FINAL
NAVAL AIR STATION ALAMEDA
Restoration Advisory Board (RAB) Meeting Minutes

www.bracpmo.navy.mil
Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

April 1, 2010

The following participants attended the meeting:

Co-Chairs:

Derek Robinson	Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Navy Co-chair
Dale Smith	Restoration Advisory Board (RAB) Community Co-chair

Attendees:

RAB Members

George Humphreys	Joan Konrad	James Leach
Kurt Peterson	Jean Sweeney	Jim Sweeney
Michael John Torrey		

Community Members

Maria Hargrobe	Gretchen Lipow

Navy Members

Bill McGinnis	Navy Lead Remedial Project Manager (RPM)
Curtis Moss	Navy RPM

Regulatory Agencies

Dave Cooper	U.S. Environmental Protection Agency (EPA)
Melinda Garvey	EPA
James Fyfe	California Environmental Protection Agency Department of Toxic Substances Control (DTSC)
Dot Lofstrom	DTSC
John West	San Francisco Bay Regional Water Quality Control Board (Water Board)

Contractors

John McGuire	Shaw Environmental, Inc. (Shaw)
Kathy O'Connor	ChaduxTt
Marsha Pendergrass	RAB Facilitator
Radhika Sreenivasan	ChaduxTt
Tommie Jean Valmassy	ChaduxTt

The meeting agenda is provided as Attachment A.

MEETING SUMMARY

Derek Robinson (Navy co-chair) called the April 2010 former Naval Air Station Alameda (Alameda Point) Restoration Advisory Board (RAB) meeting to order at 6:30 p.m.

I. Approval of March 2010 RAB Meeting Minutes

Dale Smith (RAB co-chair) asked for comments on the March 2010 RAB meeting minutes. RAB members provided comments, which will be incorporated into the final set of minutes for March 2010.

The following comments were provided by George Humphreys (RAB member):

- Page 4 of 9, section I, third paragraph, second sentence, "…investigated the car maintenance area and post exchange area at Site 2" will be revised to "…investigated the car maintenance area and post exchange area at Site 7." The same change will be made to action item #6 on page 10 of 10.

- Mr. Humphreys requested that the Navy attach the copy of the RAB comment letter on the work plan for basewide radiological surveys signed by all RAB members (update Attachment B-5).

The March 2010 RAB meeting minutes were approved with the above modifications.

II. Co-Chair Announcements

Mr. Robinson said that the Navy had originally planned to accommodate the May 6, 2010, public presentation as an extension to the RAB meeting. He added that the format has been changed and the Navy management has agreed to a condensed RAB meeting on May 6. The Navy and regulatory agencies will present the public outreach presentation to the City Council rather than to the community. The presentation will take place immediately after an abbreviated RAB meeting. Jean Sweeney (RAB member) asked if there would be a question and answer session after the presentation. Ms. Smith said that the public meeting will be subject to the Brown Act. The public will be able to comment, since it is considered a City Council or Alameda Reuse and Redevelopment Authority (ARRA) meeting. Mr. Robinson said that he had not received any information on the ARRA meeting. Mrs. Sweeney said that the presentations are hard to see on television. Ms. Smith said that she would prefer that the RAB meeting run from 6:00 p.m. to 7:30 p.m., and not be limited to 1 hour. The approval of minutes, co-chair announcements, and the BRAC Cleanup Team (BCT) update may need to be omitted from the agenda. Mr. Robinson said that the current plan is 1 hour for the RAB meeting, but he has requested another half hour.

Mr. Robinson moved on to a review of the action items. He distributed the *Conclusions from the Historical Radiological Assessment* (Attachment B-1) as requested by Frank Matarrese (Alameda City Council).

Mr. Robinson distributed the *Action Item Responses* (Attachment B-2). He indicated that the responses to action items 6, 7, and 8 are provided in the handout.

Mr. Robinson said that Catherine Haran (Navy RPM) worked along with the regulatory agencies on the community involvement plan (CIP) update. He said the Navy has a list of several new public outreach activities from the CIP; a summary of the activities is provided in the handout, *Summary of New Activities for the 2010 CIP update* (Attachment B-3).

Mr. Robinson distributed the *Recent and Upcoming Deliverables, March 15, 2010* (Attachment B-4), as requested by Ms. Smith. Mr. Robinson said the Navy provides this list at the BCT meeting each month and noted that the dates on some of the documents have changed. Bill McGinnis (Navy Lead RPM) said that the recent deliverables have already been transmitted and the agencies have received a copy of the documents. Mr. McGinnis said that he would henceforth provide a list of recent and upcoming deliverables during every RAB meeting. He added that the deliverable dates are taken from the updated site management plan (SMP). Mr. McGinnis said that the transmittal date for the Operable Unit (OU)-2B revised draft feasibility study (FS) is May 30. He added that Site 34 documents will be issued on April 23. Mr.

McGinnis said that the Site 1 documents will be released on April 15, the Site 32 draft radiological characterization survey work plan on April 15, and the Site 1 draft remedial design/remedial action work plan on July 30. Mr. Robinson requested that the RAB review the deliverable list and provide suggestions on future agenda items. He added that the RAB can also provide suggestions using the RAB comment form, which is located with the sign-in sheet.

Regarding upcoming field work, Mr. McGinnis noted that pre-dredge sediment sampling for the excavation at Seaplane Lagoon will be conducted sometime in April. Ms. Smith asked if removal of the drain lines is completed. Mr. Robinson said that the drain line removal is not complete, but will be finished before dredging begins. Mr. McGinnis noted that the expanded site investigation (ESI) transfer parcel sampling is under way and should continue for 3 weeks. Groundwater wells will be installed at OU-1 in April and treatment will start in May for Sites 6 and 16.

Kurt Peterson (RAB member) asked if the Navy found more information about the radiological anomaly near the Seaplane Lagoon. Mr. McGinnis said that work for the Sites 5 and 10 storm drain time-critical removal action (TCRA) and radiological hot spots is ongoing. The Navy is finishing removal work at line FF, which is the last segment of the storm drain removal. Regarding the hot spot, Mr. McGinnis said that Tetra Tech EC Inc. (Tetra Tech) has removed soil up to the groundwater table and installed an orange barrier, indicating the bottom of the excavation. A consolidated paint waste sample was analyzed, and the results showed elevated levels of radium contamination, along with other metals, such as zinc, that would typically be used as coloring agents the paint. Mr. McGinnis added that the apron along the Seaplane Lagoon was a parking area for aircraft and was a part of the Naval Aircraft Rework Facility (NARF). Building 5, which is the most contaminated, was also a NARF. Minor maintenance operations occurred at the apron. The radioactive anomaly Mr. Peterson asked about was found landside of the riprap. The Navy has approved a work instruction and Tetra Tech is currently doing a radiological scan from the edge of the Seaplane Lagoon to the south along the western apron. Mr. Peterson asked when the use of radium in dials stopped. Mr. Robinson said that, according to his recollection, it stopped in the early 1970s. Mr. Peterson said it appears this anomaly may be an accidental, or unintentional, spill or disposal rather than a release from maintenance. Mr. Humphreys said that the RAB asked whether a radioactivity survey was done when the Navy was excavating the debris piles, and the Navy responded that there was no reason to suspect radioactivity in the area. During preparation of the basewide historical radiological assessment, there was a discussion that radioactive material could have been scattered between Building 400 and the Seaplane Lagoon. Mr. Humphreys asked if the Navy has surveyed the area along the north side of the Seaplane Lagoon. Mr. McGinnis said that the area was already scanned. Mr. Humphreys asked if the debris pile was scanned for radioactive material before disposal. Mr. Robinson said that a hand scan of the pile was performed prior to disposal.

Mr. Robinson announced that Site 1 was awarded the Chief of Naval Operations (CNO) Award for sustainability and engineering excellence. Mr. Robinson said that the award was in recognition of the work by the Alameda team. He added that the award will be given on June 1 in Washington D.C. and that Ms. Haran, the RPM for the site, and Amy Jo Hill (Deputy Base Closure Manager) will receive the award.

