**FLEET AND INDUSTRIAL SUPPLY CENTER OAKLAND**
**ALAMEDA FACILITY/ALAMEDA ANNEX (FISCA)**
**RESTORATION ADVISORY BOARD**
**MEETING MINUTES**

**JULY 13, 2005**

These minutes summarize the discussions from the meeting of the Restoration Advisory Board (RAB) for the Fleet and Industrial Supply Center (FISC) Oakland Alameda Facility/Alameda Annex. The meeting was held in the Alameda Point Main Office Building (Building 1) on July 13, 2005. The agenda and sign-in sheet are included as Attachment 1. The following participants attended the meeting:

**Co-chairs:**

| | |
|---|---|
| Ken Hansen | RAB Community Co-Chair |
| Thomas Macchiarella | Base Realignment and Closure (BRAC) Program Management Office (PMO) West, Navy Co-chair |

**Attendees:**

| | |
|---|---|
| Nancy Cook | California Environmental Protection Agency of Department of Toxic Substances Control (DTSC) |
| Judy C. Huang | San Francisco Bay Regional Water Quality Control Board (Water Board) |
| Joan Konrad | RAB |
| Kevin Mucha | Environmental Resource Management (ERM) |
| Darren Newton | BRAC PMO West |
| Lou Ocampo | BRAC PMO West |
| Jean Sweeney | RAB |
| Jim Sweeney | RAB |
| Hannah Thompson | Sullivan International, Inc. |
| Henry Wong | DTSC |

## 1.0 WELCOME AND INTRODUCTIONS

The meeting began with introductions and a review of the agenda (see Attachment 1).

## 2.0 APPROVAL OF MEETING MINUTES

Mr. Hansen requested comments and proposed changes to the RAB meeting minutes from the last quarterly meeting, held on April 13, 2005. There were no comments, and the minutes were approved as written.

## 3.0 CO-CHAIR ANNOUNCEMENTS

Mr. Macchiarella described a new Navy website that will provide community relations information regarding Alameda Point and Alameda Annex as well as the information that was available on the former website. The new website is: www.navybracpmo.org.

Mr. Macchiarella announced that Mr. Newton has been promoted and will be working on other Navy bases in California. He said that the meeting would be Mr. Newton's last for Alameda Annex. The RAB asked Mr. Newton where he would be working. Mr. Newton responded that he would be working in Marine Corps Air Station (MCAS) El Toro and MCAS Tustin, as well as at other locations.

Mr. Hansen asked Mr. Macchiarella if he had heard any more about a bird sanctuary.
Mr. Macchiarella replied that he has no further information except that a newspaper article had identified the Veterans Administration (VA) as being interested in the property that contains the bird sanctuary, mainly the runway and west of the runway. He said that the VA has not made any official notifications of their interest in that property.

Mr. Hansen asked for clarification regarding the future of the bird sanctuary. Mr. Macchiarella, referring to the existing Least Tern area, replied that there has been no official discussion about it, but in his personal opinion, he doubted it would be removed. Mr. Hansen asked who would maintain the bird sanctuary, and Mr. Macchiarella said that he assumed that it would be maintained by another federal agency.

Ms. Konrad asked about the size of the bird sanctuary. Mr. Macchiarella responded that he did not know. Ms. Konrad recalled that it was about 550 acres.

## 4.0 BASEWIDE RAP/ROD UPDATE

Mr. Ocampo distributed an updated project schedule (Attachment B-1) for the basewide remedial action plan (RAP)/record of decision (ROD), excluding the plume of benzene.

Mr. Ocampo said that the project schedule is not final and could change. Mr. Hansen asked if the milestone dates that have passed are accurate. Mr. Ocampo replied that they are accurate.
Mr. Wong recommended that the July 6, 2005, deadline be changed to July 15, 2005. Mr. Hansen asked if the next RAB meeting would be held before October 16, 2005. Mr. Macchiarella replied that the next RAB meeting will be held on October 12, 2005, and that the draft proposed plan, the draft public notice, and the pre draft RAP/ROD will be submitted by October 16, 2005. Mr. Wong recommended that the schedule specify the title of the document under review to limit confusion.

