



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

[www.bracpmo.navy.mil](http://www.bracpmo.navy.mil)

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

November 5, 2009

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:

Doug Biggs                              Alameda Point Collaborative  
Anna-Marie Cook                      U.S. Environmental Protection Agency (EPA)  
Dave Cooper                              EPA  
Doug Delong                              Navy Caretakers Site Office  
Murray Einarson                      AMEC Earth & Environmental (AMEC)  
Adrian Furz                              AMEC  
Susan Galleymore                      Community member  
Fred Hoffman                              RAB  
George Humphreys                      RAB  
Carolyn Hunter                              ChaduxTt  
Michelle Hurst                              Navy Remedial Project Manager (RPM)  
Jeff Knoth                                RAB  
Joan Konrad                              RAB  
Dan Kwiecinski                              AMEC

James Leach	RAB
Gretchen Lipow	Community member
Dot Lofstrom	California Environmental Protection Agency Department of Toxic Substances Control (DTSC)
John McGuire	Shaw Environmental, Inc. (Shaw)
John McMillan	Shaw
Nicole Olmstea	Community member
Derek Payne	Battelle
Marsha Pendergrass	RAB Facilitator
Peter Russell	Alameda Reuse and Redevelopment Authority (ARRA)
Bob Sikora	Community member
Marcus Simpson	DTSC
Bill Smith	Community member
Radhika Sreenivasan	ChaduxTt
Jean Sweeney	RAB
Jim Sweeney	RAB
Michael John Torrey	RAB
Xuan-Mai Tran	EPA
John West	San Francisco Bay Regional Water Quality Control Board (Water Board)

The meeting agenda is provided in Attachment A.

## **MEETING SUMMARY**

Dale Smith (RAB community co-chair) called the November 2009 Former Naval Air Station Alameda (Alameda Point) RAB meeting to order at 6:35 p.m.

Derek Robinson (Navy co-chair) announced that he is the new Base Realignment and Closure (BRAC) Environmental Coordinator (BEC) for Alameda Point and is looking forward to working with the RAB.

### **I. Approval of October 2009 RAB Meeting Minutes**

Ms. Smith asked for comments on the October 2009 RAB meeting minutes. RAB members provided comments, which will be incorporated into the final set of minutes for October 2009.

RAB members also commented on the corrections of August and September 2009 meeting minutes, which will be incorporated in the final sets of minutes for each month.

### **Comments on the October 2009 Minutes:**

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

- Mr. Hoffman indicated that Mr. Murray Einarson's name is misspelled in several places in the document. A global change will be made.
- Page 5 of 11, section II, last paragraph, seventh sentence, "He added that this map was created in 2005 with data collected as late as 1992," will be revised to "He added that this map was created in 2005 with data collected at multiple times over a decade."

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

- Page 8 of 11, section IV, fourth paragraph, first sentence, "Mr. Humphreys said that several years ago Patrick Lynch stated a location near the water on the east end of Alameda Point contained high levels of trichlorophenol and...", will be revised to "Mr. Humphreys said that several years ago Patrick Lynch stated a location near the water on the east end of Estuary Park contained high levels of pentachlorophenol and..."

The following comments were provided by Ms. Smith:

- Pages 7 of 11, section III, after third paragraph, add "*Notes - Ms. Sweeney asked if the excavation will be the usual 2 foot to 4 foot. Mr. Darrow responded that excavation will be for the full extent of the contamination. Ms. Smith indicated that the document, however, states that the vertical extent of excavation will only be to a maximum of 4 feet and horizontal excavation will be until no further contamination is encountered.*"
- Ms. Smith indicated that the RAB comment letter for Site 2 is not included as an attachment in the meeting minutes. Ms. Smith asked that the comment letter be attached to the final set of October minutes and that it is provided as a handout at the next RAB meeting.

The following comments were provided by Anna Marie Cook (EPA):

- Page 7 of 11, section IV, last paragraph, first sentence, "During her Site 28 update, Ms. Cook noted that cleanup at the site will extend only to 2 feet and ICs will be placed," will be revised to "During her Site 28 update, Ms. Cook noted that cleanup of arsenic at the site will extend only to 2 feet and ICs will be placed restricting the use of the property."

The October 2009 RAB meeting minutes were approved with the above modifications.

Ms. Sweeney asked if the minutes are maintained as a reference at the information repository (IR). Mr. Robinson said that the final monthly minutes are available at the IR and are posted at the BRAC website, [www.bracpmo.navy.mil](http://www.bracpmo.navy.mil).

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

Mr. Robinson reviewed the action items. (See action item list at the end of these minutes.)

Action Item 1 – Pending. Presentation will be scheduled for January 2010.

Action Item 2 – Pending. Mr. Robinson indicated that the Navy prepared a work plan which is currently under review. He indicated that a diver is scheduled to investigate the large, submerged, unidentified object during the week of November 30, 2009. He added that an update on the investigation will be communicated at the next meeting.

Action Item 3 – Pending. Ms. Smith said that she had asked whether the Navy's Radiological Affairs Support Office (RASO) would re-assess its approach after the anomaly was found to identify the radiological problems at the base. Ms. Smith added that RASO said that it will re-assess the approach it is using. Mr. Robinson said that the object found around the Seaplane Lagoon was analyzed and the Navy is trying to establish its origin. He added that the cleaning of the storm drain lines is one of the ways the object could have entered the area. Mr. Robinson said that the next step is to scan a larger area near the Seaplane Lagoon. He added that a plan is being developed. Mr. Humphreys said that the Navy should consider a basewide radiological survey to make sure no more unknown anomalies are found. Mr. Robinson said that the Navy needs to start by reviewing the historical records of operation and noted that scanning the entire base will be expensive. Bob Sikora (community member) said that 20 or 25 years ago some of his students of Alameda Community College, who worked on the base, told him that there was bore testing of 20-millimeter cannons on airplanes. His concern was that depleted uranium bullets were used and dust was produced. He asked where the bore testing occurred at the base. After discussion, it was decided that the action item will be updated and remain pending. Mr. Robinson said that he would check the Historical Radiological Assessment (HRA) report for information on bore testing and inform the RAB members of its recommendations.

Action Item 5 – Pending. Dot Lofstrom (Department of Toxic Substances Control Board [DTSC]) and Catherine Haran (Navy Remedial Project Manager [RPM]) will informally discuss "Methods of RAB communication of remedial work at Alameda to the community" during the December 2009 RAB meeting.