Regarding the sampling at the federal parcels, Mr. Robinson said that the Navy is currently collecting samples adjacent to the least tern colonies to avoid the nesting season. He added that the federal parcel ESI work plan is not finalized, but the agencies have approved the plan to collect samples adjacent to the least tern area. Ms. Smith asked if the Navy saw any killdeer in the area. She added that the killdeer come before the terns. Mr. McGinnis said that they did not see the killdeers. He added that the photos and findings will be included in the site inspection work plan.

III. Operable Unit 2B Feasibility Study

Mr. Robinson introduced Curtis Moss (Navy RPM) to begin the presentation on the *OU-2B FS* (Attachment B-5).

During the review of slide 5, Ms. Smith asked if Site 21 requires remediation. Mr. Moss said that Site 21 does not require remediation, as the risk assessment did not show risk for a residential reuse scenario.

During the review of slide 6, Mrs. Sweeney asked about the depth of the soil excavation. Mr. Moss said that the depth of excavation is dependent on location and is provided in the FS and added that shallow soil is 0 to 2 feet and 0 to 8 feet for residential receptors. He said that the evaluation is done for up to 8 feet. The surface area and depth of excavation differ for each of the sites and are noted in the FS. Mr. Moss said that after excavation, confirmation samples will be collected at the sidewalls and bottom to confirm whether the concentrations are below the screening criteria. Mr. Humphreys asked which contractor collected the samples. Mr. McGinnis said that data from 1998 until 2009 are included in the FS and were collected by different contractors. The data gap sampling in fall 2009 was done by Tetra Tech EC Inc. Joan Konrad (RAB member) asked if the contaminants at the sites would deteriorate with time. Mr. Moss said that soil contaminants at the site are metals and generally do not deteriorate. Mr. Humphreys asked about the blue and yellow crystalline material found at the smelter area. Mr. Moss said that the blue and yellow crystalline material found contained elevated levels of copper and lead and was similar to the material found at Site 7. Mr. Moss added that the material was evaluated and is part of the 3,900-cubic-yard soil excavation.

Mrs. Sweeney asked whether excavation will be done beneath Building 360. Mr. Moss replied that metal contamination occurs beneath the footprint of Building 360 and will be addressed. Mrs. Sweeney was concerned that contamination such as dense nonaqueous phase liquid (DNAPL) would reappear after excavation because there is a potential source beneath the building or because contamination could leach through the groundwater. Mr. Moss said that excavation can be done only to a certain depth because of groundwater. He added that the Navy is addressing the chlorinated solvents that emanated from Building 360 and will treat the groundwater as well. Mr. Peterson asked what part of Building 360 is the most contaminated. Mr. Moss said the west side of the Building is most contaminated. Mr. Humphreys asked which metal contaminations are found at Sites 3, 4, and 11. Mr. Moss said that chromium, lead, nickel, copper, and cadmium are the primary contaminants.

During the review of slide 8, Ms. Smith asked if shallow groundwater would be 8 feet below ground surface (bgs). Mr. Moss said that the FS evaluates shallow groundwater up to 30 feet bgs. Ms. Smith asked if the first water bearing zone is at 30 feet. Mr. Moss stated it is at generally 30 feet and above.

During the review of slide 9, Mr. Humphreys stated he feels it is misleading to list the cost as a specific figure. He added that the cost should be listed as a range. Mr. Robinson said that all the cost estimates are expected to have a variability of plus 50 percent to minus 30 percent from the current estimate. He added that the costs are not definitive and are used only for comparing the alternatives and selecting the remedy. Mr. McGinnis said that the Navy guidance requires the cost to be rounded up to the nearest thousand. Mr. Robinson said that a footnote can be added to the table.

Mr. Moss said that the revised draft FS will be issued in May and there will be a 60-day review period.

Mr. Humphreys asked how the EPA research project on plume 4-1 would affect the FS. Mr. Moss said that the preliminary site work has begun and the initial field effort will last for 6 or 7 months. He added that the remediation method for plume 4-1 has not been selected, and the Navy will review the alternatives at plume 4-1. He said that the Navy will not begin Remedial Action at plume 4-1 until the Strategic Environmental Research and Development Program (SERDP) project is complete, which should be in less than 2 years. Mr. Robinson said that the SERDP results will be evaluated in the remedial design. Mrs. Sweeney asked if the Navy will address the petroleum issue at the credit union area. Mr. Moss said that it will be addressed under the petroleum program and is not evaluated in the OU-2B FS.

IV. BCT update

Ms. Lofstrom introduced Jim Fyfe as the next DTSC project manager for Alameda. Ms. Lofstrom will be working with Mr. Fyfe for a few months. She added that the June RAB meeting will likely be her last. Mr. Fyfe said that he recently joined DTSC and started working in the Berkley office in January. He said that before he joined DTSC he worked for the California Department of Public Health (CDPH) drinking water program. The RAB and the Navy welcomed Mr. Fyfe to the Alameda Team.

Ms. Lofstrom showed the RAB a metric weight kit that she had recently found. Ms. Lofstrom wanted to show the RAB the weight of a gram and five milligrams since they discuss concentrations in milligrams per kilograms or part per million (ppm).

Ms. Lofstrom said that DTSC is concerned about institutional controls (ICs) and land use controls (LUCs) since DTSC will be responsible for enforcing the LUCs after the base transfer. She added that DTSC has a process improvement team. The team consists of scientists who are updating a guidance document that will be available in September. The guidance will help to promote consistency in the approach used for the LUCs. Ms. Lofstrom said that DTSC is

currently using "Terradex," which is a notification system. Ms. Lofstrom is notified by e-mail and must approve any application for work that involves soil in an area covered by LUCs. Ms. Lofstrom said that DTSC is working on improving the Terradex system. Ms. Lofstrom said that someone in Bayport recently applied for a permit to build a swimming pool in an area where the ordinance prohibits digging below 3 feet because of the Marsh Crust. The city approved the permit, but since the Terradex system was in place, it triggered an e-mail to Mr. Henry Wong (DTSC) and he stopped the permit immediately. Ms. Lofstrom said that the Terradex system is working well and the city is also improving its internal system for LUCs. Mr. Peterson stated he is concerned that deed restrictions are not always followed. He added that the developer should be responsible for mentioning the restrictions at the property. Mr. McGinnis said that the restrictions should be included as part of the real estate disclosures. Mr. Robinson said that the Navy can bring up the issue as part of the land transfer process. Mr. Robinson and Ms. Lofstrom said that they will raise this issue before their managements.

V. Community and RAB Comment Period

Mr. Humphreys said that the Navy mentioned two drain lines from Building 5 that go north and presumably empty into the estuary. He added that several years ago the Navy encountered widespread radioactive contamination at Site 1 and Site 32. Mr. Humphreys said he thought about this information in connection with the polycyclic aromatic hydrocarbons (PAHs) and believes there is a possibility that some radium material was discharged into the estuary and the dredge material was used as fill for the runways (Site 1 and Site 2). He added that he saw aerial photographs from the 1940s from Ms. Smith that showed the original Building 5. By looking at the photographs and the fill history, Mr. Humphreys stated, he thinks that dredge soil with radiological contamination was used as fill material. Mr. Humphreys said that radium contamination might be spread in these areas Mr. Robinson noted that the Navy will complete an extensive scan at Site 32 to find the limits of the radiological contamination. He added that samples are also being collected east of Site 2 and at the southeastern runway wetlands at the request of the regulatory agencies. Mr. Humphreys requested that the Navy do a thorough radiological scan in the wetland area at Site 2 rather than collect a few samples.

Mrs. Sweeney asked if the Navy would remove the sunken dock from Seaplane Lagoon. Mr. Robinson said that the debris is below a layer of sand and no contamination is associated with it. He added that the Navy does not plan to remove it because there is no risk to human health or the environment. Mr. Robinson said that if the city decides to dredge the area, then the city may choose to remove this item.