Mr. Ocampo said that issues regarding polycyclic aromatic hydrocarbons (PAH) were resolved during the June BRAC Cleanup Team (BCT) meeting and so the RAP/ROD can now move forward after completion of the feasibility study (FS). Ms. Sweeney asked if a cleanup that would target PAHs was planned for any areas near the residential housing areas. Mr. Hansen replied that cleanup of PAHs was planned for Alameda Point but not Alameda Annex.

Mr. Macchiarella said that the outline of the schedule could change after the Navy's next meeting with DTSC.

Mr. Macchiarella asked the RAB for comments on the schedule. Mr. Hansen asked Mr. Ocampo if the process is on or behind schedule. Mr. Ocampo replied that the process has been ongoing for a while due to the groundwater benzene plume common to IR Site 25 at Alameda Point and IR Site 02 at the Annex, which was originally included in the schedule but now separated. Also the 1996 RI determinations might be reviewed again by the agencies in the proposed plan. Mr. Hansen asked if the schedule for Alameda Annex differs from the remainder of the base. Mr. Macchiarella replied that the schedule is separate for Alameda Point.

Mr. Ocampo noted that the basewide RAP/ROD is unique and difficult because it is a "fenceline to fenceline" document that encompasses all area within the property. Mr. Macchiarella commented that he predicts few basewide RAP/RODs at other bases in the future because the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process does not require them.. Ms. Sweeney asked if Alameda Annex Installation Restoration (IR) 02 had been combined with Alameda Point Site 25. Mr. Ocampo replied that the sites have been combined for groundwater only because the plume lies beneath both Alameda Point and Alameda Annex.

## 5.0 PRESENTATION OF THE GROUNDWATER PROPOSED PLAN FOR OU-5 (BENZENE PLUME)

Mr. Macchiarella said that the Navy is ahead of schedule to present the proposed plan for Alameda Annex IR02 and Alameda Point Operable Unit (OU)-5 to the public. He added that the proposed plan should be distributed before the next RAB meeting. He continued that the regulatory agencies favor the proposed alternative for groundwater.

Mr. Newton provided a handout on the presentation (Attachment B-2). Mr. Newton said that the upcoming proposed plan for the benzene plume will be about 20 pages and contain the history, remedial action, applicable or relevant and appropriate requirements (ARARs) and the alternatives for cleanup of soil and groundwater. Mr. Hansen asked if the proposed plan will be submitted on August 15, 2005. Mr. Newton replied that it will be submitted on August 15, 2005, provided that the schedule remains as planned.

Mr. Newton pointed out the site location for OU-5 groundwater and said that the benzene plume is independent of the IR boundaries based on the delineation. Mr. Hansen asked if the cause of the plume has been identified and Mr. Newton replied that it has not. Ms. Sweeney asked about the depth of the plume and the extent of cleanup planned. Mr. Newton responded that these questions would be answered in his presentation.

Ms. Konrad commented that the benzene plume extends into IR01 and asked why the map (Slide 3) does not show the extent of the plume. Mr. Macchiarella replied that the map displayed is not detailed but that a series of other maps from the remedial investigations provide more detail. Ms. Konrad expressed concern about development of buildings on IR01 since it is known that the plume extends to that area. Mr. Macchiarella responded that the existence of a plume does not limit all development. He added that the developers are working with DTSC on the construction plans; however, he did not have more specific information for this site.

Mr. Hansen asked if the plume will be cleaned up entirely. Mr. Newton responded that it will be completely cleaned. Mr. Macchiarella said that the overall goal is to clean up the benzene in groundwater to a level of 1 part per billion (ppb). Mr. Hansen asked about the depth of the plume, and Mr. Newton replied that it is at 12 feet below ground surface (bgs). Mr. Hansen asked if there were any organisms in the groundwater, and Mr. Macchiarella replied that it is apparent that microbes capable of degrading the benzene are present.

Mr. Newton discussed the cancer and noncancer risk posed by contaminants in groundwater. He said that the groundwater is not acceptable for use as drinking water based on the cancer or noncancer risk. He said that the acceptable cancer risk range is from $10^{-4}$ to $10^{-6}$, so that the groundwater is in the acceptable range for uses other than drinking water. Mr. Newton added that groundwater risk for uses other than drinking water was also below the noncancer hazard index risk range.

