II prepared by Pearl Harbor Naval Shipyard**

WHY A SECOND DRAFT HRA?



- **Preparation of an HRA at another facility:**
 - Identified new historical information about radiological operations at Alameda
 - Established an expanded process and format for preparation of Navy GRAM HRAs
- **Second draft of Alameda HRA will be prepared using expanded process and format and include previously unidentified information about GRAM operations**

IMPACT OF SECOND DRAFT HRA



- **Preparation of second draft HRA will have minimal impact on current radiological investigations**
 - Current investigations are based on previously reviewed information which will be incorporated into new draft
- **Main impact will be on planning for future radiological actions**

HRA MANAGEMENT TEAM



- **All Navy HRAs are Naval Sea Systems Command technical documents**
 - Oversight of HRA preparation is conducted by the Navy's Radiological Affairs Support Office (RASO)
 - RASO point of contact is Matthew Slack – Navy Environmental Protection Manager
- **Alameda is a BRAC site, the Naval Facilities Engineering Command, Southwest Division part of the HRA management team.**
 - Point of contact is Claudia Domingo – Navy Remedial Project Manager
- **Navy has contracted Weston Solutions for preparation of the second draft HRA.**
 - **Points of contacts are:**
 - Terry Epperson – Project Manager
 - Bob O'Brien – Lead Radiological Engineer

HISTORICAL RADIOLOGICAL ASSESSMENT PURPOSE



- **The HRA will:**
 - Identify potential, likely, or known sources of radioactive material and radioactive contamination based on existing or derived information
 - Designate sites as radiologically “impacted” or “non-impacted”
 - Identify radionuclides of concern for each radiologically “impacted” site
 - Identify potentially impacted media and migration pathways for each “impacted” site
 - Make recommendations for future radiological actions

HISTORICAL RADIOLOGICAL ASSESSMENT APPROACH



- **Preparation of the second draft HRA will include:**
 - **Research of historical archives**
 - **National Archives and Records Agency in San Bruno CA and College Park MD,**
 - **RASO Yorktown, VA**
 - **Various Navy archives**
 - **Site walkovers**
 - **Interviews of personnel with knowledge of radiological operations at Alameda**

INFORMATION FROM HRA PREPARATION



- Some radiologically impacted sites have been identified, however information about these sites needs to be completed**
- Sites identified in the previous Draft HRA and in previous radiological investigations include:**
- **Buildings 5 and 400**
 - **Sanitary and Storm Drain Lines**
 - **IR Sites 1 and 2**
 - **Seaplane Lagoon**
 - **Buildings 7, 12, 66, 310, 346, 405 and 497**
 - **Pier 3**
 - **Additional information about radiologically impacted sites will be provided as the HRA preparation process continues**

HRA SCHEDULE



- **Completion of HRA Research**
 - **June 2005**
- **Completion Draft HRA for Internal Navy Review**
 - **September 2005**
- **Publication of Draft HRA for regulatory and public review**
 - **October 2005**

ATTACHMENT B-4

**HISTORICAL RADIOLOGICAL ASSESSMENT EVALUATION HANDOUTS
(Four Pages)**

Table 3.1 Questions Useful for the Preliminary HSA Investigation

1.	Was the site ever licensed for the manufacture, use, or distribution of radioactive materials under Agreement State Regulations, NRC licenses, or Armed Services permits, or for the use of 91B material?	Indicates a higher probability that the area is impacted.
2.	Did the site ever have permits to dispose of, or incinerate, radioactive material onsite? Is there evidence of such activities?	Evidence of radioactive material disposal indicates a higher probability that the area is impacted.
3.	Has the site ever had deep wells for injection or permits for such?	Indicates a higher probability that the area is impacted.
4.	Did the site ever have permits to perform research with radiation generating devices or radioactive materials except medical or dental x-ray machines?	Research that may have resulted in the release of radioactive materials indicates a higher probability that the area is impacted.
5.	As a part of the site's radioactive materials license were there ever any Soil Moisture Density Gauges (Americium-Beryllium or Plutonium-Beryllium sources), or Radioactive Thickness Monitoring Gauges stored or disposed of onsite?	Leak test records of sealed sources may indicate whether or not a storage area is impacted. Evidence of radioactive material disposal indicates a higher probability that the area is impacted.
6.	Was the site used to create radioactive material(s) by activation?	Indicates a higher probability that the area is impacted.
7.	Were radioactive sources stored at the site?	Leak test records of sealed sources may indicate whether or not a storage area is impacted.
8.	Is there evidence that the site was involved in the Manhattan Project or any Manhattan Engineering District (MED) activities (1942-1946)?	Indicates a higher probability that the area is impacted.
9.	Was the site ever involved in the support of nuclear weapons testing (1945-1962)?	Indicates a higher probability that the area is impacted.
10.	Were any facilities on the site used as a weapons storage area? Was weapons maintenance ever performed at the site?	Indicates a higher probability that the area is impacted.
11.	Was there ever any decontamination, maintenance, or storage of radioactively contaminated ships, vehicles, or planes performed onsite?	Indicates a higher probability that the area is impacted.

