FINAL
NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD
MEETING SUMMARY

www.navybracpmo.org
Building 1, Suite 140, Community Conference Center
Alameda Point
Alameda, California

September 1, 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:	
Andrew Baughman	BRAC PMO-West Remedial Project Manager (RPM)
Doug Biggs	Alameda Point Collaborative Representative
Neil Coe	RAB
Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
Ardella Dailey	RAB
Tommie Jean Damrel	Tetra Tech EM Inc. (Tetra Tech)
Claudia Domingo	BRAC PMO-West RPM
Jamie Hamm	Sullivan International Group (Sullivan)
Carole Hossom	Agency for Toxic Substances and Disease Registry (ATSDR)
Lisa Houlihan	U.S. Coast Guard (USCG)
Judy Huang	Regional Water Quality Control Board (Water Board)
George Humphreys	RAB
Craig Hunter	Tetra Tech
Elizabeth Johnson	City of Alameda
James D. Leach	RAB
John McMillan	Shaw Environmental and Infrastructure Inc. (Shaw)
Bert Morgan	RAB
Jerry Orlando	Community Member
Mary Parker	BRAC PMO West, RPM

Kevin Reilly	RAB
Peter Russell	Russell Resources Inc./City of Alameda
Dale Smith	RAB/Audubon Society/Sierra Club
Jim Sweeney	RAB
Michael John Torrey	RAB/Housing Authority of the City

The meeting agenda is provided in Attachment A.

MEETING SUMMARY

I. Approval of Minutes

Ms. Sweeney called the meeting to order at 6:30 p.m.

Ms. Sweeney asked for comments on the minutes from the RAB meeting held on August 4, 2005. Mr. Humphreys, Ms. Smith, and Ms. Cook provided the following comments:

Mr. Humphreys' comments

- Page 6 of 9, third sentence in the last paragraph, "chose" will be changed to choose.
- Page 6 of 9, throughout the last paragraph, the word "habits" will be changed to "habitats."
- Page 8 of 9, next to last paragraph, "Alternatively" will be deleted.

Ms. Smith's comment

- Page 7 of 9, third sentence of the fifth paragraph, Ms. Smith requested a replay of the tape to clarify what Ms. Liao was discussing. After a review of the tape, the minutes have been revised to read, "There are two groundwater plumes on the property, one on Alameda Point and one on Alameda Annex. The groundwater under this portion of Alameda Point is considered a potential source for beneficial use."

Ms. Cook's comments

- Page 8 of 9, sixth sentence under the EDC-5/Site 35 meeting section, Ms. Cook requested that the meeting tape be reviewed to verify the accuracy of the statement. After a review of the tape, the minutes will be revised to read "The Water Board and DTSC will join the EPA in signing the Federal Facilities Agreement (FFA)."
- Page 8 of 9, eighth sentence under the EDC-5/Site 35 Meeting section, Ms. Cook said that the governor does not need to approve the consent order for the transfer to occur. However, Ms. Liao said that the "EPA and the governor" would need to approve the order. A bracket will appear after the sentence with the following [This statement is incorrect because only the EPA needs to approve of the consent order, and not the governor.]

The minutes were approved by the RAB based on incorporation of the comments and corrections listed above.

II. Co-Chair Announcements

Mr. Macchiarella provided maps that illustrate the current Installation Restoration sites and Corrective Action Areas (CAA) to the RAB members who had requested them. He had no other announcements.

Ms. Sweeney asked whether Ms. Dailey had appointed a new representative for the school board to the RAB committee. None of the RAB members present was aware of an alternate for Ms. Dailey. Ms. Dailey was not present during the first half of the RAB meeting.

III. Draft Remedial Investigation Report for OU-2C Plan Presentation

Mr. Macchiarella introduced Mr. Craig Hunter (Tetra Tech) to provide a presentation on the draft remedial investigation (RI) report for Operable Unit (OU) 2C, Sites 5, 10, and 12. A handout was provided and is included as Attachment B-1. The RI is conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) program.

According to Mr. Hunter, the RI report documents the approach used to conduct the RI, outlines the results of the investigations, and recommends further evaluation in a feasibility study (FS). Objectives for the RI include characterization of site conditions to develop and evaluate effective remedial alternatives, delineate the nature and extent of contamination, and assess the risk to human health and the environment. Mr. Hunter described the historical use at OU-2C, which has included an aircraft reworking facility at Site 5, a missile reworking facility at Site 10, and a power plant at Site 12 (Slide 3). The activities at the aircraft reworking facility that occupied Site 5 included cleaning, reworking, and manufacturing metal parts; plating; painting (including radioluminescent painting); and use of underground storage tanks (USTs), aboveground storage tanks (ASTs), and oil-water separators (OWS). Activities at the missile rework facility on Site 10 included reworking missile guidance systems and use of one UST. Activities at the power plant located on Site 12 included generation of steam and compressed air and use of USTs, ASTs, transformers, and OWS.

According to the 2001 general plan amendment, OU-2C is located in the area designated as the Civic Core Reuse Area. This area is intended to be redeveloped into a civic and cultural center for the city, with offices, retail, housing, commercial/industrial, parks, and other civic uses. The intended reuse is an integral part of the decision about whether the sites will require further investigation under an FS (see Slide 3). Other determining factors include the site-specific conceptual site model, background concentrations, results of the human health risk assessment (HHRA), the results of the screening-level ecological risk assessment (SLERA), and professional judgment.