Action Item 6 – Pending. Ms. Lofstrom noted that DTSC is reviewing a new map on the extent of Marsh Crust drafted by the City of Alameda. She added that she should be able to provide it to the RAB in January 2010.

Action Item 7 – Completed.

Action Item 12 – Completed.

Action Item 13 – Completed. (See Section V for detailed description).

Action Item 14 – Pending. The RAB comment letter on Site 2 proposed plan (PP) will be included in the final October minutes, and a copy will be provided at the RAB meeting on December 3, 2009.

Mr. Humphreys indicated that lead chips entered the storm drains when tanks were removed. Mr. Humphreys asked whether the Navy investigated and removed the lead contamination from the storm drains. Ms. Cook said that the storm drains will be investigated as part of the lead removal action, which is at the final record of decision (ROD) stage. Mr. Hoffman asked if lead contamination in active storm drains should be considered for emergency removal, especially before the next storm. He added that the lead contamination may be entering the San Francisco Bay during storms. Ms. Cook said that the regulators and the Navy will consider the issue at the next BRAC Cleanup Team (BCT) meeting and update the RAB on the discussion.

Ms. Cook noted that Ms. Smith had asked her about the number of groundwater monitoring wells at Site 28 during the last meeting. Ms. Cook said that she spoke to Frances Fadullon (Navy RPM) and found that eight groundwater monitoring wells will be sampled at the shoreline, and that the effort includes analysis of arsenic to ensure that it is not being mobilized.

Mr. Robinson said that the television show *Trauma* wanted to film on the runway at the federal transfer parcel area. Since the Navy approval process was time consuming, the crew asked the City of Alameda for approval and used the city portion of the runway rather than the Navy's. The shooting was completed in 3 days.

Mr. Robinson noted a Dubai Star oil spill in the bay near Alameda Point. He added that the Navy was contacted by U.S. Fish and Wildlife Service (FWS) on October 29, 2009, to indicate potential risk to some of the Alameda wetland areas. The Navy blocked the culvert to the Site 2 wetlands. He added that the Navy used its contractors on Sites 5 and 10 to block the storm drain by placing oil-absorbing socks in the area. He said that the work was completed in a day with the help of Doug Delong (Navy Caretaker Site Office). Mr. Robinson said that National Response Center (NRC) is cleaning up the shoreline at Site 2.

Mr. Robinson asked if the RAB wanted a presentation from the Veteran's Administration (VA) and FWS for the runways area transfer parcel. He added that as a result of FWS concerns and comments, the VA is not planning to extend the bay trail to Site 2. He noted that the decision can be altered, depending on community comments, since it has not been finalized. Mr. Robinson said that the Navy is also voicing its concerns in favor of the bay trail. He added that he will obtain contact information from the VA and FWS and send it to Ms. Smith. Ms. Smith said that she will obtain information from the FWS and Audubon Society as to why a bay trail will be a problem.

Ms. Smith distributed *The Documents Received in October 2009* (Attachment B-1). Ms. Smith said that she received document items 6 and 7 twice this month. Ms. Cook said that the first set was inadvertently sent out without review and contained mistakes, so the documents were redistributed. Ms. Smith said that the consultant and the RPM for the project for document item 9 requested a presentation at the RAB. She added that she could provide the RAB with the CD if members want to review the document. Ms. Smith noted that the document has a 2-month review period. It was decided that a presentation on the draft work plan (WP) treatability study at plume 4-1 should be presented at the December RAB meeting.

Ms. Cook said that she would like to present EPA's End of the Year Pie Charts during the December RAB meeting.

### **III. Site 1 Sampling and Analysis Plan**

Mr. Robinson introduced Dan Kwiecinski and Murray Einarson from AMEC Earth & Environmental to begin the presentation on the Site 1 sampling and analysis plan (SAP) (Attachment B-2).

During the review of Slide 4, Mr. Humphreys asked about the analytical suite. Mr. Kwiecinski said that soil is analyzed for semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), and some metals. Ms. Sweeney asked about the dimensions of the trenches and whether they extend deeper than 2 feet in areas where waste is encountered. Mr. Kwiecinski said that the lengths of the trenches will vary from 75 feet to 271 feet and the depths of the trenches will vary roughly between 4 to 8 feet below ground surface or until groundwater is reached. Ms. Sweeney asked if samples will be collected in the trenches. Mr. Kwiecinski said that analytical testing in the trenches is not planned. Mr. Robinson added that the main purpose of the trenches is to delineate the extent of the waste and make sure that the cover continues to the extent of the waste. Mr. Humphreys asked about the revetment shown in the figure. Mr. Kwiecinski said the revetment is the existing rip-rap. Ms. Smith asked if the reason samples from the trenches will not be analyzed for dioxins and furans was that the trenches are designed only to delineate the extent of waste. Mr. Robinson agreed and added that the remedy is designed to prevent contact and exposure by placing a 4 foot soil cover on top of the waste. The purpose of the trenches is to determine the extent of the waste. Mr. Hoffman said that the last set of trenches was designed to find the border of the waste cells rather than to identify the type of waste present. Mr. Robinson clarified that previously two trenches were excavated in every cell to locate any 55-gallon drums. Peter Russell (Alameda Reuse and Redevelopment Authority [ARRA]) said that the trenching was in response to the comment from ARRA. He added that there were two purposes for the trenches: (1) to evaluate but not to rule out the presence of drums that might fail in the future, which would cause groundwater contamination not observable at present, and (2) to evaluate the volume of the waste. Two trenches were installed, one close to the center and the other close to the edge. Ms. Cook said little waste was observed during the earlier trenching. She asked how the new trenching would be effective in delineating the extent of the waste by visual inspection rather than sampling. Mr. Robinson said that construction debris was found during earlier trenching. He said the Navy will use the old site photos if no waste is found. He added that even if waste is not found, the site must be covered

since radiological waste is present. Mr. Robinson said that the remedial design (RD) will describe how and where the cover will be placed. Ms. Sweeney asked if trenches will be sampled. Mr. Robinson said that many samples will be collected, but not in the trenches.

During the review of Slide 6, Mr. Humphreys said that he is concerned that the large storm waves might carry the lead shot to the offshore side of Area 5. Mr. Robinson said that the Navy will be sampling for lead in the beach area. No sand is available in the area north of the rip-rap for sampling. Mr. Kwiecinski said that all locations where sand can be observed at low tide are being sampled. Mr. Robinson added that there has been extensive sampling outside the rip-rap and no further action has been recommended. Ms. Smith asked if the Water Board will allow the Navy to use concrete as rip-rap along the shore. She added that concrete placed in salt or brackish water will degrade and can change the chemistry of the water. John West (Water Board) said that concrete is more of an issue with wetlands fill rather than its degradation in water. He added that the decision to place concrete as rip-rap will depend on the purpose.

