



# 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

August 6, 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:

Richard Bangert	Community member
Doug Biggs	Alameda Point Collaborative
Pat Colburn	Community member
Susan Euing	U.S. Fish and Wildlife
Frances Fadullon	BRAC Project Manager (PM)
Leora Feeney	Community member
George Humphreys	RAB
John Kaiser	San Francisco Regional Water Quality Control Board (Regional Water Board)
Joan Konrad	RAB
James Leach	RAB
Gretchen Lipow	Community member
Dot Lofstrom	Department of Toxic Substances Control (DTSC)
John McGuire	Shaw Environmental, Inc. (Shaw)
Rosemary Menalg	Community member

Darcy Morrison	Community member
Marsha Pendergrass	RAB Facilitator
Derek Robinson	BRAC Lead Remedial PM
Bill Smith	Community member
Radhika Sreenivasan	ChaduxTt
Michael John Torrey	RAB
Xuan-Mai Tran	EPA
Tommie Jean Valmassy	ChaduxTt
John West	Regional Water Board
Travis Williamson	Battelle

The meeting agenda is provided in Attachment A.

## MEETING SUMMARY

### I. Approval of June RAB Meeting Minutes

Dale Smith (RAB Community Co-Chair) called the August 2009 Former Naval Air Station Alameda (Alameda Point) RAB meeting to order at 6:35 p.m.

Marsha Pendergrass introduced herself as the RAB facilitator. Mr. Leach asked Ms. Pendergrass for her qualifications to understand technical issues and nomenclature. Ms. Pendergrass said that a facilitator provides no technical information and does not provide input on technical matters, and her job is purely process. She said that a facilitator would make sure that everybody gets a fair chance to voice his/her opinion at the meeting. About her qualifications, she said that she has been a facilitator for last 20 years and has worked for City of San Francisco, Hunters Point, a number of RABs, and a number of state and federal agencies. Ms. Pendergrass is a management consultant by training. She went to school in San Mateo County and graduated from Blurb School of Public Affairs in New York. Mr. Brooks said that the Navy was asked to provide a facilitator to the meeting primarily to ensure that all opinions are respected. Mr. Torrey said that the RAB had elected Ms. Smith as its leader, and having Ms. Pendergrass chair the meeting was inappropriate. Mr. Brooks requested that the RAB be patient with Ms. Pendergrass, stating that he had worked with her and thought that the RAB would appreciate the work that she has done. Mr. Brooks requested the RAB to give the facilitation process a chance. He said that *“this is an experiment and if Ms. Smith, me, and Ms. Pendergrass do not think it is working, we will do otherwise.”* He added that he thinks positive of having a facilitator and feels it would help in the future.

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

- Page 3 of 10, section II, first paragraph, first sentence, “cresols” will be revised to “creosote”
- Page 6 of 10, third paragraph, tenth sentence, “Mr. Humphreys asked if the Navy checked for radium under the ventilation pipes under Building 5,” will be revised to “Mr. Humphreys asked if the Navy checked for radium inside the ventilation ducts inside Building 5.”

The following comments were provided by Ms. Smith:

- Page 7 of 10, fourth paragraph, second sentence, “...treat the nonaqueous and nonvolatile compounds...” will be corrected to “...treat the dense nonaqueous phase liquid (DNAPL)....”

The June RAB meeting minutes were approved as modified.

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

Ms. Smith handed out the list of documents received in June and July 2009 (Attachment B-1).

Pat Brooks (RAB Navy Co-Chair) distributed the handout *Responses to Action Items/Information Requests* (Attachment B-2). Mr. Brooks went over his responses. He indicated that the action item list in the minutes is not in the same order as in the response sheet. While referring to action item 4, Ms. Smith asked for clarification on the port service. Mr. Brooks replied that it is the city’s Port Services department. Ms. Smith asked if the city would be applying creosote to the piers. Mr. Brooks said that it’s an old structure that is part of the City’s lease, and said that the Navy likely used creosote-treated wood as building material for the pier or applied creosote during construction. Ms. Smith said that the creosote is new and not weathered. She assumes that the city would be applying the creosote to a small extent.

Mr. Brooks asked attendees to refer to Appendix D of Attachment B-2 for answers to the Navy’s lead and asbestos abatement program (action item 5). Mr. Brooks said that the lead-based studies have a 12-month shelf life and asbestos investigations occur at base closing and before transfer to confirm that the conditions have not changed. Ms. Smith asked if the Navy investigates the property for lead and asbestos periodically. Mr. Brooks said that the Navy does not do periodic investigations but checks the conditions before transfer, and that for lead, the check is done no more than 12 months before property is transferred.

While reviewing action item 6, Mr. Brooks said that the Navy is waiting on the laboratory results on the anomalous material removed from the area above the Seaplane Lagoon riprap and will update the RAB with the findings. Ms. Smith asked if investigations were completed west of the refuge at the runway wetlands. Mr. Brooks said that the Navy did not investigate at the runway wetlands for radiological materials.

Mr. Brooks said that he would require more time to provide the RAB with the comprehensive update of all cleanup improvements at all sites (action item 7). He anticipates that this information would be included in the community involvement plan, which would include a snapshot of the cleanup actions. Ms. Pendergrass requested that Mr. Brooks provide a deadline for the action item. Mr. Brooks said he will give an update by the next RAB meeting.

Mr. Brooks noted that the Draft Final Site 1 Record of Decision (ROD) was issued recently and said that the Navy would be willing to provide the RAB with a presentation on changes to the Draft Final ROD. He added that the Site 1 ROD can be discussed at a technical meeting rather than at the RAB meeting. Ms. Smith noted that not all interested members of the RAB are present to decide on the next meeting. Mr. Brooks said that he can correspond with the RAB through e-mails.

Mr. Brooks apologized for saying the RAB was dysfunctional during the last meeting. He noted that “dysfunctional” had a specific meaning, and the RAB was not dysfunctional. Mr. Brooks encouraged all parties to be respectful of each other and recalled that during President Obama’s campaign, then candidate Mr. Obama, said that it is possible to disagree without being disagreeable.

Mr. Brooks said that the verbal comments received at the RAB meeting are not considered as formal comments and in order to be considered as formal, verbal comments need to be made at the public meeting or written comments need to be submitted to the Navy during the comment period of the proposed plan. Mr. Humphreys indicated that the fact sheet on creosote referenced in Attachment B-2 is not included. Mr. Brooks said that he will provide a fact sheet to be attached with the meeting minutes as well as distribute it to the RAB. Mr. Humphreys said that the letter that the RAB sent to Mr. Brooks on Site 24 was not attached to the minutes. Mr. Brooks said that the letter will be attached to the final minutes. It was decided that the copy of the letter will be sent to all RAB members before the next meeting and will be attached to the final minutes.

Ms. Pendergrass asked for an update on the request for presentation action item. Mr. Brooks noted that the action item will remain pending until the next RAB meeting.

Ms. Smith distributed a copy of her letter of comment on the *IR Site 28 Remedial Design/ Action (RD/RA) Work Plan (WP)* addressed to Mr. Brooks (Attachment B-3).

### **III. Site 2 Proposed Plan**

Mr. Brooks introduced Frances Fadullon (Navy RPM) to begin the presentation on the Site 2 Proposed Plan (PP) (Attachment B-4). Ms. Fadullon began the presentation and then introduced Travis Williamson (Battelle) to continue. Mr. Williamson noted that the Final PP was mailed August 5 and the RAB should receive it soon. He also mentioned that the community and RAB can obtain copies of the PP at the information repository after the meeting.

Mr. Brooks said that the comments received by mail and during the public meeting scheduled for August 27 are recorded and responses will be provided in the responsiveness summary in the ROD. He encouraged the audience to attend the public meeting, which will be held at 6:30 pm in the upstairs conference room.

During review of Slide 6, Darcy Morrison (Community Member) asked why the property is being transferred to the Veterans Affairs (VA) instead of Alameda if the future use was open space. Mr. Brooks said that the transfer includes more than the landfill and the VA office hopes to build an office, clinic, benefit center, and columbarium. Ms. Morrison asked why the future use is mentioned as open space and bay trail if construction is proposed at the site. Mr. Brooks clarified that the proposed VA facilities do not occupy all of the 575 acres that will be transferred. The improvements are proposed on only a small portion of the property at the northern end.

During the review of Slide 7, Mr. Humphreys noted that the Foster-Wheeler geotechnical investigation is not listed in the list of previous investigations. Mr. Williamson said he thought that the Foster-Wheeler geotechnical study is captured with the geotechnical sampling in 2002. Ms. Smith said that the surveying and exploration at the site were at shallow depths. The feasibility study (FS) states that the surveying penetrated only 20 to 24 inches; some surveying was deeper, but the sampling locations were widely spaced. Ms. Smith's comment was noted.

During the review of Slide 8, Michael John Torrey (RAB) asked if the Navy found Canada geese nesting at the Site. Mr. Williamson said that he would have to consult Section 2 of the remedial investigation (RI) that lists the species of plants and birds identified during the survey. Susan Euing (U.S. Fish and Wildlife) noted that Canada geese inhabit the site.