Slide 4 shows soil sample locations at OU-2C, which is dominated by Building 5. Soil samples have been collected from outside and inside Building 5. Groundwater samples have also been collected from within Building 5 and around various features at OU-2C, such as the USTs. The samples were collected from within Building 5 by coring through the concrete floor. Slide 5 shows the groundwater sample locations from historical data collected at OU-2C.

OU-2C is located in an area where groundwater is not considered to have beneficial use. The total human health risk was calculated for each of the three sites for cancer and noncancer risk (Slide 6) by combining risks posed by chemicals in soil and groundwater. Almost all carcinogenic risk at each site is attributed to contaminants in groundwater. Additionally, the human health risk from exposure to lead was calculated for surface and subsurface soil (Slide 7). Metals associated with plating, such as chromium, were not detected in the latest round of groundwater sampling. Most chromium was previously excavated from beneath the building.

Mr. Hunter continued that Slide 8 illustrates the risk drivers for soil at Site 5 that include arsenic, thallium, organic lead, n-nitroso-di-n-propylamine (NNDNP), trichloroethene (TCE), and tetrachloroethene (PCE). The concentrations of arsenic and thallium were within background levels; therefore, these metals are not recommended for further evaluation during the FS. Ms. Cook acknowledged that the concentrations of thallium found are consistent with background levels for various sites around the bay area and not just at Alameda Point. Mr. Hunter added that NNDNP is also commonly used in laboratories, is a contaminant in a recently registered pesticide, and is sometimes found in landfills. Additionally, further evaluation of organic lead in the FS is not needed because the concentrations do not reflect current conditions in soil. Comparison values for lead were obtained from a DTSC model. However, the FS recommends additional assessment of NNDNP, TCE, and PCE.

Slide 9 shows that the risk driver for soil at Site 10 is arsenic; however, further evaluation in the FS is not warranted because concentrations of arsenic fall within background ranges.

Slide 10 shows that the risk drivers for soil at Site 12 are arsenic and iron, which are present at background levels, and, thus, are not recommended for further evaluation in the FS.

The human health risk for groundwater was calculated over the entire OU for residential exposure (Slide 11). Risk drivers in groundwater at Site 5 include numerous volatile organic compounds (VOC) at concentrations that exceed residential exposure criteria and therefore require further evaluation in the FS. The groundwater contamination at Site 10 requires further evaluation under the Total Petroleum Hydrocarbon (TPH) program. Finally, Site 12 does not require further characterization under either program because it already meets the Water Board criteria for a low-risk fuel site.

Slides 12 and 13 depict groundwater contamination in OU-2C in the first and second water-bearing zones. Direction of groundwater flow is radial outwards and predominately toward Seaplane Lagoon. The groundwater contours shown on the slides are interpolated between the data points, and boundaries are considered approximate. Site 5 might be a candidate for six-phase removal. Cleanup goals will be based primarily on the inhalation risks associated with contaminants in groundwater. However, the cleanup goals will not be set until the record of decision (ROD) is final.

The SLERA concluded that the environmental risk to terrestrial wildlife is negligible because habitat to support significant terrestrial wildlife is not present at Sites 5, 10, and 12, and no complete exposure pathways to terrestrial wildlife is present. The exposure pathways to aquatic receptors is considered complete because storm drains discharge into Seaplane Lagoon and Oakland Inner Harbor and groundwater also flows into the Seaplane Lagoon and Oakland Inner Harbor. Aquatic receptors can absorb or ingest the migrating contaminants as a result. Therefore, there is a potential risk to aquatic receptors (see Slide 14).

An UST was previously located outside of Building 400 at Site 10; subsequently, elevated levels of TPH and floating product have been identified at the site. Additionally, a TPH plume at Site 5 is commingled with the CERCLA solvent plumes. Site 10 and the TPH plume under Site 5 will be addressed under the TPH program. No TPH has been found at Site 12, and this site is being recommended for closure.

The schedule for OU-2C is presented on Slide 16. Comments on the draft RI report are due by September 29, 2005; the draft final RI will be submitted on November 28, 2005; and the final RI report will be submitted on December 28, 2005.

Residential areas on Site 5 are limited to dormitories and cannot be used for apartments or condominiums.

IV. Agency for Toxic Substances and Disease Registry (ATSDR) Presentation

Ms. Sweeney introduced Ms. Carole Hossom from ATSDR, a public health agency that is part of the Centers for Disease Control and Prevention in Atlanta, Georgia. A handout of the presentation was provided and is included as Attachment B-2.

ATSDR attended an Alameda Point RAB meeting in 2000 to describe the agency and the upcoming health assessment report the ATSDR was preparing for Alameda Point. The RAB members requested that ATSDR return and present its findings before the health assessment report became final. The draft health assessment document was presented to the RAB in March 2004 by Ms. Gwen Eng. Ms. Hossom has returned to address public comments received on the document. Before 2000, the Navy asked ATSDR to examine indoor air quality in Coast Guard housing and requested an evaluation of polychlorinated biphenyls (PCB) at Sites 14 and 15; both reports are included in the health assessment.

Ms. Hossom reviewed the ATSDR's mission statement with the RAB and some of the mandating statutes that give the ATSDR its authority. Ms. Hossom reviewed the purpose behind public health assessments and stressed the difference between a "health assessment" and a "risk assessment" to public health. Purposes of a public health assessment are to identify human exposure, evaluate human health hazards (both cancer and noncancer effects), identify environmental data gaps, recommend actions needed to stop, prevent, or reduce human exposure, and determine if follow-up is needed. The Alameda Point public health assessment evaluated sites where contaminants were present for health risks in indoor air quality, soil and sediments, and ingestion of fish located in Oakland Bay or Seaplane Lagoon. The report concluded that there is no apparent public health hazard.