During the review of Slide 7, Mr. Leach asked if the berm at Site 1 will account for a sea level rise of 6 feet 3 inches. Ms. Lofstrom clarified the question saying that if global warming causes a sea level rise that would endanger the Site 1 cover, then corrective measures would be taken to insure that the CERCLA remedy was unharmed. Mr. Kwiecinski said that the Navy has considered sea level rise caused by climate change and is considering it in the RD. He added that the current projections are 0.72 meter rise in the next 50 years and 1.5 meters in the next 100 years. He said that based on the 5-foot rise in 100 years, the Navy is considering moving the edge of the revetment after the cover is placed and bringing it up to 8 feet above sea level. Mr. Kwiecinski said that the cover will be assessed every 5 years. Ms. Smith asked if the excavated material from the burn area will be stockpiled at the site. Mr. Kwiecinski said that the burn material will be placed in a soil management area at the runway. He added that the material will be radiologically screened, sampled, and analyzed to see if it meets remedial goals (RG). Ms. Smith asked if dioxins and furans are being tested. Dr. Russell confirmed tests for dioxins and furans are included in the work plan for pre-design sampling and investigation.

During review of Slide 9, Mr. Einarson explained the operation of ultraviolet optical screening tools (UVOST) and membrane interface probes (MIP). Ms. Sweeney asked about the depth the UVOST is able to test. Mr. Einarson said that the UVOST tests 15 to 18 feet below ground surface. He added that UVOST obtains real-time data. Ms. Lofstrom asked whether studies would continue below 18 feet. Mr. Einarson agreed. Ms. Smith asked about the benzene plume, which was found by other investigations in the area. Mr. Einarson said that the plume is a mixture of petroleum hydrocarbons and chlorinated solvents.

Mr. Leach asked if the Navy was unable to use the pump-and-treat technique. Mr. Einarson said that the plan is for in situ treatment as opposed to pump and treat. He added that pump and treat has been used effectively as a containment technology but is not as effective for treatment. The Navy will use a treatment technology that reduces the concentration of the contaminant in the subsurface. Mr. Leach said pump and treat includes reinjection of water to create a hydraulic differential toward the extraction wells. He added that most of the oxidants used before have left by-products in the ground. Mr. Leach recommended using ozone to serve as an oxidizing

reagent because it does not leave any by-product. Mr. Einarson said with the current plan, the challenge in injection of reactant for in situ remediation is contact between the oxidant and the contaminants and that hydraulically enhancing the distribution will increase the contact. A solution of reactants is injected and at the same time extraction wells force the material through the aquifer. It is a hybrid pump and treat technology, with the major difference that it treats in situ rather than ex situ as much as possible. Mr. Leach said that if the injection wells are placed around the perimeter, then oxidant is dispersed throughout the soil. Mr. Einarson said that there will be both injection and extraction wells placed along the perimeter. The oxidant will be circulated through the subsurface and amendments will be added as a catalyst to increase the speed of the hydrocarbons degradation. He said any degradation products produced during in situ chemical oxidation (ISCO) will be monitored, and proper action will be recommended. Mr. Robinson stated he appreciated Mr. Leach's comments and asked that he submit his comments during the remedial design comment period.

Mr. Hoffman asked if a dense nonaqueous phase liquid (DNAPL) plume was found during the study by the University of Waterloo. Mr. Einarson agreed and said that a dark nonaqueous phase liquid that was slightly denser than water was found. He added that it was a dark black liquid that was a mixed waste composed of petroleum hydrocarbons and chlorinated solvents. He said it represents the only contamination detected from all the samples that were collected during the study. Mr. Hoffman said that high concentrations of volatile organic compounds (VOCs) have been an indication of probable product. Since product was detected once during the previous study, then more product could be present. Mr. Hoffman asked if product should be treated with ISCO. Mr. Einarson said that ISCO can be used but it would depend on the amount of product and whether it is isolated. He added that this question can be better answered after adequate characterization using the UVOST. Mr. Hoffman asked if wells will be installed as part of the remediation plan. Mr. Einarson said that wells will be installed for performance monitoring. Mr. Hoffman suggested Mr. Robinson monitor the existing wells. Mr. Robinson said that the Navy is required to follow the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) guidelines and Navy procedures and policy before monitoring and that monitoring can proceed only after a SAP is approved. Marsha Pendergrass (RAB facilitator) suggested Mr. Hoffman make his comments formal in writing during the public comment period. Mr. Robinson agreed that official comments are the best way for the RAB to be heard and noted that the comment period ends on November 19, 2009.

Mr. Humphreys said that the reason that waste is not being found in the waste cell area is because the waste might be located below the depths that have been sampled. The Navy should be continuing deeper in Area 1A to characterize or sample the waste.

#### **IV. Site 27 Remedial Action Update**

Mr. Robinson introduced Michelle Hurst (Navy) to begin the presentation on the Site 27 remedial action (RA) update (Attachment B-3).

During the review of Slide 4, Ms. Sweeney asked if water is treated in the reaction tank. Ms. Hurst said that part of the treatment occurs in the tank and then it is re-injected into the

subsurface for in situ remediation of the groundwater in the subsurface. She explained that groundwater is extracted, mixed in the tank, and re-injected into the subsurface. Mr. Humphreys asked if the secondary containment was large enough to hold the volume of the two tanks. Ms. Hurst said that it is.

During the review of Slide 6, Mr. Leach asked if the injection wells are in the denser part of the plume. Ms. Hurst explained slide 7 and said there are 20 modules and each module includes a set of injection and extraction wells. The higher concentration areas are located at treatment areas TTA 1A and TTA 1B. Mr. Leach said that he is concerned about the placement of injection and extraction wells. He added that the placement of injection wells is mathematically reversed. He said the results might however appear to have reduced the contamination but in reality the material is being dispersed. Ms. Hurst said that the Navy adjusted the design of the modules in response to a similar comment; hence extraction wells were placed on the outer ring of the module in order to maintain hydraulic control. She said the Navy is monitoring within the module as well as outside the module to make sure hydraulic control is maintained. She said that the extraction wells on the outer ring ensure that contaminants are not driven outward. Mr. Leach said that contamination is diluted to the broader area and instead should locate injection wells outside the contaminated area, pulling it toward the concentrated area, where it is extracted. Mr. Robinson said that he will bring the comment to the design engineer.