Mr. Newton said that the preliminary remediation goal (PRG) for benzene is 1.0 microgram per liter (μg/L) and the health advisory concentration for naphthalene is 100 μg/L.

Mr. Hansen commented that a water well could be installed in the area and the groundwater used for drinking water. Mr. Newton responded that a permit is needed for a well to be drilled. Ms. Konrad and Mr. Hansen speculated that water wells could also be developed for landscaping irrigation. Mr. Newton introduced the remedial alternatives retained in the feasibility study:

1. No action.
2. Monitored natural attenuation (MNA) with institutional controls.
3. Biosparging with soil vapor extraction (SVE), MNA, and land use controls.
4. Biosparging with SVE, nutrient and microorganism enhancement, MNA, and institutional controls.
5. Air sparging with SVE, MNA, and institutional controls.
6. Pump and treat with MNA and institutional controls.

Mr. Newton noted that the Navy was not in favor of Alternative 6. Mr. Hansen added that it would be noisy.

Mr. Newton presented the conceptual design of the sparging systems specified in Alternatives 3, 4, and 5. He said that air is moved to increase bioactivity and move vapor out when conducting air sparging. He said that this design has the potential not to capture all the vapors in the extraction wells and could pose health risks to neighboring residential areas.

Mr. Newton said that biosparging moves a minimal amount of air and increases bioactivity. Ms. Sweeney asked about the potential for risk from methane using the biosparging method. Mr. Newton replied that methane may pose some slight risk. Mr. Macchiarella said that when oxygen supplies are low, anaerobic decay could release methane. Ms. Sweeney asked if the risk of a release of methane is increased if oxygen is added. Mr. Macchiarella responded that the anaerobic decay would be converted into aerobic decay if oxygen is added; the byproducts would be carbon dioxide ($CO_2$) and water, but not methane. Therefore, biosparging would be a better alternative.

Ms. Sweeney voiced concern that methane releases could seep into residential basements. Mr. Newton said that there is a possibility that methane would be a byproduct of the process and that it could enter basements, but that the probability is extremely low. Mr. Macchiarella said that biosparging should not release methane since it encourages an aerobic degradation, which does not have methane as an endpoint.

Mr. Ocampo asked if a permit is needed to install a biosparging system. Mr. Macchiarella responded that any vapors that are brought to the surface would require a permit from the Air Quality Management Board.

Mr. Newton presented the approximate locations of the biosparge zone based on "hot spot" areas. Ms. Sweeney asked if the area would be evacuated while the biosparging system is installed. Mr. Macchiarella responded that no evacuation would be required because it is under ground. Mr. Hansen asked if it would be implemented for 8 years, and Mr. Newton responded that the estimated time of the remedy, both biosparging and monitored natural attenuation is approximately 8 years.

Mr. Hansen asked if the Navy uses or is considering the use of the most recent remediation technologies. Mr. Newton said that the technologies used are current. Mr. Hansen also asked if the Army and the Air Force share environmental information. Mr. Newton replied that the BRAC office shares information with other military branches and that remedial project manager (RPM) forums address the latest technologies and lessons learned on projects. Mr. Macchiarella said that NAVFAC's sister agency is a technical clearinghouse and provides information to all remedial project managers.

Ms. Konrad asked which of the retained alternatives was preferred. Mr. Newton responded that Alternative 4 was preferred. Mr. Hansen asked about the acreage of the project, and Mr. Newton responded that it was 85 acres. Ms. Sweeney asked about the actions that will occur after the 8 years of biosparging are complete. Mr. Newton responded that the Navy hopes remediation will be complete in 8 years.

Mr. Newton said that the plan was submitted for agency review on May 31, 2005, and that the Navy is expecting comments on July 15, 2005. He noted that the proposed plan is expected to be finalized August 15, 2005.

