



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

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Building 1, Suite 140, Community Conference Center  
Alameda Point  
Alameda, California

May 7, 2009

The following participants attended the meeting:

## Co-Chairs:

Patrick Brooks	Base Realignment and Closure (BRAC) Program Management Office (PMO) West, BRAC Environmental Coordinator (BEC), Department of the Navy Co-chair
Dale Smith	Restoration Advisory Board (RAB) Community Co-chair

## Attendees:

Steve Bachofer	Community member
Doug Biggs	Alameda Point Collaborative
Allan Broody	Community member
Dave Cooper	U.S. Environmental Protection Agency (EPA)
Tommie Jean Damrel	Tetra Tech EM Inc.
Doug deHaan	Vice Mayor of Alameda
Fred Hoffman	RAB
George Humphreys	RAB
Joan Konrad	RAB
James Leach	RAB
Gretchen Lipow	Community member
Frank Mataresse	Alameda City Council
John McGuire	Shaw Environmental, Inc. (Shaw)
Darcy Morrison	Community member

Mary Parker	BRAC Project Manager (PM)
Charlie Ridenour	Department of Toxic Substances Control (DTSC)
Derek Robinson	BRAC Lead Remedial PM
Peter Russell	Russell Resources/Alameda Reuse and Redevelopment Authority (ARRA)
Bill Smith	Community member
Radhika Sreenivasan	St. George Chadux Corp.
Jean Sweeney	RAB
Jim Sweeney	RAB
Michael John Torrey	RAB
Xui-Mai Tran	EPA
John West	San Francisco Regional Water Quality Control Board (Water Board)

The meeting agenda is provided in Attachment A.

## **MEETING SUMMARY**

### **I. Approval of March RAB Meeting Minutes**

Ms. Dale Smith called the meeting to order at 6:35 p.m. Ms. Smith asked for comments on the April 2009 RAB meeting minutes.

The following comments were provided by Mr. Fred Hoffman (RAB):

- Page 7 of 15, end of third paragraph, insert, “Mr. Hoffman suggested that the Navy provide a technical subcommittee meeting minute taker. Mr. Brooks responded that the RAB subcommittee chair is responsible for providing the meeting minutes.”
- Page 9 of 15, second paragraph, third sentence, delete, “Mr. Hoffman also believes that the in situ treatment is not appropriate.”
- Page 10 of 15, first paragraph, first line, “...so in case, Mr. Moss’s comments that...” will be changed to “...so in effect, Mr. Moss’ comments that....”
- Page 11 of 15, fifth paragraph, first sentence, “Mr. West commented that there he thinks the technical...” will be corrected to “Mr. West commented that he thinks the technical....”

- Page 14 of 15, third paragraph, second sentence, “Mr. Hoffman said that SunCal plans to invest a lot of money...” will be revised to “Mr. Hoffman said that SunCal said it has plans to invest a lot of money....”

The following comments were provided by Mr. Pat Brooks (Navy):

- Page 14 of 15, last paragraph, second sentence, “The RAB listed Sites 1, 2, 17, 26, 32, 32, 34, 35...” will be revised to “The RAB listed Sites 1, 2, 17, 26, 32, 34, 35....”

The following comments were provided by Mrs. Jean Sweeney (RAB):

- Page 11 of 15, last paragraph, first sentence, “...Alameda Annex (FISCA), as the RAB was...” will be revised to “...Alameda Annex (FISCA), because the RAB was....”

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

- Page 4 of 15, second paragraph, first sentence, “... rip-rap wall and will whether additional areas...” will be revised to “...rip-rap wall and will determine whether additional areas....”
- Page 6 of 15, fourth paragraph, second sentence, “Mr. Humphreys indicated that...” will be changed to “Mr. Hoffman indicated that....”
- Page 6 of 15, fourth paragraph, delete the last two sentences.
- Page 9 of 15, first paragraph, thirteenth sentence, “Mr. Humphreys confirmed that the Navy has had a policy against pump-and-treat for 15 years” will be revised to “Mr. Humphreys confirmed that he heard Mr. Moss say that the Navy has had a policy against pump-and-treat for 15 years.”
- Page 13 of 15, end of fifth paragraph, insert, “Mr. Humphreys noted that when Ms. Sweeney had advocated for the collaborative when there were reports of dead squirrels and birds and health problems in the Bessie Coleman Center. He noted that there were nearby piles of contaminated soil at the former Navy commissary.”
- Page 14 of 15, first paragraph, first sentence, “In connection with the fire at the building adjacent to the Alameda collaborative building, Mr. Humphreys indicated that the burned building contained lead-based paint and asbestos...” will be revised to “In connection with the recent fire at the hospital building at the FISCA Annex, Mr. Humphreys indicated that the burned building may have contained lead-based paint and asbestos.”
- Page 14 of 15, first paragraph, after first sentence, insert, “Mr. Humphreys also noted that there was a fire several years ago at the building adjacent to the Alameda collaborative building and inquired whether the soil there was tested for lead and asbestos.”

The following comments were provided by Ms. Smith:

- Page 4 of 15, first paragraph, second sentence, “Ms. Smith asked Ms. Damrel if the crew from the USS Hornet...” will be revised to “Ms. Smith asked Ms. Damrel if the volunteers from the USS Hornet....”
- Page 5 of 15, fourth paragraph, ninth sentence, “Mr. Smith said that...” will be corrected to “Mr. Brooks said that....”
- Page 6 of 15, third paragraph, second sentence, “...nano zero valent iron (ZVI) by...” will be revised to “...nano zero-valent iron (nZVI) by....”
- Page 10 of 15, third paragraph, third sentence, “Mr. Hoffman stated that he concerns about...” will be revised to “Mr. Hoffman stated that he has concerns about....”

The April RAB meeting minutes were approved as modified.

## **II. Co-Chair Announcements**

Ms. Smith indicated that she received two documents in April: The time-critical removal action (TCRA) report for Sites 1, 2, and 32, and the draft U.S. Environmental Protection Agency (EPA) strategy update. Mr. Brooks noted that he has put together an updated list of upcoming deliverables. Mr. Brooks will send the list to the RAB members via e-mail. Mr. Brooks said that two new documents were scheduled for July: the draft dense nonaqueous phase liquid (DNAPL) removal completion report and the draft work plan (WP) discussing the radiological (RAD) surveys for the buildings.

Mr. Brooks provided updates for the following sites:

Site 1 – Preparation of the Draft Pre-Design WP and Draft Final Record of Decision (ROD).

Site 2 – Preparation of the Proposed Plan (PP), which is due in June.

Site 17 – Finalization of the Remedial Design and Remedial Action (RD/RA) for dredging in Seaplane Lagoon. The anticipated start date for the work is March 2010.

Site 26 – Collection of groundwater samples during April. The sampling results show that most of the contaminant concentrations have been reduced, but there is some outstanding persulfate in the groundwater, which is an indication of continuing oxidation. The Navy monitors the persulfate concentrations with field screening equipment. The next round of sampling is in July and will involve Hydropunch sampling.

Site 32 – Finalization of the contract for assessment of radium in soil.

Site 34 – Preparation of the Feasibility Study (FS).

Site 35 – Preparation of the ROD.

Operable Unit (OU)-2A – Preparation of the FS.

OU-2B – Working with EPA’s Kerr Laboratory to conduct testing on Plume 4-1 and preparation of the FS.

OU-2C – Preparation of the FS.

OU-5/Alameda Annex (FISCA) Site IR02 – Undergoing RA.

Coast Guard Housing/ North Housing – Preparation of Environmental Assessment to support the Final Environmental Impact Statement.

Site 25 Groundwater – This is part of OU-5/FISCA IR02 groundwater.

Mr. Hoffman asked if the Navy sampled the existing wells at Site 1 to evaluate the current condition of the plume. Mr. Brooks responded that the Navy is first working on the pre-design work plan. Mr. Hoffman asked why the Navy needs to prepare a plan to sample existing wells for analysis of DNAPL. Mr. Brooks said that a WP is required before sampling can begin. Mr. Hoffman said that his concern is that the plume is close to the bay and has been neglected for a long time. He suggested the Navy act soon. Mr. Robinson responded that sampling protocols need to be developed and approved; he assured Mr. Hoffman that the Navy intends to conduct the sampling as soon as possible. Mr. Brooks agreed.

Ms. Sweeney asked about at OU-2A and OU-2B. Mr. Brooks said that the Navy is cleaning up the fuel portion of the plume near the Oval and that the system is working successfully. He added that the Navy has received assistance from the U.S. EPA Kerr Laboratory to test and evaluate the best technology for cleanup of the chlorinated solvent part of the plume.

### **III. Site 24 Proposed Plan**

Mr. Brooks introduced Ms. Mary Parker (Navy) to start the Site 24 PP presentation. Ms. Parker noted that Site 24 is the pier area and reviewed the presentation (Attachment B-1).

Ms. Lipow asked how a cap will be placed in the underwater area of the site. Ms. Parker said that there are various technical means to place a cap under water, but the FS Report and Proposed Plan do not require a particular methodology. Ms. Parker noted that this alternative is not recommended in the Proposed Plan, but if it were selected, those details would be presented in the remedial design and/or remedial action work plan.

Mr. Sweeney asked if the Navy has estimated the volume of sediments that needs to be removed. Ms. Parker said that the FS Report provides an estimate, but she would have to consult the FS and inform him. After the meeting, Ms. Parker checked the FS Report, and the estimated volume to be removed is 1,500 bank (in-place) cubic yards.

Ms. Sweeney asked if the road supporting the piers will be damaged while the sediments are excavated. Ms. Parker said that the remediation work would be conducted so that the road support will not be affected. She added that there are many types of “excavation”, such as diver-assisted removal, which will be explained in detail in the remedial design, should this alternative be selected.