During the review of Slide 8, Mr. Hoffman asked about the meaning of operational data. Derek Payne (Battelle) said that a field VOC kit was used to monitor the influent and effluent values after the sulfate is mixed with groundwater. Existing groundwater wells inside some of the treatment modules that are not being used for treatment are checked on a daily basis. Mr. Hoffman asked if there is a map showing the performance monitoring wells and plume before treatment started. Ms. Hurst said she did not have a detailed map with her. Mr. Hoffman asked about results for the performance monitoring wells outside the plume. Mr. Payne said the wells downgradient from the Seaplane Lagoon (western side) were free of contamination. He added that wells with higher contamination were seen on the eastern side only. Though Ms. Hurst did not have a detailed figure showing the exact location of the performance monitoring wells, she noted that there is one well in each of the inner ring of extraction wells in each of the 20 modules shown in Slide 7. Ms. Hurst said that she had the work plan that showed the original plume. Mr. Hoffman clarified that successful operation did not mean success based on remediation.

Susan Galleymore (community) asked about the contaminants, how sodium persulfate works, what happens to the sodium persulfate afterward, and why the plume boundary stops as a straight line at the Seaplane Lagoon. Ms. Hurst said that the plume does not extend into the water at concentrations above the RGs. Ms. Smith noted that no samples have been collected in the lagoon, hence it cannot be stated that the plume does not extend into the lagoon. Ms. Hurst clarified that the wells between the plume and the lagoon do not show contaminants above RGs. Ms. Hurst listed the contaminants of concern: vinyl chloride, trichloroethene, tetrachloroethene, trans-1,2-dichloroethene, and cis-1,2-dichloroethene. She added that when the contaminants of concern come in contact with the sodium persulfate they break down into less harmful byproducts.

Ms. Smith asked whether the Navy chose not to use six-phase heating because utility lines are present. Ms. Cook replied that the capital and energy cost for the six-phase heating make it worthwhile only for plumes with very high contaminant concentrations. She added that concentrations in the Site 27 plume are in the range of medium to low and the volume is small enough to be handled with the selected remedy.

Mr. Hoffman requested a single map showing the original groundwater plume superimposed on the treatment modules. He also asked that the map show the performance monitoring points for the plume.

## **V. BRAC Cleanup Team Update**

Ms. Cook provided a brief update on the EPA project that evaluated usage options for Building 5, which was listed as an action item. She said that the EPA contractor decided to study Building 5 in four different scenarios: (1) demolition of the building including the concrete around the building and the concrete slab, (2) demolition of the building leaving the concrete slab in place, (3) building replacement and (4) building renovation. Michael John Torrey (RAB member) asked if the building would be used as offices. Ms. Cook said she will have to review the reuse plan but she expects it to be an office building. Ms. Cook said that she had read an article from *Metropolitan Home* (source: green building and remodeling for dummies), which describes how much waste the U.S. places into landfills from construction projects. Ms. Cook said that as part of the four scenarios the EPA contractor will estimate the cost for each and use a matrix from Battelle and the Air Force to consider the environmental footprint of each of the scenarios. She added that work on one of the scenarios has begun. The contractor studied demolishing the building and leaving the concrete slab in place. She added that for complete demolition the target number is \$80 million and for leaving the slab in place and demolishing, it would cost \$50 million. In addition, 80 million tons of concrete have been estimated as a result of the demolition. Ms. Cook noted that these numbers are estimates and will be refined. She added that the amount of fuel to be used for hauling the concrete to the recycling center, a municipal landfill, or Kettleman City was estimated to be 13,000 gallons of diesel for a recycling center or landfill and 250,000 gallons of diesel to Kettleman City. The fuel would generate 300,000 pounds of carbon dioxide (CO<sub>2</sub>). Ms. Cook noted that demolishing a building not only is expensive but also involves environmental impacts, and that the concept of sustainability and the environmental footprint need to be considered to make decisions about demolishing large buildings. Ms. Cook said she will give the RAB a quarterly update on the project. Joan Konrad (RAB member) asked if the Navy addresses all contamination above ground. Ms. Cook said that the Navy will be responsible for all radiological contamination at Building 5; however, the Navy will not address the lead-based paint and asbestos because Building 5 is not planned for residential use. Mr. Humphreys asked if EPA has evaluated seismic upgrades of the building. Ms. Cook said upgrades have been considered. Mr. Leach asked if the contractor is local. Ms. Cook said that the contractor is from the Washington DC area.

Mr. West provided an update on the BCT meeting. He said that the BCT discussed Site 1 during its teleconference meeting. The regulators also commented on the Site 35 ROD, community

involvement plan, and Site 34 feasibility study. The regulators are currently reviewing the Site 1 SAP and Site 24 ROD.

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

Ms. Sweeney nominated Ms. Smith for the community co-chair and Mr. Humphreys for the vice community co-chair. Mr. Sweeney seconded. Mr. Torrey moved the nominations to be closed.

Ms. Sweeney requested all presentation handouts to be dated and to include page numbers. She commented that the minutes and the attachments should be printed on both sides. She also commented that the attachment separator pages that call out the attachments should be deleted. Ms. Sweeney emphasized that the meeting minutes should be printed using a minimum amount of paper.

Ms. Sweeney said that the south wing of the building used for retail and repair at Site 7 was removed. She added that there was an incinerator at the site and asked if hospital waste was burned in the incinerator. Ms. Sweeney said that since hospitals use radioactive materials, the waste might contain radioactive material. Ms. Sweeney wanted to know when the incinerator was used and whether it was checked for radioactivity. She also wanted information on the origin of the piles of soil in the commissary.

Ms. Smith said that a wall is being built at Site 2 instead of rip-rap. Mr. Robinson said that concrete blocks were lined up and look like a wall. He added that since the Navy did not want to send the concrete to the landfill, it was used to improve the revetment. He said it is not on the wetland. Ms. Smith said that a sink hole has opened up in the nesting area and Mr. Delong dumped concrete in it. Ms. Smith said that the FWS objected and asked Mr. Robinson why it was not investigated as a groundwater problem. Mr. Robinson said that he had not heard about this issue and will talk to Mr. Delong.