Mr. Macchiarella noted that the site management plan (SMP) is being revised based on agency comments. Mr. Newton added that the draft ROD is anticipated in October 2005. Ms. Sweeney asked Mr. Wong if he sees any potential problems with the schedule. Mr. Wong replied that he will discuss scheduling at the DTSC meeting.

Mr. Macchiarella agreed that the schedule could be confusing because it includes both soil and groundwater. He said that he believes the portion of the proposed plan for soil will take more time to address than the groundwater portions.

Mr. Macchiarella pointed out that the Navy has also addressed public participation with the regulatory agencies. Mr. Macchiarella noted that the public can comment on the reports during the public comment period.

Mr. Newton stated that the actual proposed plan is not final and thus is not available as a handout. Mr. Hansen asked if the schedule was correct. Mr. Newton replied that it is currently correct and could remain correct, depending on the comments by the regulatory agencies.

## 6.0 BCT ACTIVITIES

Mr. Hansen said that the next RAB meeting will be held October 12, 2005. He requested that the date be added to the agenda.

Mr. Sweeney asked about the status of the storm water pump station. Mr. Mucha responded that the pumps are operating and that work on the outfall is progressing.

Mr. Macchiarella said that a discussion of the RAP/ROD schedule will be on the next BCT agenda. Mr. Ocampo added that the 5-year review is currently under way. Mr. Hansen asked if some of the equipment for the groundwater alternative has yet to be designed. Mr. Newton replied that the equipment is readily available; however, the system itself has yet to be designed. To clarify, Mr. Newton added that remedial design phase requires approximately 1.5 years.

Ms. Sweeney asked if the duties of Alameda Annex RAB will be complete after June 2006. Mr. Hansen said that the Alameda Annex RAB will disband; however, the members of the Alameda Annex RAB are encouraged to also attend the RAB meetings for Alameda Point.

Mr. Macchiarella added that there is a new RAB rule being drafted by DoD and that it includes guidance on RAB sun setting. He stated that there is a good way to end a RAB and a bad way and that this RAB will end the good way. Ms. Sweeney suggested that the Navy bring the RAB back together after the cleanup.

Mr. Macchiarella reminded the RAB of the new BRAC website (www.navybracpmo.org) and said that it will contain public notices, archived meeting minutes, and charters.

Mr. Hansen adjourned the meeting at 11:30 a.m. The next RAB meeting will be held October 12, 2005.

**ATTACHMENT 1**
**AGENDA**

**RESTORATION ADVISORY BOARD (RAB) AGENDA**
**For**
**INSTALLATION RESTORATION PROGRAM**
**At**
**FLEET INDUSTRIAL SUPPLY CENTER OAKLAND**
**ALAMEDA FACILITY/ALAMEDA ANNEX**

July 13, 2005 (10:00 – 11:30 a.m.)
Alameda Point, Main Office Building (Building 1), Room 140
950 West Mall Square
Alameda, California

I. WELCOME AND INTRODUCTION – Ken Hansen, Community RAB Co-Chair, 10:00 am to 10:05 am

II. APPROVAL/REVIEW OF RAB MEETING MINUTES OF April 13, 2005 - Ken Hansen/Thomas Macchiarella, 10:05 am to 10:20 am

III. UPDATE ON CLEANUP PROGRAM AND BASEWIDE RAP/ROD – Lou Ocampo, Navy, 10:20 am to 10:40 am

IV. PRE-VIEW OF THE PROPOSED PLAN FOR GROUNDWATER AT IR-02 & ALAMEDA POINT OU-5
Darren Newton, Navy, 10:40 am to 11:00 am

V. COMMUNITY AND RAB COMMENT PERIOD – Community and RAB 11:00 am -11:20 am

VII. ADMINISTRATIVE ITEMS – Thomas Macchiarella, Navy
11:20 am to 11:30 am
a. Proposed agenda items for the next RAB Meeting
b. Date for the next RAB Meeting