Mr. Humphreys said that the preliminary remediation goals (PRGs) for Site 24 are the same as for the Seaplane Lagoon. He added that the lead concentration at Site 24 is higher than at the Seaplane Lagoon. Ms. Parker said that lead was elevated at only one location and was co-located with other contaminants, such that under the preferred alternative, Alternative 5, the Navy would remove the lead at that location. She added that the details would be provided in the design document, assuming Alternative 5 is selected.

Mr. Humphreys expressed his concern that rebar in the concrete piers could rust and cause the roadway to collapse; thereafter, the contaminated sediment would present a potential exposure route for humans. Mr. Humphreys also said that Site 24 used the same PRGs as the Seaplane Lagoon and assumed that the birds were present only one-tenth of the time. Hence, the same assumption should be used for this site. He added that since the two sites (Site 24 and Seaplane Lagoon) are next to each other, the site utilization factor would be two-tenths if these sites were considered combined. He added that the cleanup levels should be much lower. To address this concern, Ms. Parker checked the Navy’s environmental documents after the meeting, and a summary follows. Page 8-2 of the IR Site 17 Final ROD states that the Site 17 remedial goals are based on a 10% site use factor (one-tenth of the time), as Mr. Humphreys stated, for the least tern, which is the most sensitive receptor. Additional detail for the ROD remedial goals is typically found in the RI or FS Report. Ecological data for this area is included in the Sites 20 and 24 RI Report. Page 6-16 and Figure 6-5 of the IR Sites 20 and 24 Final RI Report present the least tern foraging data based on 10 years of foraging studies at Alameda Point. Page 6-16 of the RI Report explains that Site 17 (Seaplane Lagoon) and Site 24, which are adjacent, make up one foraging area, Area 14, as shown on Figure 6-5. Based on the 10 years of foraging studies for Area 14, approximately 9.4% of the time least terns were observed foraging in Area 14. Therefore, the 10% site use factor on which the Site 17 remedial goals are based (which are the same goals proposed for Site 24) is appropriate for the Sites 17 and 24 areas that make up foraging Area 14.

Mr. Broody asked about the effects of the sediment contamination and if the birds were tested. Ms. Parker said that the Navy completed an ecological risk assessment and evaluated benthic invertebrates (such as worms), fish, and birds. However, the Navy did not kill birds to collect tissue samples from the birds for testing. Birds were evaluated via modeling. A detailed review of ecological receptors was conducted, and the results show low contaminant indicators.

Mr. deHaan said that the cadmium concentration increased with depth at sampling location PAC-24 and asked if the Navy plans to excavate deeper. Ms. Parker said that the Navy’s goal is to excavate until the sediment contamination is below PRGs. Ms. Konrad asked how much deeper the Navy expects to excavate. Ms. Parker said 2 to 2.5 feet is likely. Ms. Smith asked about the depth of the pier footings. Ms. Parker said that she did not know the depth of the pier footings.

Mr. deHaan asked about the source of the cadmium and noted it could have originated from Hangar 410, which was used for chemical stripping of aircraft. Mr. Robinson said that the Navy has information on the history of Hangar 410, but did not know off-hand what role Hangar 410 played in the cadmium source. Mr. Broody asked where samples were collected. Ms. Parker said that sampling was conducted throughout Site 24 down to 20 inches deep. Mr. Broody said that radium was found during earlier sampling at Pier 3. Ms. Parker said that the Navy sampled Site 24 for radium and found it at background concentrations only.

Mr. Smith asked how the Navy arrived at the sampling depth. Ms. Parker said that the Navy reviewed the site history and proposed the sampling depth during the preparation of the remedial investigation work plan. Mr. Brooks said that he thinks the assumption that the contaminant exists at the surface and near-surface is incorrect because contaminants can settle at lower depths through sediment deposition. He asked if the history of the sediment was considered. Ms. Parker said that it was and noted that the sediment history is summarized in the RI Report. Mr. Smith requested to see the RI Report. Ms. Parker said that the report is in the Information Repository. Ms. Parker said that she could get him additional information on how the RI sampling depth was determined, as that information may be in earlier documents.

Mr. deHaan asked about any investigation while the sewer outfall was removed. Ms. Parker said that the storm-sewer lines and outfalls in IR Site 24 were investigated and cleaned and/or replaced in the 1990s.

Mr. Bachofer asked whether the cost estimate is a protective estimate and if it allows flexibility to excavate sediments along the seawall in case of contaminant extension. Ms. Parker said that the Navy will check samples along the perimeter of the seawall to ensure that the contamination does not extend farther. She said that the FS assumed a slightly larger area at a slightly deeper depth for cost purposes. She said that a FS cost estimate is an engineering estimate that is typically plus or minus 20 to 30 percent.

Ms. Lipow asked how dredging would be conducted underneath the piers. Ms. Parker said that vacuum-type dredging or diver-assisted removal can be conducted underneath the piers. She added that other techniques can be suitable and that the techniques will be detailed in the remedial design, assuming this alternative is selected.

Mr. Matarrese asked the RAB members if they support the Navy's preferred alternative. He indicated there were good inputs from the community about whether the Navy had enough funding in the estimate to cover contaminant extension and whether the sampling was adequate. He asked if the RAB will vote on the alternative. Mr. Humphreys said that the RAB supported the alternative because it is the most conservative. Ms. Parker said that the RAB reviewed the FS in detail and wrote a letter asking the Navy to proceed with this alternative. Ms. Sweeney said that the RAB does not take a vote. Mr. Humphreys suggested that the RAB write a letter to the Navy and include any additional comments that came up in this meeting.

Ms. Parker said that the Site 24 PP public meeting will be held on May 13, 2009. She requested the public attend the meeting and provide formal comments at that time. She added comments

can be also provided in writing during the public review period through June 2. The PP also details ways of providing comments. Ms. Parker said that the public meeting is a forum for the community to provide comments and the Navy will provide a response to comments in the ROD Responsiveness Summary.

Regarding Site 17, Ms. Sweeney asked if sediment sampling will be conducted after the sunken barge is removed from the Seaplane Lagoon. Mr. Brooks said that if contamination is found after the barge is removed, the Navy will discuss with the RAB whether dredging should be done. Mr. Humphreys said that the profile of the OU-2B plume provided by the Navy shows the plume passing under the sea wall of the Seaplane Lagoon and that no sampling has been conducted at that depth. Mr. Brooks said that the OU-2B area is defined as the groundwater plume, and the contaminant plume will be addressed under that site.

Mr. deHaan asked if the Navy has considered the proposal by SunCal, and added he would like to see a letter from the Navy by June or July stating whether the Navy's remediation goal is appropriate for the SunCal plan. He requested that the Navy provide its input to Mr. Russell.

#### **IV. Rule of Operation Approval**

The RAB approved the Board Rules of Operation. The document has been signed by Mr. West and Mr. Brooks will ask Ms. Anna Marie Cook (EPA) and Ms. Dot Lofstrom (DTSC) to sign the document.

#### **V. BRAC Cleanup Team (BCT) Update**

Mr. West reviewed the presentation on the Petroleum Program update (Attachment B-2).

During review of Slide 3, Ms. Sweeney asked if the PRGs and Environmental Screening Levels (ESLs) are updated to be more protective of human health. Mr. West agreed and said that they are updated. During review of Slide 5, Ms. Smith noted that she did receive a copy of the TERM-1 Aboveground Storage Tank (AST) Site Closure Report by e-mail. Ms. Smith asked if the OU-2A jet fuel site has been cleaned up. Mr. Robinson said that he will look at the area of jet fuel issue and inform the RAB. Ms. Sweeney requested an e-mail copy of the Petroleum Program presentation graphs.

Mr. Hoffman suggested the BCT provide a brief bulleted list of the BCT meeting discussion. Mr. West asked what topics should be addressed during the BCT update. Mr. Hoffman said that the RAB would like to hear about the topics that the BCT discussed including the BCT findings. Mr. Brooks said that Site 24 and Site 2 PP were discussed, and Mr. Robinson said that the data gap sampling was also discussed. Mr. Brooks suggested using the BCT agenda and providing a bullet list of the key points of discussion.

## **VI. Community and RAB Comment Period**

Mr. Hoffman suggested that the Navy needs to consider the pump and treat technology for groundwater. Regarding the OU-2B work plan, Mr. Hoffman said that he has questions on the work plan and how the technology will be applied. He indicated that the plume maps showed high concentrations of composite solvents potentially entering the Seaplane Lagoon. He also said that there was no design to stop the groundwater plume from entering the Seaplane Lagoon. Mr. Brooks suggested that Mr. Hoffman could provide a written comment to the Navy and said that the comments will be officially addressed in the response to comments. Mr. Brooks said that the purpose of the WP was not to address the issue of the plume entering the Seaplane Lagoon. Mr. Hoffman asked about the Navy plan to address that issue. Mr. Brooks said that the Navy is preparing a Feasibility Study to evaluate potential remedies to address the plume. Mr. Hoffman requested the BCT consider emergency remedial actions for various groundwater plumes such as those at Site 1 and OU-2B. Mr. Hoffman suggested that the Site 1 work plan be separated from the other landfill work so the groundwater can be addressed more quickly.

Regarding the FISCA hospital fire, Mr. Humphreys said that there was an article in the newspaper that indicated burned material was found in yards. Mr. Humphreys said that fluorescent light tubes explode in a fire and release beryllium oxide and mercury. He suggested sampling for these metals in addition to asbestos and polychlorinated biphenyls (PCBs).

Mr. Humphreys said that he has provided his response in writing (Attachment B-3) to the April RAB meeting comment about the RAB not advocating for the Collaborative.