Table 3.1 Questions Useful for the Preliminary HSA Investigation (continued)

12.	Is there a record of any aircraft accident at or near the site (e.g., depleted uranium counterbalances, thorium alloys, radium dials)?	May include other considerations such as evidence of radioactive materials that were not recovered.
13.	Was there ever any radiopharmaceutical manufacturing, storage, transfer, or disposal onsite?	Indicates a higher probability that the area is impacted.
14.	Was animal research ever performed at the site?	Evidence that radioactive materials were used for animal research indicates a higher probability that the area is impacted.
15.	Were uranium, thorium, or radium compounds (NORM) used in manufacturing, research, or testing at the site, or were these compounds stored at the site?	Indicates a higher probability that the area is impacted or results in a potential increase in background variability.
16.	Has the site ever been involved in the processing or production of Naturally Occurring Radioactive Material (e.g., radium, fertilizers, phosphorus compounds, vanadium compounds, refractory materials, or precious metals) or mining, milling, processing, or production of uranium?	Indicates a higher probability that the area is impacted or results in a potential increase in background variability.
17.	Were coal or coal products used onsite? If yes, did combustion of these substances leave ash or ash residues onsite? If yes, are runoff or production ponds onsite?	May indicate other considerations such as a potential increase in background variability.
18.	Was there ever any onsite disposal of material known to be high in naturally occurring radioactive materials (e.g., monazite sands used in sandblasting)?	May indicate other considerations such as a potential increase in background variability.
19.	Did the site process pipe from the oil and gas industries?	Indicates a higher probability that the area is impacted or results in a potential increase in background variability.
20.	Is there any reason to expect that the site may be contaminated with radioactive material (other than previously listed)?	See Section 3.6.3.

Appendix G of this document provides a general listing and cross-reference of information sources—each with a brief description of the information contained in each source. The *Site Assessment Information Directory* (EPA 1991e) contains a detailed compilation of data sources, including names, addresses, and telephone numbers of agencies that can provide HSA information.

**California Department of Health Services
Information Needed for the Radiological Evaluation
of Military Bases**

Information the California Department of Health Services needs for radiological evaluation of military bases:

1. What were the types and quantities of radionuclides used, stored, or disposed of at your facility? The response should include copies of the current license with any amendments, or a summary of those documents. The response should also address uses of nonlicensed radioactive material (e.g., radium-226) and its disposition.
2. How long has your facility been licensed to use radioactive material? How often did your facility utilize radionuclides during a typical work week, and over what period of time were they used?
3. How were radioactive materials used at your facility? What were the protocols and procedures required for their use and what were the details of the protocols and procedures? What was the extent of the past and present radiological surveillance program? Examples of documentation supporting the radiological surveillance program should be provided.
4. How did utilization of radioactive material change over time? When did you begin controlling uses of nonlicensed radioactive material?
5. Discuss and provide data for the ambient radiologic background of your facility within all relevant environmental media. What are the details of your past and present environmental monitoring program?
6. Did your facility release any radioactive material to the environment? What data support your response? If releases did occur, what were the details of such releases, and what was your course of action to correct the problem?
7. Have you buried nonlicensed radioactive material at your facility? What is the supporting documentation for this response?
8. What were the requirements for training users of radioactive material at your facility? What was the chain of command for your radiation safety program? Were personnel monitoring devices used at your facility as part of the radiation safety program?
9. Have any of the individuals in your radiation safety program been interviewed regarding the past and present use of radioactive material? What positions did the interviewees hold in the radiation safety program and for how long?
10. What is your current inventory of sources of radioactive material and their utilization? What remediation is ongoing, or proposed, at your facility?
11. What were and are your plans for the disposition of licensed and unlicensed radioactive sources? What is the potential for mixed waste (radioactive and hazardous wastes) at your facility?