Gretchen Lipow (community member) asked about the values in the table on Slide 9 and if all the samples were analyzed for all the chemicals listed below the table. Mr. Williamson explained the table, giving an example of 142 soil samples collected at the Site 2 landfill. He added that all the samples were analyzed for some or the entire suite of chemicals listed. Mr. Williamson said that contaminants were found in soil such as metals, semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), dioxins, and furans. He added that the contaminants were widespread and at higher concentrations in the landfill than at the wetland area. The concentrations of the contaminants were lower in surface soil than in subsurface soil. Groundwater samples were contaminated with metals and pesticides, although PCBs and VOCs were also detected. The higher concentrations of contaminants were in the shallower first water bearing zone (FWBZ); there was little to no contamination below that level.

Richard Bangert (community member) asked what prevents the contaminants from penetrating below the FWBZ. Mr. Williamson said that an aquitard of finer-grained material such as clay serves as a barrier between the FWBZ and the second water bearing zone (SWBZ). Based on the data collected, it was seen that an effective separation between the two zones was present. Ms. Smith asked if the separation was consistent throughout Site 2. Mr. Williamson said that the aquitard may not be of the same thickness throughout the site and could be discontinuous in some areas. Leora Feeny (community member) asked about horizontal flow of groundwater.

Mr. Williamson said that, other than the slurry wall, there is no barrier to prevent horizontal movement of groundwater in the FWBZ, which moves west and south toward San Francisco Bay. Mr. Williamson noted that the groundwater is not used as drinking water at Site 2 and the primary concern with groundwater is the potential impact to the bay. Ms. Feeney asked for the results of fish or invertebrate sampling. Mr. Williamson said only one fish was sighted in the pond areas and could not be caught.

Mr. Humphreys said that the dredge soil in Site 2 came from the Seaplane Lagoon and hence the contaminants will be the same. Mr. Humphreys said they were told that the Navy's practice was to puncture the drums and let the contents drain into the soil. Mr. Humphreys said that he watched the video of the trenching operation and recovery of a flattened drum. Mr. Williamson asked about the timeframe for this event. Mr. Humphreys said it would be between 1956 and 1978. Mr. Humphreys heard that the Navy would crush the drums with the bulldozer and punctured the drums and let the contents drain into the soil. Mr. Humphreys stated he assumes that the drums should be present. Mr. Brooks asked if Mr. Humphreys had a copy of the video. Ms. Smith said that she has the video and will try to find it.

James Leach (RAB) said that some of the previous cross-sections show that at certain low tides the groundwater level rises higher than the surface water, noting that the primary concern was to prevent surface water from entering the bay. He noted the percolation of water should also be a concern. Mr. Williamson clarified that the Navy is not concerned with the bay water infiltrating to the site but is concerned that the groundwater at the site could discharge into the bay. Mr. Williamson said that the horizontal flow of groundwater can be considered at the remedial design phase. Mr. Williamson said that Mr. Leach's concern about a rise in the water level caused by global warming is noted. Dot Lofstrom (DTSC) said that the regulatory agency raised the comment concerning global warming and the Navy has acknowledged the concern and will consider it during the 5-year review.

Mr. Humphreys asked whether the wildlife in the wetland area is being protected. Mr. Williamson replied that the primary objective associated with groundwater at Site 2 is to ensure no negative impacts from the surface water on the bay, which would include fish and invertebrates in the bay. He added that no active remedial approach is being implemented to protect the wildlife at the wetlands within the site. Ms. Smith said that if invertebrates and fishes are not found in the wetland, it indicates that the water at the wetland is compromised. Mr. Williamson said that the temperature and low dissolved oxygen measured in the ponds are likely responsible for the poor quality habitat. Enhancing the functionality of the wetlands is being evaluated as part of wetlands mitigation.

During the review of Slide 15, Mr. Williamson noted that there is no active remediation for the wetlands. Ms. Smith asked if the soil around the wetland will be covered by a cap. Mr. Williamson said that the soil cover will likely extend into the wetlands where the wetlands are adjacent to the landfill. Ms. Feeney asked about the location of the storm drain at the site. Mr. Williamson clarified that the site does not have storm drains.

Ms. Smith asked during the review of Slide 20 if the sustainability process was included. Mr. Williamson responded that the FS was issued before the sustainability program. Derek Robinson (Navy Lead RPM) said that the remedial design will incorporate the sustainability process. He added that a sustainable remediation policy is being developed by the Navy and should be issued in early 2010.

During the review of Slide 24, Ms. Feeney said that the ground squirrels present tend to burrow deeply into the soil. She asked if the Navy plans to get rid of the ground squirrels. Mr. Williamson said that an element of the soil cover is an animal intrusion layer and is conceptualized as a layer of small cobbles filled with sand to essentially serve as a barrier below 6 to 12 inches of topsoil. He indicated that this issue was brought up at the draft FS stage, and the animal intrusion layer has been added to minimize burrowing into the cover. Mr. Biggs asked if the Navy is considering planting on the soil cover. Mr. Williamson agreed and said that native species will be planted; the non-native ice plant currently present will be removed. He added that planting helps in reducing wind erosion and soil cover erosion and increases drainage.

Joan Konrad (RAB member) asked if it was possible to connect the south pond to the bay and, if so, how the construction will be done. Mr. Williamson said that heavy equipment could be set on a platform in a wetland to minimize impact. Ms. Konrad asked if this type of construction is allowed to enable the flow between the two water bodies to minimize drying in the south pond. Mr. Brooks said that there has been some debate by the ecological community on this issue because the south and the north ponds provide habitat for different types of organisms. He said the Navy wetland design engineers will look into this issue.

Mr. Humphreys said that the Foster-Wheeler study showed that there would be a 25-foot lateral displacement of the berm adjacent to the waste cell in the event of an earthquake on the Hayward Fault. He added that in an earlier FS the Navy proposed to build rock columns to prevent lateral displacement. At Site 1, contractor AMEC Environmental is sloping the edge of the landfill to prevent soil from sliding into the bay. Mr. Humphreys asked if the Navy has considered something similar at Site 2. Mr. Humphreys asked if the Navy has considered sand boils and liquefaction that would bring contaminants to the surface. Mr. Humphreys said the berm adjacent to the landfill was constructed from sandblasting debris and the analysis in the RI showed that tributyltin was not carried forward as the contaminant of concern because there were no toxicity values. He added that toxicity values are listed and considered for tributyltin in the RI for the Seaplane Lagoon. Mr. Humphreys noted that tributyltin is toxic to benthic invertebrates. Since benthic organisms were not found in the pond, it could indicate the presence of tributyltin. Mr. Williamson said that he will review the RI and will have an answer at the public meeting.

Ms. Feeney suggested changing the bullet font on Slide 6 to maintain consistency. She asked how children are listed as having the same risk with the contaminants. Mr. Williamson clarified a person was evaluated as a child for 6 or 9 years and an adult at 30 years in the risk assessment. He said that the risk was cumulative over time and is called "age adjusted receptor." He added that the risk calculated in that way is more protective.

Ms. Euing asked if the depth of the multilayer soil is taken into account with wind eroding the top layer of the soil. Mr. Williamson said that wind erosion can be minimized by establishing vegetation. There will be continuous monitoring after construction to ensure erosion is not occurring. The cover will be graded in a manner to avoid gullying. He said that wind erosion is a concern that is evaluated during the design of the cover.

Bill Smith (community member) asked who will be responsible for cleaning up the lead in the soil around the buildings. Mr. Brooks said that the transferees will address the lead and asbestos. He added that the Navy cleans up lead contamination from structures such as antennas and storage tanks. Mr. Smith asked who would be responsible for tributyltin if it is found. Mr. Brooks said that the Navy would be responsible. Mr. Smith asked why the U.S. Fish and Wildlife Service refused to accept the transfer of the site. Mr. Brooks said that he can not speak for the Fish and Wildlife Service. Mr. Smith asked what type of engineering controls or institutional controls will be in place during monitored natural attenuation of groundwater. Mr. Williamson said that there are not many engineering controls with groundwater monitoring and natural attenuation. He added that an example of an engineering control would be to install concrete bollards around the wells to protect from traffic to ensure the monitoring network is maintained and not compromised. He added that there is a step in the RD that identifies the process of data evaluation. If the data indicate that the concentrations are not decreasing over time, then the remedial alternative will be re-evaluated.

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

Ms. Lofstrom said that participants discussed the Site 2 PP presentation and the Draft Final Site 1 ROD during the July 2009 BCT meeting. Ms. Lofstrom said that the original Site 1 ROD included the landfill plus the adjacent area. When the Navy finished its radiological survey, more contamination was discovered. She added that the Navy carved out the landfill and renamed that piece Site 1; the area around it has been assigned into Site 32. Ms. Lofstrom said that the BCT talked about the differences between the original and current ROD, which the agencies are currently reviewing. Ms. Lofstrom said that the BCT visited the Federal Transfer Parcel in the afternoon of the meeting. She indicated that the agencies and the Navy would be undertaking some additional work. Ms. Lofstrom said that the State of California employees are working a 32-hour work week; therefore, review of the OU-2C FS is taking longer and DTSC will submit comments in a week.