Mr. Humphreys said that there are two libraries in the building: a city library, and a Navy library. He said that he reviewed a report on groundwater plumes near Coast Guard housing of FISCA in the city library, which was informative. He noted that while he was reviewing the report, he was instructed by a city officer that the library is not accessible to the public. Mr. Humphreys also said that the Navy library does not contain all the reports. Mr. Matarrese said that he will follow up on the city library access issue.

Mr. Smith commented that the Sierra Club has two concerns: (1) the vinyl chloride (VC) plume near the Seaplane Lagoon, and (2) EPA's acceptance of the VC plume. He noted SunCal's development plan shows housing in the VC plume area.

Ms. Sweeney said that she provided Mr. Brooks with a letter she found on line about SunCal's \$700 million estimate for removal and cleanup for the 300 buildings that it intends to demolish. Mr. Humphreys said that the soil under many of those building has not been sampled.

Ms. Smith distributed all her updated notes and comments on the technical meetings from January (Attachment B-4).

Mr. Brooks noted the next RAB meeting will be held on June 4, 2009.

## VII. Meeting Adjournment

The meeting was adjourned at 9:30 p.m.

### Action Items

<b>Action Items:</b>	<b>Action Item Update:</b>
1. Request for Presentations: a. OU-2C b. Bayport Sewer systems and change in the plumes over time.	1. Requests a and b are pending.
2. The Navy will review the recording for the March RAB meeting correction.	2. Completed
3. Mr. Brooks will provide information on the large submerged, unidentified object in Seaplane Lagoon and radium <sup>226</sup> .	3. Pending
4. Mr. Robinson will research the area in OU-2A with the jet fuel issue.	4. New
5. Ms. Parker will provide additional information to Mr. Smith and the RAB on Site 24 sediment/sampling depths per Mr. Smith's question.	5. New

**ATTACHMENT A**

**NAVAL AIR STATION ALAMEDA  
RESTORATION ADVISORY BOARD MEETING AGENDA**

**May 7, 2009**

**(1 page)**

# ***RESTORATION ADVISORY BOARD***

***NAVAL AIR STATION, ALAMEDA***

## ***AGENDA***

**MAY 7, 2009, 6:30 PM**

**ALAMEDA POINT – BUILDING 1 – SUITE 140**

**COMMUNITY CONFERENCE ROOM**

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

<b><u>TIME</u></b>	<b><u>SUBJECT</u></b>	<b><u>PRESENTER</u></b>
<b>6:30 - 6:45</b>	<b>Approval of Minutes</b>	<b>Ms. Dale Smith</b>
<b>6:45 - 7:00</b>	<b>Co-Chair Announcements</b>	<b>Co-Chairs</b>
<b>7:00 – 7:30</b>	<b>Site 24 Proposed Plan</b>	<b>Mary Parker</b>
<b>7:30 – 8:00</b>	<b>Rules of Operation Approval</b>	<b>RAB</b>
<b>8:00 – 8:15</b>	<b>BCT Update</b>	<b>John West</b>
<b>8:15 – 8:30</b>	<b>Community &amp; RAB Comment Period</b>	<b>Community &amp; RAB</b>
<b>8:30</b>	<b>RAB Meeting Adjournment</b>	

## **ATTACHMENT B**

### **NAVAL AIR STATION ALAMEDA RESTORATION ADVISORY BOARD MEETING HANDOUT MATERIALS**

- B-1 Site 24 Proposed Plan presentation handout. Distributed by Mary Parker, Navy Project Manager (16 pages)
- B-2 Petroleum Program updates presentation handout. Distributed by John West, Water Board (8 pages)
- B-3 Items relating to RAB advocacy for housing collaborative. Distributed by George Humphreys, RAB member (8 pages)
- B-4 Updated RAB technical subcommittee meeting notes from January 2009. Distributed by Dale Smith, RAB Community Co-Chair (2 pages)

**ATTACHMENT B-1**

**SITE 24 PROPOSED PLAN PRESENTATION HANDOUT**

**(16 pages)**



# Proposed Plan for Installation Restoration Site 24 (Pier Area) Alameda Point



RAB Meeting  
May 7, 2009

Mary Parker  
Navy Project Manager



## Topics



- Purpose
- Background Information
- Past, Present, and Future Uses
- Investigations and Potential Source Removal
- Remedial Investigation - Human Health and Ecological Risk Assessments
- Feasibility Study
  - Clean Up Objectives
  - Clean Up Goals
  - Remedial Alternatives
  - Preferred Alternative
- Community Involvement



## Purpose



- Summarize investigations, risk assessments, and remedial alternatives
- Present the preferred alternative
- Provide an opportunity for the public to provide input
- Inform the public that the federal and state regulatory agencies are working with the Navy and agree with the preferred alternative

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## Background Information for Site 24



- Site 24 is approximately 50 acres and includes offshore areas in the vicinity of three piers
- Water depth at pier face - approximately 12 to 28 feet
- Berthing areas dredged to 46 feet for navigational purposes

4





## Background Information for Site 24

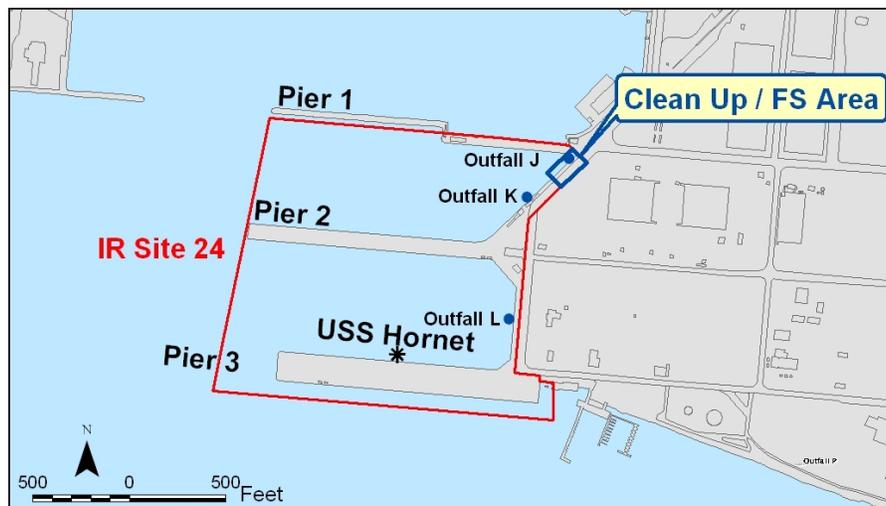


- Sediment shelf along and underneath quay wall not accessible to dredging equipment. Only one entrance beneath the pier available for access (by boat) and only at low tide; no access by foot.
- Sediment in near shore areas and beneath Wharf Road primarily sand covering rip rap; areas of sand covering mud further from shore and always submerged.
- Three storm drains (Outfalls J, K, and L) discharge into Site 24 and may have historically contributed to sediment contamination. During the 1990s, the Navy cleaned and replaced a significant portion of the storm drain system.

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## Site 24 Location Map



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## Site 24 – Past, Present, and Future Uses



- Past - From 1943 to 1997, the Navy used the piers to berth a variety of vessels, including ships and occasionally submarines
- Present - the USS *Hornet* is docked at Pier 3 as a naval museum
- Future - Under the proposed reuse plan, Site 24 will be developed as a commercial marina, with no plans to remove the piers or the wharf road

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## Site 24 Investigations



- Numerous investigations were conducted at Site 24 through 2006.
- The remedial investigation (RI), conducted in 2005 and 2006, included collection of sediment samples and evaluation of risk.

10



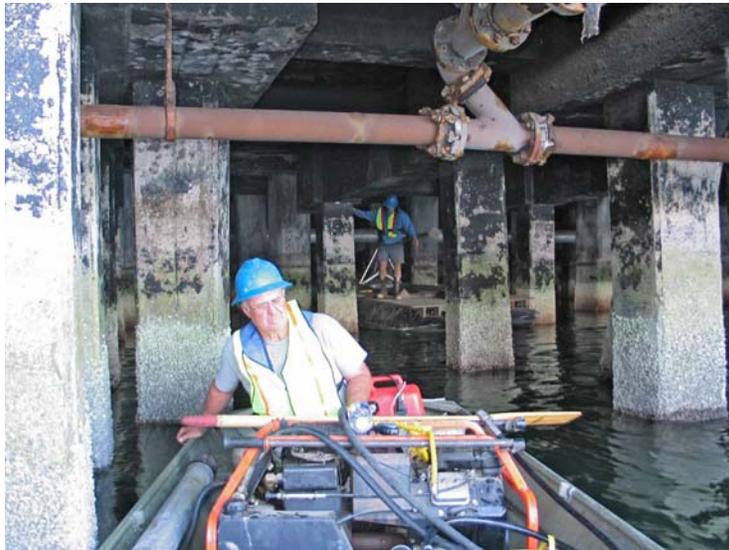
## Photograph of Pier Structure at Site 24



11



## RI Sampling Beneath Roadway



12



## Shearwater used in RI Offshore Sampling



13



## Site 24 Potential Source Removal



- Storm-sewer lines J, K, and L have outfalls in Site 24 and were potential sources of Site 24 sediment contamination.
- Lines leading to Outfalls K and L were removed and replaced.
- Lines leading to Outfall J were cleaned (sediment removed) and inspected.