Ms. Konrad asked if the Navy will clean up the runway areas. Mr. Robinson said that the Navy is investigating the runway area as part of the ESI. He added that the Navy is currently collecting additional samples to determine areas that need to be addressed. Mr. McGinnis said that the Navy will sample in areas where surface staining can be seen and as identified by the aerial photograph. Ms. Smith asked if the Navy plans randomized sampling in the rest of the runway areas, as suggested by the RAB. Mr. McGinnis said that the samples are spread out and will promote good coverage.

Maria Hargrobe (community member) said that she is concerned about increasing traffic as a result of future development. Mr. Robinson said that a RAB meeting addresses environmental issues at Alameda. Mr. Robinson suggested Ms. Hargrobe bring up her concerns during the City Council meeting. Ms. Smith noted that the next City Council meeting will be held on May 6 at the Mastick Senior Center, just after the RAB meeting at the same location. Ms. Hargrobe asked if the meeting will be advertised. Mr. McGinnis said that RAB meeting will be advertised.

VI. Meeting Adjournment

The meeting was adjourned at 8:25 p.m.

Action Items

Action Items:	**Previous Item #/ Action Item Status/ Action Item Due Date:**	**Initiated By:**	**Responsible Person:**
1. Request for Presentations: **a.** Bayport sewer systems and change in the plumes over time. **b.** Site 26 cleanup.	1./ Pending/ May 6, 2010.	RAB	Mr. Robinson
2. Provide the RAB with the latest map on the extent of the Marsh Crust.	3./ Pending/ June 3, 2010	Ms. Smith	Ms. Lofstrom
3. Investigate the car maintenance area and the post exchange area at Site 7.	6./ Completed (See Attachment B-2)/ NA	Mrs. Sweeney	Mr. Robinson
4. Provide the MARSSIM manual to Mr. Humphreys.	7./ Completed (See Attachment B-2)/ NA	Mr. Humphreys	Ms. Haran
5. Provide information on MTBE detected in the Site 25 groundwater plume.	8./ Completed (See Attachment B-2)/ NA	Mr. Humphreys	Mr. Robinson
6. Include the RAB comment letter that is signed by all RAB members in the final March minutes.	0./ Completed/ (See Attachment B-6)	Mr. Humphreys	Mr. Robinson

ATTACHMENT A

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA

April 1, 2010

(1 page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

APRIL 1, 2010, 6:30 PM

ALAMEDA POINT – BUILDING 1 – SUITE 140
COMMUNITY CONFERENCE ROOM
(FROM PARKING LOT ON W MIDWAY AVE, ENTER THROUGH MIDDLE WING)

TIME	SUBJECT	PRESENTER
6:30 – 6:45	Approval of Minutes	Dale Smith
6:45 – 7:15	Co-Chair Announcements	Co-Chairs
7:15 – 7:45	OU-2B Feasibility Study	Curtis Moss
7:45 – 8:00	BCT Update	Dot Lofstrom
8:00 – 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 Conclusions from the Historical Radiological Assessment. Distributed by Derek Robinson, Navy Co-Chair (2 pages)

B-2 Action Item Responses. Distributed by Derek Robinson, Navy Co-Chair (11 pages)

B-3 Summary of New Activities for the 2010 Community Involvement Plan Update. Distributed by Derek Robinson, Navy Co-Chair (1 page)

B-4 Recent and Upcoming Deliverables, March 15 2010. Distributed by Derek Robinson, Navy Co-Chair (1 page)

B-5 Operable Unit - 2B Feasibility Study Presentation Handout. Distributed by Curtis Moss, Navy RPM (5 pages)

B-6 RAB letter of comment on basewide RAD surveys. Originally distributed on March 4, 2010; redistributed with multiple RAB signatures (2 pages)

ATTACHMENT B-1

CONCLUSIONS FROM THE HISTORICAL RADIOLOGICAL ASSESSMENT

(2 pages)

HISTORICAL RADIOLOGICAL ASSESSMENT

NAVAL AIR STATION ALAMEDA

VOLUME I

NAVAL NUCLEAR PROPULSION PROGRAM

1966-1997

Radiological Control Office
Pearl Harbor Naval Shipyard
&
Intermediate Maintenance Facility
Pearl Harbor, Hawaii 96860-5350

April 2000

9.0 CONCLUSIONS

Evaluation of the information and analytical data presented in this HRA leads to the conclusion that past activities at NAS Alameda associated with work on Naval nuclear propulsion plants have had no adverse impact on the human population or ecosystem of the region.

Of all the radiological parameters monitored and reported as part of the longstanding monitoring of the radiological environment, no cobalt-60 or other radionuclides associated with Naval nuclear propulsion plants have been detected.

The findings and conclusions of the Environmental Protection Agency survey reported in 1989 fully support the data and conclusions of this assessment. The EPA conclusions were quoted in Section 6.1.1 and are repeated in part below:

> "Based on this survey, operations related to nuclear-powered warship activities have contributed no detectable radioactivity to the harbors at Mare Island, Alameda, and Hunters Point. Thus, under present conditions Naval operations within these harbors pose no radiological health problem to the public."

The Navy no longer performs any NNPP maintenance or nuclear-powered ship home-porting at NAS Alameda. Hence, no further environmental monitoring as discussed in this HRA is planned. Within the framework of the CERCLA process, no further action is warranted regarding radioactivity associated with the Naval Nuclear Propulsion Program at Naval Air Station Alameda.

ATTACHMENT B-2

ACTION ITEM RESPONSES

(11 pages)

ACTION ITEMS
Alameda NAS RAB, April 1, 2010

Action Item #6: Investigate the car maintenance area and the post-exchange area at Site 7. (please note, action item incorrectly states "Site 2")

Please see the attached Remedial Investigation pages for Site 7 (OU-1) that indicate that the areas in question were know and investigated for total petroleum hydrocarbons, metals, and volatile organic compounds. Results for Site 7 evaluation indicated that the former burn area needed further evaluation. For more information, see the RI report for OU-1, Section 5 and Figures 5-1I and 5-1M for groundwater sampling locations.

Action Item #7: Provide the MARSSIM manual to Mr. Humphries.

Hand delivered to Mr. Humphries on April 1, 2010. This copy willl be considered the RAB copy and under Mr. Humphries care. When finished, the document will be placed in the information repository.

Action Item #8: Provide information on MTBE detected in the Site 25 groundwater plume.

Please see the attached pages from the Site 25 RI that indicate that MTBE was evaluated for the Site 25 and not considered COPCs.

A-E CERCLA/RCRA/UST Contract Number N68711-00-D-0005
Delivery Order 031

FINAL
REMEDIAL INVESTIGATION REPORT
OPERABLE UNIT 1
SITES 6, 7, 8, AND 16
ALAMEDA POINT
VOLUME I OF III

November 18, 2004

Prepared for

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DS.A031.10625

5.0 REMEDIAL INVESTIGATION FOR SITE 7 – BUILDING 459

The following subsections present the Site 7 history and setting, site-specific environmental investigations, remedial investigation (RI) results, and RI conclusions. The RI results section includes the site-specific conceptual site model (CSM), a data quality assessment, and results from the background comparison, nature and extent evaluation, fate and transport evaluation, and human health and ecological risk assessments. The approach used to conduct these evaluations is presented in Section 3.0. The complete background comparison and human health and ecological risk assessments are provided in Appendices E, G, and H.

5.1 SITE 7 HISTORY AND SETTING

Site 7 is located along the eastern boundary of Alameda Point, approximately 1,840 feet from the San Francisco Bay (see Figure 1-2). The site is located between Main Street and Serenade Place near West Tower Avenue. It is approximately 5.6 acres in size and comprises environmental baseline survey (EBS) Parcels 112, 113, and 114 (see Figure 5-1). Approximately 70 percent of Site 7 is open space covered primarily with asphalt and concrete and some bare ground. Buildings and structures cover approximately 30 percent of the site. There is little vegetation. Typical urban wildlife, such as the California ground squirrel, scrub jay, and American robin, may be observed in the intensively developed areas but to a lesser extent than in the landscaped/developed areas because less foraging habitat is available. Feral cats also are found in the intensively developed area (Naval Facilities Engineering Command, Engineering Field Activity West [EFA-West 1999]).