Mr. Humphreys asked if the area between Site 1 and Site 2, which is a part of the Federal Transfer Parcel, is being evaluated since it might contain radiological contaminants. Ms. Lofstrom said that the agencies have asked for an investigation and the Navy is sampling in that area. Mr. Robinson said that the Navy is planning to scan the area in delineating the overall extent of Site 32.

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

Ms. Konrad said that there has been misinformation at Alameda about the cleanup. She suggested that the RAB should take on the responsibility of informing the community on the

cleanup work and restoration that is under way at Alameda Point. She suggested having an article in the newspaper every month. Ms. Lipow added that the community thinks that the Navy is not going to clean the base. Mr. Bangert supported the suggestion and suggested to include the information in the city's website as well. Mr. Leach said that he attended the developer meeting; residents think the site is highly contaminated and that the Navy is not doing much. He thinks that a good progress report might be informative. Mr. Brooks said that one of the primary responsibilities of the RAB is to share the information with the community, and he thinks the Navy could help the RAB by providing them with information on the cleanup work. He added that he will provide a list of cleanup improvements for all sites at the next RAB meeting which the RAB could share with the community. Mr. Humphreys said that the RAB had received a presentation that showed pictures of Navy efforts. He suggested that adding script to it along with the pictures would make a good presentation for the community.

Mr. Smith said that the Sierra Club and Audubon Society strongly recommend promoting and protecting the wildlife refuge and noted that the reuse plan is not yet final regarding the transfer of the property to VA.

Mr. Brooks noted that the next RAB meeting will be held on September 3, 2009.

## **VI. Meeting Adjournment**

The meeting was adjourned at 9:20 p.m.

## Action Items

<b>Action Items:</b>	<b>Previous Item #/ Action Item Status/ Action Item due date:</b>	<b>Initiated by:</b>	<b>Responsible Person:</b>
1. Request for Presentations: <b>a.</b> Bayport Sewer systems and change in the plumes over time.	1./Pending/TBD	RAB	Mr. Brooks
2. Provide information on the large submerged, unidentified object and radium <sup>226</sup> .	2./Completed/NA	RAB	Mr. Brooks
3. Provide update on the issue of creosote odor in Seaplane Lagoon and the oil floating boom.	4./Completed/NA	RAB	Mr. Brooks
4. Provide update on the Navy's next lead and asbestos survey event.	5./Completed/NA	RAB	Mr. Brooks
5. Provide update on radiological investigation by RASO.	6./Completed/NA	RAB	Mr. Brooks
6. Provide a list of cleanup improvements for all sites.	7./Pending/September 3, 2009	RAB	Mr. Brooks
7. Provide Fact Sheet on creosote.	0./New/September 3, 2009	Mr. Humphreys	Mr. Brooks
8. Provide a copy of the Site 24 Letter sent by the RAB to the Navy.	0./New/September 3, 2009	Mr. Humphreys	Mr. Brooks

Notes:

NA Not Applicable (item completed)

TBD To Be Determined

**ATTACHMENT A**

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

**August 6, 2009**

**(1 page)**

# ***RESTORATION ADVISORY BOARD***

***NAVAL AIR STATION, ALAMEDA***

## ***AGENDA***

**AUGUST 6, 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 – 8:00</b>	<b>Site 2 Proposed Plan</b>	<b>Frances Fadullon</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>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 in June and July 2009. Distributed by Dale Smith, RAB Community Co-Chair (1 page)
- B-2 Responses to Action Items/Information Requests. Distributed by Pat Brooks, Navy Co-Chair (12 pages)
- B-3 Letter on IR Site 28 Remedial Design/Action Work Plan. Distributed by Dale Smith, RAB Community Co-Chair (1 page)
- B-4 Site 2 Proposed Plan presentation handout. Distributed by Frances Fadullon, Navy remedial project manager (13 pages)

**ATTACHMENT B-1**  
**DOCUMENTS RECEIVED IN JUNE AND JULY 2009**  
**(1 page)**

Documents Received  
June and July 2009

**Documents**

1. *Appendix A Final Addendum 1 to the Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan)*, Tetra Tech EC Inc, June 2009
2. *Final Remedial Design/Remedial Action Work Plan for IR Site 27*, Battelle, June, 2009
3. *Final No Further Action Evaluation and Data Gaps Sampling Work Plan for Various Petroleum Sites*, Battelle, June 2009
4. *Final Work Plan for Indoor Air, Outdoor Air, and Soil Gas Sampling – Buildings 163 and 163a, Ou-2b, IR Site 4*, SES-Tech, June 8, 2009
5. *Technical Memoranda First Quarter 2009, CAA3 and CAAC*, Petroleum Program at Alameda Point, Shaw, June 17, 2009
6. *Final Alameda Basewide 2008 Semiannual Groundwater Monitoring Report*, Innovative Technical Solutions, July 2009
7. *Final Alameda Basewide 2008 Annual Groundwater Monitoring Report*, Innovative Technical Solutions, July 2009
8. *Final Work Plan for Removing Oil/Water Separator 163 and Conducting a Zero-Valent Iron Treatability Study at OU-2B*, Tetra Tech EC Inc, July 9, 2009
9. *Wetland Delineation Report for Installation Restoration Site 34*, ChaduxTt, July 10, 2009
10. *Draft Feasibility Study Report for Installation Restoration Site 34*, July 13, 2009
11. *Final Remedial Design and Draft Final Remedial Action Work Plan for OU-1 Sites 6, 7, 8 and 16*, URS, July 15, 2009
12. *Final Technical Memorandum for Data Gap Sampling at Operable Units 2A and 2B*, Tetra Tech EC Inc, July 17, 2009
13. *Draft Final Record of Decision for Installation Restoration Site 1, 1943-1956 Disposal Area*, ChaduxTt, July 31, 2009

**Correspondence**

1. Comments on the *Final Work Plan for Removing Oil/Water Separator 163 and Conducting a Zero-Valent Iron Treatability Study at OU-2B*, Dot Lofstrom, California Department of Toxic Substances Control, July 8, 2009

**ATTACHMENT B-2**  
**RESPONSES TO ACTION ITEMS/INFORMATION REQUESTS**  
**(12 pages)**

**Responses to Action Items/Information Requests  
Restoration Advisory Board Meeting - August 6, 2009**

- 1. Update on the large, submerged object in Sea Plane Lagoon.**
  - A diver will visually inspect the object. The inspection is scheduled for September.
  
- 2. Update on floating boom around pier structure on east site of Sea Plane Lagoon, and the strong creosol odor associated with the pier structure:**
  - The City requested Port Services to place a floating boom around the pier structure. The purpose of the boom is to prevent loose timber from entering San Francisco Bay.
  - Creosote is a commonly used wood preservative for use in marine environments. It is a mixture of many aromatic compounds and the odor is more pronounced on a warm day.
  - See attached EPA Fact Sheet on creosote.
  
- 3. Update on the Navy's Lead and Asbestos Abatement Program:**
  - Lead-based paint inspections are performed on all target housing (pre-1978) and child-occupied facilities located on residential property. If lead-based paint is present, a risk assessment is performed. If a lead hazard exists, control measures are put in place, or the lead is permanently abated. The Navy is required to conduct a lead-based paint inspection and risk assessment prior to property transfer, and the risk assessment must be performed no more than 12 months prior to transfer. Lead-based paint is also addressed on non-residential structures commonly painted with lead-based paint such as antenna towers, water tanks, and other above ground storage tanks. Appendix D, Questions and Answers, is attached from "Lead-Based Paint Guidelines for Disposal of Department of Defense Residential Real Property – A Field Guide, December 1999".
  - Asbestos inspections are performed prior to property transfer. Asbestos inspections have been completed at Alameda Point. Asbestos can be present in many building materials, including insulation, mastic, and floor tile. The asbestos inspections identify friable, accessible, and damaged asbestos and record the location. For structures proposed for transfer and future human occupancy, the transferee is responsible for abatement. The Navy is responsible for abatement for structures occupied by its employees and contractors. For structures proposed for demolition, the party responsible for demolition is responsible for any necessary abatement and appropriate disposal. An excerpt describing Department of Defense Policy on Asbestos is attached from "Base Reuse Implementation Manual, December 1997".

**Responses to Action Items/Information Requests**  
**Restoration Advisory Board Meeting**  
**August 6, 2009**

**4. Update on the radiological investigations adjacent to Sea Plane Lagoon:**

- The anomalous material was removed from the area above Sea Plane Lagoon rip rap in June. The excavation extended to approximately 3 feet and much of the material was removed and disposed offsite. Additional work is being planned to address contamination below 3 feet. A gamma survey was performed on the west side of Sea Plane Lagoon after the surface anomaly was removed. There were no additional sources of contamination found in the area surveyed, which included the entire west side of lagoon above the rip rap seawall.

Much of the north side of Sea Plane Lagoon was surveyed prior to the drain lines removal action. No sources of contamination were found. Additional surveying is planned on the tarmac north of the lagoon.

**5. Update on the Site 1 Sampling Event:**

Groundwater sampling as part of the Basewide Groundwater Sampling Program was completed in June. The Site 1 Pre-design Sampling Work Plan will be submitted the week of 10 August 2009. This Work Plan describes the following proposed field work at Site 1:

- Trenching
- Soil borings
- Soil gas sampling
- UVOST borings (for VOCs)
- MIP borings (for VOCs)
- Well sampling

**6. Navy to provide comprehensive update of all cleanup improvements at all sites:**

- This action item is in progress. A comprehensive summary is currently planned to be included in the Community Involvement Plan, which is near completion.