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## Remedial Investigation/ Feasibility Study Regulatory Agency Involvement



- State
  - Department of Toxic Substances Control (DTSC)
  - Regional Water Quality Control Board (Water Board)
- Federal
  - US Environmental Protection Agency (EPA)

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## Remedial Investigation

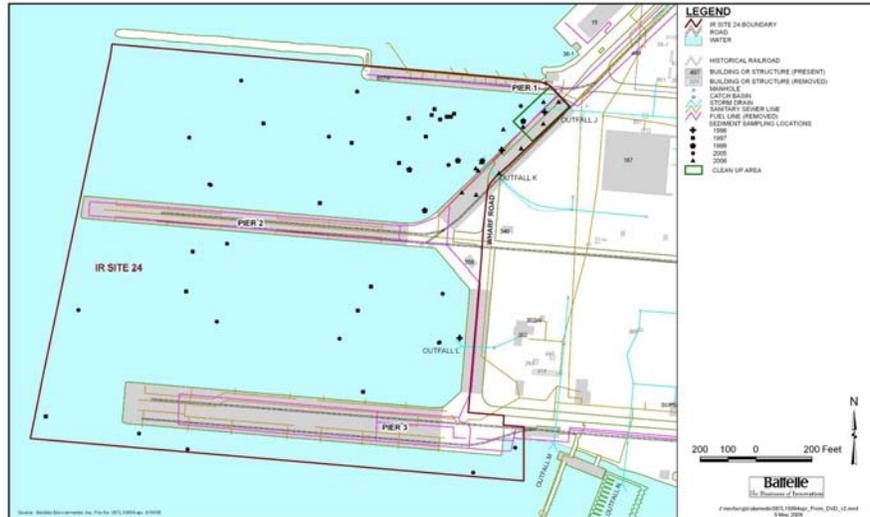


- RI sampling
  - Sediment samples were collected throughout IR Site 24
  - Highest concentrations in sediment in the northeastern corner of site (0.5 acres) beneath the wharf road between storm drain Outfalls J and K

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## RI Sampling Locations



17



## Site 24 RI Human Health Risk Assessment



- No complete human health exposure pathways because
  - site characteristics, including sand over riprap in near shore areas limit habitat for shellfish at the site (no shellfish consumption pathway)
  - limited and difficult access to the water and shoreline for recreational and shellfish harvesting purposes (no direct sediment exposure pathway)
  - proposed future use for this site (commercial marina)
- Limited shallow habitat for sport fish at Site 24. RI modeled fish tissue concentrations using Site 24 sediment concentrations.
- Modeled fish tissue concentrations were lower than or similar to those reported for the reference (ambient) locations.

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## Site 24 RI Ecological Risk Assessment



- Potential ecological receptors –
  - benthic invertebrates
  - fish
  - fish-eating birds (e.g., cormorant and least tern)
  - benthic-feeding birds (e.g., surf scoter)
- Risk drivers: cadmium, lead, total DDx, total PCBs

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## Site 24 RI Ecological Risk Assessment



- RI concluded
  - Acceptable risk over majority of site; no further action recommended
  - Potential impacts limited to northeastern corner; Feasibility Study recommended

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## Area Recommended for Clean Up



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## Clean Up Objectives



- Clean Up Objectives:
  - Protect forage fish from contact or ingestion exposure to COCs in sediment;
  - Protect fish-eating and benthic-feeding birds, including least terns, surf scoters, and double-crested cormorants, from exposure to sediment containing elevated concentrations of cadmium, lead, total DDX, and total PCBs through ingestion of contaminated prey; and,
  - Reduce potential increases of total PCBs in organisms higher in the food chain.

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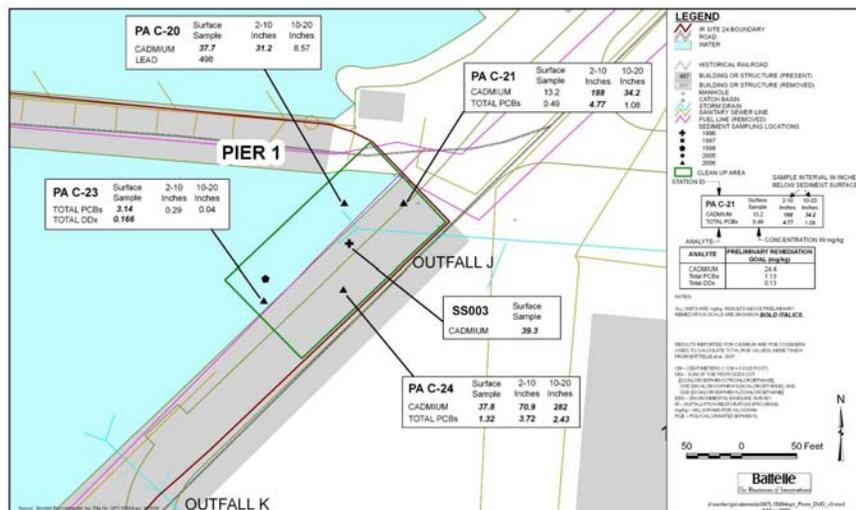
# Clean Up Goals



- Risk-based clean up goals for sediment:
  - Cadmium – 24.4 mg/kg
  - Total DDx – 0.13 mg/kg
  - Total PCBs – 1.13 mg/kg
  - Lead - spatial distribution of sediment lead concentrations in remediation area is similar to distribution of cadmium concentrations; clean up goal for cadmium is also protective for lead



# Sediment Concentrations above Preliminary Remediation Goals





## Development of Alternatives



- Reviewed and screened a variety of technologies
- Combined technologies to form five remedial alternatives, including No Action, which is required
- Performed detailed evaluation of each alternative using National Oil and Hazardous Substances Contingency Plan (NCP) Criteria
- Performed a comparative analysis of the alternatives to highlight differences

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## Remedial Alternatives



- Alternative 1 – No Action
- Alternative 2 – Institutional Controls (ICs)
- Alternative 3 – Monitored Natural Recovery (MNR) with ICs
- Alternative 4 – Thin-layer capping with ICs
- Alternative 5 – Sediment removal/dredging

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## Remedial Alternatives Evaluated for Site 24



Comparative Analysis of Alternatives for IR Site 24*					
NCP Criteria	1 No Action	2 Institutional Controls***	3 MNR with Institutional Controls	4 Thin-layer Capping with Institutional Controls	5 Sediment Removal/Dredging
1. Overall protection of human health and the environment	No**	Yes	Yes	Yes	Yes
2. Compliance with ARARs	NA	Yes	Yes	Yes	Yes
3. Long-term effectiveness and permanence	NA	○	○	◐	●
4. Reduction of toxicity, mobility, or volume through treatment	NA	○	○	○	◐
5. Short-term effectiveness	NA	◐	◐	●	◐
6. Implementability	NA	●	●	◐	◐
7. Cost (\$Million)	NA (\$0)	● (\$0.4)	◐ (\$1.1)	○ (\$2.0)	○ (\$3.3)
8. State agency acceptance	To be considered during finalization of this Proposed Plan and during the ROD				
9. Community acceptance	To be evaluated after the Public Comment Period				

\* Only applies to northeast part of the site beneath the wharf road between storm drain Outfalls J and K.

\*\* Alternative 1 does not meet the protectiveness criterion; therefore, an evaluation against the other criteria is not necessary and was not performed.

\*\*\* EPA does not consider Alternative 2 to meet the threshold criterion of overall protection.

Alternative 5 is the Preferred Alternative.

NA Not applicable because no remedial action is taken

○ = low

◐ = moderate

● = high

27



## Site 24 – Preferred Alternative



- Alternative 5 – Sediment Removal/Dredging in northeastern corner of the site beneath the wharf road between storm drain Outfalls J and K
- Results of risk assessments show remainder of Site 24 does not pose an unacceptable risk to human health or the environment. No further action is required for Site 24 with the exception of the northeastern corner of the site.

28



## Site 24 – Preferred Alternative



- Upon completion of remedial action
  - Unacceptable exposure to impacted sediment would be eliminated
  - No institutional controls would be required
  - No long-term monitoring would be required
  - Confirmation sampling would ensure that the remediation was complete
  - Clean backfill material would be placed in the remediation area to restore the stability of the structures in this area
- Regulatory agencies concur with this recommendation
  - U.S. EPA
  - California Department of Toxic Substances Control
  - California Regional Water Quality Control Board

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## Community Involvement



- RAB Meeting: May 7, 2009
- Public Meeting: May 13, 2009
- Public Review Period:  
May 1 – June 2, 2009
- Monthly RAB meetings first Thursday of each month
- Information Repository: Alameda Point – 950 West Mall Square, Building 1, Room 240

