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

March 4, 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	Jean Sweeney
Jim Sweeney	Michael John Torrey	

Community Members

Ashley Jones	Gretchen Lipow	Philip Tribuzio

Navy Members

Catherine Haran	Navy Remedial Project Manager (RPM)
Bill McGinnis	Navy Lead RPM
Mary Parker	Navy Project Manager (PM)

City of Alameda Representatives

Frank Matarrese	Alameda City Council
Peter Russell	Alameda Reuse and Redevelopment Authority (ARRA)

Regulatory Agencies

Anna-Marie Cook	U.S. Environmental Protection Agency (EPA)
Dave Cooper	EPA
Melinda Garvey	EPA
John Kaiser	San Francisco Bay Regional Water Quality Control Board (Water Board)
Dot Lofstrom	California Environmental Protection Agency Department of Toxic Substances Control (DTSC)
Xuan-Mai Tran	EPA
John West	Water Board

Contractors

Larry Dudus	Tetra Tech EC, Inc.
John McGuire	Shaw Environmental, Inc. (Shaw)
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 March 2010 former Naval Air Station Alameda (Alameda Point) RAB meeting to order at 6:35 p.m. The group agreed to postpone approval of the February meeting summary to later in the meeting to allow more people to arrive.

I. Co-Chair Announcements

Mr. Robinson noted that the Navy has received constructive comments on the feedback forms that were made available during the January and February RAB meetings. He specifically noted that James Leach (RAB member) had provided good comments, and encouraged the RAB to use the feedback forms. Mr. Robinson added that he reads the RAB comments and feedback forms and that the written comments can be influential.

Mr. Robinson said that the Navy received preliminary results for the Building 5 Time Critical Removal Action (TCRA) conducted for radiologically (RAD) impacted lines. He said the Historical Radiological Assessment (HRA) had identified additional storm drain lines that potentially were associated with Building 5 RAD (radiological) contamination. The Navy collected samples at these additional locations and the results showed the presence of RAD. Mr. Robinson said that the Navy will investigate and clean up the contamination under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Jean Sweeney (RAB member) asked which lines had been identified with RAD contamination. Mr. Robinson said that Lines A, B, and G associated with Building 5 had RAD contamination. Anna-Marie Cook (EPA) added that although the RAD contamination had been found above background levels at the three storm drain lines, the concentrations were lower than the levels seen for the TCRA at the Seaplane Lagoon. Mr. Robinson agreed. George Humphreys (RAB member) asked if the RAD contamination was radium. Mr. Robinson said yes. Ms. Cook said that the source of the radium contamination was the paint shop.

Mr. Robinson said that the Record of Decision (ROD) for Site 24 (Pier Area) is expected to be signed in the March/April 2010 timeframe. The Navy is going through the award process for the remedial design (RD), and the remedial action (RA) will begin in 18 months. Frank Matarrese (Alameda City Council) asked about the budget for the RD/RA work. Mary Parker (Navy PM) said that Navy's preliminary estimate is $4 million.

Mr. Robinson said that the City had asked the Navy to conduct a presentation for the Alameda community. He said that the Navy, regulatory agencies, and RAB had been requested to participate in the presentation. Mr. Robinson said that the proposed date for the presentation is May 6, 2010. The venue is the Mastic Senior Center, and the presentation will be televised. He indicated that May 6th is a RAB meeting day, and proposed to have a short RAB meeting starting at 6 p.m. followed by the public presentation and a question-and-answer session. Mrs. Sweeney thought that a presentation to the public on cleanup work at Alameda is a very good idea. Mr. Matarrese said that this had been discussed during the March 3rd ARRA meeting and noted that the intention for such a presentation was to highlight past, present, and future cleanup work at Alameda Point.

Dale Smith (RAB community co-chair) distributed the *List of Documents Received in January and February 2010* (Attachment B-1).

Mr. Robinson reviewed the action item list (see page 9).

Action Item 2: Ms. Konrad thought that the action item appeared complete, but she noted that this issue might be revisited if necessary.

Action Item 3: Dot Lofstrom (DTSC) said that she would respond via e-mail to the RAB on the status of the Marsh Crust update by the first week of May and provide a map by June 3, 2010.

Action Item 6: Because remedial action at Site 27 is complete, the action item is removed from the list.

Action Item 11: Mr. Robinson noted that the Site 1 groundwater plume letter is included in the minutes as an attachment.

Mr. Humphreys noted that an action item was missed during the February RAB meeting and requested to add it in the March action item list. He added that Mrs. Sweeney wanted to know if the Navy had investigated the car maintenance area and post exchange area at Site 7.

II. Approval of February 2010 RAB Meeting Minutes

Ms. Smith asked for comments on the February 2010 RAB meeting minutes. RAB members provided comments, which will be incorporated into the final set of minutes for February 2010.