12. In addition to a narrative description of your facility's use of radioactive material, provide a table that identifies each radionuclide, the approximate quantity (in standard units of millicuries or microcuries) per item, as well as the total activity for the inventory of items, the purpose, the years during which the radionuclide was utilized, the location of use, storage, or disposal; whether the source was sealed or unsealed, whether its presence was authorized by a specific license or not licensed; and the disposition of the radionuclide (e.g., decayed on site, disposed of on site, stored on site, transferred off site, destination if transferred).

13. Have you contacted your military service branch's experts in radiologic matters for help in answering questions you have or resolving issues that concern you? Please identify the organization and specific staff contacted. These contacts would include the Air Force's Armstrong Laboratory at Brooks Air Force Base in San Antonio, Texas, telephone (210) 596-3305; the Army's Environmental Hygiene Agency at the Aberdeen Proving Ground, Maryland, (410) 671-3526; the Army Corps of Engineers in Omaha, Nebraska, (402) 221-7401; and the Navy's Radiological Affairs Support Office in Yorktown, Virginia, (804) 887-4695.

ATTACHMENT B-5

**INSTALLATION RESTORATION SITE 25
DRAFT FINAL SOIL FEASIBILITY STUDY ANNOUNCEMENT**

(Three Pages)

ALAMEDA POINT

IR Site 25

**Draft Final Soil Feasibility Study
Announcement**

**Restoration Advisory Board Meeting
February 3, 2005**

Darren Newton, BRAC PMO West

1

ALAMEDA POINT

Site 25 -Time line of project

- **August 15, 2003 – Draft Soil Feasibility Study (FS)**
- **March 9, 2004 RAB meeting – Responses to comments on Draft Soil FS –Approach forward**
- **August 13, 2004 – Revised Draft Soil FS**
- **September 2, 2004 RAB meeting – Summary of Revised Draft Soil FS.**
- **October 20, 2004 – Final Groundwater RI/FS**
- **January 18, 2005 - Draft Final Soil FS issued**
- **February 18, 2005 - Per FFA, Draft Final Soil FS becomes Final**

2

ALAMEDA POINT

Site 25 Soil - Draft Final Highlights

- **Draft Final Soil FS addressed comments to Revised Draft Soil FS (August 2004).**
- **Includes an evaluation of five (5) soil remedial alternatives.**
- **Soil Risk Assessment was based on residential exposure criteria.**
- **Total Risk including groundwater risk from OU-5 GW RI/FS (ERRG 2004)**

3

ALAMEDA POINT

Site 25 Soil Draft Final - Soil Risk Approach

- **Residential exposure evaluates a child (6 years) and an adult (24 years)**
- **Contact with the soil 350 days a year, for 30 years.**
- **Child is assumed to ingest 200 mg soil daily.**
- **Adult is assumed to ingest 100 mg soil daily.**

4

ALAMEDA POINT

Site 25 Soil Draft Final - Soil Risk Parameters

- **Soil in contact with skin (dermal).**
- **Airborne soil (inhalation).**
- **Exposure pathways also include homegrown produce (using EPA guidance).**

ATTACHMENT B-6

**DRAFT FEASIBILITY STUDY REPORT
OPERABLE UNIT 1**

(Ten Pages)



Draft Feasibility Study Report Operable Unit 1 Alameda Point

Glenna Clark
Remedial Project Manager
NAVFAC Southwest Division

February 3, 2005

Feasibility Study Objectives



- This FS is part of ongoing efforts by the Navy in accordance with CERCLA to address contamination at Alameda Point.
- This FS develops, screens, and evaluates alternatives for remedial action with the goals of:
 - (1) eliminating or reducing human health exposure in soil and groundwater.
 - (2) minimizing effects of contaminants on the environment.
 - (3) developing remediation methods that are feasible, implementable, and cost effective.