## Pesticides: Topical & Chemical Fact Sheets

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## Creosote and its Use as a Wood Preservative

Chemical Review Manager: [Jacqueline Campbell-McFarlane](#) ([campbell-mcfarlane.jacqueline@epa.gov](mailto:campbell-mcfarlane.jacqueline@epa.gov)), 703-308-6416 .

### Quick Resources

- RED for Creosote
- Final Risk Assessment for Creosote
- CCA (Wood Preservatives)

### Questions on Pesticides?

- Contact the National Pesticide Information Center (NPIC) 1-800-858-7378
- Wood preservative factsheets

Current as of November 2008

EPA has completed its reregistration eligibility decisions (RED) for the heavy duty wood preservatives chromated arsenicals, pentachlorophenol, and creosote. In general, EPA has determined that the compounds contribute benefits to society and are eligible for reregistration provided the mitigation measures and associated label changes identified in the REDs are implemented and required data are submitted. In its risk assessments, the Agency identified risks of concern associated with occupational exposure (i.e., treatment plant workers) to all three preservatives and ecological exposure to pentachlorophenol and creosote.

Creosote is a wood preservative used for commercial purposes only; it has no registered residential uses. Creosote is obtained from high temperature distillation of coal tar (itself a mixture of hundreds of organic substances), and over 100 components in creosote have been identified. It is used as a fungicide, insecticide, miticide, and sporicide to protect wood and is applied by pressure methods to wood products, primarily utility poles and railroad ties.

EPA reassessed creosote as part of its reregistration program for older pesticides. The Reregistration Eligibility Decision (RED) for creosote was signed on September 25, 2008. Federal law directs EPA to periodically reevaluate older pesticides to ensure that they continue to meet current safety standards.

### Timeline for Reregistration/Risk Assessment

- September 25, 2008 – Chromated Arsenicals Reregistration Eligibility Decision (RED) signed.
- November 19, 2008 – Announce availability of RED in Federal Register
- March 31, 2009 – Updated product labels reflecting mitigation to be submitted to EPA
- December 31, 2013 – All treatment plants to be upgraded to reflect measures outlined in RED

## Questions & Answers

- [Preliminary Risk Assessment for Creosote](#)

## Creosote Regulatory Status:

- [Chromated Arsenicals, Pentachlorophenol, Creosote Reregistration Eligibility Decisions; Notice of Availability](#) [November 18, 2008]
- [Federal Register: September 15, 2004 \(69 FR 55623\)](#), Response to Requests to Cancel Certain Creosote Wood Preservative Products, and/or to Amend to Terminate Certain Uses of Other Creosote Products.
- [Federal Register: December 5, 2003 \(68 FR 68042\)](#), Notice of Availability of the Preliminary Risk Assessment for Creosote Reregistration Eligibility Decision.
- [Notice of Receipt of Request to Cancel Certain Creosote and Acid Copper Chromate \(ACC\) Wood Preservative Products, and/or Amend to Terminate Certain Uses of Other Creosote Products; Extension of Comment Period: 68 FR 66413, 11/26/03](#)
- [Notice of Receipt of Request to Cancel Certain Creosote and Acid Copper Chromate \(ACC\) Wood Preservative Products, and/or Amend to Terminate Certain Uses of Other Creosote Products: 68 FR 55952, 9/29/03](#)
- Creosote: Risk Assessment and Science Support Branch's Revised Preliminary Risk Assessments and Science Chapters in Support of The Reregistration Eligibility Decision, EPA's Docket #OPP-2003-0248.

## Related Links:

- The risk assessment for creosote is a cooperative re-evaluation between the US EPA and Health Canada's [Pest Management Regulatory Agency \(PMRA\)](#) [EXIT Disclaimer](#) under NAFTA, with both countries contributing to the study review and peer review process. Exposure data used in the preliminary risk assessment were collected from both US and Canadian wood-treatment facilities.

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Last updated on Friday, November 21st, 2008.  
[http://www.epa.gov/pesticides/factsheets/chemicals/creosote\\_main.htm](http://www.epa.gov/pesticides/factsheets/chemicals/creosote_main.htm)  
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# Preliminary Risk Assessment for Creosote

Reviewed March 20, 2007

Current as of August 2007

In December 2003, EPA announced the results of its preliminary assessment of potential health risks, as well as ecological effects and environmental risks, associated with creosote. The assessment includes an evaluation of the potential risks to handlers and post-application workers from exposure to creosote. Creosote is a possible human carcinogen and has no registered residential uses. It is primarily used on utility poles and railroad ties. It is important to note that since this draft risk assessment is in the public review and comment phase, its findings are preliminary in nature and are subject to additional analysis. It is, therefore, premature for EPA to reach conclusions about the potential for creosote-treated wood products to contribute to cancer risk in workers and handlers of this wood. The full preliminary assessment is available for public inspection in EPA's Docket (# OPP-2003-0248). The Federal Register Notice can be found at [www.epa.gov/fedrgstr](http://www.epa.gov/fedrgstr).

## Questions & Answers

1. [What is EPA releasing today?](#)
2. [What is creosote and how is it used?](#)
3. [Are there any health risks associated with exposure to creosote-treated wood?](#)
4. [What safety precautions should one take when handling or coming into contact with creosote?](#)
5. [What about the non-pressure treatment \(i.e., brush-on\) uses of creosote?](#)
6. [Are railroad ties safe for me to use for landscaping around my home?](#)
7. [How does one dispose of creosote-treated wood?](#)
8. [Are there alternatives in industrial settings for creosote?](#)
9. [What is the reregistration process for creosote?](#)
10. [What has been the role of Canada's Pesticide Management Regulatory Agency \(PMRA\) in the development of the preliminary risk assessment for creosote?](#)
11. [Where can I get further information?](#)

**1. What did EPA release?**

As part of the six-phase public participation process, EPA released the preliminary risk assessment for creosote, which consisted of a description of creosote and its regulatory history, as well as preliminary human health and ecological risk estimates associated with its use. The chapters are included in [EPA's Docket # OPP-2003-0248](#).

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**2. What is creosote and how is it used?**

Creosote is a wood preservative used for commercial purposes only; it has no registered residential uses. Creosote is obtained from high temperature distillation of coal tar (itself a mixture of hundreds of organic substances). Over 100 components in creosote have been identified. It is used as a fungicide, insecticide, miticide, and sporicide to protect wood and is applied by pressure methods to wood products, primarily utility poles and railroad ties. This treated wood is intended for exterior/outdoor uses only. Its commercial uses include railroad ties (70%), utility poles (15-20%), and other miscellaneous commercial uses (10-15%).

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**3. Are there any health risks associated with exposure to creosote-treated wood?**

The risk estimates provided in this risk assessment are of a preliminary nature and subject to refinement. The process that EPA uses to review chemicals through reregistration is intended to gather additional information and input from the public and stakeholders about exposure and risk that will be used to revise the risk estimates. Based on such input through this public comment period, EPA will develop a revised risk assessment and will be able to determine whether or not risk mitigation measures are needed.

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**4. What safety precautions should one take when handling or coming into contact with creosote?**

Creosote penetrates deeply into and remains in the pressure-treated wood for a long time. Exposure to creosote may present certain hazards. Therefore, the following precautions should be taken both when handling the treated wood and in determining where to use the treated wood. It should be noted that such exposure usually only occurs when one comes into contact with railroad ties and/or utility poles.

**USE SITE PRECAUTIONS**

- Do not use where frequent or prolonged contact with bare skin can occur.
- Do not use in residential settings. In interiors of industrial buildings, it should be used only for industrial building components which are in ground contact and subject to decay or insect infestation and for wood block flooring in industrial settings.
- Do not use in the interiors of farm buildings where there may be direct contact with domestic animals or livestock which may bite or lick the wood.
- Do not use treated wood for cutting-boards or counter tops.
- Do not use where it may come into direct or indirect contact with

public drinking water.

#### HANDLING PRECAUTIONS

- Dispose of treated wood by ordinary trash collection or burial.
- Do not burn wood in open fires or in stoves, fireplaces, or residential boilers because toxic chemicals may be produced as part of the smoke and ashes.
- Avoid frequent or prolonged inhalation of sawdust from treated wood.
- Avoid frequent or prolonged skin contact with creosote-treated wood.
- When handling the wood, wear long-sleeve shirts and long pants and use gloves impervious to the chemicals.
- When power-sawing and machining, wear goggles to protect eyes from flying particles.
- Wash work clothes separately from other household clothing.

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#### **5. What about the non-pressure treatment (i.e., brush-on) uses of creosote?**

The five registrants who comprise the Creosote Council III have voluntarily requested cancellation of all non-pressure treatment uses of creosote. EPA, in accordance with section 6(f)(1) of FIFRA, as amended, issued a Notice of Receipt of these requests on September 29, 2003. The registrants of the affected creosote products have not requested an existing stocks provision, and waived any comment period beyond the standard 30-day comment period. EPA reopened the comment period for 30 days, based on a registrant request. After the comment period closed, final cancellation orders were issued on these requests.