The following comment was provided by Mr. Humphreys:

- Page 6 of 10, section III, first full paragraph, ninth sentence, "Ms. Smith said she suspects there are more fuel drums near the Least Tern sanctuary." will be revised to "Ms. Smith said she suspects there are more fuel tanks near the Least Tern sanctuary."

The following comment was provided by Mrs. Sweeney:

- Page 10 of 10, list of action items, action item #5, "Provide information on any investigations of the firing range near the officer's club" will be revised to "Provide information on any investigations of the firing range near the officer's housing area."

The following comments were provided by Ms. Smith:

- Page 5 of 10, "Bay Trail" is a proper noun; hence it needs to be capitalized in the minutes.

- Page 6 of 10, section III, first full paragraph, seventh sentence, "Mr. Robinson requested that Ms. Smith provide comments on the ESI work plan" will be corrected to "Mr. Robinson requested that Ms. Smith provide additional comments on the ESI work plan."

- Page 7 of 10, section IV, second paragraph, last sentence, "…posting it on line and in newspapers…" will be corrected to "…posting it on-line and in newspapers…."

- Page 8 of 10, section VI, sixth paragraph, second sentence, "…the city has cleaned vacuumed out the sediments…" will be revised to "…the city has vacuum cleaned the sediments…."

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

III. Plume 5-3 RACR

Mr. Robinson introduced Catherine Haran (Navy Remedial Project Manager) to begin the presentation on *Final Removal Action Completion Report (RACR) Installation Restoration Site 5, Plume 5-3* (Attachment B-2).

During the presentation, Mrs. Sweeney asked if the ground remains hot and if so, will the heat act to further clean up the contamination. Ms. Haran said that temperatures drop quickly after the system is shut down; after 4 months, the temperature drops to 50 degree Celsius (ºC); after 1 year, the temperature drops to nearly ambient levels (29 ºC). Ms. Smith asked when the program had started. Ms. Haran said that the first phase started in September 2006. Ms. Haran noted she joined this project during its third phase, which was from November 2008 through March 2009.

Mrs. Sweeney asked what was learned from all three phases given that this was a new technology. Ms. Haran said that this technology is the most cost effective when treating source zone areas. Ms. Haran said that with respect to implementation of the technology, the contractors were able to make design changes in between each phase to enhance the heating, especially if there were areas of the plume that were not getting as hot. Mr. Humphreys asked if concentrations had rebounded since the system shut down. Ms. Haran replied that the rebound sampling had occurred 3 months after completion of the third phase, therefore, assessing rebound in the third phase may take a bit more time. However, the 2nd and 3rd phases were sampled for rebound 28 and 15 months after heating, respectively and results showed very little rebound. She added that after the active heating was discontinued, the concentrations after heating continued to decline for a while because the subsurface is still hot. The Navy also continued to run the vapor extraction system longer than the heating system, thus continuing to extract the vapors. Ms. Cook added that the technology used at Plume 4-2 had been slightly different from the technology used at Plumes 5-1 and 5-3. The contractor (Shaw) had used drilled electrodes at Plume 4-2 rather than sheetpiles as was used at Plumes 5-1 and 5-3. Ms. Haran said that the technology had been effective in all three plumes, and a separate completion report was issued for each of the three plumes.

Ms. Smith said that a water leak had been discovered and asked about the reason for the leak. Ms. Haran said that the Navy was not able to confirm a leak, but only suspected that there was a leak because the treatment system was not able to achieve subsurface temperatures that were as high as temperatures achieved in other areas. She added that the suspected water leak did not appear to hamper contaminate remediation. Ms. Smith noted that the concentrations had been fairly low in that area, which she believed was due to dilution. Ms. Haran acknowledged that the concentrations in that area could possibly have been diluted due to a leak and although a temperature of 90 degrees Celsius (ºC) was not achieved, the area was able to be heated sufficiently for volatilization of the DNAPL and ultimately treated the area. She added that the rebound sampling had not shown concentrations above 10,000 micrograms per liter (µg/L). Ms. Smith asked if the leak still continues. Ms. Haran said the Navy has never confirmed that there was a leak, but Shaw's assumption was that the colder temperatures may have been due to a slow leak. Ms. Smith said that she was concerned about the leak. Ms. Haran acknowledged the concern and said that the intent of this project was to reduce immediate risk to human health and

the environment, and that any further investigation or remedial action would continue under the OU-2C FS.