Table of Contents



- Background and History
- Chemicals of Concern (COC)
- Remedial Action Objectives
- Technology Screening
- Retained Remedial Technologies
- Remedial Alternatives
- Next Steps

Background



Site	Site History	Pollution Type
6	Aircraft Intermediate Maintenance Department	Aircraft maintenance, paint stripping, parts cleaning
7	Naval Exchange Service Station Area	Auto maintenance, fueling, misc. hazardous waste accumulation
8	Pesticide Storage Area	Pesticide storage, paint stripping, equipment cleaning
16	Shipping Container Storage Area	Aircraft & equipment storage & cleaning, auto servicing

Chemicals of Concern



Site	Soil	Ground Water
6	none	PCE, TCE, 1,2-DCE, vinyl chloride
7	Soil debris area: arsenic, cadmium, lead	none
8	Aroclor-1254, Aroclor-1260, dieldrin, lead	none
16	none	PCE, TCE, 1,3-DCB, 1,4-DCB, vinyl chloride

Remedial Action Objectives



Site 6

Soil: Prevent exposure to soil adjacent to OWS-040A and OWS-040B found to contain VOC, SVOC, metals, pesticides, PCBs or TPH at concentrations that exceed respective residential PRG concentrations

Groundwater: Prevent inhalation of indoor air containing VOC concentrations greater than risk-based levels

Site 7

1) Prevent dermal contact and ingestion of the contaminated soil debris

2) Prevent human exposure to soil adjacent to OWS-459

Remedial Action Objectives



Site 8

- 1) Prevent dermal contact and ingestion of chemicals of concern with concentrations greater than risk-based levels
- 2) Prevent human exposure to soil adjacent to OWS-411

Site 16

Soil: Prevent exposure to soil adjacent to OWS-040A and OWS-040B found to contain VOC, SVOC, metals, pesticides, PCBs or TPH at concentrations that exceed respective residential PRG concentrations

Groundwater: Prevent exposure to concentrations of chemicals of concern in groundwater above MCLs

Technology Screening

Site 6



- 1) **No Action**
- 2) **Land Use Controls (LUCs)**
 - Governmental Controls
 - Proprietary Controls
 - Engineering Controls
 - Informational Tools
 - Enforcement Tools w/LUC
- 3) **Excavation & Off-Site Disposal**
- 4) **Active Remediation**
 - Air Sparging ☆
 - BioSparging
 - In Situ Chemical Oxidation (ISCO) ☆
 - thermal Treatment (Steam Flushing)
 - Passive Treatment Wall
 - Enhanced in Situ Bioremediation
 - a) Hydrogen Release Compounds (HRC) ☆
 - b) Oxygen Release Compounds
 - c) Groundwater Contaminant Examinations

Technology Screening

Site 16 SOIL & GROUNDWATER



- 1) **No Action**
- 2) **Land Use Controls (LUCs)**
 - Governmental Controls
 - Enforcement Tools w/LUC
 - Engineering Controls
 - Proprietary Controls
 - Informational Tools
- 3) **Excavation & Off-Site Disposal**
- 4) **Active Remediation**
 - Biosparging
 - In Situ Chemical Oxidation (ISCO) ☆
 - Thermal Treatment (Steam Flushing)
 - Passive Treatment Wall
 - Enhanced In Situ Bioremediation
 - a) Hydrogen Release Compounds ☆
 - b) Oxygen Release Compounds
 - c) Pump & Treat w/Advanced Oxidation Processes ☆
 - d) Pump & Treat w/Air Stripping ☆
 - e) Groundwater Contaminant Examinations

Retained Remedial Technology Method



• ***In Situ Chemical Oxidation (ISCO)***

Involves injecting chemical oxidants directly into the vadose and/or groundwater to oxidize contaminants to innocuous elements (CO₂, H₂O, Cl⁻). Examples of oxidants include peroxide, ozone, and Fenton's reagent. ISCO is effective for treating halogenated VOCs in groundwater

Retained Remedial Technology Method



- ***Air Sparging***

An in situ treatment that involves injecting pressurized air into an aquifer so that air streams traverse through the soil column, stimulating volatilization of VOCs which enter the air. They are then removed by vapor extraction. This also enhances aerobic biodegradation.