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#### **6. Are railroad ties safe for me to use for landscaping around my home?**

There are no approved uses of creosote to treat wood for residential use. The Agency is aware that creosote-treated railroad ties are being used in the residential setting for landscape purposes and, in some instances, as a border around gardens. Such uses in residential settings are not intended uses of creosote and have not been considered in the preliminary risk assessment. If you do have creosote-treated wood in your yard, you are reminded to consult the handling precautions outlined above in this document.

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#### **7. How does one dispose of creosote-treated wood?**

Homeowners should not encounter creosote-treated wood in the residential environment. If they do, it can be disposed of by ordinary trash collection (i.e., as municipal solid waste). Do not compost or mulch sawdust or remnants from creosote-treated wood. See EPA's household hazardous waste Web page for further guidance on [disposal of municipal solid waste](#).

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#### **8. Are there alternatives in industrial settings for creosote?**

Both CCA (Chromated Copper Arsenate) and pentachlorophenol (penta) are used as wood preservatives in utility poles. There are non-wood alternatives including steel and cement poles, as well as plastic and cement railroad ties.

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### **9. What is the reregistration process for creosote?**

Creosote is being reviewed in EPA's six-phase public participation review process and is scheduled for September 30, 2008. The Agency process includes public comment periods, a technical briefing, and conference calls with stakeholders on mitigation measures. Once the Office of Pesticide Programs completes the reregistration review for creosote, a reregistration eligibility decision document will be released that describes EPA's final risk estimates and whether or not any changes are needed to maintain remaining registrations of creosote products.

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### **10. What has been the role of Canada's Pesticide Management Regulatory Agency (PMRA) in the development of the preliminary risk assessment for creosote?**

The preliminary risk assessment is a cooperative re-evaluation between the US EPA and Health Canada's PMRA under NAFTA. Both countries have contributed to the study review and peer review process. Exposure data used in the preliminary risk assessment were collected from both US and Canadian wood-treatment facilities and both countries are participating in the public comment process. As the assessments are finalized, EPA will continue to work closely with Canada since the goal of these efforts is to develop science and regulatory conclusions amenable to both agencies. You can visit the PMRA website at <http://www.hc-sc.gc.ca/pmra-arla>.

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### **11. Where can I get further information?**

For more information, email [campbell-mcfarlane.jacqueline@epa.gov](mailto:campbell-mcfarlane.jacqueline@epa.gov).

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Last updated on Monday, October 22nd, 2007.

[http://www.epa.gov/opp00001/factsheets/chemicals/creosote\\_prelim\\_risk\\_assess.htm](http://www.epa.gov/opp00001/factsheets/chemicals/creosote_prelim_risk_assess.htm)  
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## Appendix D Questions & Answers

### 1. Are a lead-based paint inspection and a risk assessment required for all pre-1978 housing prior to transfer?

Yes, unless an inspection finds that the property is free of lead-based paint. Title X requires inspection and abatement of lead-based paint hazards in housing constructed prior to 1960, and an inspection for lead-based paint and lead-based paint hazards in target housing constructed between 1960 and 1977. 24 CFR 35, Subpart C clarifies these provisions, requiring a lead-based paint evaluation (an inspection, risk assessment, or combination of thereof) be performed for all pre-1978 target housing prior to transfer. The risk assessment must be performed within 12 months of transfer, and abatement must be conducted within 12 months of completion of the risk assessment.

### 2. What is a lead-based paint hazard in regard to friction, impact, or accessible surfaces, and what is required to be abated?

As stated in section 1013 of Title X, a lead-based paint hazard is "any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, or lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects..." As described in Table 2-1 in this guide, and 24 CFR 35, Subpart R, impact surfaces require treatment (i.e., abatement or interim controls) only if all of the following conditions are met: (1) the surface is damaged or has otherwise deteriorated, (2) the damaged paint is caused by impact from a related building component, (3) the surface contains lead-based paint. Friction surfaces require treatment only if all of the following conditions are met: (1) a dust lead hazard is present on the nearest horizontal surface underneath the friction surface, (2) paint on the surface is abraded or deteriorated, and (3) the surface contains lead-based paint. Accessible surfaces require treatment only if there is evidence that a child has chewed or mouthed that surface.

### 3. Is scraping and painting over deteriorated paint with 20-year paint adequate abatement?

Lead-based paint abatement refers to a group of measures that can be expected to eliminate or reduce exposures to lead-based paint hazards for at least 20 years under normal conditions. If the "20-year paint" meets the qualifications of an encapsulant in Chapter 13 of the HUD Guidelines and it is applied in accordance with manufacturers instructions, it should be an acceptable treatment for deteriorated paint.

SOURCE: LEAD-BASED PAINT GUIDELINES FOR DISPOSAL  
OF DEPARTMENT OF DEFENSE RESIDENTIAL  
REAL PROPERTY - A FIELD GUIDE

**4. What information should be included in the property transfer documents if the target housing is scheduled to be demolished and the property will not be reused for residential redevelopment?**

Lead-based paint evaluation and abatement are not required if the housing is not reused for habitation. However, DoD policy requires the evaluation and abatement of soil-lead hazards in residential real property that will be demolished and redeveloped for residential purposes following transfer. Requirements for evaluation and abatement should be made a condition of the property transfer, in which case the transferee will be required to evaluate and abate any soil-lead hazards after demolition and prior to occupancy of any newly constructed housing units. The transfer agreement should reference Field Guide evaluation requirements and the soil-lead hazard criteria in Table 2-1.

**5. Do we have to abate lead-based paint hazards in target housing prior to transfer? If the responsibility for abatement is transferred to the purchaser, what will the federal agency be required to do to fulfill requirements under Title X?**

Under 24 CFR 35, Subpart C, the federal agency may conduct the required abatement prior to transfer or that responsibility may be assumed by the transferee. The federal agency is required to conduct a lead-based paint inspection and risk assessment prior to transfer, and the risk assessment must be performed no more than 12 months prior to transfer. Abatement must begin no more than 12 months after the completion of the risk assessment. Occupancy by the transferee is prohibited until all lead-based paint hazards are abated. DoD prefers that responsibility for abatement be transferred to the purchaser, in which case the service must ensure that abatement is conducted in accordance with Title X. Assurances that the purchaser will perform required abatement activities are provided through contractual mechanisms.

**6. When are interim controls appropriate and when are they inappropriate?**

Control measures or interim controls may be used as an optional treatment at the discretion of federal agencies to address hazards not required to be abated under 24 CFR 35, Subpart C and conditions representing less than a lead-based paint hazard. Control measures, along with abatement or no action, may be appropriate alternatives to address potential soil lead-based paint hazards (soil lead concentrations in bare soils between 400 and 2,000 ppm (excluding children's play areas) which are not considered to be lead-based paint hazards but are present in amounts or under conditions that may be a potential exposure hazard to children. Selection of alternatives for potential soil lead hazards should be evaluated on the basis of the risk assessment and criteria contained in Chapter 2 of the Field Guide.

**DOD POLICY ON ASBESTOS AT  
BASE REALIGNMENT AND CLOSURE PROPERTIES**

*Excerpted from:*

*Department of Defense,*

*Base Reuse Implementation Manual (BRIM),*

*December 1997, DoD 4165.66-M, Page F-66*

Department of Defense (DoD) policy with regard to asbestos-containing material (ACM) is to manage ACM in a manner protective of human health and the environment, and to comply with all applicable Federal, State, and local laws and regulations governing ACM hazards. Therefore, unless it is determined by competent authority that the ACM in the property does pose a threat to human health at the time of transfer, all property containing ACM will be conveyed, leased or otherwise conveyed of as is through the Base Realignment and Closure (BRAC) process.