Ms. Smith recalled that the regulators had been concerned about the Navy using hydropunch borings instead of monitoring wells to collect post-treatment samples. The results had differed depending on whether or not a full-blown monitoring well was utilized versus hydropunch. Ms. Smith added that Shaw (Navy contractor) had apologized and indicated that this was due to limitations in funding. Ms. Smith said that in a response to an EPA comment, the Navy had indicated that the ganglia would continue to be a problem, and were not being treated. Ms. Haran explained that ganglia are pockets of DNAPL which attach to soil as the DNAPL moves downward in the subsurface, and clarified that the technology used was very effective in treating these ganglia. She clarified that the EPA comment was inquiring as to why the hydropunch data had been much higher than the monitoring well data, and the Navy's response was that higher concentrations had been encountered via hydropunch sampling because hydropunch sampling is a more discrete sampling method and must have come in near contact with some DNAPL ganglia. Ms. Cook explained that different methods of sampling yield different information on locations and levels of contamination. Monitoring wells are good for detecting trends, while hydropunch involves discrete samples of groundwater. Generally, hydropunch indicates higher concentrations than monitoring wells because it does not have a big screen contributing to dilution. Ms. Cook said that flushing water through a low permeability zone containing ganglia is much less successful than heating technology, which changes the DNAPL into a vapor phase that is easily extracted.

Mr. Humphreys asked whether Plumes 5-2 and 5-4 are part of this RACR. Ms. Haran said that Plumes 5-2 and 5-4 are present but did not pose great enough risk to human health or the environment to be included in the removal action; hence they are not included in this RACR.

IV. Site 25 Groundwater

Mr. Robinson introduced Mary Parker (Navy Project Manager) to begin the presentation on the Site 25 groundwater remediation system. Ms. Parker distributed the presentation handout (Attachment B-3). She introduced Larry Dudus (Tetra Tech EC, Inc.) as the Navy contractor working on the Site 25 groundwater remediation system project.

During the review of slide 14, Michael John Torrey (RAB member) asked how long the Navy is planning to conduct biosparging. Mr. Dudus said that because a performance-based remedy had been selected for Site 25 groundwater, the biosparging would run until the remedial goals are achieved. Annual and rebound sampling will be performed to determine whether remedial goals are being achieved. Mrs. Sweeney noted the ROD states that the biosparging will run for 8 years. Ms. Parker agreed that the initial estimate for the remediation was 8 years, but said that the timeline for running the biosparge system is subject to remedy performance.

Mr. Humphreys indicated sample BZMW2 was an outlier and asked if Mr. Dudus knew the reason. Mr. Dudus said that he did not know the reason. He said that the benzene concentration in the sample had increased while the naphthalene concentrations had decreased. He added that

the next round of sampling would give more information. Mr. Humphreys asked about the cost of the estimated cleanup. Ms. Parker said the cost is around $8 million.

Joan Konrad (RAB member) asked how the contaminants could affect the residents. Ms. Parker replied that this system is used to decrease benzene and naphthalene concentrations in the groundwater. The risk due to the contamination is either through the vapor pathway or the drinking water pathway. Ms. Parker said that because the contaminants are very deep, the residents are safe. In addition, the Navy has installed a vapor extraction system as a precautionary measure. She added that because the groundwater is not used for drinking or any other purpose, no risk is posed to the residents.

Gretchen Lipow (community member) noted that when Shinsei Gardens was built there had been a story in a local newspaper about the installation of pipes to extract vapors. She wanted to know if this story was true and whether such a vapor extraction system still exists in that area. Ms. Lofstrom said that the vapor intrusion mitigation system had been installed on request by DTSC. She added that this passive system had been installed as an extra precautionary measure and still exists. The data resulting from use of this system are evaluated annually.

V. Basewide Radiological Work Plan

Ms. Haran started her presentation on the *Draft Work Plan for Basewide Radiological Surveys* (Attachment B-4). She noted that "MARSSIM" stands for Multi-Agency Radiation Survey and Site Investigation Manual.

Mrs. Sweeney said she expected more areas and surroundings at Alameda Point to be surveyed apart from the buildings. Ms. Haran said that this work plan (WP) had been planned since the HRA was completed in 2007, and was not a response to the latest RAB comments. She added that if the surveys indicate potential contamination outside the building, the Navy would survey those areas as well.

Mr. Humphreys requested that Ms. Haran provide him with a copy of the MARSSIM manual. Ms. Haran agreed to send him a hard copy of the manual.

Ms. Smith provided the Navy with the RAB comment letter on the WP for the basewide RAD surveys (Attachment B-5). Mr. Robinson stated he appreciates the RAB taking time to make comments, and said that the Navy will respond to the RAB's comments. Ms. Haran said that this WP covers only buildings. Potential RAD contamination issues at other sites like Sites 1, 2, 32, and 33 will be covered in their respective CERCLA actions. Mr. Mataresse asked Mr. Robinson if he could inform the RAB and ARRA in his comment response as to how the Navy Nuclear Propulsion Program will be evaluated. Mr. Robinson said he would do so.