Retained Remedial Technology Method



- ***Enhanced In Situ Bioremediation – Hydrogen Release Compounds (HRC)***

A proprietary polyacetate ester formulated for slow release of lactic acid upon hydration. It is injected directly into the aquifer matrix in a grid pattern via push-point injection or within dedicated wells. When left in place, it passively stimulates rapid contaminant degradation of halogenated VOCs.

Retained Remedial Technology Method



- ***Pump & Treat w/Air Stripping***

This process will remove VOCs including TCE, from water. Common configurations include packed tower air strippers and low profile tray towers. Effectiveness may be limited by the low permeability of the aquifer zone.

Retained Remedial Technology Method



- ***Pump & Treat w/Advanced Oxidation Processes (AOPs)***

AOPs destroy contaminants by chemical reaction w/hydroxyl radicals. These radicals are formed through the various combinations of ozone and hydrogen peroxide, both with & without UV light. This technology has the potential to oxidize various organic compounds to CO₂, H₂O, and salts. It effectively treats halogenated compounds.

Site 6 Remedial Alternatives Groundwater



NCP Criteria	1) No Action	2) LUCs & Monitoring	3) HRC or ISCO commercial reuse, Monitoring & LUCs	4) HRC or ISCO unrestricted reuse, LUCs
Protect Human Health & Environment	low	high	high	high
Compliance w/ARARs	high	high	high	high
Long-term effectiveness	low	high	high	high
Reduce Toxicity, Mobility, & Volume through Treatment	low	low	high	high
Short-term Effectiveness	low	low	high	high
Implementability	high	medium	medium	medium
Cost	0	\$1.2 M	ISCO: \$1.7 M HRC: \$1.4 M	ISCO: \$3.7 M HRC: \$ 2.4 M

LUC: Land Use Control

ISCO: In Situ Chemical Oxidation

HRC: Hydrogen Reducing Compound

NCP: National Oil & Hazardous Substance
Pollution Contingency Plan

Site 7 Remedial Alternatives Soil



NCP Criteria	1) No Action	2) One-time Soil Sampling Excavation & Off-site Disposal
Protect Human Health & Environment	low	high
Compliance w/ARARs	high	high
Long-term effectiveness	low	high
Reduce Toxicity, Mobility, & Volume through Treatment	low	high
Short-term Effectiveness	low	high
Implementability	high	high
Cost	0	\$1.4 M

LUC: Land Use Control

ISCO: In Situ Chemical Oxidation

HRC: Hydrogen Reducing Compound

NCP: National Oil & Hazardous Substance Pollution
Contingency Plan

Site 8 Remedial Alternatives Soil



NCP Criteria	1) No Action	2) One-time Soil Sampling & LUCs	3) One-time Soil Sampling & Excavation & Off-site Disposal
Protect Human Health & Environment	low	high	high
Compliance w/ARARs	high	high	high
Long-term effectiveness	low	high	high
Reduce Toxicity, Mobility, & Volume through Treatment	low	low	high
Short-term Effectiveness	low	high	high
Implementability	high	high	high
Cost	0	\$237,000	\$153,000

LUC: Land Use Control
HRC: Hydrogen Reducing Compound

ISCO: In Situ Chemical Oxidation
NCP: National Oil & Hazardous Substance Pollution Contingency Plan

Site 16 Remedial Alternatives Groundwater



NCP Criteria	1) No Action	2) Monitoring & LUCs	3) HRC or ISCO commercial reuse, Monitoring & LUCs	4) HRC or ISCO unrestricted reuse, LUCs
Protect Human Health & Environment	low	high	high	high
Compliance w/ARARs	high	high	high	high
Long-term effectiveness	low	high	high	high!
Reduce Toxicity, Mobility, & Volume through Treatment	low	low	high	high
Short-term Effectiveness	low	low	high	high
Implementability	high	medium	medium	medium
Cost	0	\$2.0 M	ISCO: \$2.7 M HRC: \$2.5 M	ISCO: \$12.2 M HRC: \$8.7 M

LUC: Land Use Control
HRC: Hydrogen Reducing Compound

ISCO: In Situ Chemical Oxidation
NCP: National Oil & Hazardous Substance Pollution Contingency Plan

Remaining Steps



- Finalization of Feasibility Study
→ Draft Final – due 2 May 2005
- Initiate Proposed Plan
- Hold Public Meeting
- Record of Decision