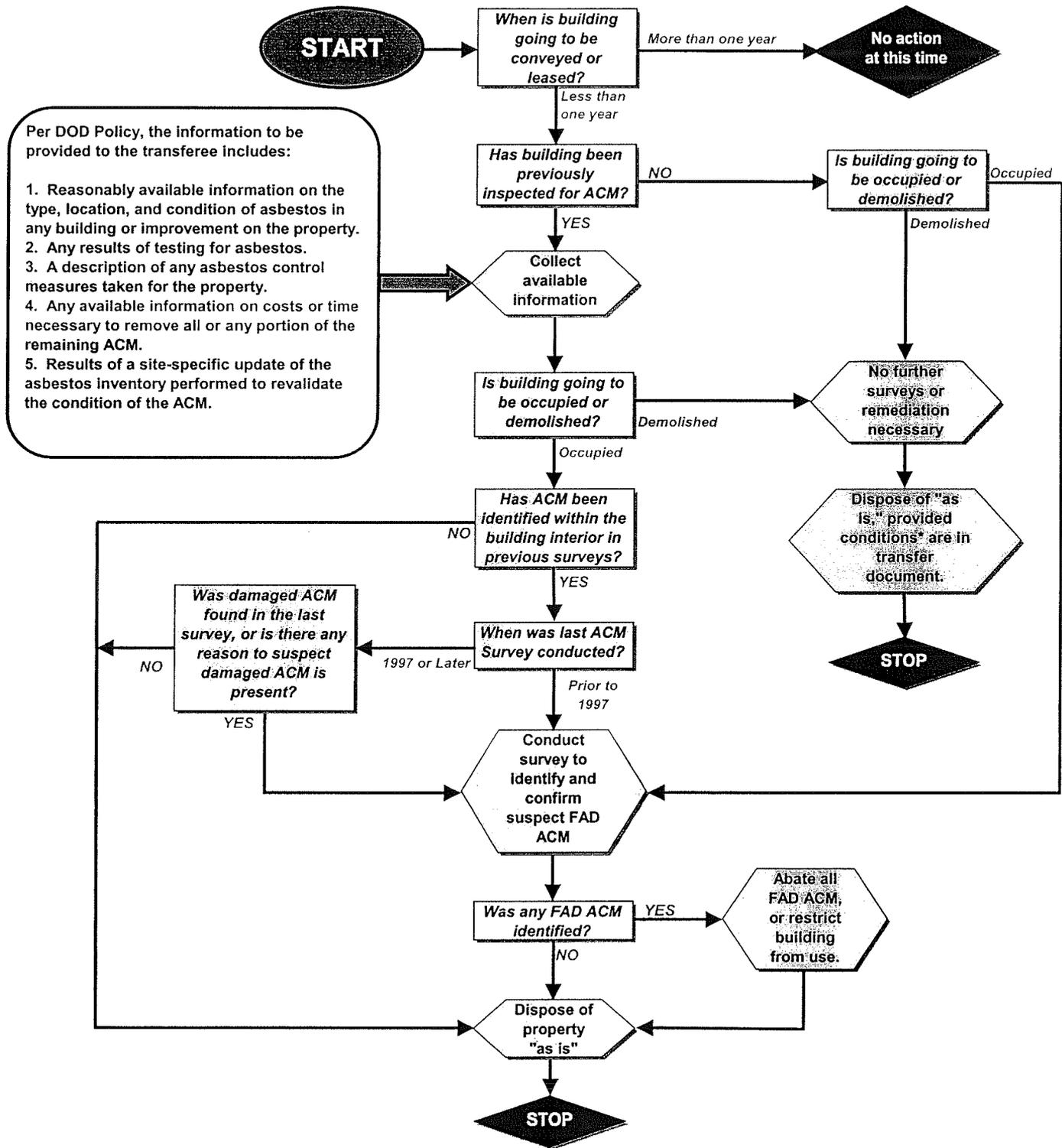
Prior to property disposal, all available information on the existence, extent, and condition of ACM shall be incorporated into the Environmental Baseline Survey (EBS) report or other appropriate document to be provided to the transferee. The survey report or document shall include:

- Reasonably available information on the type, location, and condition of asbestos in any building or improvement on the property;
- Any results of testing for asbestos;
- A description of any asbestos control measures taken for the property;
- Any available information on costs or time necessary to remove all or any portion of the remaining ACM; however, special studies or tests to obtain this material are not required; and
- Results of a site-specific update of the asbestos inventory performed to revalidate the condition of the ACM.

Asbestos-containing material shall be remedied prior to property disposal only if it is of a type and condition that is not in compliance with applicable laws, regulations, and standards, or if it poses a threat to human health at the time of transfer of the property. This remediation should be accomplished by the active Service organization, by the Service disposal agent, or by the transferee under a negotiated requirement of the contract for sale or lease. The remediation discussed above will not be required when the buildings are scheduled for demolition by the transferee; the transfer document prohibits occupation of the buildings prior to the demolition; and the transferee assumes responsibility for the management of any ACM in accordance with applicable laws.

## DOD POLICY ON ASBESTOS AT BRAC PROPERTIES

Prior to property disposal, all available information on the existence, extent and condition of ACM shall be provided to the transferee in an EBS report or other appropriate document. All property containing ACM will be conveyed, leased or otherwise disposed of as is through the BRAC process, unless it is determined by competent authority that the ACM in the property poses a threat to human health at the time of transfer. This flow chart summarizes the steps necessary to comply with the DOD policy on asbestos at BRAC properties.



\* Per DOD policy, the transfer document must prohibit occupation of the buildings prior to the demolition, and the transferee must assume responsibility for the management of any ACM in accordance with applicable laws.

**ATTACHMENT B-3**

**LETTER ON IR SITE 28 REMEDIAL DESIGN/ACTION WORK PLAN**

**(1 page)**

Mr. George Brooks  
Department of the Navy  
Base Realignment and Closure, Program Management Office West  
1455 Frazee Road  
San Diego 92108

July 18, 2009

Re: IR Site 28 Remedial Design/Action Work Plan

Dear Mr. Brooks,

Thank you for the opportunity to comment on the above document.

As there has been no presentation on this site since 2006 some of these comments or questions are based on insufficient knowledge.

Mr. George Humpreys commented in April 2006 that two feet removal was inadequate. I concur There should not be a limit to grasses and shrubs, as there may be a desire for significant accents to the main entrance of the base in the future.. A better depth would be four feet, a compromise between Alternative 4A and 4B.

The list of seed stock resources is weak. Mr Biggs has a native garden program available through his collaborative that not only has native plants, but, in some cases, endemics. Why is that not included as a source of native seed and stock? Clyde Robbin was decertified years ago as a provider of native stock and should not be included and Calflora is a native plant database and will not provide resources for seed acquisition.

The use of wheat straw is inappropriate as it contains non-native invasive seeds. A better choice is rice straw that contains seeds adapted to wet areas that are unlikely to germinate.

Arsenic is present in the groundwater. The source is presumably from arsenic trioxide, used as a wood preservative and weed killer along the railroad line and is not naturally occurring. Arsenic mobilizes in the presence of petroleum, as stated by DTSC, through the creation of conditions that initiate microbial reactions leading to reducing conditions. There is no discussion or acknowledgement of the marsh crust, which is likely to be a contributor to this mobilization. To reduce the amount of arsenic in groundwater, oxidizing conditions must be reestablished either through the introduction of oxygen from a water source or the introduction of ferric and hypochlorite salts to force iron precipitation and the adsorption of arsenic. As there is a proposal to create reducing conditions to demobilize copper, this will just contribute to the mobilization of arsenic. If the marsh crust is the trigger for mobilization, RGs will never be achieved. Control of this toxic through the installation and monitoring of one monitoring well seems unlikely. This is another argument for the removal of four feet of soil.

Why is arsenic toxicity based on agricultural standards when there are no agricultural uses proposed?

Again, thank you for the opportunity to comment on this document.

Yours



Ms. Dale Smith

**DALE SMITH**  
2935 Otis Street  
Berkeley California 94703  
**510-841-2115**

**ATTACHMENT B-4**

**SITE 2 PROPOSED PLAN PRESENTATION HANDOUT**

**(13 pages)**



# Welcome

**Proposed Plan  
Installation Restoration Site 2  
West Beach Landfill And Wetlands  
Alameda Point, California**

**RAB Meeting – August 6, 2009**



# Purpose of Presentation

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



## Presentation Outline



- Site Description, Background, and Planned Future Use
- Previous Investigations
- Remedial Investigation/Feasibility Study (RI/FS) Summary
- Remedial Action Objectives
- Comparison of Remedial Alternatives
- Preferred Remedial Alternatives
- Community Involvement



## Site Description



- Located on southwestern tip of Alameda Point
- Bounded on north and east by former runways and tarmacs
- Bounded on south and west by San Francisco Bay
- Approximately 110 acres
  - West Beach Landfill (~77 acres)
  - West Beach Wetlands (~33 acres)





## Site Description (continued)



- Geology
  - Fill material and Bay Sediment Unit (BSU)
  - Merritt Sand
  - Yerba Buena Mud (a.k.a. Old Bay Mud)
  - Alameda Formation
- Hydrogeology
  - Shallow groundwater depth
  - Relatively slow movement
  - General flow towards west and south
- Ecology
  - Upland/terrestrial habitat
    - prairie/scrub characteristics
  - Wetland habitat
    - coastal salt marsh; variable inundation
  - Open water (wetland pond) habitat
    - seasonal variability in water level/extent; North Pond connected to San Francisco Bay by culvert



## Site Background and Planned Future Use



- Landfill and limited portions of wetland used for disposal of wastes generated at Alameda Point from 1956 to 1978
- Historical information suggests that up to 1.6 million tons of general waste, including waste oils and solvents, were disposed primarily in the West Beach Landfill
- Potential sources of contamination in soil and groundwater include:
 

o Asbestos	o Pesticides
o General household waste	o Sandblasting grit
o Historic dredge spoil disposal	o Scrap metal
o Inert ordnance	o Radioactive waste from storage shack, radium dials, and dial painting operations
o Medical wastes	o Waste oils and solvents
o Painting and plating waste	
- Historical landfill closure included partial capping, slurry wall construction and maintenance of perimeter berm/seawall
- **Planned Future Use**
  - IR Site 2 is designated for a Fed-to-Fed transfer from Navy to Veterans Affairs (VA)
  - Proposed land use includes undeveloped open space, wetlands, and a portion of the Bay Trail