VI. BCT update

Ms. Lofstrom noted that the Navy, EPA, and DTSC had met with the Nuclear Regulatory Commission (NRC) this week. Ms. Lofstrom said that she had communicated the RAB's concern about the RAD anomaly found near the Seaplane Lagoon and the RAB's request to conduct a thorough investigation. She added that the NRC had acknowledged this concern.

VII. Community and RAB Comment Period

Mr. Humphreys said that the Navy will excavate to a depth of 2 feet at Site 24, and noted an earlier dispute with Pat Brooks (Former Navy RAB Co-chair) on sedimentation rate. He added that the RAB believes contamination is present as deep as 6 feet. He asked Mr. Robinson to provide more information on that. Mr. Robinson said that the Navy is sampling 2 feet deeper than anything found prior to development of the Site 24 WP. Ms. Parker said that as part of the Site 24 feasibility study (FS), the Navy had planned to go to a depth of 5 or 6 feet and added that this is carried through the ROD as the pre-design and pre-remediation sampling. In addition the Navy will verify the lateral extent prior to dredging.

Mr. Humphreys said that the RAB had raised a question about a large sewer line which runs in the east-west direction in the vicinity of a plume under Site 25. He asked if that sewer line had any influence on the plume. Ms. Parker said that the Navy had collected numerous samples in that area and studied the tidal influence to determine the effect of the sewer line on the plume. It was found that the sewer line did not affect the plume. Mr. Humphreys said that his notes from the draft final remedial investigation (RI) of July 2002 indicated the presence of a benzene plume 500 feet long and a naphthalene plume 2,000 feet long. He added that the Navy is trying to clean up the benzene plume and assumes that the naphthalene plume will be removed along with the benzene plume. He thought that this approach might not work if the naphthalene plume is larger than the benzene plume. Ms. Parker clarified that the Navy is monitoring both plumes. She also noted that although the shapes of the two plumes might differ, the benzene plume is larger than the naphthalene plume. Ms. Cook said that the ROD calls for both contaminants to be cleaned up and has remedial goals for both. She added that because the plumes are co-located, the location of the remedial action allows benzene and naphthalene to be cleaned up concurrently. Mr. Humphreys said that the 2002 RI indicated that the naphthalene plume was four times longer than the benzene plume. Ms. Cook said that the 2002 RI had been superseded by the remedial design sampling information. Mr. Humphreys said that the 2002 RI stated that methyl tertiary butyl ether (MTBE) had been detected in the plume. Mr. Robinson said that he would look into the MTBE issue. Ms. Cook said that the plume under Site 25 does not have a petroleum issue.

Ms. Smith said that the EPA had requested an update on the Bay Trail. Ms. Smith said that she had contacted the U.S. Department of Veterans Affairs (VA) and the U.S. Fish and Wildlife Service (FWS). She said that the FWS appeared to oppose the inclusion of the public in a Federal-to-Federal discussion. On approaching the City of Alameda with the issue, Ms. Smith stated they did not appear to view it as a high priority. Ms. Smith noted that the government agencies appear to be shutting out the public in regard to the Bay Trail issue. Ms. Smith said that the RAB does not have any say in the decision process and will need to accept whatever decision

is made. Mr. Matarrese said that ARRA is extremely interested in having a Bay Trail and this issue is of high priority. He added that the City is not shutting out public opinion on the issue, and encouraged the public to be involved with the Bay Trail.

VIII. Meeting Adjournment

The meeting was adjourned at 8:40 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/ April 1, 2010.	RAB	Mr. Robinson
2. Informal discussion on "Methods of RAB communication of remedial work at Alameda to the community."	2./ Completed (See page 3 of 10)/NA	Ms. Konrad	Ms. Lofstrom
3. Provide the RAB with the latest map on the extent of Marsh Crust.	3./ Pending/ June 3, 2010	Ms. Smith	Ms. Lofstrom
4. Discuss placement of the extraction and injection wells within the Site 27 treatment modules with a remedial design engineer.	6./ Removed (See page 3 of 10) /NA	Mr. Leach	RAB
5. Send RAB and Agencies an electronic copy of the Site 1 groundwater plume letter and include the letter in the minutes.	11./ Completed (See Attachment B)/ NA	Mr. West and RAB	Mr. Robinson
6. Investigate the car maintenance area and the post exchange area at Site 7.	0./ New / April 1, 2010	Mrs. Sweeney	Mr. Robinson
7. Provide the MARSSIM manual to Mr. Humphreys.	0./ New / April 1, 2010	Mr. Humphreys	Ms. Haran
8. Provide information on MTBE detected in the Site 25 groundwater plume.	0./ New / April 1, 2010	Mr. Humphreys	Mr. Robinson

ATTACHMENT A

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING AGENDA

March 4, 2010

(1 page)