Mr. Sikora said that taking a video of the trenches would provide a better understanding than still photographs. Mr. Sikora said that Mr. Hoffman's comment regarding obtaining data in time and not waiting is important, and he supports the comment as an Alameda resident. Regarding sea level rise; Mr. Sikora said he did not agree with the sea level rise estimate given by Mr. Kwiecinski. He said that with improvements in technology, the measurement of sea level rise has improved and every year the mean sea level rise estimate increases.

Ms. Smith noted that there will be an annual holiday party after the next meeting on December 7.

## **VII. Meeting Adjournment**

The meeting was adjourned at 10:05 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.	1./ Pending/ January 7, 2010.	RAB	Mr. Robinson
2. Provide information on the large, submerged, unidentified object and radium-226.	2./ Pending/ January 7, 2010	RAB	Mr. Robinson
3. Provide update on basewide radiological investigation by RASO and provide information on the bore citing activity at the base. Also provide recommendations from the Radiological Assessment Report.	3./ Pending/ January 7, 2010.	RAB	Mr. Robinson
4. Informal discussion on “methods of RAB communication of remedial work at Alameda to the community.”	5./ Pending/ December 3, 2009	Ms. Konrad	Ms. Lofstrom
5. Provide the RAB with the latest map on the extent of Marsh Crust.	6./ Pending/ January 7, 2010	Ms. Smith	Ms. Lofstrom
6. Schedule technical meeting on Site 27 remedial action	7./ Completed/ NA	Mr. Hoffman	Mr. Robinson
7. Add a discussion on the Site 1 groundwater plume with AMEC to the agenda	12./ Completed/ NA	Mr. Hoffman	Mr. Robinson
8. Provide a brief update on the EPA project	13./ Completed/ NA	Ms. Smith	Ms. Cook
9. Include the RAB comment letter on Site 2 Proposed Plan in the October meeting minutes and provide as a handout during the next RAB meeting.	14./ Pending/ December 3, 2009	Ms. Smith	Mr. Robinson
10. Provide information and map on the Navy ships that were buried at the base.	0./ New/ January 7, 2010	Ms. Sweeney	Mr. Robinson

<b>Action Items:</b>	<b>Previous Item #/ Action Item Status/ Action Item Due date:</b>	<b>Initiated by:</b>	<b>Responsible Person:</b>
11. Provide information on any investigations of the firing range near the officer's club.	0./ New/ January 7, 2010	Ms. Sweeney	Mr. Robinson
12. BCT will discuss the possibility of an emergency removal for the lead contamination in the storm drain at the BCT meeting and update the RAB on the discussion.	0./ New/ December 3, 2009	Mr. Hoffman	Mr. Robinson and Ms. Cook
13. Provide a map of original plume at Site 27.	0./New/ December 3, 2009	Mr. Hoffman	Ms. Hurst
14. Discuss placement of the extraction and injection wells within the Site 27 treatment modules with a remedial design engineer.	0./New/ December 3, 2009	Mr. Leach	Mr. Robinson
15. Provide an update on the Navy's use of concrete in the tern nesting area.	0./ New/ January 7, 2010	Ms. Smith	Mr. Robinson

**ATTACHMENT A**

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

**November 5, 2009**

**(1 page)**

# ***RESTORATION ADVISORY BOARD***

***NAVAL AIR STATION, ALAMEDA***

## ***AGENDA***

**NOVEMBER 5, 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 – 6:35</b>	<b>Welcome and Introductions</b>	<b>Ms. Dale Smith</b>
<b>6:35 – 7:00</b>	<b>Approval of Minutes</b>	<b>Ms. Dale Smith</b>
<b>7:00 – 7:15</b>	<b>Co-Chair Announcements</b> ➤ <b>Action item review</b>	<b>Co-Chairs</b>
<b>7:15 - 7:45</b>	<b>Site 1 Sampling and Analysis Plan</b>	<b>Derek Robinson/AMEC</b>
<b>7:45 – 8:00</b>	<b>Site 27 Remedial Action Update</b>	<b>Michelle Hurst</b>
<b>8:00 – 8:15</b>	<b>BCT Update</b>	<b>Dot Lofstrom</b>
<b>8:15 – 8:30</b>	<b>Community &amp; RAB Comment Period</b> ➤ <b>RAB Co-chair nominations</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 Documents Received - October 2009. Distributed by Dale Smith, RAB Co-Chair (1 page)
- B-2 Site 1 Sampling and Analysis Plan Presentation Handout. Distributed by Dan Kwiecinski, AMEC (7 pages)
- B-3 Site 27 Remedial Action Update Presentation Handout. Distributed by Michelle Hurst, Navy RPM (5 pages)

**ATTACHMENT B-1**

**DOCUMENTS RECEIVED, OCTOBER 2009**

**(1 page)**

Documents Received  
October 2009

**Documents**

1. *Final Technical Memorandum, Update to Preliminary Remediation Criteria and Closure Strategy for Petroleum Contaminated Sites*, Battelle, September 14, 2009
2. *Site Closure Summaries for Multiple Petroleum Underground Storage Tank Sites for the Petroleum Program*, Battelle, October 1, 2009
3. *Final Land Use Control Remedial Design IR Site 25 Soil*, Department of the Navy, October 2, 2009
4. *Draft Work Plan for Pre-Design Sampling and Investigation*, AMEC Earth & Environmental, October 5, 2009
5. *Draft Radiological Work Plan for Remedial Design and Remedial Action*, AMEC Earth & Environmental, October 5, 2009
6. *Revision 1 Draft Final Remedial Action Work Plan OUI, IR Sites 6, 7, 8 and 16*, URS, October 6, 2009
7. *Revision 1 Draft Final Remedial Design OUI, IR Sites 6, 7, 8 and 16*, URS, October 6, 2009
8. *Final Record of Decision, IR Site 30 Soil*, Department of the Navy, October 23, 2009
9. *Draft Work Plan Treatability Study at Plume 4-1 OU2B, IR Site 4*, Shaw Environmental, October 28, 2009
10. *Draft Addendum #4 to final Project Plans, Fuel Line Abandonment and TC Drain Assessment, Corrective Action Area C*, Shaw Environmental, October 29, 2009

**Responses**

1. *Concurrence with Finding of Suitability to Transfer Estuary Park, California* Department of Toxic Substances Control, October 13, 2009
2. *Transmittal, closure, and closure summary letters for three Alameda Point petroleum underground storage tanks (USTs): UST 162-1&2; UST 374-1&2; and UST 614*, State of California, Water Board, October 20, 2009