Potential Pathways & Receptors



Potential Pathways

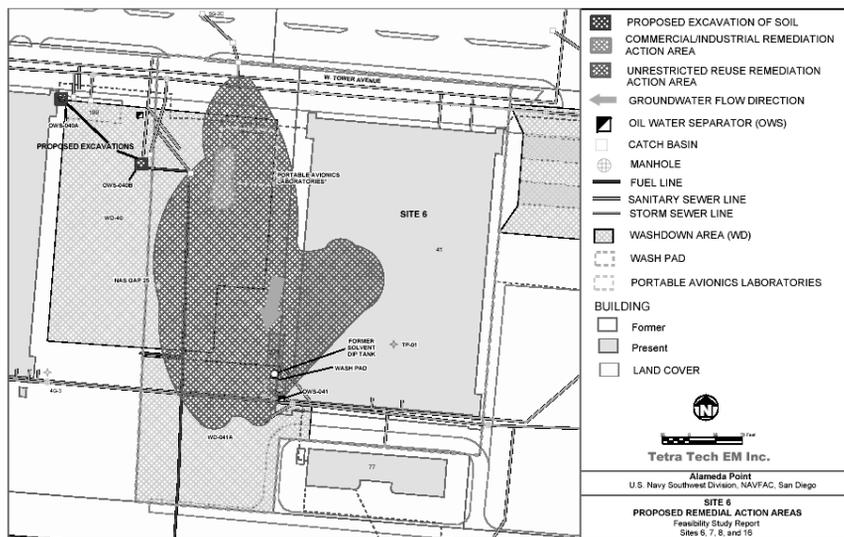
- Ingestion: soil & groundwater
- Dermal contact: soil & groundwater
- Inhalation: soil particulates, ambient/indoor vapor
- Domestic use: water, homegrown products

Potential Receptors

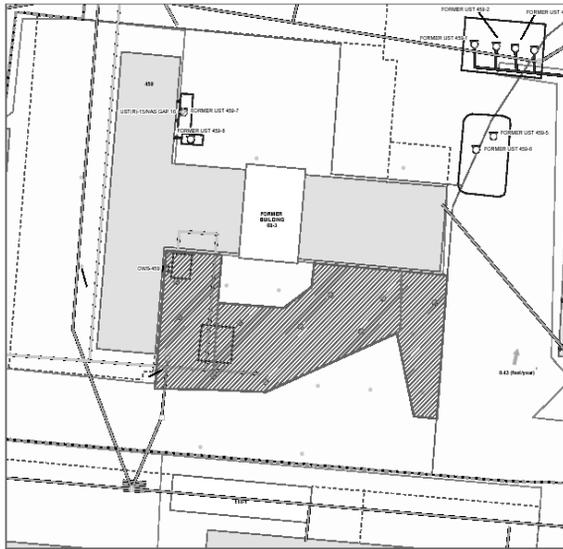
- Residential
- Commercial/Industrial
- Recreational
- Construction Worker
- ERA results indicate no further evaluation necessary

Site 6 Proposed Remedial Action Area

1) Excavation 2) Commercial Reuse 3) Unrestricted Reuse



Site 7 Proposed Remedial Action Area Excavation of Soil



- COC EXCEED REMEDIAL GOAL
- OIL WATER SEPARATOR (OWS)
- FUEL LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- INDUSTRIAL STORM SEWER LINE
- ▨ PROPOSED EXCAVATION OF SOIL
- EXCAVATION
- LAND COVER

Notes:
 Approximate direction and velocity of groundwater movement
 Remedial goal for lead is 290 mg/kg
 Remedial goal for arsenic is 9.1 mg/kg
 Remedial goal for cadmium is 1.7 mg/kg

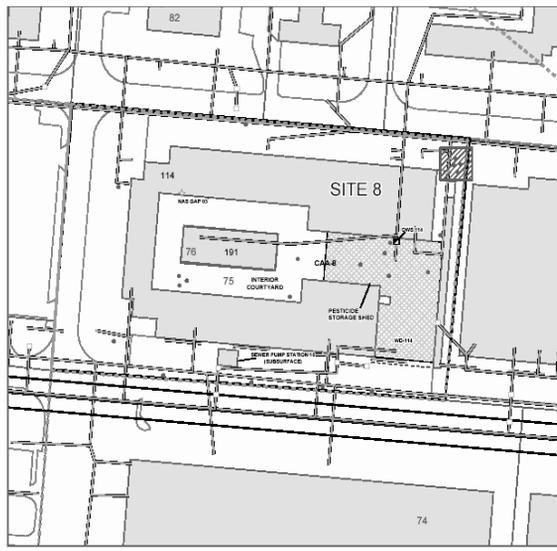


Tetra Tech EM Inc.