RESTORATION ADVISORY BOARD

NAVAL AIR STATION, ALAMEDA

AGENDA

MARCH 4, 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 – 7:00	**Co-Chair Announcements**	**Co-Chairs**
7:00 – 7:30	**Plume 5-3 RACR**	**Catherine Haran**
7:30 – 7:50	**Site 25 Groundwater**	**Mary Parker**
7:50 – 8:00	**Basewide Radiological**	**Catherine Haran**
8:00 – 8:15	**BCT Update**	
8:15 – 8:30	**Community & RAB Comment Period**	**Community & RAB**
8:30	**RAB Meeting Adjournment**	

ATTACHMENT B

NAVAL AIR STATION ALAMEDA
RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS

B-1 List of documents received in January and February 2010. Distributed by Dale Smith, RAB Community Co-Chair (1 page)

B-2 Final Removal Action Completion Report (RACR) Installation Restoration Site 5, Plume 5-3 presentation handout. Distributed by Catherine Haran, Navy RPM (5 pages)

B-3 Site 25 groundwater presentation handout. Distributed by Mary Parker, Navy PM (8 pages)

B-4 Work plan for basewide radiological surveys presentation handout. Distributed by Catherine Haran, Navy RPM (5 pages)

B-5 RAB comment letter on basewide RAD surveys. Distributed by Dale Smith, RAB Community Co-Chair (2 pages)

ATTACHMENT B-1

LIST OF DOCUMENTS RECEIVED IN JANUARY AND FEBRUARY 2010

(1 page)

Documents Received
January - February 2010

Documents

1. *Draft Final Community Involvement Plan Update,* ChaduxTt, January 28, 2010
2. *Final Removal Action Completion Report, IR Site 5, Plume 5-3, DNAPL Removal Action,* Shaw Environmental, January 29, 2010
3. *Draft Work Plan for Basewide Radiological Surveys,* TetraTech, January 29, 2010
4. *Draft Closure Requests and Tank Removal and Investigation Report for Various Aboveground Storage Tanks,* TetraTech, February 2, 2010
5. *Draft Sampling Report for Indoor Air, Outdoor Air and Soil Gas Sampling,* SES-Tech, February 9, 2010

Communications

1. *Review of the Draft Work Plan, Treatability Study at Plume 4-1, Operable Unit 2B, IR Site 4,* Northern California Geological Services Unit, Department of Toxic Substances Control, January 21, 2010
2. *Draft Expanded Site Inspection Work Plan for Transfer Parcels Edc-12, Edc-17, Fed-1a, Fed-2b and Fed-2c, Naval Air Station Alameda,* Office of Human and Ecological Risk, Department of Toxic Substances Control, February 4, 2010

ATTACHMENT B-2

FINAL REMOVAL ACTION COMPLETION REPORT (RACR) INSTALLATION RESTORATION SITES 5, PLUME 5-3

(5 pages)

March 2010 RAB Presentation

Final Removal Action Completion Report (RACR)
Installation Restoration Sites 5, Plume 5-3
Alameda Point

Catherine Haran
Remedial Project Manager
BRAC PMO West

March 4, 2010

Removal Action Purpose

- IR Site 5 had DNAPL from former aircraft maintenance and plating shop operations.
- Removal Action objective was to reduce total concentrations of chlorinated VOCs in groundwater to below 10,000 ug/L.

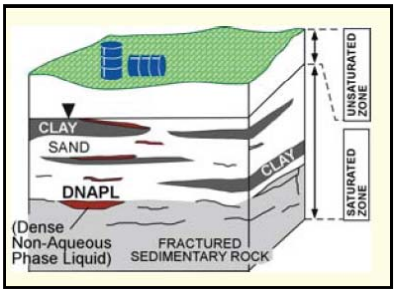
2

Definition

DNAPL (Dense Non-Aqueous Phase Liquid):

DNAPL is a liquid that is denser than water and does not dissolve or mix easily in water. In the presence of water, it forms a separate phase from the water.

Many chlorinated solvents, such as those present within Plume 5-3, are DNAPLs.



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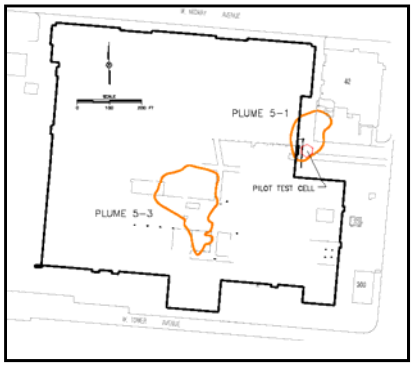
Plume 5-3

Total Average CVOC Concentration per Well	82,000 µg/L
Highest Average Individual Monitoring Well CVOC Concentration	103,000 µg/L
Highest CVOC Concentration via Hydropunch Sampling	1,1-DCA / 1,710,000 µg/L

- Average depth to groundwater is 4-7 ft bgs.
- Bay Sediment Unit present at Alameda Point is a sand & clay layer that lies between 13-25 ft bgs which was retarding the downward migration of DNAPL.
- **Treatment area:** 35,000 ft² and to 20 ft bgs.