This conclusion by ATSDR in the draft preliminary assessment generated numerous comments from the public. Ms. Hossom said that all the comments received will be addressed in the final report. She noted that the top three common questions received on the report were: (1) Why did it take the agency so long to write this report? (2) How can the ATSDR say there is no hazard when the EPA, State of California, and Navy have concluded that risk is present?; and, (3) If there is no hazard, why is so much money being spent on the cleanup?

In response to first question — of why it has taken so long to generate this report — Ms. Hossom said that since ATSDR is a government agency, many bureaucratic formalities are involved with not only generating a report but with funding and staffing the agency. Additionally, resources and manpower at the agency are limited by these formalities, and Alameda Point is not the only military base to consider. There are only six health assessors to cover all Superfund sites across the United States. Other bases were prioritized above Alameda Point because there were direct threats to human health or life at these bases and they need to be addressed first. Ms. Hossom highlighted the other military bases where physical hazards needed to be addressed immediately and were prioritized above Alameda Point.

Ms. Hossom explained that the second most asked question, why ATSDR says there is no hazard at the site when the regulatory agencies and military have concluded that risk exists, is a more complex issue. Conducting a public health assessment follows a different process, evaluates different information, and is done for a different purpose than the risk assessments, which are conducted by the Navy and reviewed by the regulatory agencies. A public health assessment draws the basis for its conclusions on scientific studies and facts. Additionally, the report takes into account current site conditions and does not hypothesize about risks after the property is redeveloped. Risk assessments overestimate exposure and compare values from certain studies on a chemical; address environmental, human health, and economic impacts; and, provide a basis for agencies to direct cleanup efforts. Health assessments consider more

realistic exposure estimates, use the weight-of-evidence approach when evaluating numerous human and animal studies, are concerned with the health impact, and are used to provide advice. ATSDR uses toxicological profiles, which are summaries of all scientific literature on a specific chemical. The health assessment seeks to identify exposures that are likely to make people sick so that they can seek medical help, or stop further exposure. The assessment will also recommend additional health measures such a studies, registries, education, and biological sampling, if applicable.

The Navy and the regulatory agencies continue to clean up Alameda Point, even though the ATSDR says there is no threat, because the Navy makes certain assumptions about public health, changes in use of land and water over time; these factors will change when the base is redeveloped. Additionally, contaminants move and breakdown into other chemicals that need additional attention and may contaminate additional sites that had not been previously affected. Moreover, the Navy and regulatory agencies are also concerned about protecting not only people but wildlife and plants and want to adhere to environmental rules and regulations.

Ms. Hossom said that the ATSDR needs additional time to consider issues that were not addressed in the original health assessment report. Any additional information will be added to the report before it becomes final. Some of these issues include vapor intrusion into housing and professional-use buildings at various locations around the base, additional data from Seaplane Lagoon, and evaluation of daycare and elementary school areas. ATSDR is trying to finalize the report within the calendar year.

Mr. Humphreys asked if ATSDR had considered additional sites since it first became involved with Alameda Point. According to Ms. Hossom, the agency looks at all sites were there is the opportunity for human exposure and existing data. If there is an opportunity for exposure but no data are available, ATSDR recommends additional sampling. Ms. Hossom said that ATSDR has reviewed all sites that have been presented to the RAB members; however, if the RAB feels that a site needs further evaluation, ATSDR will revisit the site. Mr. Biggs noted that ATSDR made an assumption in the original report on the number of residents at an apartment complex on the base. This assumption was wrong: there are more residents at this complex than ATSDR assumed. Ms. Hossom said that ATSDR is reassessing that area with the new information.

The RAB and community members raised additional concerns about how a health assessment could conclude that there is no risk to public health while a risk assessment indicates that there is risk. Ms. Hossom reiterated the differences between a risk assessment and a health assessment and stressed that the ATSDR health assessment uses only scientific evidence and fact to make determinations. ATSDR considers all health effects as hazards but does not take into account the specific lifestyle of persons that might make them more at risk. The report is designed to provide a boundary for cleanup and guidance for the public. Risk-based assessments are based on a presumed 30-year exposure for 24 hours a day at residential sites; however, health assessments use a more realistic exposure. Ms. Hossom said that an additional guide would be provided in the final document, which would help the public understand how the ATSDR came to its conclusions. The report did not directly address synergism of contaminants; however, the toxicology of individual chemicals was considered separately and combined.

The final slide contained contact information for Ms. Hossom and the ATSDR.

V. Logistics

Mr. Macchiarella said that Tommie Jean Damrel is calling the RAB members to schedule the RAB tour. Mr. Macchiarella noted that the tour would be held beginning at 9:00 a.m. on September 10, 2005. The tour will be approximately 2 hours long, and the tour bus will pick up RAB members at the Community

Conference Center. The tour bus will drive by and visit several sites; however, tour members may exit the bus only to visit Site 2. Open slots on the tour bus will be offered to concerned community members who actively attend the RAB meetings.

Ms. Domingo said that she would like to hold the Site 1 focus group meeting during September 12 through 14, 2005. Several of the RAB members indicated that they would like to participate in the focus group. Ms. Domingo will e-mail the interested RAB members with suggested dates and times for the meeting.

VI. BCT Activities

Ms. Judy Huang provided the August 2005 BRAC Cleanup Team (BCT) activity update. A presentation on the revised draft Site Inspection Report for Public Benefit Conveyance for Site 1A (PBC-1A) was presented. The comments for the report are due on October 7, 2005.