**ATTACHMENT B-1**
**BASEWIDE RAP/ROD SCHEDULE**

**SCHEDULE: BASE WIDE RAP/ROD SOIL AND GROUNDWATER, except Benzene Plume, Fleet and Industrial Supply Center Oakland, Alameda Facility Alameda Annex, Alameda, California**

| TASK NAME | MILESTONE |
|---|---|
| Project Awarded | 05 Jan 2005 |
| Navy submitted RAP/ROD Outline | 23 Feb 2005 |
| Agencies Reviewed | 06 Jul 2005 |
| Navy submits draft Proposed Plan, draft Public Notice, Pre-draft RAP/ROD | 16 Oct 2005 |
| Agencies Reviews | 12 Nov 2005 |
| Navy submits draft RAP/ROD and mail Proposed Plan | 29 Dec 2005 |
| Navy & DTSC conduct Public Meeting (not a fixed date) | 18 Jan 2006 |
| Navy & DTSC resolve Review Comments | 26 Mar 2006 |
| Navy submits draft final RAP/ROD and Responsiveness Summary | 10 Apr 2006 |
| Agencies Review | 10 May 2006 |
| Navy submits RAP/ROD for signature | 23 June 2006 |

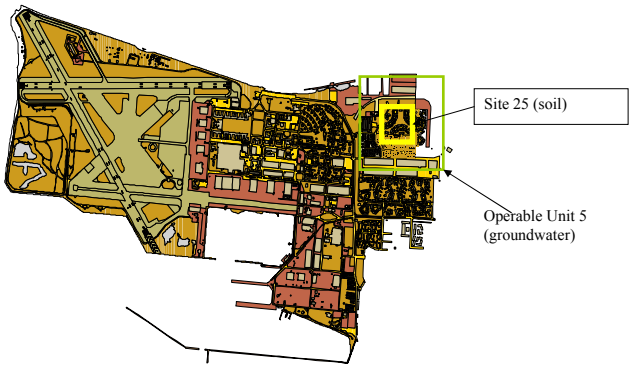
**ATTACHMENT B-2**
**PRESENTATION OF THE GROUNDWATER PROPOSED PLAN FOR OU-5 (BENZENE PLUME)**

# Groundwater Proposed Plan
# OU-5 (Benzene Plume)

Darren Newton
Remedial Project Manager
BRAC Program Management Office West

BRAC
PMO WEST

## Site location




**Alameda Point Showing Location of Site 25 soil and the OU 5 groundwater**

# OU-5 Plume

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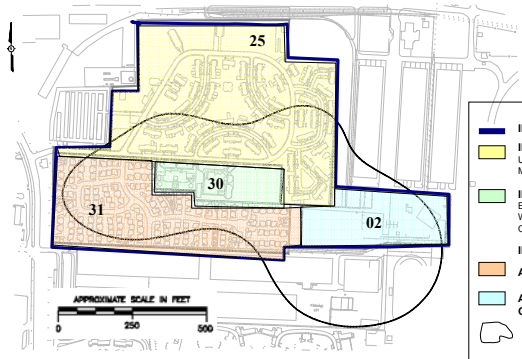


**Layout of OU-5 and Site 25**

# Exposure Pathways

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**Groundwater Pathways**

- Direct contact (dermal absorption)
- Inhalation of contaminants from water (e.g., showering).
- Inhalation of vapors

# Groundwater Risk

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| Cancer and Non-Cancer Groundwater Risks | | |
|---|---|---|
| **Use** | **Cancer Risk** | **Non-Cancer HI** |
| **Drinking Water** | $5x10^{-3}$ to $2x10^{-2}$ | 88 to 145 |
| **Non-Drinking Water** | $1x10^{-5}$ to $3x10^{-5}$ | 0.29 to 0.99 |

# Groundwater RAO/ RO

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**Remedial Action Objective (RAO):** prevent exposure to groundwater contaminants at concentrations that pose an unacceptable risk to human health.

**Remedial Objective (RO):**

- address the concern that contaminated groundwater could be used as a future drinking water supply,
- PRG of 1.0 μg/L for benzene (10-6),
- health advisory concentration of 100 μg/L for naphthalene

# Remedial Alternatives

BRAC PMO WEST

**GROUNDWATER**

The groundwater FS identified six remedial alternatives. All groundwater alternatives were retained for analysis and are summarized:

**Alternative 1 – No Action**.

**Alternative 2 – MNA with Institutional Controls.** (estimated remediation time of 50 years. This alternative is estimated to cost $2,200,000.)