The history of Site 7, along with specific details about physical features and activities associated with waste management practices, is summarized in Section 5.1.1. Future land use is presented in Sections 5.1.2. The site-specific geology and hydrogeology are presented Sections 5.1.3 and 5.1.4.

5.1.1 History

Site 7 is known as the Naval Exchange Service Station area because it was occupied by an automobile service station (including Building 459 [repair shop and parts store] and Structure 284 [fuel island]) operated by base stores from 1966 to 1997 in the southern portion of the site. Before Site 7 was used as an automotive facility, it was the site of an incinerator (housed in former Building 68-3) surrounded by grassy open space. A craft/hobby shop and laundry facility (former Building 158), a maintenance building (former Building 506), and a NAS generator accumulation point (GAP) 30 that stored service station waste (such as tetrachloroethene [PCE], used oil filters, oil-based paints, fuel filters, and battery electrolytes) were located in the northern portion of Site 7 (International Technology Inc. [IT] 2001a). Other physical features present at the site include former underground storage tank (UST) 506-1/UST(R)-16; UST(R)-15/NAS GAP 16 (former USTs 459-7 and 459-8); former USTs 459-1 through 459-6 and associated fuel lines; oil-water separator (OWS)-459; three transformers containing polychlorinated biphenyl (PCB) oil; storm sewer lines, industrial waste sewer lines, sanitary sewer lines, and open space

(see Figure 5-1). Because of possible petroleum product contamination from automotive-related activities and USTs, Site 7 is designated as corrective action area (CAA) 7.

Building 459. Building 459 was constructed in 1962 and was used as an automobile service station from 1966 to 1997 (ERM-West, Inc. [ERM-West] 1994). Currently, the building is leased by Home Auto Repair (north-south wing) and Hung Construction Company (east-west wing). It covers approximately 11,500 square feet and has a concrete foundation with a metal frame and roof. A repair shop was located in the north-south wing of the building (moved from the eastern end of the east-west wing apparently for easier shop access) and an automobile parts store and storage area was located in the east-west wing. A Safety Kleen dip tank used for cleaning brakes as well as equipment for steam cleaning engine parts are located outside the south portion of the repair shop. Activities conducted within the building included routine automobile servicing, parts degreasing, and part/accessories storage (IT 2001a). Chemicals used at the repair shop include miscellaneous petroleum products including lubrication oil; consumer packaged auto maintenance products (engine and carburetor cleaners, octane boosters, and degreasers); Safety Kleen solvent (petroleum distillates); paint; acetylene; and batteries (IT 2001a).

Waste generated at Building 459, such as used oil filters, gas filters, oily rags, antifreeze, asbestos brake pads, and lead wheel weights, was placed in drums at NAS GAP 30 for disposal off-site. Waste oil was collected at UST(R)-15/NAS GAP 16 and stored in a tank (UST 459-7, also known as NAS GAP 16) before disposal off base. Used car batteries were contained within a metal storage container outside the south side of the repair shop before removal to NAS GAP 30. Floor drains in the repair shop connect to OWS-459 located on the eastern side of the south wing of Building 459 (IT 2001a). OWS-459 also may have received wastewater runoff from the dip tank and steam clean area (ERM-West 1994). Wastewater from automotive repair activities were channeled into OWS-459 (and presumably from there into the industrial waste sewer), but also may have infiltrated the storm sewer system (IT 2001a). Stains consistent with spilled petroleum products were apparent on the repair shop floor and around associated drains (IT 2001a).

Underground Storage Tank (R)-15/NAS Generator Accumulation Point 16 (UST 459-7 and 459-8). UST(R)-15/NAS GAP 16 refers to USTs 459-1 to 459-8; all 8 USTS have been removed. USTs 459-1 through 459-6 were located in the northeastern portion of Site 6 and contained between 8,000 and 10,000 gallons of gasoline or unleaded gasoline. USTs 459-1 through 459-4 were constructed of steel and individually held 10,000 gallons of gasoline that supplied the fueling islands at Structure 284 (Tetra Tech 2003d). These tanks were in operation from 1966 to November 1998, when each tank and associated piping was removed. During excavation, the USTs showed no direct evidence of leakage, but strong hydrocarbon odors were present. Subsequent samples confirmed the presence of petroleum related contaminants in soil and groundwater in the surrounding area (Tetra Tech 2003d). An underground fuel line connected UST 459-1 through UST 459-4 to the four fueling islands (see Figure 5-1). These lines were reportedly leaking in 1982 (IT 2001a). All fuel lines were removed in December 1998 (IT 2001a).

UST 459-5 and 459-6 also were constructed of steel and held 10,000 gallons and 8,000 gallons of gasoline, respectively. These tanks were operated from 1966 until their removal in April 1995, because of leaks from one or both of these USTs (Tetra Tech 2003d). During excavation, strong hydrocarbon odors were present and stained soil was noted (Tetra Tech 2003d). Subsequent samples confirmed the presence of petroleum related contaminants in soil and groundwater in the surrounding area (Tetra Tech 2003d). These tanks were documented as relating to activities at Structure 284, but the location of any former connections (fuel lines) between the tanks and the structure is unknown (Tetra Tech 2000b).

USTs 459-7 and 459-8 contained waste oil and fuel oil, respectively. NAS GAP 16 refers specifically to UST 459-7. USTs 459-7 and 459-8 were located underground beneath the staging area. UST 459-7 held 2,000-gallons of waste oil collected from inside Building 459. UST 459-8 was a 600-gallon fuel oil tank, also related to activities within Building 459 (IT 2001a). In 1992, UST 459-7 failed a vacuum test and subsequently was reported to be leaking. During excavation (1995) four holes were found in the tank and samples confirmed petroleum-related contamination in the surrounding soil and groundwater. UST 459-8 was found intact but dented during excavation; however, no visible stains in the surrounding soil were observed (Tech EM Inc. [Tetra Tech] 2000c).

UST(R)-15/NAS GAP16 is considered a SWMU and has been deferred to the TPH program. Petroleum-related contamination that originates at this group of tanks will be addressed by the TPH program.

NAS Generator Accumulation Point 30. NAS GAP 30 was a 20-foot by 30-foot generation accumulation point for hazardous waste, located approximately 60 feet southeast of former Building 506. This site consisted of various size containers, mostly 55-gallon drums placed atop wooden pallets on asphalt pavement that sloped to exposed soil. Materials stored at the site included PCE, used oil filters, oil-based paints, fuel filters, battery electrolytes, oily rags, antifreeze, paint, and dry cleaning waste (IT 2001a). No stains or other markings on the ground were noted in this area during a site visit in 2002 (Tetra Tech 2003b); however, stains on the asphalt from spilled oil and other fluids have been documented previously (IT 2001a).

Former Building 68-3. Building 68-3 was constructed in 1942 to house an incinerator and as a storage area for fire department equipment. This approximately 2,400 square foot building was demolished in 1961 (ERM-West 1994). Building 459 (built in 1962) is located at the former location of Building 68.

Soil Debris Area. As a result of cleanup efforts for total TPH and lead-contaminated soils at Site 7, a blue, crystalline, metallic debris layer was identified in shallow soils in the parking area south of Building 459 near the footprint of former Building 68-3. This debris layer was identified during excavation activities conducted in October 2002, in accordance with the "Final Work Plan Addendum, Evaluation of Alternative Remedial Technology, Former Exchange Service Station, Building 530, and Area 37" (IT 2002). The debris layer ranges in depth from about 18 to 24 inches bgs, and is about 8 to 12 inches thick.