Ms. Huang noted that the record of decision (ROD) for Site 29 should be signed soon and the site management plan should be finalized as well. DTSC and the Water Board have decided to sign the Federal Facilities Agreement with some changes in the language. The BCT met yesterday on the base-wide groundwater monitoring report to discuss screening levels used, addition of wells, format of the report, and data presentation. The BCT held a site-wide response to comments meeting the morning of September 1, 2005, so the agencies had an opportunity to discuss their major concerns with the Navy before the final response to comments is issued.

VII. Community and RAB Comment Period

Mr. Reilly asked Ms. Cook if the Navy planned to continue the radiological investigation on OU-2C. According to Ms. Cook, the Navy undertook a massive removal action at Site 5 to remove the radiologically contaminated storm sewers; however, the project ran out of money before it could be completed. Ms. Cook said that the Navy wishes to revisit the project in the next calendar year, when there is additional funding for the project. If the funding cannot be obtained for the continued removal action, then the radiological investigation needs to be included in the OU-2C RI and subsequent FS. The OU-2C RI does not include the radiological information; the agencies have commented to the Navy that this information needs to be included in the RI so that it can be addressed in the FS if no additional funding is allocated for only the radiological cleanup. The Navy removed many of the contaminated storm sewer lines during the removal action.

Ms. Sweeney said that she would like to see a presentation on the base-wide groundwater report and that she has questions regarding large amounts of aluminum in groundwater that were identified during the spring of 2002. Ms. Sweeney also announced that the final homegrown produce vegetation report by Sophia Serda (EPA) has been released and that she has copies available for review.

Mr. Biggs noted that the boundary for Site 35 was not updated on the map provided by Mr. Macchiarella. Mr. Macchiarella said that he will address the revision for the next update of the map.

There were no further comments, and the meeting was adjourned at 8:30 p.m.

*Please note; comments provided to Ms. Domingo by Ms. Smith on recently submitted Site 1 reports have been included for information purposes with these minutes as Attachment C.

ATTACHMENT A

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA
September 1, 2005

(One Page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

SEPTEMBER 1, 2005, 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	Mrs. Jean Sweeney
6:45 - 7:00	Co-Chair Announcements	Co-Chairs
7:00 – 7:25	Presentation of Draft Remedial Investigation Report for OU-2C	Ms. Glenna Clark & Dr. Craig Hunter
7:25 – 7:50	Presentation on Alameda Point Public Health Assessment by ATSDR/CDC	Ms. Carole Hossom
7:50 – 8:00	Logistics • Set Plans for September 10th RAB Tour • Set Site 1 Focus Group Meeting	Mr. Thomas Macchiarella
8:00 – 8:10	BCT Activities	Ms. Judy Huang
8:10 – 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 Email correspondence by Jean Sweeney, Community Co-chair, of documents received in August 2005. September 1, 2005. (1 page)

B-2 Draft Remedial Investigation Report for Operable Unit 2C, Sites 5, 10, & 12, presented by Craig Hunter (Tetra Tech). September 1, 2005. (9 pages)

B-3 ATSDR public health assessment presentation, presented by Carole Hossom, Agency for Toxic Substances and Disease Registry. September 1, 2005. (8 pages)

ATTACHMENT B-1

EMAIL LIST OF DOCUMENTS RECEIVED IN AUGUST

(One Page)

B-1 August RAB Documents

From: Jean S Sweeney [jean_sweeney@juno.com]
Sent: Wednesday, August 31, 2005 1:50 PM
To: adailey@alameda.k12.ca.us; adover@geosyntec.com; COENEILG@aol.com; cook.anna-marie@epa.gov; Dale2smith@yahoo.com; dbiggs@apcollaborative.org; ejohnson@ci.alameda.ca.us; emurdock@goldengateaudubon.org; fmatarre@ci.alameda.ca.us; H.G.BertMorgan@aol.com; JCH@rb2.swrcb.ca.gov; jhug@d11.uscg.mil; jimsweeney2@juno.com; jleach@globalperspectives.com; jpkonrad@ix.netcom.com; kurtp28@hotmail.com; lhoulihan@d11.uscg.mil; Pearson, Lona; ltetirick@alamedanet.net; mliao@dtsc.ca.gov; Peter@russellresources.com; reillyrn@hotmail.com; ripperda.mark@epa.gov; thomas.maccharella@navy.mil
Subject: August RAB Documents

August RAB Documents

7/29 Draft Spring Groundwater Monitoring Report 2 Vols.-Innovative Technical Solutions.
8/3/05 UST removal Least Tern Site – Shaw Environmental
8/2/05 Final RI and revisions OU2B sites 3,4,11& 21.
8/2/05 Correction pages Draft RI Work Plan site 34
8/05/05 Revised Draft SI Transfer Parcel PBC –1A – Bechtel
8.5.05 Final Supplement to the FS for site 14
8/10/05 CRWQCV comments re Fraft FS IR 1 1943-1956 Disposal area
8/20/05 DISC comments re Draft FS site IR 1 1943-1956
8/24/05 Final RI for IR Site 27 Dock Zone including a Disc
8/22/05 Draft Sampling Plan Build 14, 113, 162, 163 and 398
8/23/05 Site Management Plan Schedule
8/25/05 Final Report AP PAH Vegetation Assessment
8/25/05 CRWQCB recession re: Site Cleanup requirements of Skeet and Trap Site
8/25/05 EPA requests 30 day extension for draft OU 2 C RI sites 5,10,and 12.