**ATTACHMENT B-2**

**SITE 1 SAMPLING AND ANALYSIS PLAN PRESENTATION HANDOUT**

**(7 pages)**



## Navy BRAC PMO West



### Draft Pre-Design Investigation and Sampling Work Plan for IR Site 1 Alameda Point, California

Dan Kwiecinski – AMEC Earth & Environmental  
Murray Einarson – AMEC Earth & Environmental



## Overview



- SUMMARY OF PRE-DESIGN INVESTIGATION OBJECTIVES AND ACTIVITIES FOR:
  - Area 1A, Area 1B, Area 5, and
  - Groundwater VOC Plume
- SCHEDULE AND PATH FORWARD



## AREA 1A OBJECTIVES



- VERIFY EXTENT OF WASTE
  - Document type and extent of waste
- SUPPLEMENT EXISTING GEOTECH DATA
  - Determine as-built section of existing runway and subgrade properties
  - Determine geotechnical properties of native, fill, and waste materials under isolation cover
  - Information will support seismic stability evaluation
- PERFORM A VERIFICATION SOIL-GAS SAMPLING PROGRAM
  - Assess landfill gases in the waste area



## PROPOSED AREA 1A TRENCHES & BORINGS



### LEGEND:



NAME AND APPROXIMATE LOCATION OF PROPOSED CHARACTERIZATION TRENCH FOR HORIZONTAL WASTE LIMITS DELINEATION; APPROXIMATE TRENCH LENGTH SHOWN IN FEET.

B-10



B-21



B-25



B-01



B-02



B-03



B-04



B-05



B-06



B-07



B-08



B-09



B-11



B-12



B-13



B-14



B-15



B-16



B-17



B-18



B-19



B-20



B-22



B-23



B-24



NAME AND APPROXIMATE LOCATION OF GEOTECHNICAL AND ENVIRONMENTAL CHARACTERIZATION BORING PROPOSED IN AREA 1a.

NAME AND APPROXIMATE LOCATION OF ENVIRONMENTAL CHARACTERIZATION BORING PROPOSED IN AREA 1b.

NAME AND APPROX. LOCATED OF SLOPED (3% OF HORIZONTAL) BORING PROPOSED IN AREA 1b.

TOP OF REVETMENT

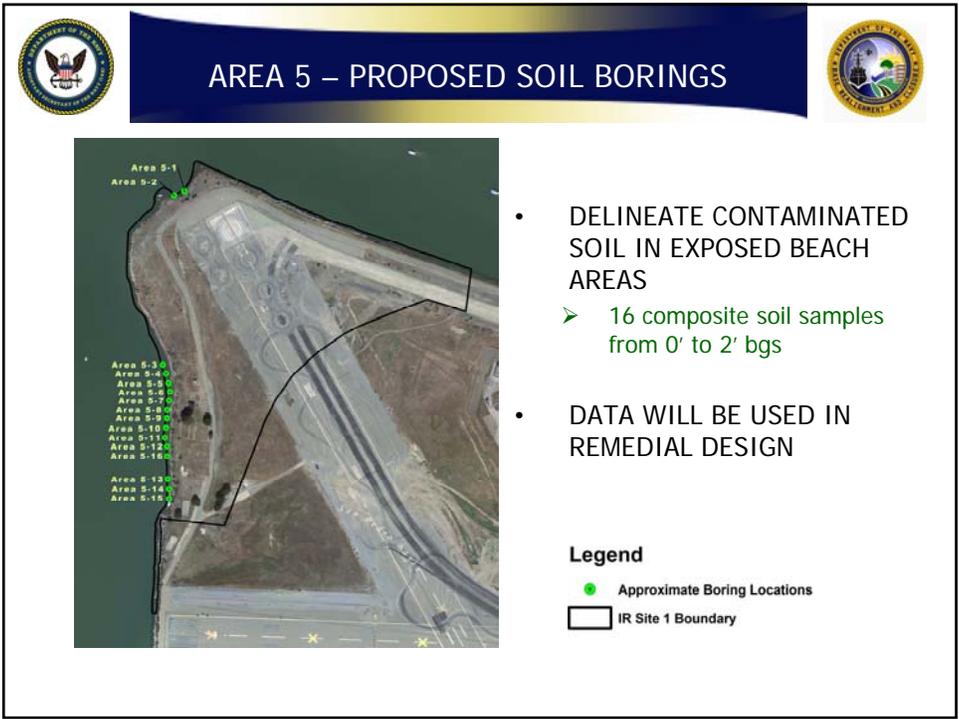
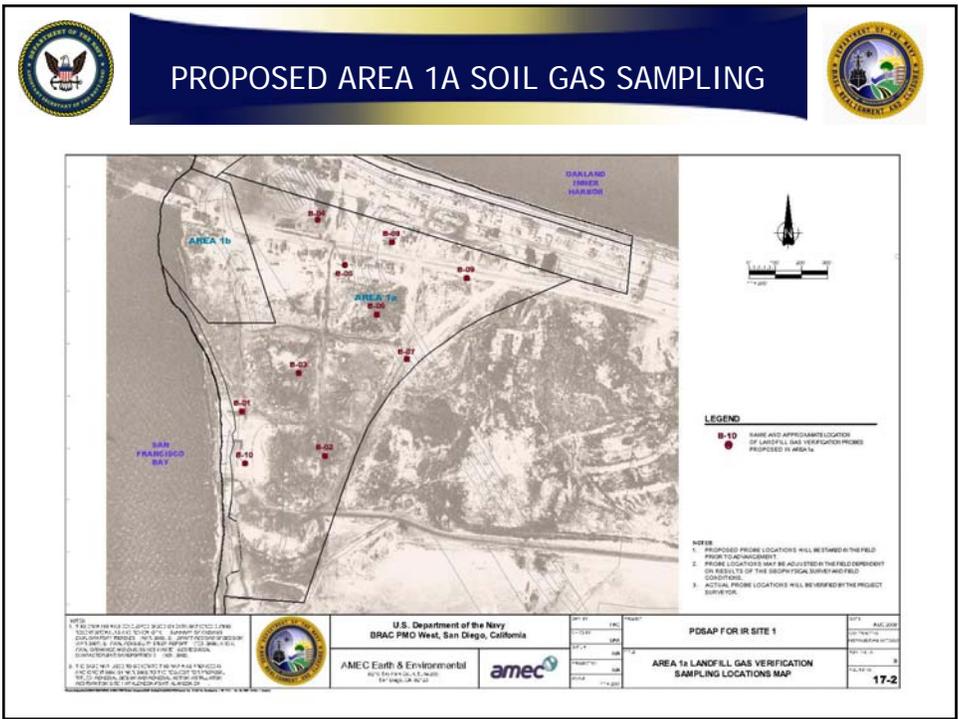
BOTTOM OF REVETMENT