Groundwater Remedial Investigation/Feasibility Study

Alameda Point Site 25 and Alameda Annex IR-02

Alameda, California

Final

October 2004

Prepared for:

U.S. Department of the Navy
Naval Facilities Engineering Command – Southwest Division
1230 Columbia Street, Suite 1100
San Diego, California 92101

Prepared by:

ERRG

Engineering/Remediation Resources Group, Inc.
185 Mason Circle, Suite A
Concord, California 94520
(925) 969-0750

1. INTRODUCTION

This report presents a focused Remedial Investigation/Feasibility Study (RI/FS) of groundwater contamination underlying portions of two adjacent Department of the Navy (Navy) properties in Alameda, California: the former Naval Air Station (NAS) Alameda (hereafter referred to as "Alameda Point") and the former Fleet and Industrial Supply Center Oakland (FISCA), Alameda Facility/Alameda Annex (hereafter referred to as "Alameda Annex"). Groundwater beneath the properties historically has been characterized under separate investigations performed at Alameda Point Operable Unit (OU) 5 (OU-5), also referred to as Installation Restoration (IR) Site 25 (hereafter referred to as "Site 25"), and Alameda Annex IR Site 02 (IR-02). This report evaluates the groundwater contamination at both Site 25 and Alameda Annex IR-02, because they comprise part of a single contaminant plume.

The general location of Site 25 and Alameda Annex IR-02 is shown in Figure 1-1. Detailed maps of the two sites and adjacent Navy properties are presented in Figures 1-2 and 1-3. The majority of the affected area within Site 25 is located in Parcel 181. The majority of the affected area within Alameda Annex is located in Alameda Annex IR-02. United States Coast Guard (USCG) North Village residential housing (Parcel 181), a park area (Parcel 182), and a community center (Parcel 183) currently occupy Site 25. Alameda Annex IR-02 is currently being developed as residential housing, but was formerly occupied by warehouses that served as an equipment storage and supply facility. The affected area also underlies residential parcels at Alameda Point, which are occupied by USCG Marina Village residential housing (Parcels 178 and 184), George Miller Elementary School (Alameda Parcel 179), and the Woodstock Child Development Center (Parcel 180). For the purposes of this RI/FS report, the areas affected by groundwater contamination at Alameda Point and Alameda Annex will be collectively referred to as the "Site."

A separate RI is being performed, concurrent with this groundwater RI/FS, at Miller Elementary School and the Woodstock Child Development Center (Parcels 179 and 180, renamed IR Site 30) and the residential housing (Parcels 178 and 184, renamed IR Site 31). The purpose of the investigation at IR Sites 30 and 31 is to further characterize the soil conditions and to verify that previous groundwater investigations, performed for Site 25 and Alameda Annex IR-02, have collected sufficient data to assess the risks to sensitive receptors at IR Sites 30 and 31.

The primary contaminants of potential concern (COPCs) in groundwater at the Site, based on risk assessment results (see Section 6), are dissolved-phase benzene and naphthalene. These chemicals are present in the shallow, unconfined first water bearing zone (FWBZ), the bottom of which is located approximately 20 feet below ground surface (bgs). This RI/FS focuses on these COPCs because they will drive the risk-based remediation alternatives to be analyzed in the FS portion of this report. Other COPCs, whether previously investigated or subject to continued site monitoring, will be briefly discussed,

4. NATURE AND EXTENT OF CONTAMINATION

This chapter provides an overview of the nature and extent of contamination at the Site. Site contamination, which has been thoroughly investigated and reported in numerous previous studies (see Section 3), can be summarized as follows:

- Dissolved-phase benzene contamination in the FWBZ. One plume with three plume centers extends from Alameda Annex IR-02 into Alameda Point Site 25, with higher contamination concentrations at depths near 20 feet bgs.
- Low- to mid-level PAH contamination, primarily naphthalene, in the FWBZ.
- Limited correlation between benzene groundwater contamination and soil gas sample results.
- Low to mid-level benzene concentrations in soil gas, with localized elevated detections near the Alameda Annex IR-02 plume center.

4.1. GROUNDWATER CONTAMINATION

As described in Section 1, benzene and naphthalene contamination have been detected within the Site's FWBZ. Results from previous groundwater characterization efforts have been presented in other reports (PRC and Versar, 1996; IT et al., 2002) and are summarized in this section.

All previous groundwater analytical results for Alameda Point Site 25 and Alameda Annex IR-02 were compiled electronically to facilitate preparation of this report (see Appendix A). Tables summarizing benzene and naphthalene data from recently sampled monitoring wells and Hydropunch™ sampling locations are also included in Appendix A, Tables A-1 through A-4. A summary of the characteristics for the benzene data set (e.g., number of detections compared to total number of samples) is presented in Table A-5 in Appendix A.

The following sections discuss the determination of benzene and naphthalene as the primary COPCs at the Site; the lateral and vertical extent of contamination; trends in COPC concentrations over time; MNA data indicating biodegradation activity at the Site; and a conceptual site model of groundwater contamination.

4.1.1. Contaminants of Potential Concern in Groundwater

During the history of groundwater investigations conducted at the Site, a number of COPCs have been identified. The OU-5 RI reported that the following analytes had been previously detected in groundwater at the Site (IT et al., 2002):

- 16 PAHs
- 48 SVOCs, not including PAHs

- BTEX
- MTBE
- 29 VOCs, not including BTEX and MTBE
- Three categories of TPH

The Basewide Monitoring Program (Shaw, 2004a) includes the following analytes as COPCs for the Site:

- PAHs: fluoranthene, pyrene, acenaphthene, and naphthalene
- VOCs: benzene, toluene, ethylbenzene, and xylenes
- Metals: chromium, lead, and nickel

Of these COPCs, the only contaminants consistently detected above drinking water action levels (MCLs or PRGs) are benzene and naphthalene. These two contaminants represent approximately 90 percent of the calculated human health risks associated with the Site, primarily from the groundwater ingestion pathway (see Section 6 for additional details). Therefore, these substances have been retained as the primary risk drivers for the Site. As discussed in Section 6, all analytes with a frequency of detection above 5 percent were retained as COPCs for the HHRA. As discussed further in Section 4.5.4 and Section 6, laboratory detection limits have varied between investigations, and for some analytes were higher than drinking water action levels.

There have been isolated detections of both MTBE and 1,2-DCA above drinking water action levels; however, these detections appear anomalous and not correlated with the benzene and naphthalene plumes.

MTBE detections are localized, and have only exceeded the California-modified tap water PRG (6.2 µg/L) in one monitoring well (P181-MW46), located north of the main plume. This well has been sampled and analyzed for MTBE ten times—from February 1999 to December 2003. The results from this well are summarized below:

- MTBE concentrations were detected in monitoring well P181-MW46 at 12 µg/L and 19 µg/L in December 1999 and May 2001, respectively.
- MTBE concentrations from the eight subsequent sampling events at well P181-MW46 have been below the California-modified tap water PRG, including the seven most recent MTBE concentrations that were not detected above the laboratory reporting limits.

Samples from 17 monitoring wells throughout the Alameda Point Site 25 and Alameda Annex IR Site 02 groundwater study area have been analyzed for MTBE. With the exception of the MTBE detections at well P181-MW46, MTBE concentrations at all other wells were below the California-modified tap water PRG, as summarized below:

- There have been no historic detections of MTBE in 14 of the 17 wells.

- Maximum concentrations detected at the other two wells (P181-MW45 and PW-12) were 5 µg/L, or below the California-modified tap water PRG.

In addition, MTBE was analyzed for in 122 samples collected at 61 Hydropunch™ borings during the 2001 RI, and none of the sample concentrations were above the laboratory reporting limits. Figures 4-47 through 4-49 of the OU-5 RI show the Hydropunch™ and monitoring well data collected in 2001, when the maximum concentration of MTBE was detected (IT et al., 2002). Figure 4-1 summarizes MTBE data for the three wells that have contained detectable concentrations of MTBE, and shows the median detection limit for all other monitoring wells that have been sampled for MTBE.