ATTACHMENT B-2

DRAFT REMEDIAL INVESTIGATION REPORT FOR OU-2C, SITES 5, 10, & 12
(NINE PAGES)

Welcome

BRAC PMO WEST

Draft Remedial Investigation Report for Operable Unit 2C, Sites 5, 10, & 12, Alameda Point

Glenna Clark

Remedial Project Manager

Base Realignment and Closure Program
Management Office West

September 1, 2005

Purpose & Objectives

BRAC PMO WEST

- **Purpose:**

  Document the approach used to conduct the RI, the results of the investigations, & recommend further evaluation in an FS, if necessary, so an informed risk management decision can be made about the need for remedial action.

- **Objectives:**
  - Characterize site conditions for developing and evaluating effective remedial alternatives
  - Determine the nature and extent of contamination
  - Assess risk to human health and the environment

Site History

BRAC PMO WEST

- **Site 5—Aircraft Rework Facility**
  - included cleaning, reworking, manufacturing metal parts
  - plating activities, painting, & radioluminescent painting
  - 22 smaller buildings
  - 3 existing, 14 removed underground storage tanks (USTs)
  - 5 existing, 10 removed aboveground storage tanks (ASTs)
  - 4 oil-water separators (OWSs)
  - storm sewer lines, industrial waste lines
- **Site 10—Missile Rework Facility**
  - 1 removed UST
  - fuel lines, storm sewer lines, industrial waste sewer lines
- **Site 12—Power Plant Facility**
  - generation of steam and compressed air
  - 6 USTs, 11 ASTs, 9 transformers, 1 OWS
  - fuel lines (incl. 1 abandoned), storm sewer lines, industrial waste sewer lines

Anticipated Reuse

BRAC PMO WEST

- **Anticipated Reuse Scenario:**

  OU2C lies in the Civic Core Reuse Area and is intended to be redeveloped as a civic and cultural center of the City, with offices, retail, housing, commercial/industrial, parks and civic uses.

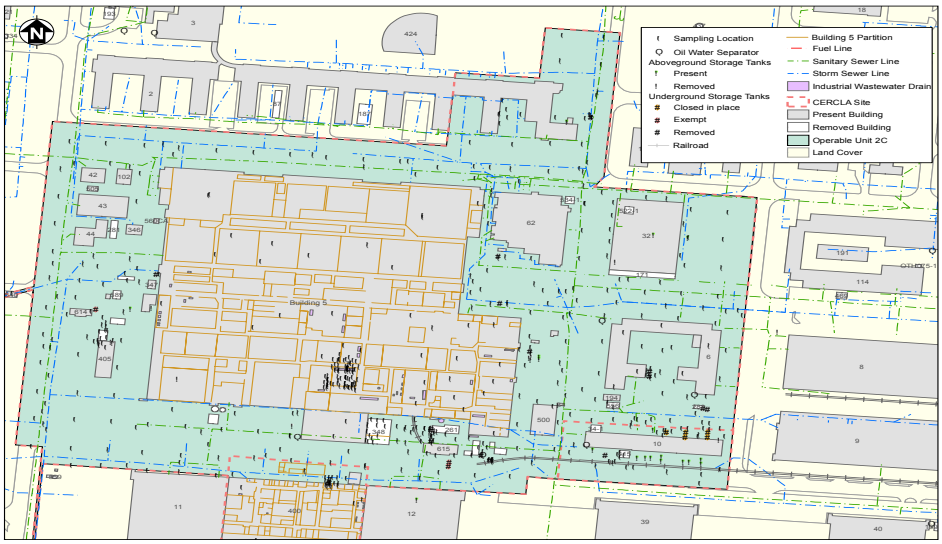
- **Approach to Conclusions & Recommendations:**

  The determination of whether any sites require further investigation under an FS is based upon:

1) Future land use
2) Site-specific conceptual site model
3) Background comparison results
4) Baseline Human Health Risk Assessment (HHRA) results
5) Screening Level Ecological Risk Assessment (SLERA) results
6) Professional judgment

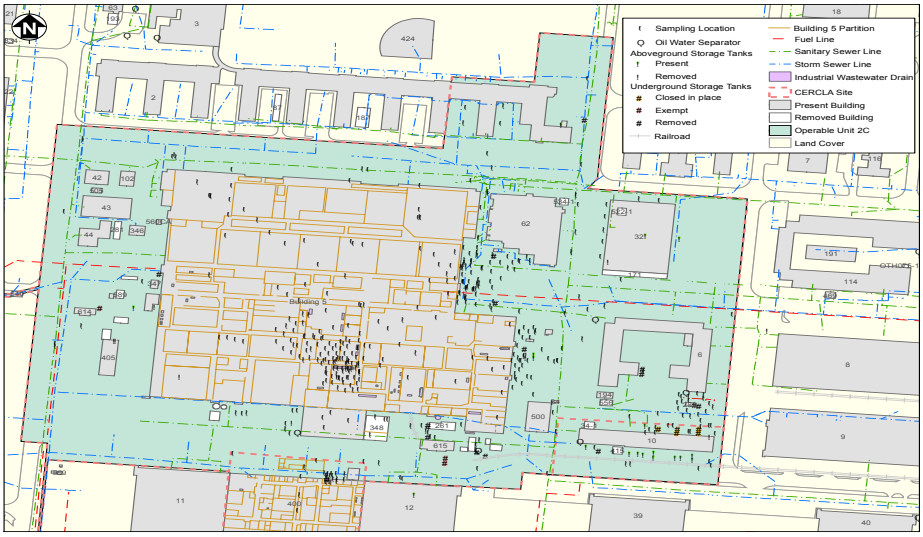
OU-2C Soil Sampling Locations

BRAC PMO WEST



OU-2C Groundwater Sampling Locations

BRAC PMO WEST



Total Human Health Risk per Site

BRAC PMO WEST

Total Risk = Soil risk + Groundwater risk

Cancer Risk is screened based on a 1 in 1,000,000 extra cancer cases

	Cancer (includes risk from background)	Noncancer (does not include risk from lead)
Site 5	**1E-02**	**170**
Site 10	**1E-02**	**70.9**
Site 12	**1E-02**	**72**