## Previous Investigations



- **Surveying/Exploration/Removal Actions:**
  - Geophysical surveying in 1990
  - Habitat and ecological surveying in 1992, 1993, 1994, 1995, 1996, 1997, 1998, 2001, and 2003
  - Radiological surveying in 1995, 1996, 1998-1999, and 2005, and Radiological Time Critical Removal Action (TCRA) in 2006 to 2007
  - Bathymetric surveying in 2002
  - Topographic surveying in 2002
  - Ordnance and explosive waste (OEW) surveying and TCRA in 2002
  - Test pit installation in 2002
- **Sampling and Analysis:**
  - Geotechnical sampling in 1990, 1991, 1994-1995, and 2002
  - Surface water sampling in 1991, 1996-1997, and 1998
  - Sediment sampling in 1991, 1993-1994, and 1996-1997
  - Sediment porewater sampling in 1996 and 1997
  - Surface and/or subsurface soil sampling in 1990, 1991, 1994, and 1995
  - Groundwater sampling in 1991-1992, 1994-1995, 1996-1998, and 2002 to present
  - Soil gas sampling including methane analysis 2002 to 2008



## RI/FS Regulatory Agencies and Stakeholders



- **Federal:**
  - U.S. Environmental Protection Agency (EPA)
- **State:**
  - Department of Toxic Substances Control (DTSC)
  - Regional Water Quality Control Board (Water Board)
- **Other Stakeholders:**
  - CA Dept. of Public Health
  - CA Dept. of Fish and Game
  - US Fish and Wildlife
  - Veterans Affairs
  - Alameda Reuse and Redevelopment Authority
  - Restoration Advisory Board
  - Golden Gate Audubon Society
  - Sierra Club



# Overall RI Characterization



Media	Site 2 Landfill	Site 2 Wetland	China Camp State Park	Alameda Background
Soil	142	61	6	6
Groundwater	24	18	--	--
Sediment	--	30	5	--
Surface Water	--	22	5	--
Plant Tissue	10	12	10	--
Toxicity/Bioaccumulation Tests	--	17	5	--
Exploratory Trenches	5	--	--	--

(-) Indicates sample type/trenching is not applicable or not part of Final RI Sampling Work Plan.

**Comprehensive analytical program – samples were evaluated for one or more of the following contaminant classes:**  
 Metals, pesticides, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), explosives constituents, dioxins and furans, radionuclides, petroleum hydrocarbons, and monitored natural attenuation parameters.



# IR Site 2 Sampling Locations



**Soil Sampling**

**Fish Sampling**

**Sample Processing**

**Aquatic Invertebrate Sampling**



## RI Summary



- General data trends
  - Contaminants are generally limited to the landfill area
  - Low concentration groundwater contamination is generally limited to first water bearing zone groundwater
  - Wetland ponds appear relatively un-impacted by contaminants
  - Methane detected in soil gas within the landfill cells

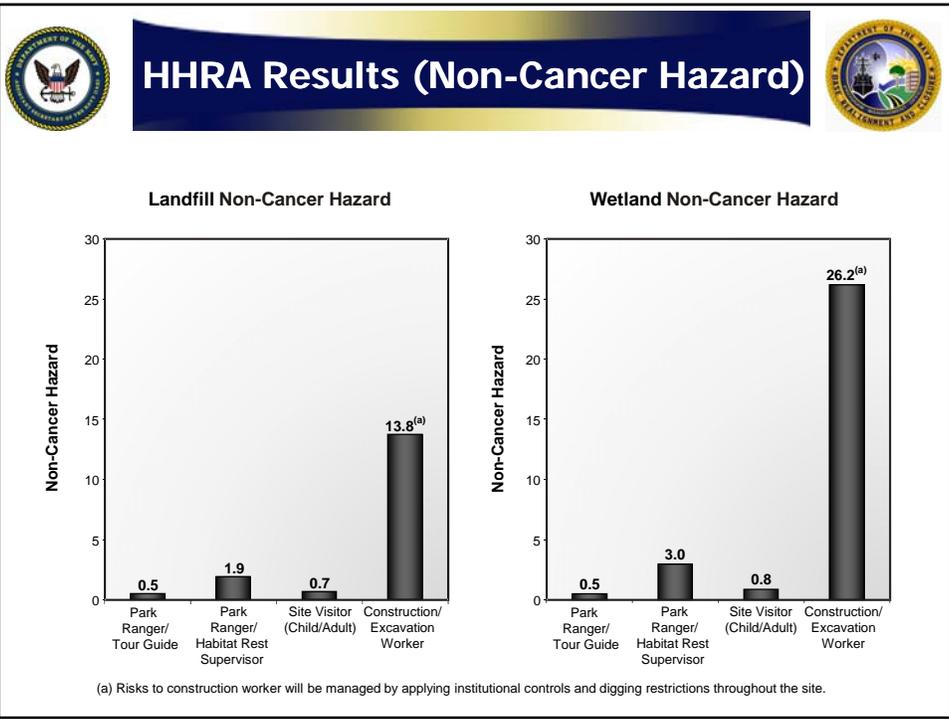
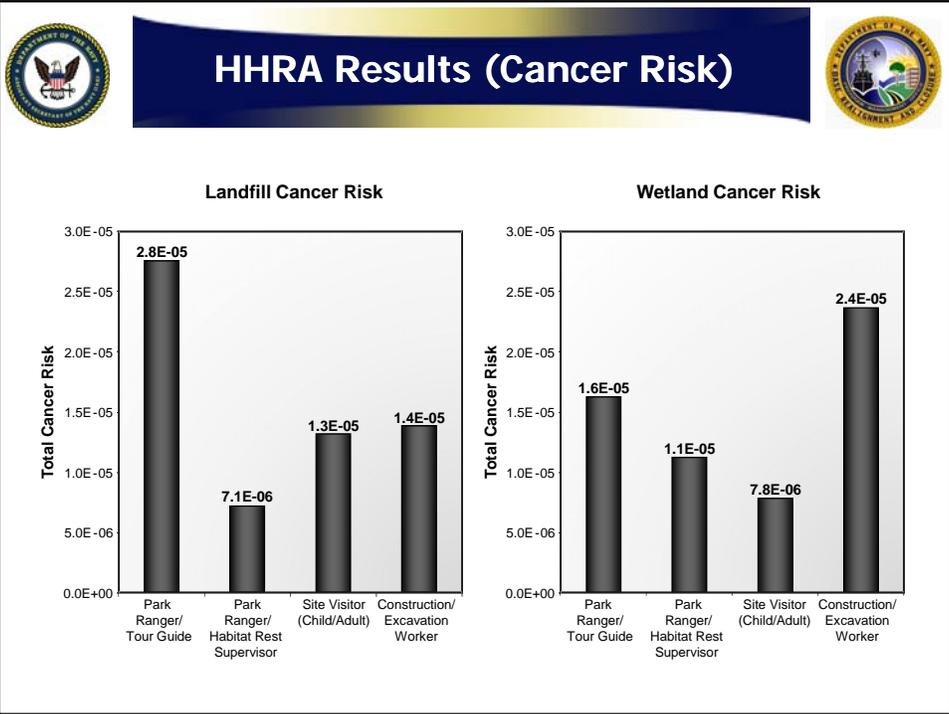


## Receptors and Pathways Evaluated in Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA)



SOIL	
<ul style="list-style-type: none"> <li>➤ Human Receptors               <ul style="list-style-type: none"> <li>• Tour Guide/Park Ranger</li> <li>• Restoration Supervisor</li> <li>• Visitor (Child/Adult)</li> <li>• Construction Worker</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Pathways               <ul style="list-style-type: none"> <li>• Direct contact with soil</li> <li>• Ingestion of soil</li> <li>• Inhalation of wind-blown dust or vapors from soil</li> <li>• Exposure to ionizing radiation</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>➤ Ecological Receptors               <ul style="list-style-type: none"> <li>• Mammal</li> <li>• Bird</li> <li>• Invertebrate</li> <li>• Plant</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Pathways               <ul style="list-style-type: none"> <li>• Direct contact with soil</li> <li>• Ingestion of soil</li> <li>• Ingestion of impacted prey</li> <li>• Root contact with soil</li> </ul> </li> </ul>
GROUNDWATER	
<ul style="list-style-type: none"> <li>➤ Human Receptors               <ul style="list-style-type: none"> <li>• Restoration Supervisor</li> <li>• Construction Worker</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Pathway               <ul style="list-style-type: none"> <li>• Direct contact with groundwater</li> </ul> </li> </ul>

SEDIMENT	
<ul style="list-style-type: none"> <li>Ecological Receptors               <ul style="list-style-type: none"> <li>• Mammal</li> <li>• Bird</li> <li>• Invertebrate</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Pathways               <ul style="list-style-type: none"> <li>• Direct contact with sediment</li> <li>• Ingestion of sediment</li> <li>• Ingestion of impacted prey</li> </ul> </li> </ul>
SURFACE WATER	
<ul style="list-style-type: none"> <li>➤ Human Receptor               <ul style="list-style-type: none"> <li>• Restoration Supervisor</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>➤ Pathway               <ul style="list-style-type: none"> <li>• Direct contact with surface water</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>Ecological Receptors               <ul style="list-style-type: none"> <li>• Fish</li> <li>• Invertebrate</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Pathway               <ul style="list-style-type: none"> <li>• Direct contact with surface water</li> <li>• Ingestion of surface water</li> </ul> </li> </ul>