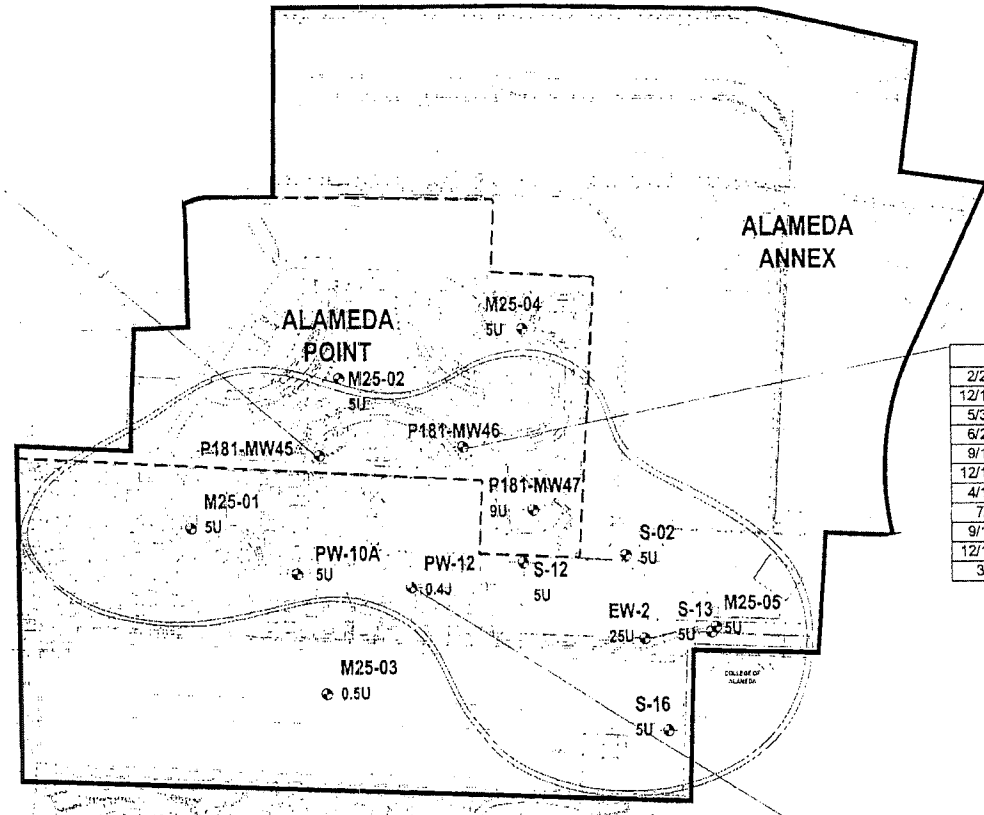
Likewise, 1,2-DCA detections were detected with no consistent spatial correlation to the benzene plume and have not been persistent over time. A review of the 1,2-DCA data revealed that 1,2-DCA was only detected in 2001 and has had a relatively low frequency of detection:

- 1,2-DCA was detected above the MCL (5 µg/L) in 7 of the 61 Hydropunch™ borings conducted in 2001. There detections were located randomly across the Site with no spatial pattern. The maximum concentration was 50 µg/L, detected in the 16- to 19-foot interval from boring OS-HP-14 in the southeast corner of the Site, located adjacent to the EW-2 plume center well.
- 1,2-DCA was detected below the MCL in an additional 6 borings.
- Samples from the majority of the Hydropunch™ borings (48 of 61) contained no detectable concentrations of 1,2-DCA.
- 1,2-DCA has been detected in four monitoring wells, to a maximum concentration of 39 µg/L in monitoring well P181-MW47, in samples collected on May 31, 2001. All four samples collected from P181-MW47, the plume center well located in Mayport/Kollman Circle, since May 2001 have contained no detectable concentrations of 1,2-DCA.

Concentrations of 1,2-DCA exceeding the MCL are shown in Figure 4-39 of the OU-5 RI Report (IT et al., 2002). All of the 1,2-DCA detections occurred in 2001. Before 2001, analysis for 1,2-DCA had only been conducted on four Hydropunch™ samples from Parcel 182. 1,2-DCA was not detected in any of the Hydropunch™ samples above the reporting limit of 0.5 µg/L. No 1,2-DCA has been detected in any sample since 2001.

The available data indicate that the concentrations of MTBE and 1,2-DCA previously detected were localized and have not been replicated during numerous subsequent sampling events. For this reason, MTBE and 1,2-DCA are not considered COPCs for the remedial alternatives analyzed in this report. However, they were included as COPCs in the HHRA discussed in Section 6 and ongoing sampling conducted under the Basewide Groundwater Monitoring Program continues to analyze samples from Site monitoring wells on a quarterly or semi-annual basis for both of these analytes as part of the standard VOC analyte list (Shaw, 2004a).

Because of benzene's contribution to the human health risks calculated for the Site, and its frequency of detection, mobility in groundwater, and toxicity (it is a known carcinogen), it has been used as the



P181-MW45			
2/23/1999	5	U	TtEMI
12/13/1999	6		IT
06/24/2002	10	U	IT
06/24/2002	6.3	U	IT
09/11/2002	0.2	UJ	IT
09/11/2002	0.2	UJ	IT
12/19/2002	6.3	U	Shaw
12/19/2002	1.3	U	Shaw
04/17/2003	6.3	U	Shaw
07/03/2003	5	U	Shaw
09/19/2003	5	U	Shaw
12/11/2003	5	U	Shaw
3/8/2004	50	U	Shaw

P181-MW46			
2/23/1999	5	U	TtEMI
12/13/1999	12		IT
5/31/2001	19		IT
6/24/2002	4.8		Shaw
9/11/2002	1.8	UJ	Shaw
12/19/2002	4.2	U	Shaw
4/17/2003	4.2	U	Shaw
7/3/2003	5	U	Shaw
9/19/2003	5	U	Shaw
12/11/2003	0.62	J	Shaw
3/8/2004	0.3	J	Shaw

PW-12			
3/1/1999	5	U	TtEMI
06/24/2002	0.4	J	IT
09/12/2002	0.5	UJ	IT
12/20/2002	0.5	U	Shaw
04/16/2003	0.5	U	Shaw
07/03/2003	5	U	Shaw
09/22/2003	5	U	Shaw
12/11/2003	5	U	Shaw
3/8/2004	5	U	Shaw

LEGEND

- APPROXIMATE (1 µg/L) OUTLINE OF BENZENE PLUME IN FWBZ (DECEMBER 2003)
- ALAMEDA POINT SITE 25 BOUNDARY
- ALAMEDA POINT / ANNEX INVESTIGATION AREA BOUNDARY
- MONITORING WELLS

MONITORING WELLS

EW-2
P181-MW45
P181-MW46
P181-MW47
PW-10A
PW-12
S-02
S-12
S-13
S-16
M25-01
M25-02
M25-03
M25-04
M25-05

NOTES

1. ALL DATA IN µg/L
2. ALL MTBE DATA IS SHOWN FOR WELLS WITH DETECTED CONCENTRATIONS OF MTBE. SAMPLES FROM OTHER WELLS SHOWN HAVE BEEN ANALYZED FOR MTBE AT LEAST ONCE AND HAVE NOT CONTAINED MTBE ABOVE THE REPORTING LIMIT (0.5 TO 120 µg/L) MEDIAN DETECTION LIMITS ARE SHOWN.

U = NOT DETECTED ABOVE THE DETECTION LIMIT SHOWN.