Note: Almost all carcinogenic risk at each site is due to groundwater risk

Risk from Lead per Site

BRAC PMO WEST

Blood lead is compared to a level of 10 µg/dL

Site	Exposure Point Concentration Subsurface Soil (mg/kg)	95th percentile estimate of blood lead for a child ingesting Surface Soil (µg/dL)	95th percentile estimate of blood lead for a child ingesting Subsurface Soil (µg/dL)	Risk
5	89.7	7.7	3.6	No
10	38.0	1.8	2.2	No
12	48.3	2.5	2.5	No

Lead was evaluated using the LeadSpread model (DTSC 2003)

Site 5 Risk Drivers and Human Health Risk Assessment Summary

BRAC PMO WEST

Risk Numbers:

Cancer Risk to Residential Receptors from soil 0-8 feet bgs:
Adult = 1×10^{-4} Child = 9×10^{-5}

Noncancer Risk to Residential Receptors from Soil 0-8 feet bgs
Adult = 10 Child = 100

Soil Risk Drivers:

- Arsenic
- Thallium
- Organic Lead
- PCE
- TCE
- n-Nitroso-di-n-propylamine

Arsenic and thallium are statistically similar to background concentrations, organic lead was detected in only one sample from a storm drain and not detected in any soil samples.

Recommendation:

Soil is recommended for further evaluation in an FS to address risks posed by PCE, TCE, and n-Nitroso-di-n-propylamine

Site 10 Risk Drivers and Human Health Risk Assessment Summary

BRAC PMO WEST

Risk Numbers:

Cancer Risk to Residential Receptors from soil 0-8 feet bgs:
Adult = 8×10^{-6} Child = 6×10^{-6}

Noncancer Risk to Residential Receptors from Soil 0-8 feet bgs
Adult = 0.2 Child = 0.9

Soil Risk Drivers:

- Arsenic

Arsenic is statistically similar to background concentrations.

Recommendation:

Soil is not recommended for further evaluation in an FS because arsenic is attributed to background.

Site 12 Risk Drivers and Human Health Risk Assessment Summary

BRAC PMO WEST

Risk Numbers:

Cancer Risk to Residential Receptors from soil 0-8 feet bgs:

Adult = 8×10^{-6} Child = 6×10^{-6}

Noncancer Risk to Residential Receptors from Soil 0-8 feet bgs

Adult = 0.3 Child = 2

Soil Risk Drivers:

- Arsenic - Iron

Arsenic and iron are statistically similar to background concentrations.

Recommendation:

Soil is not recommended for further evaluation in an FS

OU-wide Groundwater Risk Drivers and Human Health Risk Assessment Summary

BRAC PMO WEST

Risk Numbers:

Cancer Risk to Residential Receptors from OU-wide Groundwater:

Adult = 1×10^{-2} Child = 6×10^{-3}

Noncancer Risk to Residential Receptors from OU-wide Groundwater:

Adult = 30 Child = 70

Risk Drivers:

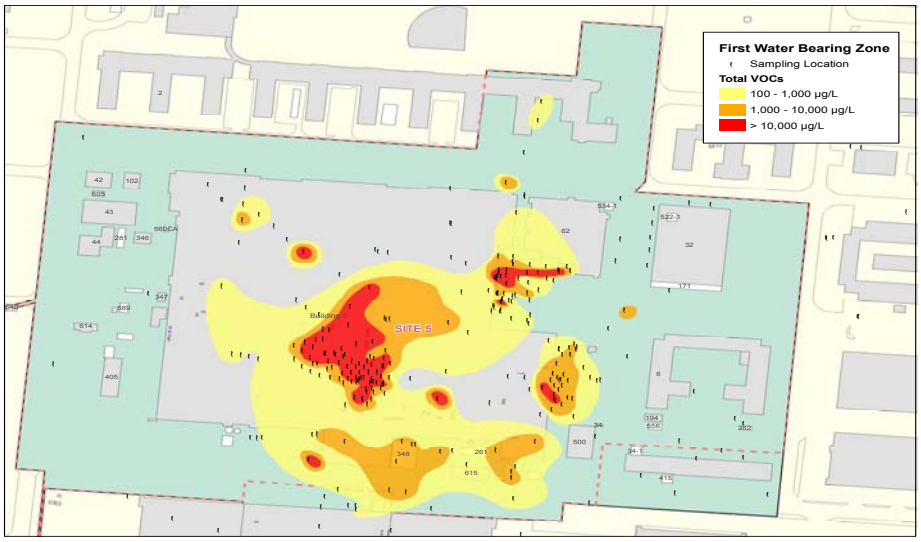
1,1,1-TCA	1,1-DCA	1,2,4-trimethylbenzene
1,1-DCE	1,2-DCA	1,2-DCE (total)
Benzene	Bromomethane	Carbon tetrachloride
Chloroethane	Chloroform	Cis-1,2-DCE
Isopropylbenzene	Naphthalene	n-Propylbenzene
PCE	TCE	Vinyl chloride

Recommendation:

Groundwater is recommended for further evaluation in an FS to address risks posed by carcinogenic and noncarcinogenic risk drivers.