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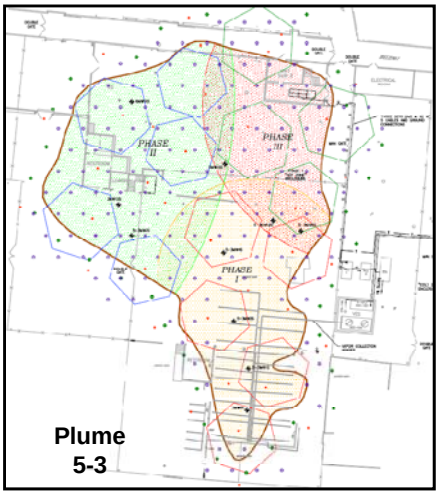
ERH Introduction

- Electrical Resistance Heating (ERH) involves the resistance of the soil and groundwater to the flow of electricity between the electrodes to create heat.
- Heating increases the vapor pressure of volatile and semi-volatile contaminants, increasing their transfer from liquid to vapor.
- Heating creates steam which increases the permeability of the formation and strips contaminants from the soil that may not be removed by direct volatilization.
- Contaminant removal from the treatment area is achieved via vapor extraction.

5

Plume 5-3 Design

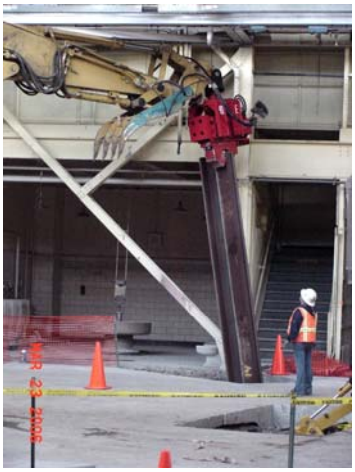
Six-Phase ERH was implemented at Plume 5-3.



Plume 5-3

6

Project Photos



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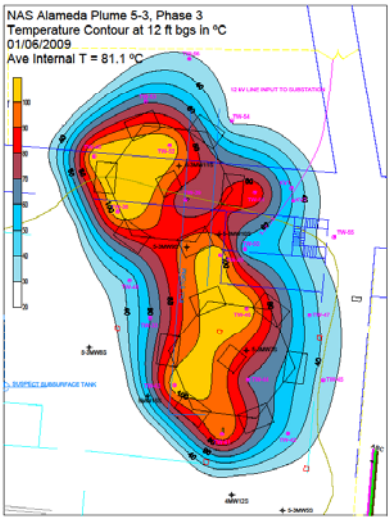
Removal Action Progress Metrics



- Weekly Temperature Readings
- Analysis of Total VOC Concentrations in GW Samples (Prior, During, and After)

8

Results at Plume 5-3

- $3,328,705 spent on remediation.
- 5,300,000 kWh total power applied.
- Total chlorinated VOC removal estimated at 253 lbs.
- Average concentration reduced from 82,000 ug/L to 300 ug/L with ~14 months of heating.
- Average temperature rose from 20°C to 100°C

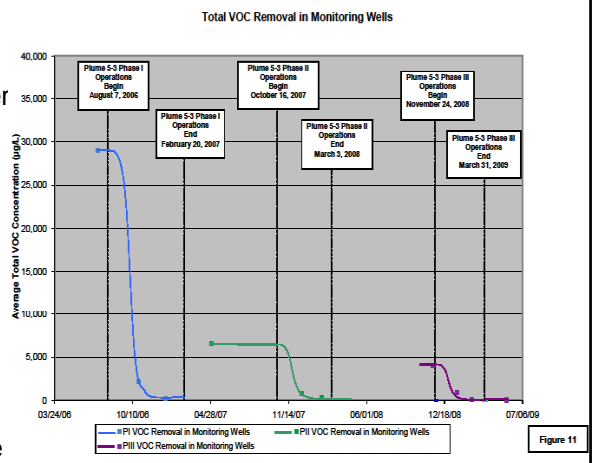


Figure 11

9

THE END

Questions?

10

ATTACHMENT B-3

SITE 25 GROUNDWATER PRESENTATION HANDOUT

(8 pages)

Site 25 Groundwater

Operable Unit 5/FISCA IR-02 Groundwater Remediation System

Alameda Point and Fleet and Industrial Supply Center Oakland, Alameda Facility/Alameda Annex (FISCA), Alameda, CA

RAB Meeting
March 4, 2010

Mary Parker, Navy Project Manager
Larry Dudus, PG, Tetra Tech EC, Inc.