30



# Questions

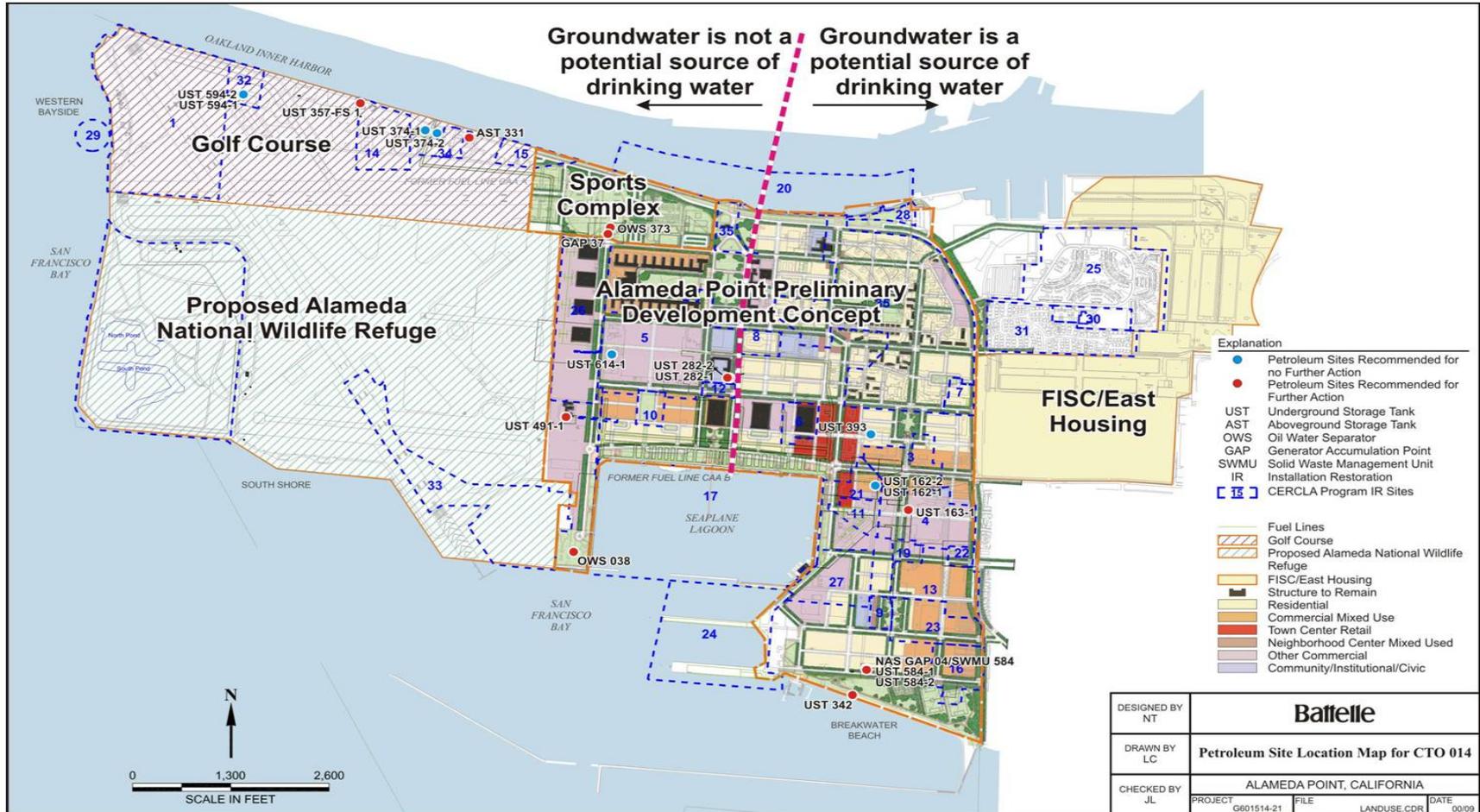
**ATTACHMENT B-2**

**PETROLEUM PROGRAM UPDATES PRESENTATION HANDOUT**

**(8 pages)**

# Alameda Point Petroleum Program Status Update

May 7, 2009



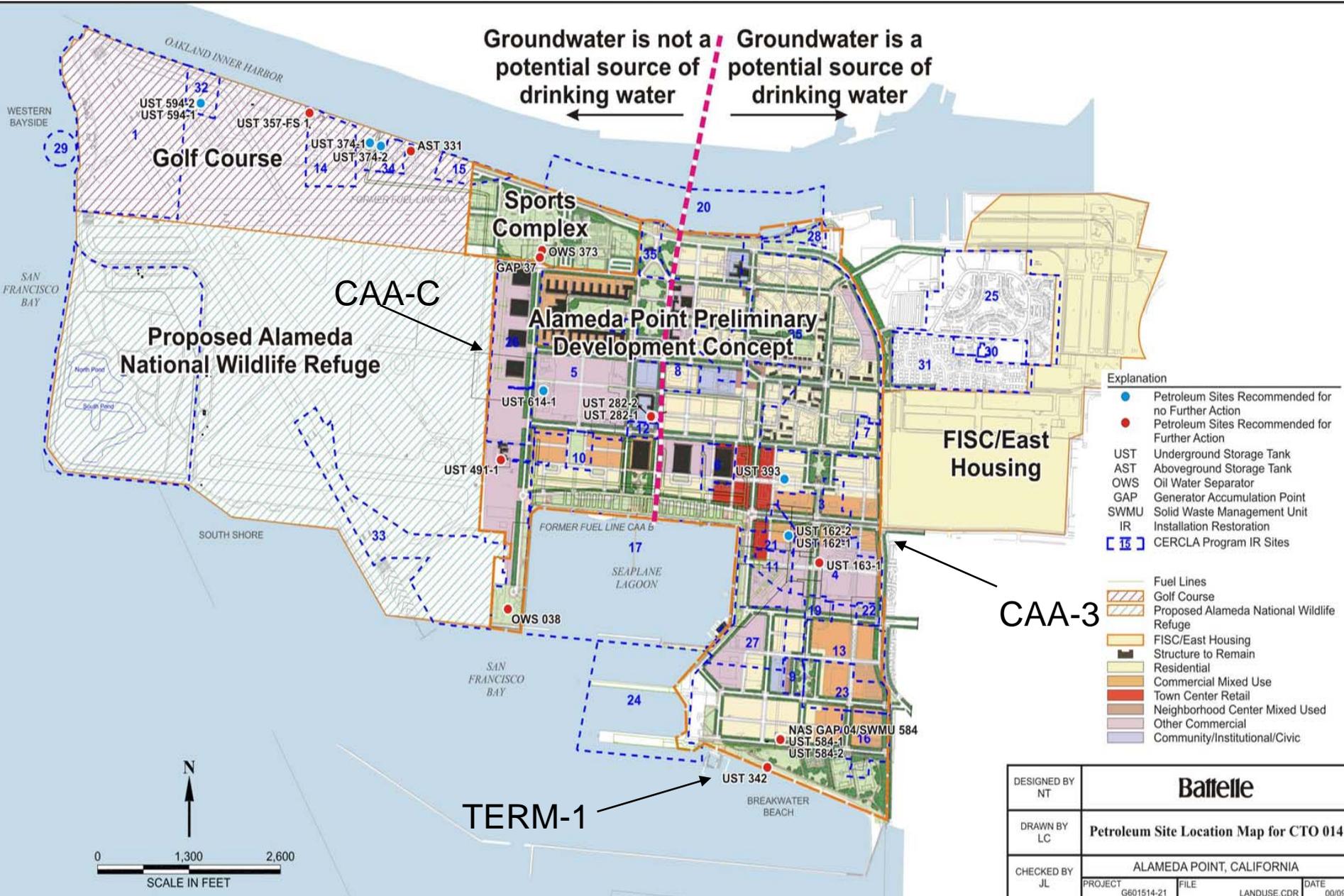
# History of the Petroleum Program

- CERCLA excludes petroleum from the definition of a hazardous substance. Because of this exclusion, a Petroleum Program was developed to remediate and eventually obtain closure of fuel sites present at Alameda Point.
- Fuel was stored in any number of containers, including underground storage tanks (USTs), aboveground storage tanks (ASTs), oil-water separators (OWSs) and generator accumulation points (GAPs) (for example, containers such as 55-gallon drums that were used for short-term storage [ $<24$  hrs to 90 days] of waste).
- Other petroleum-related sites include washdown (WD) areas for cleaning vehicles and equipment and areas of concern (AOCs) that were usually locations of fuel spills.
- Many of the USTs and ASTs supplied the base with fuel through an extensive network of fuel lines (FLs), which also may have petroleum-related issues associated with them.
- In 2001, the Navy and the Water Board worked together to develop a fuel site closure plan that included development of preliminary remediation criteria (PRC) and a TPH Strategy for soil and groundwater. PRCs are screening concentrations that were determined to be protective of human health and ecological receptors. Since 2001 the TPH Strategy has helped guide characterization and remediation work at petroleum sites, and been used to make decisions regarding site closure.

# Current Status

- **Petroleum (TPH) Strategy Update (currently under regulatory review)**
  - Updating the 2001 Preliminary Remediation Criteria (PRCs)
  - Incorporating a comparison of site data to the Water Board Environmental Screening Levels (ESLs)
  - Including additional chemicals of potential concern (COPCs) related to petroleum products such as: polycyclic aromatic hydrocarbons (PAHs), fuel additives and other chemicals for waste oil tanks and sumps.
- **Petroleum Program Summary Report (PPSR) (development of internal draft will proceed after finalizing the Petroleum Strategy Update)**
  - Primary objectives of the PPSR are to summarize the history of the Petroleum Program, and to specifically define the current status of the sites that make up the Petroleum Program at Alameda Point
  - Clearly identify which sites currently reside under the CERCLA Program and which have been transferred from the CERCLA Program to the Petroleum Program.
  - Identify a path forward for the Petroleum Program that will allow open sites to either be closed with NFA or receive additional sampling to address existing data gaps.

# Alameda Point



Groundwater is not a potential source of drinking water ←

→ Groundwater is a potential source of drinking water

- Explanation**
- Petroleum Sites Recommended for no Further Action
  - Petroleum Sites Recommended for Further Action
  - UST Underground Storage Tank
  - AST Aboveground Storage Tank
  - OWS Oil Water Separator
  - GAP Generator Accumulation Point
  - SWMU Solid Waste Management Unit
  - IR Installation Restoration
  - [ 15 ] CERCLA Program IR Sites

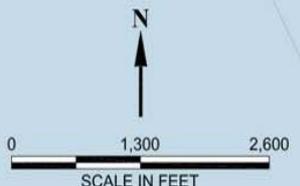
- Fuel Lines
- Golf Course
- Proposed Alameda National Wildlife Refuge
- FISC/East Housing
- Structure to Remain
- Residential
- Commercial Mixed Use
- Town Center Retail
- Neighborhood Center Mixed Used
- Other Commercial
- Community/Institutional/Civic

CAA-3

CAA-C

TERM-1

DESIGNED BY NT	<b>Battelle</b>		
DRAWN BY LC	Petroleum Site Location Map for CTO 014		
CHECKED BY JL	ALAMEDA POINT, CALIFORNIA		
PROJECT G601514-21	FILE LANDUSE.CDR	DATE	00/00