Alameda Point
 U.S. Navy Southwest Division, NAVFAC, San Diego

PROPOSED EXCAVATION AREA
 SITE 7 SOIL

Site 8 Proposed Remedial Action Area Excavation of Soil



- ▨ PROPOSED EXCAVATION OF SOIL
- LEAD DETECTED
- LEAD NON-DETECTED
- OIL WATER SEPARATOR (OWS)
- FUEL LINE
- SANITARY SEWER LINE
- STORM SEWER LINE
- ▨ WASHDOWN AREA (WD)
- BUILDING
- Former
- Present
- LAND COVER

Notes:
 Remedial goal for lead is 299 mg/kg



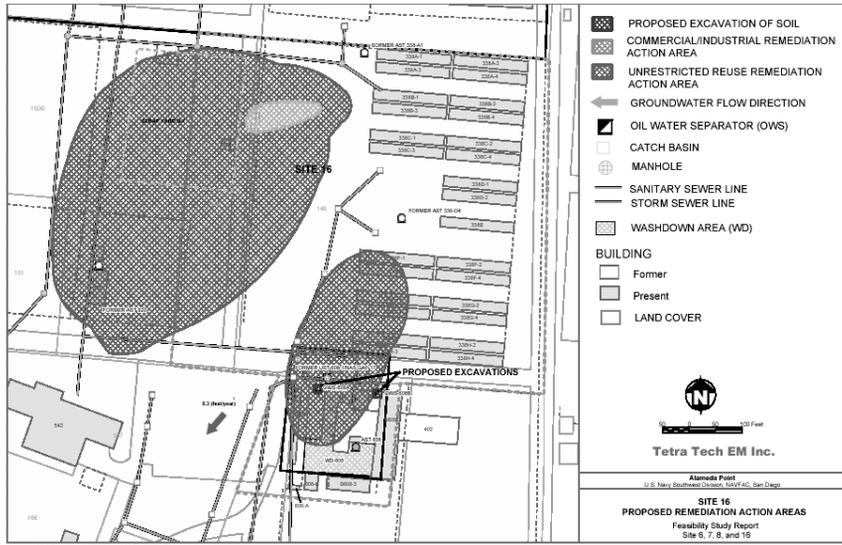
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Alameda Point
 U.S. Navy Southwest Division, NAVFAC, San Diego

PROPOSED EXCAVATION AREAS
 SITE 8 SOIL

Site 16 Proposed Remedial Action Areas

1) Excavation, 2) Commercial Reuse, 3) Unrestricted Reuse



Comparative Analysis

Groundwater



Site	No Action	LUC	1) Active Remediation & LUC: commercial reuse	2) Active Remediation & LUC: residential reuse
6	\$0 Indefinite time	\$1.2 M, 40 yrs	HRC: \$1.7 M, 30 yrs ISCO: \$1.7 M & ↑	HRC: \$2.4 M, 5yrs ISCO: \$2.4 M & ↑
16	\$0 Indefinite time	\$2.0 M, 40 yrs	HRC: \$2.5 M, ISCO: \$2.5 M	HRC: \$8.7 M, ISCO: \$12 M

Thank You



Acknowledgements:

- *US Department of the Navy*
- *Restoration Advisory Board*
 - *US/Cal/EPA*
- *Department of Toxic Substance Control*
- *Base Realignment and Closure Cleanup Team*

ATTACHMENT B-7

**JANUARY 2005 BCT ACTIVITIES UPDATE
(One Page)**

January 2005 BCT Activities

Monthly BCT meeting was held on January 18, 2005. No other meeting or phone conference took place.

Items discussed in the monthly BCT include the following:

- City's plan to stockpile and dewater dredge spoils on Northwest Territory for golf course project
- Historical Radiological Assessment
- Status of Navy FY2005 financial execution plan