1" = 200'

### NOTES:

1. PROPOSED TRENCH AND BORING LOCATIONS WILL BE STAKED IN THE FIELD PRIOR TO ADVANCEMENT.
2. TRENCH AND BORING LOCATIONS MAY BE ADJUSTED IN THE FIELD DEPENDENT ON RESULTS OF THE GEOPHYSICAL SURVEY AND FIELD CONDITIONS.
3. LOCATIONS OF GEOTECHNICAL BORINGS B-01 AND B-10 MAY BE ADJUSTED TO ASSIST WITH COLLECTION OF SOIL SAMPLES FOR THE GROUNDWATER TREATMENT DESIGN.
4. ACTUAL TRENCH AND BORING LOCATIONS WILL BE VERIFIED BY THE PROJECT SURVEYOR.





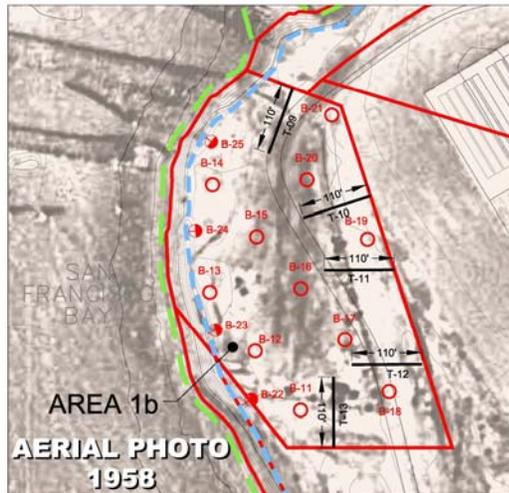
## AREA 1B OBJECTIVES



- ESTIMATE EXTENT OF BURN PIT WASTE TO BE EXCAVATED
  - Evaluate horizontal and vertical extent of visible and non-visible burn waste extent
  - 14 borings to the Bay Mud/Fill interface
  - 5 trenches to determine horizontal extent of waste
- DETERMINE WATER SURFACE ELEVATION ACROSS AREA 1B
- ESTIMATE VOLUME OF SOIL REQUIRING DISPOSAL
  - Samples will also be analyzed for waste disposal purposes

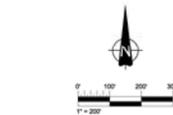


## PROPOSED AREA 1b TRENCHES & BORINGS



### LEGEND:

- NAME AND APPROXIMATE LOCATION OF PROPOSED CHARACTERIZATION TRENCH FOR HORIZONTAL WASTE LIMITS DELINEATION. APPROXIMATE TRENCH LENGTH SHOWN IN FEET.
- NAME AND APPROXIMATE LOCATION OF GEOTECHNICAL AND ENVIRONMENTAL CHARACTERIZATION BORING PROPOSED IN AREA 1b.
- NAME AND APPROXIMATE LOCATION OF ENVIRONMENTAL CHARACTERIZATION BORING PROPOSED IN AREA 1b.
- NAME AND APPROX. LOCATED OF SLOPED (TOP OF HORIZONTAL) BORING PROPOSED IN AREA 1b
- TOP OF REVETMENT
- BOTTOM OF REVETMENT



- NOTES:**
1. PROPOSED TRENCH AND BORING LOCATIONS WILL BE STAKED IN THE FIELD PRIOR TO ADVANCEMENT.
  2. TRENCH AND BORING LOCATIONS MAY BE ADJUSTED IN THE FIELD DEPENDENT ON RESULTS OF THE GEOPHYSICAL SURVEY AND FIELD CONDITIONS.
  3. LOCATIONS OF GEOTECHNICAL BORINGS B-01 AND B-10 MAY BE ADJUSTED TO ASSIST WITH COLLECTION OF SOIL SAMPLES FOR THE GROUNDWATER TREATMENT DESIGN.
  4. ACTUAL TRENCH AND BORING LOCATIONS WILL BE VERIFIED BY THE PROJECT SURVEYOR.



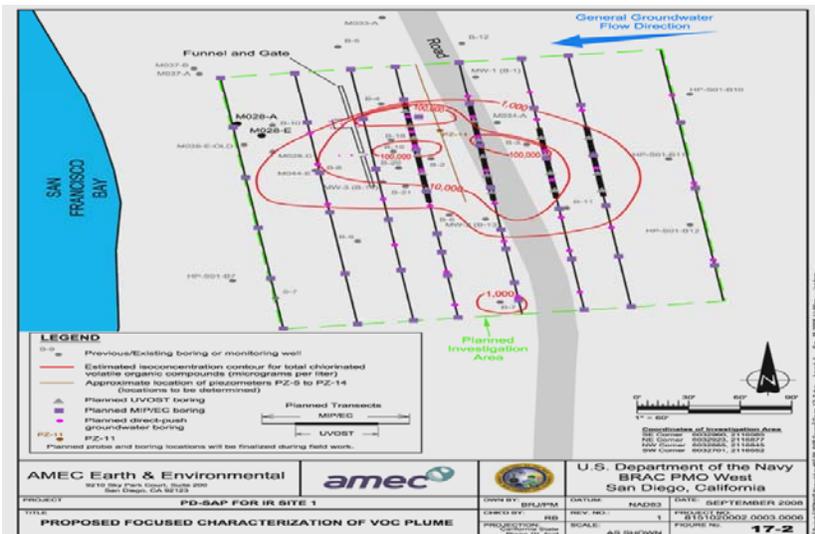
## GROUNDWATER PLUME OBJECTIVES



- IDENTIFY HIGH-CONCENTRATION ZONES FOR TREATMENT:
  - Approximately 20 UVOST borings (4 transects, 40 ft apart)
  - Approximately 50 MIP borings (8 transects, 40-50 ft apart)
  - 133 Groundwater Samples will be collected
- EVALUATE OXIDANT FOR TREATING COCs
  - ISCO Bench Testing – Saturated soil will be collected from sonic cores (geotechnical investigation borings)
  - Field Pilot Test - 2,000 sq. foot area to a depth of 15 feet