**Alternative 3 – Biosparging with SVE, MNA, and Land Use Controls.** It is estimated that 2 years of biosparging would be required, followed by 7 years of MNA . This alternative is estimated to cost$2,200,000.

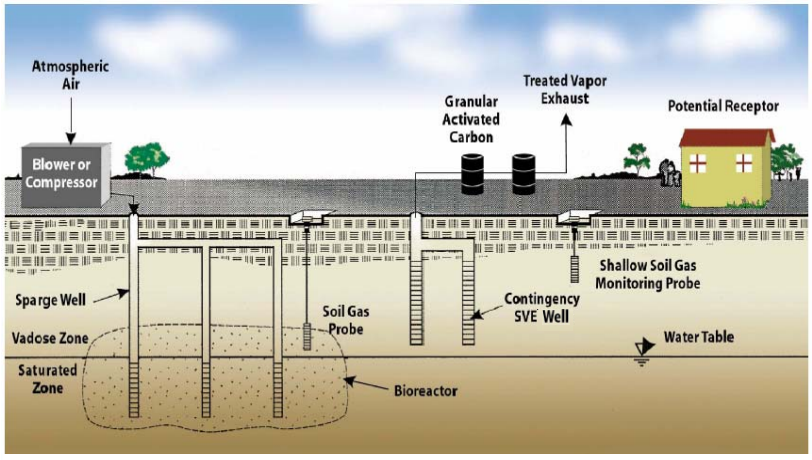
**Alternative 4 – Biosparging with SVE, Nutrient/ Microorganism Enhancement, MNA, and Institutional Controls.** (estimated 8-year period. This alternative is estimated to cost $2,300,000.)

**Alternative 5 – Air Sparging with SVE, MNA, and Institutional Controls**. (estimated to last 8 years and is estimated to cost $2,200,000).

**Alternative 6 – Pump and Treat with MNA and Institutional Controls**. (estimated 15-year period and is estimated to cost$3,200,000)

# Conceptual Design

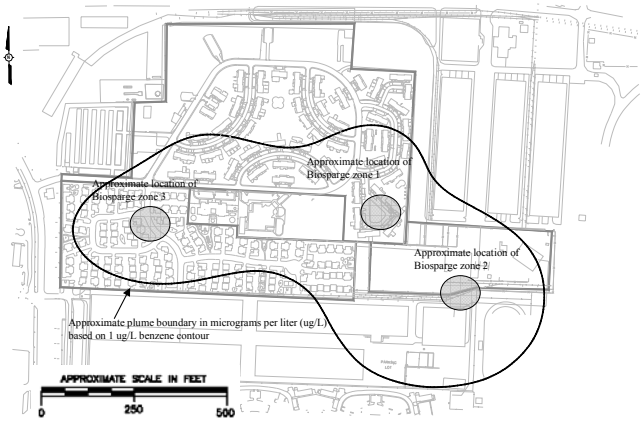
BRAC PMO WEST




**Alternatives 3, 4, and 5 Conceptual Biosparge Design**

# Conceptual Design

BRAC PMO WEST




**Alternatives 3, 4, and 5 - Approximate Biosparge Zone Locations**

# Project Contacts

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Regulatory Agencies

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## Groundwater Proposed Alternative

BRAC PMO WEST

The preferred alternative for groundwater remediation is Alternative 4.

Alternative 4 consists of:
•biosparging with nutrient/microorganism enhancement
•SVE,
•MNA,
•and Institutional Controls.

**Details**

•Estimated 8 year duration
• slowly injecting air into the saturated zone
•maximize biodegradation
•minimizing the release of volatiles to the atmosphere.
•A vapor extraction and treatment contingency
•three "biosparge zones
Approximately 50 biosparge wells and 15 SVE wells
•Monitoring and control and maintenance

## Next Steps

BRAC PMO WEST

- July 15, 2005 – Agencies complete Draft PP review
- August 15, 2005 - Finalize PP and submit for public comment
- September 2005 – Public Meeting
- October 2005 –Draft ROD