J = APPROXIMATE VALUE

SCALE
0 200 400

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MTBE CONCENTRATIONS IN SHALLOW MONITORING WELLS

ALAMEDA POINT / ANNEX GROUNDWATER RI/FS

DWG NO 22-052-FIGURE 4-1

FIGURE 4-1

ATTACHMENT B-3

SUMMARY OF NEW ACTIVITIES FOR THE 2010 COMMUNITY INVOLVEMENT PLAN UPDATE

(1 page)

Summary of NEW Activities for the 2010 Community Involvement Plan (CIP) Update

Activity or Item	Schedule	CIP Page
The Navy will greet all newcomers at the RAB meetings either prior to or after the meeting. In addition, a contact list of RAB Co-chairs and Regulatory Agencies will be provided.	Monthly, at each RAB meeting	pg. 2-5
The Navy will provide a RAB feedback form. The Navy will evaluate feedback on a yearly basis for potential ways to improve RAB meetings.	At least annually, at RAB meetings	pg. 2-3
The Navy will enhance the BRAC PMO website by providing an updated Installation Restoration (IR) site map that is better quality and adding a table describing the various IR sites.	Update annually	pg. 2-2
The Navy will invite media representatives on site tours, as requested and appropriate.	As appropriate	pg. 2-2
For larger field work projects, the Navy will provide work notifications at the tenant mailboxes. The Navy may also post a billboard at publicly accessible work sites with a brief description of the project and contact information.	Tied to individual work events.	pg. 2-2
The Navy will post Alameda Point Factsheets, Newsletters, and Public Notices at the Alameda Free Library.	As applicable	pg. 2-2
As requested, the Navy may provide a general presentation to various groups in Alameda to provide information on the status and cleanup process. Potential groups identified were: West Alameda Business Association, Rotary Club, and school organizations.	Navy will offer it annually.	pg. 2-2, 2-3
The Navy will post announcements of upcoming RAB meetings in the Upcoming Events/Calendar section of the Alameda Journal	Monthly, before each RAB meeting	pg. 2-6
The Navy will provide RAB members with graphics that depict the status of the cleanup program, the contaminants of concern, and timelines. The Navy will work with the RAB to prepare these graphics so that RAB members may share them with other members of the community.	As requested by the RAB	pg.2-2, 2-6
The Navy will hold proposed plan (PP) public meetings in downtown to see if attendance increases. Suggested locations include the Alameda Free Library, Mastick Senior Center, City Hall, or a local school.	Occassionally, as scheduling allows	pg. 2-8, 2-10
The Navy will maintain an electronic mailing list. The mailing list, at a minimum, will be used to send reminders of upcoming RAB Meetings and provide notification of public comment periods.	Ongoing	pg. 2-9
The Navy will issue press releases in an effort to increase local coverage of the program.	Periodic	pg. 2-2

Note:
This is not a complete list of community involvement activities that the Navy conducts. Please see the Final CIP Update located in the information reprositories or at the BRAC PMO Website (www.bracpmo.navy.mil) for more information.

ATTACHMENT B-4

RECENT AND UPCOMING DELIVERABLES, MARCH 15 2010

(1 page)

Recent and Upcoming Deliverables, March 15 2010
Alameda Point, Alameda, CA

Recent

Document		Transmittal Date
OU-1	Final RD/RAWP	3/3/2010
Site 4	Final Plume 4-1 Treatability Study Work Plan	3/4/2010
Site 28	Final RD/RAWP	3/26/2010
Transfer Parcels	Final ESI Work Plan	3/12/2010
BGMP	Draft SAP	11/6/2009
OU2A	Revised Draft FS	12/7/2009
Basewide	Draft Final Community Involvement Plan	1/28/2010
Basewide	Draft Work Plan for Basewide Radiological Surveys	1/29/2010
Site 2	Draft iROD	1/25/2010
Site 4	Draft Indoor Air, Outdoor Air, and Soil Gas Sampling Report - Bldg 163 and 163A	2/9/2010

Upcoming

Document		Transmittal Date
Basewide	Final Community Involvement Plan	3/19/2010
Site 34	Final Wetland Delineation report	3/19/2010
Site 34	Draft Final FS	3/19/2010
Site 34	Draft Proposed Plan	4/12/2010
Site 1	Draft Final Radiological Work Plan for RD/RA	3/31/2010
Site 1	Draft Final Pre-Design Work Plan and SAP	3/31/2010
BGMP	Draft Basewide Groundwater Monitoring Annual Report	4/1/2010
Site 2	Draft Work Plan and SAP for Data Gaps in support of RD	4/22/2010
Site 32	Draft Final SAP for VOC Plume Investigation	4/9/2010
Site 17	Draft TCRA Completion Report	3/25/2010
Site 32	Draft Radiological Characterization Survey Work Plan	3/30/2010
OU-2B	Revised Draft FS	4/2/2010
Site 1	Draft Remedial Design/Remedial Action Work Plan	6/30/2010

ATTACHMENT B-5

OPERABLE UNIT — 2B FEASIBILITY STUDY PRESENTATION HANDOUT

(5 pages)

WELCOME

Revised Draft Feasibility Study

Operable Unit 2B

IR Sites 3, 4, 11 and 21
Alameda Point, California

RAB Presentation
April 1st 2010

Curtis Moss, PG
Navy BRAC PMO West

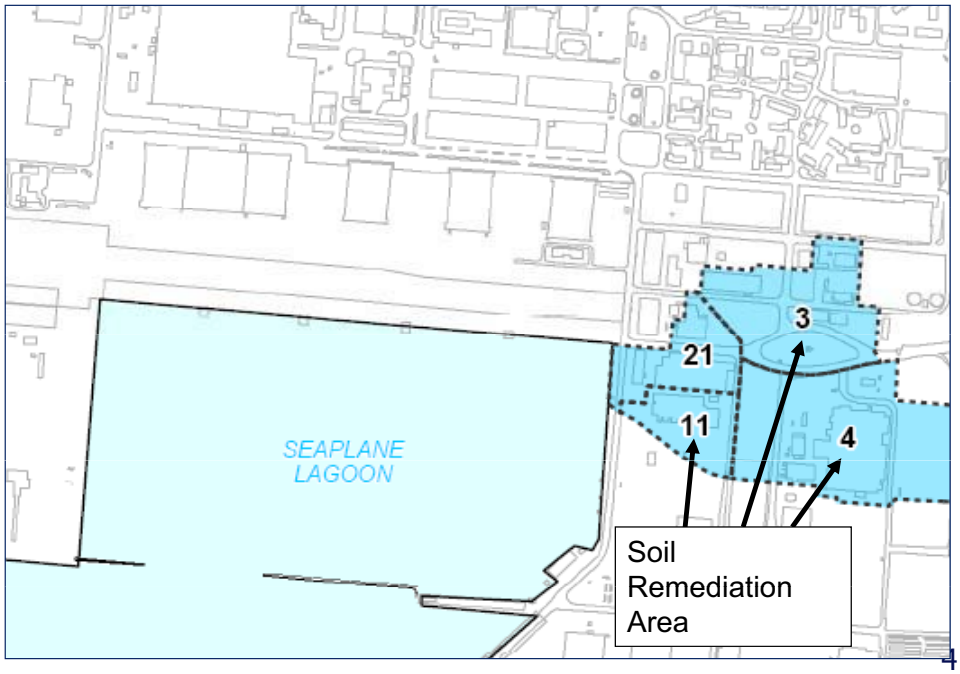
Feasibility Study Outline

- Site Background Information
- Conceptual Site Model
- FS Evaluation for Soil
  - Remedial Action Objectives
  - General Response Actions
  - Remediation Alternatives & Comparative Analysis
- FS Evaluation for Groundwater
  - Remedial Action Objectives
  - General Response Actions
  - Remediation Alternatives Comparative Analysis

OU2B Revised Draft FS Changes

- Incorporate Data Gaps Sampling Results (Data collected through Fall 2009)
  - Update Conceptual Site Model (CSM)
- New Baseline Human Health Risk Assessment
  - Revised constituent of potential concern (COPC) evaluation and selection of COCs
- Added evaluation of residential reuse (commercial-mixed is future reuse)