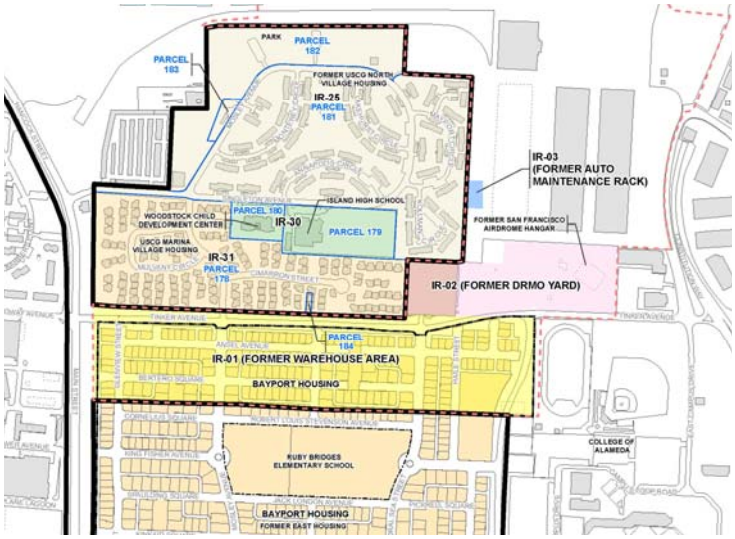
1

Topics

- Background
  - Location/Installation Restoration (IR) Sites
  - Plume Boundary
  - Biosparging and Soil Vapor Extraction
- Project Status
- System Installation
- Results to Date

2

Background: Location Map



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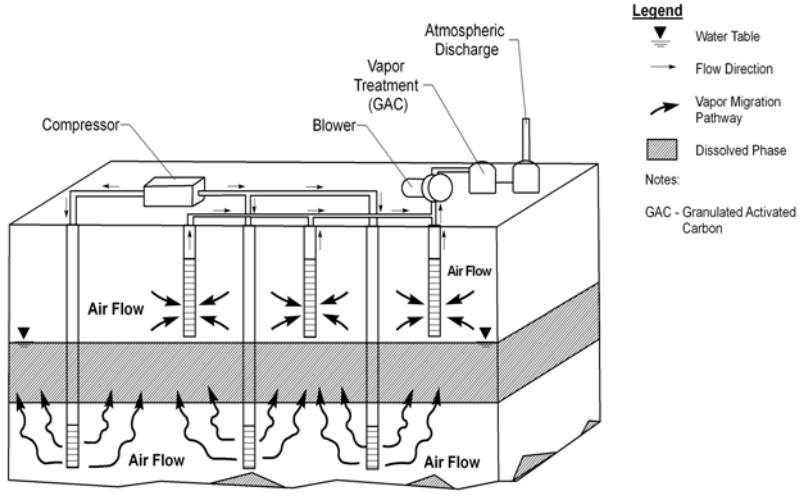
July 2009 Plume Perimeter Monitoring Results

4

Biosparging and Soil Vapor Extraction Diagram

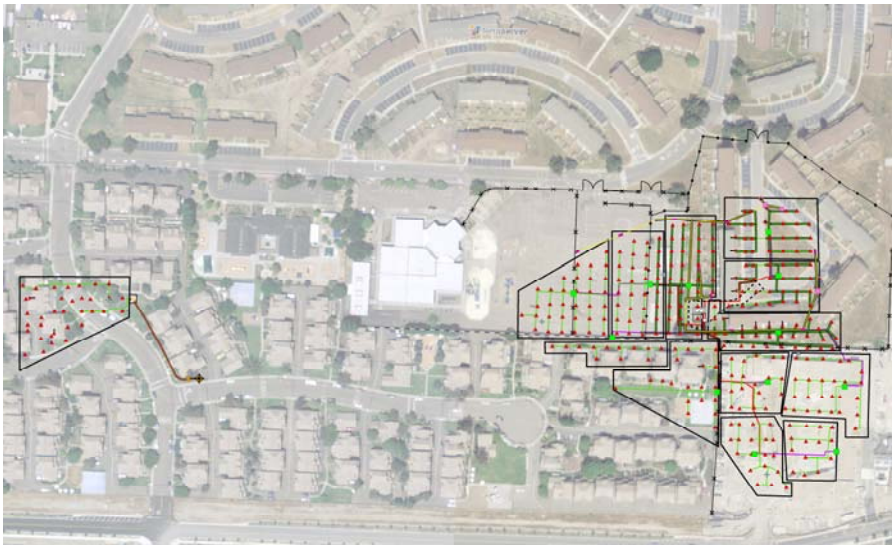


Project Status

- Installation of the groundwater remediation system began in October 2008.
- The Site 25/North Housing component of the system was completed and started in March 2009. The system has been running well.
- The FISCA Shinsei Gardens component of the system was completed and started in May 2009.
- The western remediation system in the western part of Marina Village Housing was completed and started in October 2009.