## HHRA Primary Risk Drivers



### Landfill

- Soil
  - Arsenic and Lead
  - Benzo(a)pyrene and Naphthalene
  - Radium 226
  - Polychlorinated biphenyls (PCBs)
- Groundwater (assuming dermal contact)
  - PCBs
  - Dioxins/Furans

### Wetlands

- Soil
  - Arsenic
  - Radium 226
- Groundwater (assuming dermal contact)
  - PCBs
  - Dieldrin



## HHRA Considerations



- Radium 226 was the only potential human health risk driver identified in the wetland area
- Radium 226 was analyzed in 4 surface soil samples collected from the wetlands at IR Site 2 with the observed levels being comparable to background levels for Alameda Point
  - Background Ra-226 concentration is 0.471 pCi/g in 3 reference areas sampled during radiological survey
  - Background Ra-226 concentration is 0.56 pCi/g for storm drain removal action
  - Maximum Ra-226 concentration in wetland surface soil was 0.52 pCi/g
  - No Ra-226 concentrations in wetland surface soil exceeded the NRC Derived Concentration Guideline Level (0.6 pCi/g)
  - No Ra-226 concentrations in wetlands surface soil exceeded actionable background level for SF Bay area (1 pCi/g over background)



## ERA Results



- The following chemical classes were found to present a potential risk to at least one ecological receptor:
  - Metals, SVOCs/PAHs, total PCBs, pesticides, dioxins/furans
- Those chemicals that present the greatest risk to ecological receptors include the following:
  - Chromium, lead, mercury, nickel, high molecular weight PAHs, total DDD/DDT/DDE (DDx)



## Toxicity and Bioaccumulation Testing Results



- Toxicity and bioaccumulation results provide direct evidence of lack of ecological toxicity in IR Site 2 pond surface water and sediment



Bioaccumulation/Toxicity Test System



Bioaccumulation Test of South Pond Sediment



## IR Site 2 Remedial Action Objectives



- Protect sensitive human receptors, avian species, and mammal species from exposure to contaminants of concern (COCs) in surface soil in the landfill and wetland portions of the site;
- Protect viable wetland area in the southwest portion of the site from impacts associated with the landfill;
- Protect sensitive human receptors from exposure through external radiation from surface soil in the landfill and wetland portions of the site; and
- Protect beneficial uses of surface water in San Francisco Bay from the potential for discharge of site groundwater containing COCs.

\* Note: see Section 3.2.1 of the Final FS dated October 23, 2008 for a complete listing of Remedial Action Objectives



## Summary of FS Remedial Alternatives



### Soil Remedial Alternatives

1. *No Action*
2. *Multilayer Soil Cover, Engineering and Institutional Controls (ICs), and Monitoring*
3. *Engineered Cap, Engineering and ICs, and Monitoring*
4. Focused Removal and Backfill, Dewatering, Disposal, Multilayer Soil Cover, Engineering and ICs, and Monitoring
5. Focused Removal and Backfill, Dewatering, Disposal, Engineered Cap, Engineering and ICs, and Monitoring
6. *Near-Complete Removal and Backfill, Dewatering, Engineering and ICs, Disposal, and Monitoring*

### Groundwater Remedial Alternatives

1. *No Action*
2. *Monitored Natural Attenuation (MNA) and Engineering and ICs*
3. *Hydraulic Barrier, Pump and Treat, Disposal, Monitored Natural Attenuation, and Engineering and ICs*

Alternatives shown in ***bold and italicized text*** were carried into the detailed analysis of the FS Report.



## Comparative Analysis of Soil Alternatives



Comparative Analysis of Soil Alternatives for IR Site 2				
NCP Criterion	Soil Alternative			
	1 No Action	2 Multilayer Soil Cover	3 Engineered Cap	6 Near-Complete Rem
Protective of Human Health and the Environment	NO	YES	YES	YES
Compliant with ARARs	NE	YES	YES	YES
Long-term Effectiveness and Permanence	NE	☹	☹	☹
Reduction of Toxicity, Mobility, and Volume through Treatment	NE	⊖	⊖	⊖
Short-term Effectiveness	NE	☹	☹	☑
Implementability	NE	☹	☑	⊖
Cost (\$M)*	NE	☑ (\$21)	☑ (\$47)	⊖ (\$900)
State Acceptance	The State of California agrees with the preferred soil alternative			
Community Acceptance	To be evaluated after public comment period on Proposed Plan			
Notes: * = cost evaluation is based on <i>net present value</i> Preferred Alternative = Soil Alternative 2	NE = not evaluated because no action does not trigger evaluation of criteria. M = millions.		Relative Performance: ⊖ Low ☑ Medium ☹ High	



## Comparative Analysis of GW Alternatives



Comparative Analysis of Groundwater Alternatives for IR Site 2			
NCP Criterion	Groundwater Alternative		
	1 No Action	2 Monitored Natural Attenuation	3 Hydraulic Barrier
Protective of Human Health and the Environment	NO	YES	YES
Compliant with ARARs	NE	YES	YES
Long-term Effectiveness and Permanence	NE	☹	☹
Reduction of Toxicity, Mobility, and Volume through Treatment	NE	⊖	☹
Short-term Effectiveness	NE	☹	☑
Implementability	NE	☹	☑
Cost (\$M)*	NE	☹ (\$6)	☑ (\$23)
State Acceptance	The State of California agrees with the preferred groundwater alternative		
Community Acceptance	To be evaluated after public comment period		
Notes: * = cost evaluation is based on <i>net present value</i> Preferred Alternative = Groundwater Alternative 2	NE = not evaluated because no action does not trigger evaluation of criteria. M = millions.		Relative Performance: ⊖ Low ☑ Medium ☹ High



## Weight of Evidence Supporting MNA of Groundwater at IR Site 2



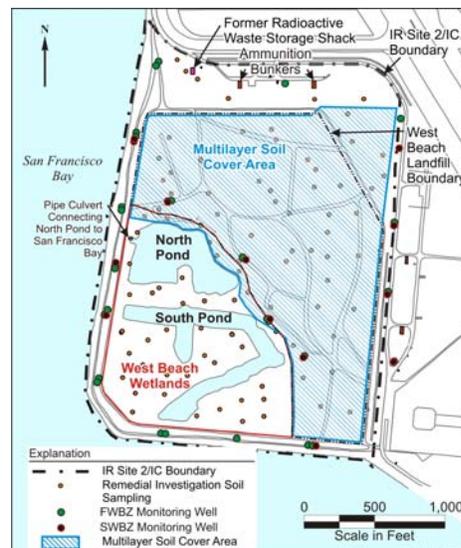
- **Applicability of California Toxics Rule (CTR) Criteria:** CTR criteria apply to surface water and not to groundwater.
- **Long-term Contaminant Trends:** The observed contaminant levels in shoreline monitoring wells, and long-term stable to declining trends in these contaminant levels suggest that MNA is occurring.
- **Waste Saturation:** Site conditions and historical waste disposal practices suggest that the buried waste mass is in constant or nearly constant contact with groundwater and/or infiltrating precipitation. This suggests the likelihood that the buried waste mass is (at a minimum) at steady state with the local groundwater system in terms of contaminant dissolution.
- **Contaminant Fate and Transport:** The conceptual site model indicates that the general fate and transport of the contaminants identified in IR Site 2 groundwater, and the large-scale mixing expected upon discharge of IR Site 2 groundwater to San Francisco Bay, would result in a lack of risk to the Bay.
- **IR Site 2 Pond and Western Bayside Characterization:** There is a lack of observed environmental impairment and risk in the IR Site 2 wetland ponds and Western Bayside, which includes the open water environment immediately offshore of IR Site 2. The characterization work done at Western Bayside has resulted in regulatory approval of No Further Action.
- **Beneficial Use of IR Site 2 Groundwater and Regulatory Guidance on MNA:** IR Site 2 groundwater is not currently nor will it be used in the future for drinking water purposes, and available regulatory guidance on the proper consideration and application of MNA as a groundwater remedy supports its use at IR Site 2.



## Preferred Remedial Alternative



- **Soil:**
  - Install a **multilayer soil cover** to isolate buried waste and soil contaminants, and prevent animal burrowing;
  - Implement **engineering controls and ICs** to protect human health and the soil remedy itself;
  - Mitigate and **enhance existing wetlands** including construction of permanent culvert;
  - **Monitor** the soil cleanup action and wetlands mitigation to ensure its proper construction and long-term effectiveness; and
  - Conduct **methane gas monitoring** as appropriate.
- **Groundwater:**
  - Conduct **MNA** for site groundwater by regularly monitoring groundwater quality using an extensive network of groundwater monitoring wells and available regulatory guidance such as EPA *MNA of Inorganics in Groundwater* (October 2007); and
  - Implement **engineering controls and ICs** to protect human health and the groundwater remedy itself.





## Community Involvement



- Proposed Plan is currently being distributed for 30-day public review, which starts on August 4, 2009
- RAB presentation on August 6, 2009
- Public meeting on August 27, 2009 at 6 p.m.
- End of public comment period September 14, 2009
- Information Repository – Room 240 in this building



## Questions and Discussion



**Questions?**