# Current Status

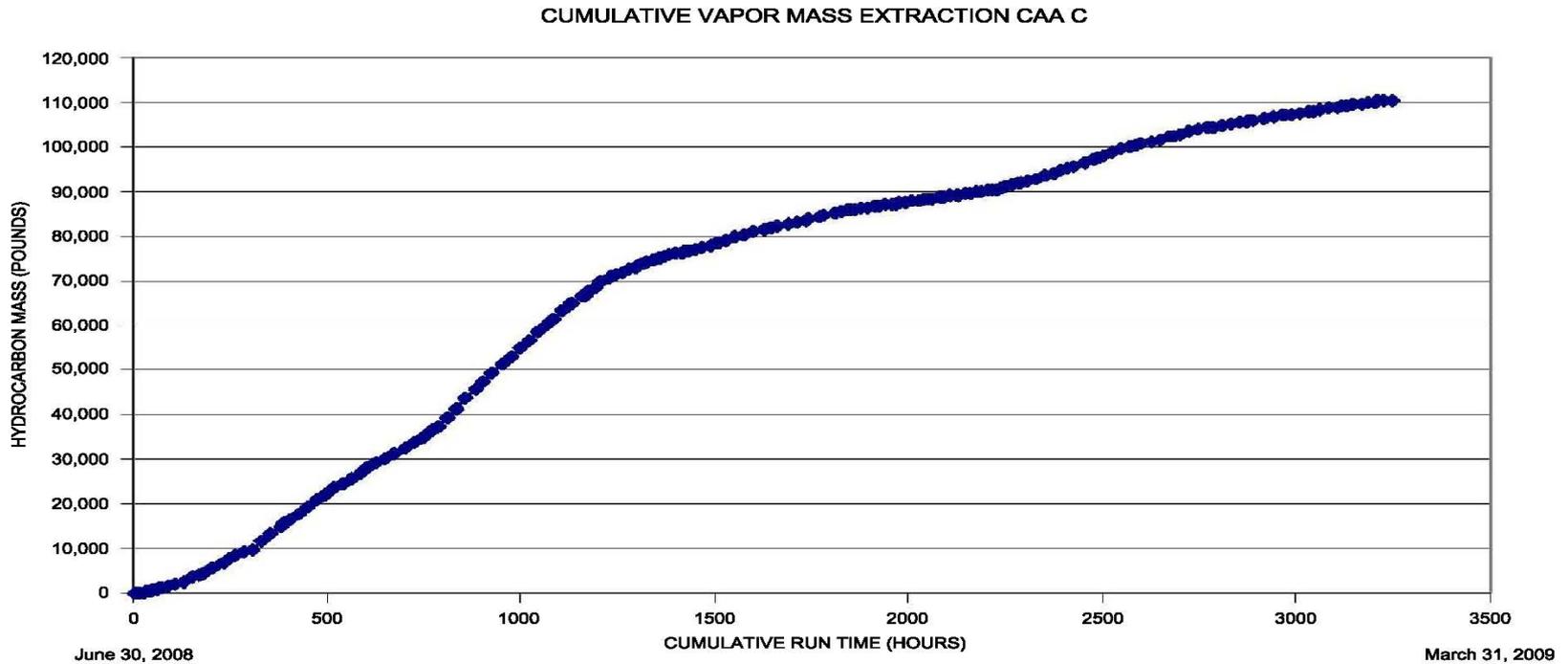
- 16 Aboveground Storage Tanks (ASTs) removed in April. Sampling performed: Sites look clean and sampling results below PRCs. Additional site characterization planned for May.
- 15 Petroleum UST Sites Evaluation and Data Gaps Sampling Work Plan. 10 recommended for further sampling and site characterization and 5 recommended No Further Action.
- TERM-1 AGT Site Closure (No Further Action Letter) last week
- CAA-3 & CAA-C (see next slides and handout)

# Current Status (HANDOUT)

- UPDATE PETROLEUM CORRECTIVE ACTION SITE CAA C AND CAA 3
- 05 May 2009
- CAA C
- Objective: Free product removal of avgas along former fuel distribution lines southwest of Building 23.
- Implemented corrective action with 22 DVE wells and 23 air sparge wells in July 2008.
- Total of 112,900 pounds extracted and abated with a 500 scfm thermal oxidizer.
- Recent extraction rate of about 200 pounds per day.
- Fifteen new DVE wells and 6 sparge wells installed week of April 27 to address recalcitrant areas of the site and enhance product removal. Wells scheduled to be placed online by within the next couple of weeks.
- A possible abandon fuel line investigation consisting of potholing scheduled for mid May 2009.
- Free product removal scheduled for completion in mid June 2009.
- CAA 3
- Objective: First phase of a petroleum mass removal of hydrocarbon releases from ASTs, USTs, and fueling facilities.
- Implemented corrective action with a 32 DVE well system in August 2007.
- Well field expanded with an additional ~100 DVE wells between May and August 2008 to address areas of free product and elevated dissolved levels outside of the initial targeted area.
- Total of 94,400 pounds of hydrocarbon has been removed, primarily as avgas.
- Recent extraction rate of about 200 pounds per day.
- Removal action scheduled for completion in August 2009.
- CAA 3 Utility Corridor Investigation
- Objective: Some historic data suggest that the utilities at CAA 3 may have acted as preferred pathways for migration of hydrocarbon away from the primary sources.
- Utility Corridor Investigation field work was performed in December (Phase I) and March and early April (Phase II).
- Total of 25 Hydropunch points, five 1-inch piezometers, and four 2-inch monitoring wells were installed and sampled.
- Results were consistent with historic estimates from hydrocarbon distribution in the subsurface from the late '70's and the SCAPS data of 1997.
- Utilities corridors do not appear to have been long distance corridors for the movement of avgas beyond CAA 3. The electric vault area just west of the current CAA 3 well field in Atlantic Avenue is still being looked at, as is the sanitary line immediately south of Atlantic Avenue just south of the west end of the landscaped island.

# CAA-C Mass Extraction

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
CAA-C Mass Calc 1-19-09	---	CONC	BJ	4/13/09	JAP	4/13/09	JCM	4/13/09	123139-A48

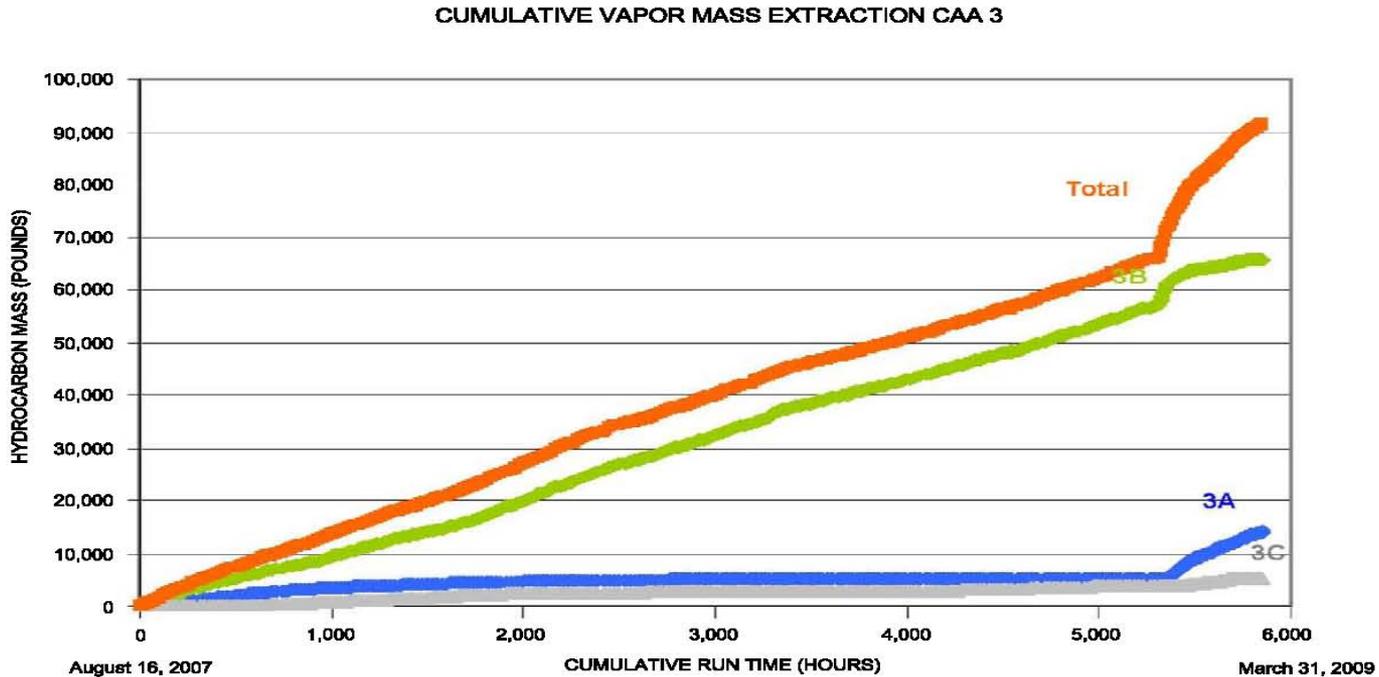


DEPARTMENT OF THE NAVY  
 BASE REALIGNMENT AND CLOSURE  
 PROJECT MANAGEMENT OFFICE - WEST  
 SAN DIEGO, CALIFORNIA

FIGURE 3  
 CUMULATIVE VAPOR MASS EXTRACTION  
 CAA C  
 ALAMEDA POINT  
 ALAMEDA, CALIFORNIA

# CAA-3 Mass Extraction

IMAGE	X-REF	OFFICE	DRAWN BY		CHECKED BY		APPROVED BY		DRAWING NUMBER
CAA 3 Mass Calc 3-31-09	---	CONC	BJ	4/13/09	JAP	4/13/09	JCM	4/13/09	123139-A47



DEPARTMENT OF THE NAVY  
 BASE REALIGNMENT AND CLOSURE  
 PROJECT MANAGEMENT OFFICE - WEST  
 SAN DIEGO, CALIFORNIA

FIGURE 3  
 CUMULATIVE VAPOR MASS EXTRACTION  
 CAA 3  
 ALAMEDA POINT  
 ALAMEDA, CALIFORNIA

**ATTACHMENT B-3**

**ITEMS RELATING TO RAB ADVOCACY FOR HOUSING COLLABORATIVE**

**(8 pages)**

FROM:

GEORGE B. HUMPHREYS

05/07/09

SUBJECT:

ITEMS RELATING TO RAB ADVOCACY FOR HOUSING COLLABORATIVE.