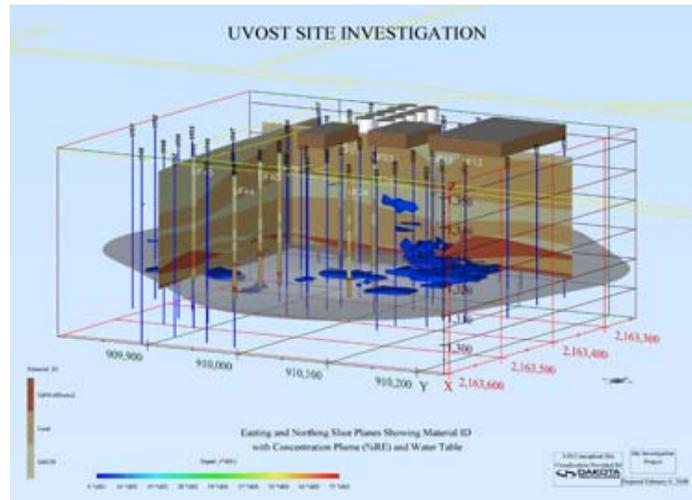


## PROPOSED CHARACTERIZATION OF GW PLUME





## UVOST EXAMPLE



## ISCO PILOT STUDY



TWO PHASES WILL BE IMPLEMENTED TO REFINE DESIGN:

- PHASE 1 – SINGLE-WELL PUSH/PULL TEST
  - To refine field pilot test design
- PHASE 2 – MULTIPLE-WELL PILOT TEST
  - To gather data to refine ISCO Design



## SCHEDULE



- Draft Pre-Design Investigation and Sampling Work Plan submitted on October 5, 2009
- Comments requested by November 19, 2009
- Draft Final Work Plan - December 19, 2009
- Pre-Design Field Work - January to June 2010

**ATTACHMENT B-3**

**SITE 27 REMEDIAL ACTION UPDATE PRESENTATION HANDOUT**

**(6 pages)**



## Welcome



### Remedial Action Update Installation Restoration Site 27 Dock Zone Alameda Point, California

RAB Meeting – November 5, 2009



## Presentation Outline



- CERCLA Milestones
- In-Situ Chemical Oxidation (ISCO)
- ISCO Accomplishments
- Conclusions and Path Forward
- Questions





## CERCLA Milestones



- **August 2005:** Final Remedial Investigation Report
- **April 2006:** Final Feasibility Study
- **November 2006:** Proposed Plan
- **December 12, 2006:** Public Meeting
- **February 2008:** Final Record of Decision
- **June 2009:** Final Remedial Design/Remedial Action Work Plan



3



## In-Situ Chemical Oxidation (ISCO)



4



## ISCO – Loading Oxidant



5

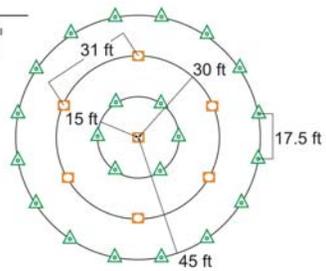


## ISCO – Recirculation Modules



Explanation

- ▲ Extraction Well
- Injection Well



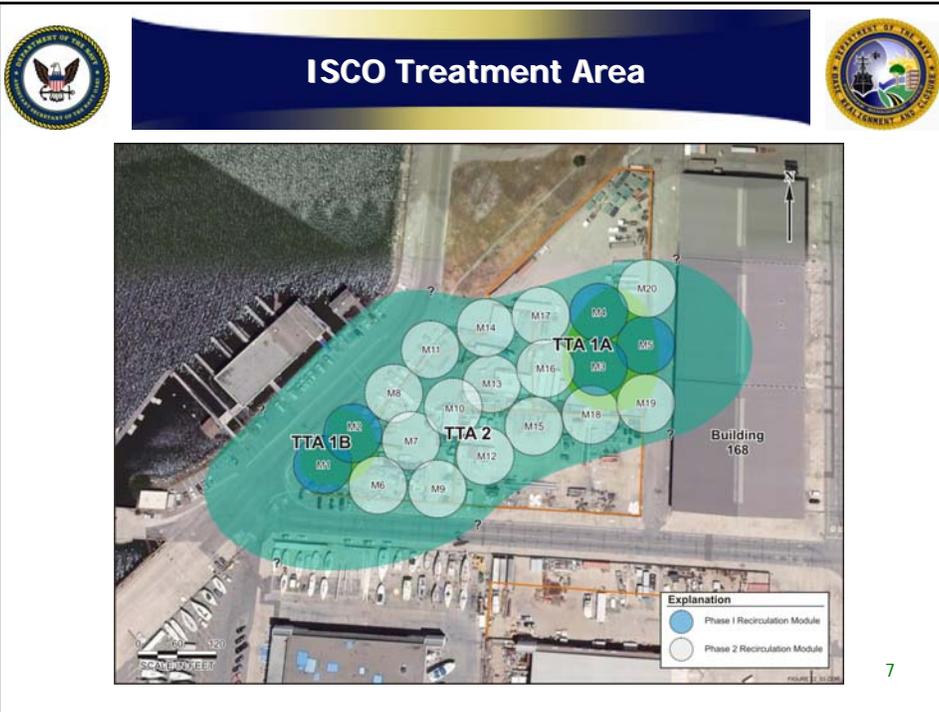
General Schematic



Recirculation Skid – 6 extraction pumps per skid



6



7

- 
- ISCO Accomplishments**
- **Baseline Groundwater Monitoring Wells Installed and Sampled** (June 16 to July 10)
  - **Phase 1 Completed** (August 17 to September 25) – 150 wells
  - **Successfully Operating!**
    - Combined total of 30 days of treatment
    - 150,000+ gallons of groundwater extracted and re-injected
    - 88,000 pounds of sodium persulfate injected into the subsurface
    - Effective oxidant distribution
    - Effective hydraulic control
    - No surfacing/daylighting

8



## Conclusions and Path Forward



- **SUCCESSFUL Phase 1 ISCO application** (based on operational data)
- **Nov/Dec 2009** - Phase 1 post-injection performance monitoring
- **Nov 2009 – Feb 2010** - Phase 2 ISCO Injections
  - Well installation activities began Oct 20
  - Recirculation to begin Nov 9 and conclude Feb 17
- **April 2010** - Phase 2 post-injection performance monitoring
- **May 2010** - Phase 3 ISCO polishing if necessary

9



## Questions and Discussion



Questions?

10