OU2B FS Evaluation – Soil Remedial Action Sites



FS Evaluation - Soil Remedial Alternatives

IR Sites 3, 4, and 11

- Alternative S-1: No Action

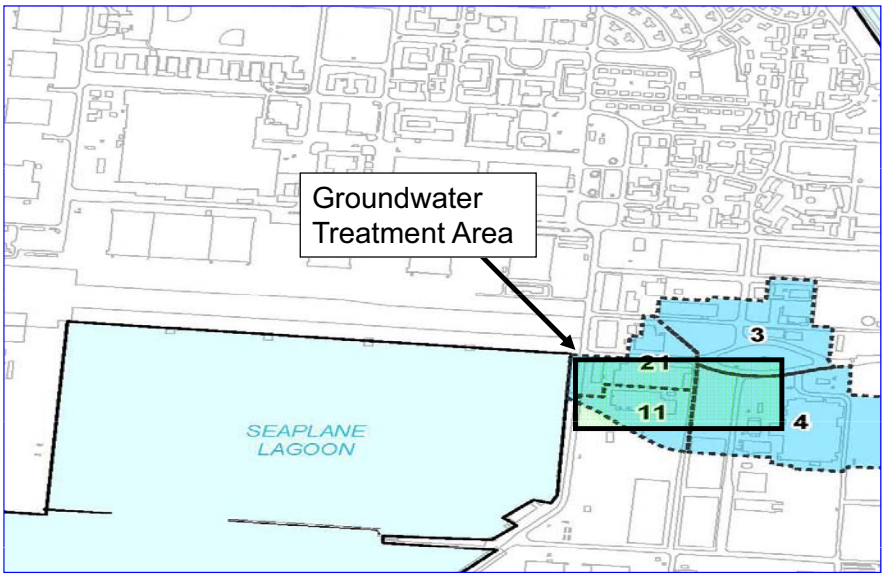
- Alternative S-2: Excavation and Off-Site Disposal of Impacted Soil (Residential Reuse)
  - IR Site 3:
    - 3,900 cubic yards
  - IR Site 4:
    - 250 cubic yards
  - IR Site 11
    - 1,750 cubic yards
- Excavated areas will be replaced with certified clean fill

FS Evaluation – Soil Analysis of Remedial Alternatives

NCP Criterion	S-1: No Action	S-2: Excavation and Off-Site Disposal of Impacted Soil (Residential Reuse)
Overall Protection of Human Health and the Environment	○	●
Compliance with ARARs	○	●
Long-Term Effectiveness	○	●
Reduction in Toxicity, Mobility, and Volume	○	●
Short-Term Effectiveness	○	◑
Implementability	●	◑
Cost	--	◑ $2,541,000
State and Community Acceptance	TBD	TBD

○ Poor ◑ Fair ● Good

Groundwater Treatment



FS Evaluation – Groundwater Remedial Alternatives

- **Alternative G-1**: No Action
- **Alternative G-2**: Hot-Spots Treatment, Control/Treatment at Seaplane Lagoon using Permeable Reactive Barrier (PRB), Monitored Natural Attenuation (MNA) and Institutional Controls (ICs)
- **Alternative G-3**: Hot-Spots Treatment, Shallow Groundwater Treatment, MNA and ICs
- **Alternative G-4**: Treatment of Entire Plume using Groundwater Recirculation, PRBs, and ICs

FS Evaluation – Groundwater Analysis of Alternatives

NCP Criterion	G-1	G-2a	G-2b	G-3a	G-3b	G-3c	G-3d	G-4
Overall Protection of Human Health and the Environment	○	●	●	●	●	●	●	●
Compliance with ARARs	--	●	●	●	●	●	●	●
Long-Term Effectiveness	○	●	●	●	●	●	●	●
Reduction in Toxicity, Mobility, and Volume	○	◕	◕	◑	◑	◑	◑	●
Short-Term Effectiveness	●	◔	◕	○	○	◑	◑	◔
Implementability	●	◑	◑	◕	◔	○	◔	○
Cost	--	◕ $16,404,000	◕ $16,467,000	◔ $18,837,000	● $13,399,000	◔ $17,682,000	● $12,274,000	○ $21,338,000
State and Community Acceptance	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

○ *Poor* ◔ *Poor to Fair* ◑ *Fair* ◕ *Fair to Good* ● *Good*

Schedule

- Issue Revised Draft FS – May 2010
- Agency/RAB Review- June 2010 – July 2010
- Issue Draft Final – September 2010
- Finalize FS in November 2010

ATTACHMENT B-6

RAB LETTER OF COMMENT ON BASEWIDE RAD SURVEYS

(2 pages)

Mr. Derek Robinson
Department of the Navy
Base Realignment and Closure, Program Management Office West
1455 Frazee Road
San Diego 92108

March 3, 2010

Re: Work Plan for Basewide Radiological Surveys

Dear Mr. Robinson,

Thank you for the opportunity to comment on the above document. The document appears to be technically sound and well prepared. We do have some general and specific comments that are covered in the following paragraphs.

General

The fundamental shortcoming of the Work Plan is the assumption that radiological contamination will only be found in those areas identified by the Historical Radiological Assessment (HRA). Yet we know from our limited experience that this is not true. One area not mentioned in the HRA is the pocket of Radium contamination discovered by "accident" along the west side of Seaplane Lagoon. Another example is the Radium contamination discovered in the expanded IR Site 32 area. Although the HRA (see Table 1-1 of the Work Plan) identifies Building 497 (which is within IR Site 32) as a potential source of Tritium (H-3) and Uranium isotope 235 (U-235), it does not identify Radium as being a radionuclide of concern. Also, in IR Site 1, the exploratory trenches, intended to disprove the existence of intact drums of chemical wastes, found extensive and unexpected subsurface Radium contamination not identified by the HRA or radiological scans of the soil surface and near surface. Finally, the runway wetlands area was identified in the *Draft Expanded Site Inspection Work Plan for Transfer Parcels EDC-12, EDC-17, FED-1A, FED-2B and FED-2C* as an area where Radium-contaminated wastes were disposed and the HRA does not mention this as an area of potential radiological contamination. The expanded site investigation did not address this concern as this is supposed to be addressed in a radiological survey, yet the radiological survey does not address the concern. There are individuals who worked at the base during the time it was operational; they would know about the disposal of contaminants. The RAB has repeatedly suggested contacting these individuals but the Navy has yet to do so. ?

The Work Plan further buttresses the underlying false assumption by assigning three area classifications (see Table 3-1 on page 20). Class 3 areas are defined as those not expected to contain residual radioactivity, or those areas expected to contain residual radioactivity at a small fraction of the "derived concentration guideline levels" (DCGLs). These defined Class 3 areas have no limit as to the building surface or land area to be surveyed. Thus, they do not have to be surveyed at all. The underlying assumption that all areas of radiological contamination have been identified by the HRA is extended by the detailed survey unit assumptions of the Work Plan.

The RAB is, by implication, being asked to accept the premise that the only areas of radiological contamination not identified by the HRA have already been discovered by serendipitous accidents and that there are no others. This does not appear reasonable in view of faulty or incomplete records, fading

Dale Smith and George Humphreys
Naval Air Station Alameda Alameda Restoration Advisory Board
950 West Mall Square, Alameda, CA

memories and the possible capricious acts of employees, who due to the failings of human nature, sometimes act outside the bounds of established procedures. On the other hand, there are not unlimited funds available for increasingly detailed radiological surveys to look for possible radioactive contamination in unknown areas. What may be reasonable is to budget a reasonable amount to perform a statistically randomized survey of the entire base. If additional areas of radiological contamination are found, then the survey could be expanded. If not, the public would be asked to accept, on faith, that the risk from undiscovered radiological contamination is acceptably small.

Specific Comments

The Navy has repeatedly assured the RAB that the ventilation ducts in Buildings 5 and 400 would be surveyed for radioactive contamination. Nevertheless, the Sampling and Analysis Plan in Appendix A, does not include surveys of ventilation ductwork (see Page 36 of 94, Building 5, second floor; and page 37 of 94, Building 400).

The map indicates that the only area investigated at Building 114 will be the courtyard, not the alleyway or main access road, yet Table 10-1, Potentially Impacted Sites and Investigation Parameters states that the entire building will be investigated. Likewise, the map shows that Building 66 has a courtyard that will not be investigated. In both cases it seems unusual not to investigate possible contamination as carrying materials to a storage or holding area might lead to an accident, such as that on Pier 3.

We feel that proceeding with the work plan is generally acceptable. However, we feel regulator comments and changes should be incorporated and our concerns should be addressed. Again, thank you for the opportunity to comment on this document.

Yours

Dale Smith
Community Co-chair

George Humphreys
Assistant Co-chair

Copies: Councilmembers Matarrese and deHaan
Peter Russell, Russell Resources
Anna-Marie Cook, US EPA
Dot Lofstrom, Cal EPA DTSC
Jim Polisini, Cal EPA DTSC
John West, SF RWQCB

Michael John Toczy
14701-5

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