OU-wide Groundwater FWBZ Plume Map

BRAC PMO WEST



OU-wide Groundwater SWBZ Plume Map

BRAC PMO WEST

Screening-Level Ecological Risk Assessment (SLERA) Conclusion

BRAC PMO WEST

- No ecological habitat capable of supporting significant terrestrial wildlife is present at Site 5, 10, or 12
- No complete exposure pathways are present for terrestrial ecological receptors at Site 5, 10, or 12. Therefore, environmental risk is negligible.
- Exposure pathways for aquatic receptors were considered complete because storm drains discharge into the Seaplane Lagoon and Oakland Inner Harbor, and groundwater flows toward the Seaplane Lagoon and Oakland Inner Harbor
- Potential ingestion and absorption of chemicals in groundwater may pose a risk to aquatic receptors. Therefore, there is potential environmental risk to aquatic receptors

Site 5, 10, 12 TPH Assessment Conclusions & Recommendations

BRAC PMO WEST

Site	Media	Meets Water Board criteria for low-risk fuel site closure	Evaluation	Further Evaluation under the TPH Program
5	Soil	No	Floating product & TPH fraction of xylene exceed remediation criteria	Yes
10	Soil	No	Floating product & TPH fraction exceed remediation criteria north of Building 400	Yes
12	Soil	Yes	No total TPH concentrations exceed floating product screening criterion (14,000 mg/kg) or preliminary remediation criteria.	No

Schedule

BRAC
PMO WEST

Comments …….	September 29, 2005
Submit Draft Final RI Report ……	November 28, 2005
Final RI Report …….	December 28, 2005

ATTACHMENT B-3

ATSDR PUBLIC HEALTH ASSESSMENT PRESENTATION
(EIGHT PAGES)

ATSDR

Agency for Toxic Substances and Disease Registry

ATSDR's Mission

To serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances.

ATSDR's Mandating Statues

- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, Superfund)
- Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Resource Conservation and Recovery Act Amendments of 1984 (RCRA)
- Medical Waste Tracking Act 1988

Purpose of Public Health Assessments

- Identify Human Exposure
- Evaluate Human Health Hazard
  (cancerous and non-cancerous effects)
- Identify Environmental Data Gaps Needed
- Recommend Actions Needed to Stop, Prevent, or Reduce Human Exposure
- Determine Needed Follow-up Activities

Alameda PHA

Various Locations Evaluated

- Indoor Air
- Soil and Sediments
- Fish

Concluded:

No Apparent Public Health Hazard

Top 3 Community Comments

- Why has it taken you so long?
- How can you say there is no hazard when EPA, the State, and even the military says there is?
- If you say there is no hazard, why do we spend tons of money to clean it up?

CC1: Why so long?

- Bureaucracy
- Resources
- Hazard Concerns

Hazard Dependent On

Many Different Things:

Chemical form in the environment
How it gets into your body
How much gets into your body
How long you are exposed

Hazard Concerns

- Physical Hazards
- Drinking Water
- Indoor Air
- Fish
- Soil/Sediments

CC2: How can you say there is no hazard at a site when EPA, the State, and even the military says there is a risk?

- Different Process, Different Purpose
- Risk Assessment v. Health Assessment
- Mathematical v. Weight-of-Evidence

Risk Assessment vs Health Assessment

Risk Assessment

- Over estimate exposure
- Comparison with values from one animal study (extrapolated)
- Environmental, human health, and economic impact
- To Determine Clean -up

Health Assessment

- More realistic exposure estimates
- Weight of evidence approach using many human and animal studies
- Human health impact
- Advise people

Risk vs Hazard

Identify exposures likely to make people sick so that they can get medical help, stop further exposure that may be harmful in the future, recommend additional health measures (studies, registries, education, biological sampling)

CC3: If you say there is no hazard, why do we spend tons of money to clean it

- Assumptions
- Land and Water Use Changes
- Contaminant Movement
- EPA, State Environmental Laws to Protect Plants, Animals, and People

Further ATSDR Work

- PHA
- Outstanding Issues
  - Vapor Intrusion in Housing and Professional Use Buildings (various locations)
  - Fish
  - Daycare and Elementary School Areas

For Additional Information

- Carole Hossom 404-498-0372
- ATSDR Web Site www.atsdr.cdc.gov
- ATSDR Region 9
  75 Hawthorne St., Suite 100, M/S:HHS-1
  San Francisco, CA 94105
  Libby Vianu **415-947-4319**
- ATSDR Hotline 1-888-422-8737

ATTACHMENT C

Comments dated June 8, 2005, on Site 1 and Site 2 Radiological Characterization Report; and, comments dated July 25, 2005 on Site 1 Feasibility Study Report; provided by Ms. Dale Smith, RAB, to Ms. Claudia Domingo, BRAC PMO West.
(Four Pages)

Claudia Domingo
Remedial Project Manager/ Alameda Team
BRAC Operations
1230 Columbia Street, suite 1100
San Diego 92101

8 June 2005

Re: Comments on the Site 1 and Site 2 Radiological Survey Characterization Report, Alameda Point, Alameda, CA

Dear Ms. Domingo,

General Comments

While it is understood and appreciated that to include all referenced documents as appendices for future readers to review, it does make reviewing documents difficult, as there is no way to check what had been previously reported. Perhaps a CD could be included if the referenced documents are not that extensive.