1. SERIES OF E-MAILS AMONG JEAN SWEENEY, MIKE McCLELLAN, ET. AL REGARDING HEALTH PROBLEMS OF RESIDENTS AT BESSIE COLEMAN CENTER AND DEAD ANIMALS ASSOCIATED WITH PILES OF CONTAMINATED SOIL NEAR FORMER COMMISSARY.
2. RAB COMMENT LETTER 6/24/08, REGARDING PROPOSED PLAN FOR SITE 35 AND PAH AREAS (PRIMARILY WEST HOUSING). EXPRESSING PREFERENCE FOR EXCAVATION AND REPLACEMENT OF 4 FT IN PAVED AND UNPAVED AREAS.
3. RAB COMMENT LETTER 5/24/06, REGARDING PROPOSED PLAN FOR SITES 6, 7, 8 AND 16. REGARDING FORMER NAVY EXCHANGE (COMMISSARY), NOTED AREAS SUBJECT TO OIL SPILLS, SOLVENTS, PETROLEUM, ANTIFREEZE, BATTERY CONTENTS AND NOW PAVED OVER. RECOMMENDED SOIL BORINGS IN PAVED AREAS AND UNDER BUILDINGS. (NOTE SUN CAL PLAN SHOWS COLLABORATIVE HOUSING IN THIS AREA AND DEMOLITION COULD EXPOSE "UNDISCOVERED" CONTAMINATION).

**From:** "McClelland, Michael E (EFDSW)" <McClellandME@efdswnavfac.navy.mil>  
**To:** 'Jean S Sweeney' <jean\_sweeney@juno.com>  
**Cc:** HWong@dtsc.ca.gov, "Weissenborn, Richard C (EFDSW)" <WeissenbornRC@efdswnavfac.navy.mil>, "Directo, Larry D (EFA West)" <DirectoLD@EFAWEST.NAVFAC.NAVY.mil>, "Marcia Liao (E-mail)" <mliao@dtsc.ca.gov>, "Lorton, Gregory A (EFDSW)" <LortonGA@efdswnavfac.navy.mil>, "Dick, Andrew E (EFDSW)" <DickAE@efdswnavfac.navy.mil>, "Perricone, Robert M (EFA West)" <PerriconeRM@EFAWEST.NAVFAC.NAVY.mil>, "Mark Ripperda (E-mail)" <rjpperda.mark@epamail.epa.gov>  
**Date:** Thu, 18 Sep 2003 10:45:02 -0700  
**Subject:** RE: Dead birds and squirrels falling out of trees

Jean,

I was in Alameda yesterday and Tuesday. I received your email and talked to Larry Directo in the Resident Officer in Charge of Construction (ROICC) office and the RPM, Rick Weissenborn, about your email. The illnesses and animal deaths that you described in your email would not have been caused by any of the Navy's activities at Alameda Point. Rick is in Alameda today and will be trying to contact you and Marie about her concerns. All of the residents of the Alameda Point Cooperative have been notified and been provided information on the removal action being taken at the West Housing area of Alameda Point. The information provided includes phone numbers of Navy people, including Rick, myself and the ROICC office to contact for information or concerns. None of us have been informed of any problems with animal deaths or illness of residents of the West Housing area. The soil being stockpiled was removed due to PAH contamination. The PAHs in soil pose a risk from long term exposure, i.e. 24 hours a day over many years. The risk is an increased risk of cancer not an immediate acute reaction such as you are describing. The Navy and its contractor are very closely monitoring the air at the West housing area for any dust and taking immediate action to insure that there is no dust from the stockpiles or any operations at the site. There was no foam used to cover the soil stock piles, only plastic sheeting. The soil in the stockpile has been sampled for disposal. We can make the results available to the doctor at the hospital.

I talked with Greg Lorton, the RPM for the Petroleum Corrective action at site 7 about your concerns. Rather than emitting vapors, the action at site 7 actually draws air from the soil, collecting vapors from below the ground surface which are then drawn through carbon filters to remove any contaminants before the air is discharged back to the atmosphere. The vapors are monitored to insure that the filters are changed as needed and that there are no contaminants being released from the system.

Marcia Liao is the DTSC RPM for Alameda Point.

Henry and Marcia,

The Bessie Coleman Complex is the old Navy Lodge on Alameda Point directly North of the old Commissary at Alameda Point across the street from the former Alameda Annex. The removal is similar to the one we did at the Coast Guard housing for PAHs.

Mike

Michael McClelland, P. E.  
BRAC Environmental Coordinator  
Alameda Point / Alameda Annex  
(619) 532-0965 Fax (619) 532-0940  
1230 Columbia, Suite 1100  
San Diego, CA 92101-8517  
mcclellandme@efdswnavfac.navy.mil

-----Original Message-----

From: Jean S Sweeney [mailto:jean\_sweeney@juno.com]  
Sent: Wednesday, September 17, 2003 12:42 PM  
To: HWong@dtsc.ca.gov; McClelland, Michael E (EFDSW)  
Subject: Re: Dead birds and squirrels falling out of trees

I sent my email to Mike Mcclelland, I haven't heard back from him but I will call if I don't hear soon.

The stockpiles are on the parking lot of the commissary which is just south of West Midway near gate C. The Bessie Coleman Center is the former Navy Lodge on the north side of West Midway next to Gate C.

Jim and I went over to look at the site and we saw white plastic over one piles. We saw the yellow signs cautioning about the toxic waste and the big blue sign as you enter the base at Gate C notifying people that the Navy is no longer maintaining the base and that there are toxins and people need to be aware and be careful or something to that effect.

There is a black screen around the parking lot but if you are on the second floor of the Bessie Coleman Center you can look right in there.

Who knows where the air borne contamination is coming from. Site 7 is just south of the Commissary. Could something be leaking from there?

The doctor at the hospital wants a sample of the dirt in the stockpile.

My friend, Helena Lengel, the biologist, told Marie Jenkins to freeee any dead animals so that they can be studied.

Jean

On Wed, 17 Sep 2003 11:40:23 -0700 "Henry Wong"

<HWong@dtsc.ca.gov> writes:

> Hi All,

>

> Our email server was not working properly the past two days. I  
> received notices that all my outgoing emails were not delivered. So  
> here are the questions:

>

> Has the Navy aware of the dirt pile, white foam, dead birds, and the  
> illness mentioned? Where is Bessie Coleman Complex? Is it located  
> within the FISCA property boundary or the Alameda Point property  
> boundary?  
>  
> Please note that this is a sensitive issue and has a potential for  
> news coverage.  
>  
> Henry Wong  
>  
>  
>  
> >>> Henry Wong 09/16/03 11:47AM >>>  
> Hi Mike,  
>  
> Do you know anything about these? Where is Bessie Coleman Complex?  
>  
> Henry  
>  
>  
> >>> Jean S Sweeney <jean\_sweeney@juno.com> 09/15/03 12:51PM >>>  
> Mike and Henry,  
> I got a call from a friend in the biology department at  
> the College of Alameda. A woman named Marie  
> Jenkins who lives in the Bessie Coleman Complex  
> (former Navy Lodge) faces the Commissary parking  
> lot. She had some serious things to say but is afraid  
> to speak out for fear of losing her accommodations.  
> Her number is 510-827-7737  
> This is her account: There is a pile of dirt on the  
> commissary parking lot and recently someone put  
> white foam on the dirt and the people in the BCC  
> began to get sick.  
> Marie, Margaret and Darlene all had to go to the  
> hospital because they had trouble breathing,  
> nausea, diarrhea, and sore throat. She got sick on  
> August 12 and was hospitalized over night on Aug 29  
> and Dr. Jackson at the Alameda Hospital said there  
> were a lot of people with the same symptoms all from  
> the west end of Alameda.  
> She also reported dead birds falling from the sky  
> and dead squirrels falling from trees and dogs falling  
> over dead.  
> She complained to someone and they came and  
> removed the yellow signs on the utility poles and some  
> time last week between Wednesday and Friday they  
> put up blue signs. She is in a wheelchair and cannot  
> read the signs.  
> She was told she couldn't complain as she would  
> lose her housing and Darlene would lose her job.  
> Jean Sweeney

George B. Humphreys  
25 Captains Drive  
Alameda, CA 94502-6417  
June 27, 2008

Mr. George Patrick Brooks  
BRAC Environmental Coordinator  
Department of the Navy  
BRAC Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

Subject Comments on Proposed Plan for Installation Restoration Site 35, Former  
NAS Alameda

Dear Mr. Brooks:

This letter transmits my comments on the Proposed Plan for IR Site 35. Even with considerable background, I found the Proposed Plan extremely difficult to read and understand. It was written in a boring style replete with technical jargon that would make it virtually unintelligible to members of the public.