6

System Installation



Eastern Area Compound

8

Biosparge Blower Assembly

9

Western Area Construction

10

Western Area Construction

Surface Restoration

Western Area Construction

Western Area Compound

Comparison of July 09 Biosparge Analytical Results to Baseline Data

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ATTACHMENT B-4

WORK PLAN FOR BASEWIDE RADIOLOGICAL SURVEYS PRESENTATION HANDOUT

(5 pages)

RAB Presentation

Work Plan for Basewide Radiological Surveys Former Naval Air Station Alameda

Ms. Catherine Haran
Remedial Project Manager
BRAC PMO West

March 4, 2010

OBJECTIVE OF WORK PLAN

Objective:

Perform MARSSIM based radiological surveys to support disposition decisions for buildings and areas identified as *impacted* in the 2007 Historical Radiological Assessment (HRA), Volume II.

2

DEFINITIONS

- **Impacted:**

  An area that has historically had a potential for G-RAM contamination based on the site operating history or known contamination detected during previous radiation surveys. Impacted sites include sites where radioactive materials were used or stored; sites where known spills, discharges, or other instances involving radioactive materials have occurred; or sites where radioactive materials might have been disposed of or buried.

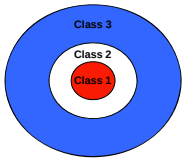
- **G-RAM:**

  All general radioactive materials that are not associated with the Naval Nuclear Propulsion Program.

3

GENERAL SURVEY APPROACH

- Applicable floor tiles, false ceilings, ventilation ducts, equipment, concrete will be surveyed and removed prior to conducting surveys.

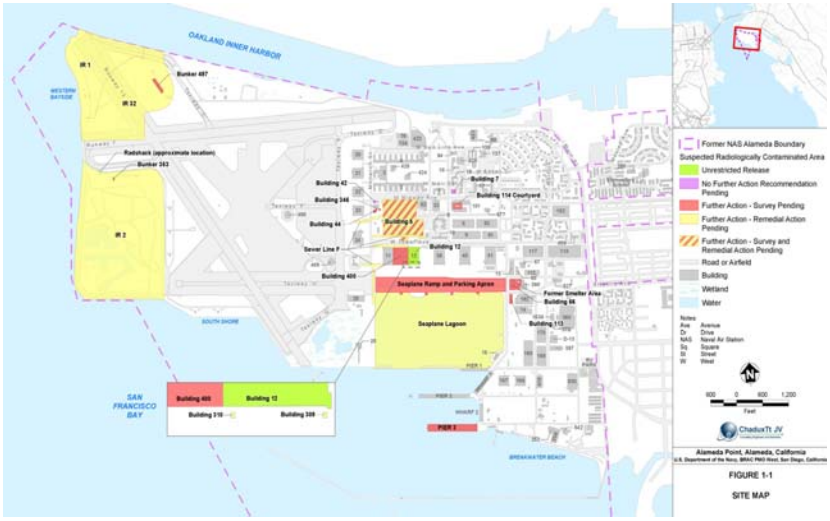


- Areas will be classified as Class 1 , Class 2, or Class 3, which will determine the maximum survey unit sizes and minimum scanning and sampling requirements.

- All surveys will be in accordance with MARSSIM Final Status Survey
- Scans, static measurements, swipe samples, media and soil sampling will be utilized.
- If contamination is identified the extent will be documented for future remediation and radiological controls will be taken.

4

SITE MAP



5

SURVEY AREAS

BUILDING 5-Radium Paint Shops / DU Storage

BUILDING 400-Radium Paint Shops / DU Storage

BUNKER 497-Possible Special Weapons Storage

BUNKER 353-Storage of Radiological Waste in Drums

6

SURVEY AREAS CONT.

BUILDING 346 -Storage of Radiological IDW

BUILDING 44 -Test Bench for Radium Dials & Storage of DU Counterweights

BUILDING 114 Courtyard -Storage of Radiologically Contaminated Storm Drains

BUILDING 113 –Possible Jet Engine Decon

7

SURVEY AREAS CONT.

FORMER SMELTER AREA

Possible Melting of Scrap Metals with Radioactive Contamination

PIER 3

Crushed Sr-90 Deck Marker

BUILDING 66

Possible Jet Engine Decontamination and Spark Gap Irradiator Repair

8

SCHEDULE

- **Review of Draft Work Plan:**

  Jan. 29, 2010 - March 15, 2010

- **Field Work Duration:**

  May 2010 – August 2010

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ATTACHMENT B-5

RAB COMMENT LETTER 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

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Peter Russell, Russell Resources
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