When referring to previous investigations for information, it is most helpful to cite those documents so that the reader can review the source of information.

Specific comments for Site 2

2-5 The document states that only radium-226 and -228 were investigated. Yet it is acknowledged that uranium was detected. Is it not true, then, that uranium was also investigated? Also, why was ^{90}So and ^{60}Co not investigated? During the review of the Feasibility Study for remediation of the contamination in the trenches that will underlie the golf course, every water sample analysed contained some form of radiation contamination. This document states that the water is clean. How can these two documents come to the opposite conclusion?

If uranium has been detected in soil samples, how can it be assured that uranium is not in the groundwater and affecting aquatic life?

2-6 PRC conducted the initial survey of the site and did not investigate groundwater. Additionally, radiological investigations were not included in the survey. This can lead to inaccurate conclusions in this document as to the extent of contamination.

3-9 It is very unfortunate that the investigation had to be conducted during nesting season. Greater care should be taken in the future to avoid doing so.

3-17 A thorough UXO survey was performed in 2001. Given that the Least Tern area has been found to have contamination that required time critical removals due to a lack of investigation, was the Least Tern area investigated for UXO?

DALE SMITH
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Specific comments for Site 1

2-2 It is stated that waste was pushed into open waters of the Bay to build the island. No reference is given for where this fact was found.

It also leads to the assumption that contamination could be further below ground surface than two feet; yet, the investigation will not go that deep.

2-7 Some trenches are eight feet below ground surface and could be in contact with ground water. Two anomalous sites may be under water at high tide. How can the consultant be sure that the contaminants have not entered the Bay?

We appreciate the opportunity to review and comment on these documents.

Yours

Ms. Dale Smith
RAB member, Sierra Club and Audubon Society, Golden Gate Chapter

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Claudia Domingo
Remedial Project Manager/ Alameda Team
BRAC Operations
1230 Columbia Street, suite 1100
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25 July 2005

Re: Comments on the Site 1 Feasibility Study, Alameda Point, Alameda, CA

Dear Ms. Domingo,

General Comments

The depth of excavation for each of the alternatives is not clearly stated. There is some implication that in some cases excavation would extend below groundwater.

Piling waste in one area without barriers is a very poor solution. It is possible to have groundwater intrusion from the sides as well as from above. This would permit contamination to migrate to the bay. It doesn't appear that the repository has been evaluated for its impact on the golf course or the environment. This is worrisome especially considering the enormity of the waste pile proposed. It would seem that by increasing the amount and types of contamination that potential exposure could be higher, but this does not appear to be addressed.

Using short-term environmental impacts to reduce the score is shortsighted. Just because trucks would be moving through Alameda Point for some time does not justify a lower score. The shortterm impact is much less than the longterm impact of leaving the contamination on site. If this logic were used elsewhere in the Bay Area, there would be no new construction, as the shortterm impact of truck movement would outweigh the benefit of more housing or office space.

The size of the maximum earthquake is not stated. Various projects that require EIRs in the Bay Area are using different intensities. It would be helpful if the magnitude considered for were identified.

There seems to be a possible lack of coordination among the various programs that will occur at Site 1, resulting in an unnecessary redundancy and duplication of effort.

There was no acknowledgement that the City prefers to install a golf course on the site. The Navy has repeatedly stated that remediation alternatives are responsive to the proposed reuse. The preferred alternatives do not facilitate the building of a golf course.

In a personal conversation with Cal DTSC (David Rist), it was explained that investigations as to the type and quantity of contaminants are driven by the expected or suspected contaminants. This and other documents repeatedly refer to investigations of Cesium, Strontium and Cobalt. Every monitoring well sampled has shown radioactive contamination. The Navy has not been forthright in why there are these investigations and what the suspect source or causes of contamination are.

By storing different types of waste together and in contact with each other can in certain situations lead to chemical reactions. This possibility is not discussed.

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Given the casualness with which DoD ignores radioactivity, reuse and contaminant containment issues in a concerted effort to rush to a cheap clean up and closure, the wetlands mitigations proposed become suspect. There is no discussion of a basic policy or practice that will be followed, as there are for other remediation projects.

Specific comments for Site 1

2-2 It cannot be determined from the maps the locations of runways 13-31 or 7-25. Also the radiological trench is identified as adjacent to a rifle range that is not on the map. Because of the likelihood that the site will be the source of continued investigation, such signposts will be helpful to later investigations.

2-5 The text mentions a soil-stained area, but it is not shown in Figure 2-8.

2-10 It is stated that sludge build-up is inhibiting the effectiveness of the ZVI process. Seeing that there is no golf course there yet, why not clean the system?

4-32 It is not stated that dredge spoils have to meet clean soil standards. Will the Navy be testing dredge spoils for cleanliness?

6-64 An engineered cap is preferable to a soil cover; however, placing so much other hazardous material there reduces its preference over complete removal. The scoring criteria do not consider this problem.

Preferred remediation

A dump will always create problems for future users. The price of anything rarely falls and if it does, only for a little while. It is by far the most preferred remediation for complete removal of all contamination to below the water table, especially since this part of the island was open water originally. Given the Navy's reluctance to assume responsibility for past misdeads the following are the very least that should be considered:

Groundwater – Alternative GW4

Soil
Area 1 – S1-3
Area 2 – S2-4
Area 3 – S3-5
Area 4 – S4-2
Area 5 – S5-6

Radiological – S6-5

We appreciate the opportunity to review and comment on these documents.

Yours

Ms. Dale Smith
RAB member, Sierra Club and Audubon Society, Golden Gate Chapter

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