Contamination due to chips of lead paint from demolition of water towers

On October 31, 2005, I wrote a letter (see attached) to your predecessor describing the Restoration Advisory Board's concerns about chips of lead paint that had been created by demolition of the water towers and subsequently washed into the storm drain system leading to the seaplane lagoon. At that time, we had suggested sampling the storm drains, catch basins and seaplane lagoon for lead contamination. In reviewing the Proposed Plan, I tried to determine whether our concerns had been addressed. Table 2 describes AOC 10/12-2 and states that "Storm drains containing sediment or other solid residues with lead concentrations above RGs would also be cleaned out and disposed off-site". However, there is no description of the Navy's preferred alternative, AOC 10/12-3, "Excavation and Off-site Disposal". Also, there is no indication that such contamination resulted from the Navy's careless control of the water tower demolition. Presumably, AOC 10/12-3 also includes removing lead contamination from the storm drains and its off-site disposal. If so, I am pleased that the Navy has responded to our concerns.

Polycyclic Aromatic Hydrocarbon (PAH) Areas

The Navy's preferred alternative PAH-1 involves leaving any undiscovered PAH contamination in place. The proposed plan refers to PAH in "paved" areas. Presumably, areas under buildings and others structures have not been tested for PAH contamination either. It is interesting that Table-4, "Institutional Controls" does not include institutional controls for the preferred alternative PAH-1, although they are included for the non-

selected alternatives PAH-2, PAH-2a, PAH-3b, and PAH-4a. I prefer Alternative 4b, excavation of paved and unpaved areas to 4 ft. The Navy's preferred alternative leaves undiscovered PAH contamination in place without institutional controls. Future burdens and costs would have to borne by others.

My general impression is that the Navy has expended a great deal of money producing the voluminous reports and studies to justify not cleaning up certain areas; whereas, the money might have been better spent doing actual cleanup work. Perhaps this is a deficiency of the CERCLA process that seems more focused on documentation rather than actual remediation.

Sincerely,

*George B. Humphreys, P.E.*

George B. Humphreys  
Community Co-chair  
Restoration Advisory Board

Copies to:

Anna-Marie Cook, EPA  
Dot Lofstrom, PG, DTSC  
John West, RWQCB  
Frank Matarrese, City Council  
Doug DeHaan, City Council  
Patrick Lynch  
RAB members

George B. Humphreys  
25 Captains Drive  
Alameda, CA 94502-6417  
May 24, 2006

Mr. Thomas Macchiarella  
BRAC Environmental Coordinator  
BRAC Program Management Office  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

Subject: Proposed Plan, Former NAS Alameda Operable Unit 1, IR Sites 6, 7, 8,  
and 16.

Dear Mr. Macchiarella:

Based on a review of the above- referenced Proposed Plan, statements by community RAB members at the May 4, 2006 RAB meeting, and input from the RAB Audubon Society representative, the following comments are offered:

1. General. The risks to ecological receptors have been consistently overlooked and the species chosen for investigation have not been appropriate. Canada Geese and ground squirrels will readily colonize the residential sites and Site 16. Soil cleanup should consider this possibility.
2. Site 7- Former Navy Exchange. It was pointed out by Mrs. Jean Sweeney that she had taken an auto-repair class in a portion of the site which was then unpaved. That area was subject to spillage of oils, solvents, petroleum products, antifreeze, and battery contents. The area has since been paved over. In view of the fact that Site 7 is planned for future residential development, it would be prudent for soil borings to be made throughout Site 7 in areas which are presently paved or occupied by buildings. It can reasonably be anticipated that any buildings and paving will eventually be demolished or removed for future residential development. It is obviously undesirable to leave "undiscovered" contamination in place which could eventually result in future public exposure and/or costly removal actions.
3. Site 16- Former Container Storage Area. During the May 4, 2006 RAB meeting, Mr. Kurt Peterson voiced his concerns about soil contamination between and possibly under the large storage containers. He said that the proximity of the site to Encinal High School and students makes this concern more critical. During the May 4th RAB meeting, the Navy reported that they had performed a removal action to excavate and remove contaminated soil in 1997. However, neither the Navy nor its contractor was able to satisfactorily answer whether soil under the containers has ever been sampled or tested for contamination. It appears unlikely that these large storage containers will remain in place as

permanent structures. Whether the containers are removed by the Navy or someone else, the soil under these containers should be sampled and tested, by slant drilling, by drilling through the floors of the containers, or by moving the containers and then sampling the exposed soil. Because contaminated soil was found between the containers and removed in the 1997 removal action, it appears credible that there is some contamination under the containers.

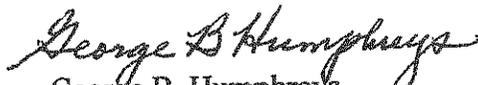
4. Site 6, Former Aircraft Maintenance Area. Although the preliminary remediation goals for soil and groundwater are stated to be residential levels, page 5 of the Proposed Plan states that the expected future use of Site 6 is commercial/industrial. Last year, I attended a series of workshops presented by the City's planning department. Among the alternatives being considered was the building of condominiums, apartments, or live/work units between and among the hangers on the north side of the seaplane lagoon. Thus, it is possible that the site will, in the future, be used for residential purposes. Also, consideration is being given to moving the Hornet to the northeast corner of the seaplane lagoon to free up space for the Maritime Administration ships at the docks in the seaplane lagoon. This part of the lagoon is immediately adjacent to Site 6 and the Naval Air Museum. There could be live-on-board staff on the Hornet, plus periodic occupancy by Sea Scouts, Sea Cadets and other groups. Therefore, it is important that cleanup levels be maintained at residential levels, and not relaxed to commercial/industrial levels.

The magnitude and direction of the vertical component of groundwater flow between the first water bearing zone (FWBZ) and the second water bearing zone (SWBZ) at Site 6 could not be estimated since no wells are screened in the SWBZ. There does not appear to have been any investigation of the SWBZ since the feasibility study (FS). An investigation of the impact of contaminants on the SWBZ needs to be conducted.

The community RAB recommends that the soil in Site 6 be remediated as the high PAH levels attributed to background soils are unacceptable.

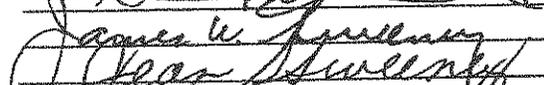
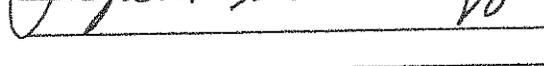
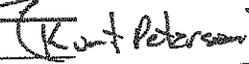
We appreciate the opportunity to comment on the proposed plan.

Sincerely,

  
George B. Humphreys,  
RAB Community Co-chair

  
Dale Smith,  
RAB Audubon /Sierra Club Representative

Copies to  
Anna-Marie Cook, U. S. EPA  
Elizabeth Johnson, City of Alameda  
Dot Lofstrom, DTSC  
Judy Huang, RWQCB  
Frank Matarrese, Alameda City Council

**ATTACHMENT B-4**

**UPDATED RAB TECHNICAL SUBCOMMITTEE MEETING NOTES  
FROM JANUARY 2009**

**(2 pages)**

Technical Committee Meeting, January 15, 2009

Present: Derick Robinson, Curtis Moss, Fred Hoffman, Jean Sweeny, Jim Sweeny, Anna-Marie Cook, Peter Russell, Dale Smith and George Humphreys

Fred Hoffman agreed to give a recap at the next RAB meeting.

Curtis Moss presented the navy's proposed plan which is based on a previous clean-up at another Navy base. If there is 10,000  $\mu\text{g}$  of TCE the Navy considers the site to have dense non-aqueous phase liquid (DNAPL), in other words 1% solution means DNAPL is present.

CM: Iron tends to adhere to itself; therefore, it is coated with gold, titanium or palladium.

FH: If an injection well showed a drop in contamination level, it might be showing natural improvement. Vinyl chloride degrades quickly in an oxygen environment.

The case study didn't show abiotic destruction of TCE. Organisms may have played a role.

OU-2b

CM: The contractor removed the oil-water separator found when taking samples. They removed the soil below the vault as well as around it. It had been punctured to increase draining. That might have led to the plume creation. The oil-water separator was 4' x 4' x 10'; the resulting hole was 10' x 20' x 7'. Water was oozing into the hole from the side wall.

FH: Was a water sample taken?

CM: No, the water bearing zone was only about 1" thick. Eight soil samples were taken and one slurry sample.

Treatment of the plume by nano zero valent iron (nZVI) may not degrade vinyl chloride. Degradation chart showed no connection of vinyl chloride to the nZVI.

DS: Photo of treatment of VOCs showed mounding caused by displacement of soil by the reaction of the contaminants to the nZVI.

EPA: 6-phase heating may be more efficient, as it will remove all contaminants. Site soil used in the benchscale may not have had vinyl chloride or daughter products, thus showing false success.

FH: Injection will displace dissolved plume away from the treatment zone.

GH: Iron becomes ferrous hydroxide, which is gelatinous. This will cause the plume to move around it and not be treated. You will end up with essentially a slurry cut-off wall in the ground that will persist for years.

FH: What is the objective here, advanced research on clean-up technologies or clean-up of the groundwater? The most efficacious remedy would be to pump and treat the source area with the highest contamination levels and follow-up with another treatment regime to get the contaminants down below PRGs.

EPA: The EPA has issued a moratorium on using pump and treat as there is too much rebound caused by contamination adsorbed onto the soil particles to become resuspended in the groundwater. Livermore National Lab is being sued for continuing to pump and treat.

CM: The proposal is to inject from 50 to 10 feet in depth at 10 foot intervals. Just go in and blast the whole thing.

PR: If there is an impermeable layer at 5 feet, injection should occur there where the contaminants are trapped.

EPA: Without knowing the full extent of the plume and its boundaries, the treatment may merely move the plume or push it further out. There needs to be containment wells to cause pressure against the expansion force.

DS: This is the technique used at Treasure Island on a 6-phase project near the Bay to keep the VOCs from moving into the Bay.

The Navy has actually found the process infeasible for large plumes.

DS: Brooks made a presentation at some conference showing clean-up of the VOC plume at Hunter's Point. That plume was huge. We don't know all the details of that remediation. It might not be such a good technology.