TETRA TECH EM INC.

August 15, 2006

Dear RAB Members,

On behalf of the Navy, enclosed please find the July 5, 2006 final RAB meeting minutes for your information and records.

If there are any questions regarding the enclosed minutes, please contact Carolyn Hunter at (415) 222-8297 or Carolyn.hunter@ttemi.com.

Sincerely,

Carolyn Hunter

Carolyn Hunter
Community Relations Specialist
Tetra Tech EMI

135 Main Street, Suite 1800, San Francisco, CA 94105
Tel 415.543.4880 Fax 415.543.5480
www.ttemi.com

FINAL

MEETING MINUTES
RESTORATION ADVISORY BOARD
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD
CONCORD, CALIFORNIA
JULY 5, 2006

These minutes reflect general issues raised, agreements reached, and action items identified at the Restoration Advisory Board (RAB) meeting for Naval Weapons Station Seal Beach Detachment Concord (NAVWPNSTA Seal Beach Det Concord), California. The meeting was held from 6:30 p.m. to 8:30 p.m. on July 5, 2006, at the City of Concord Police Department Community Room in Concord, California. Agreements and action items are described by topic under Sections I through VII and are summarized in Section VIII. A list of participants and their affiliations is included as Attachment A, and the meeting agenda is included as Attachment B.

I. WELCOME, INTRODUCTIONS, PUBLIC COMMENT, AND AGENDA APPROVAL

Welcome and Introductions
The RAB Community Co-Chair, Mary Lou Williams (Concord resident) called the RAB meeting to order and initiated a round of introductions for attendees.

Public Comments
Ms. Williams opened the floor to public comments. No public comments were offered.

August 2006 RAB Agenda Approval
Kim Jacobsen (U.S. Navy [Navy] RAB Co-chair) reviewed the proposed agenda for the RAB meeting on August 2, 2006. The Navy plans to provide two presentations for the August 2006 RAB meeting which include:

- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Overview with Site 22 as a case study
- Site 1 Landfill Construction Update

Ms. Jacobsen asked the RAB to approve the August 2006 agenda. The RAB approved the agenda. Ms. Jacobsen will send out a revised agenda for the August 2, 2006 RAB meeting that includes the presentations.

Action Item

1. The Navy will distribute the revised agenda for the August 2, 2006 RAB meeting.

II. JUNE 2006 RAB MEETING MINUTES APPROVAL

Ms. Jacobsen asked the RAB for comments on the minutes from the meetings held on June 7, 2006. The RAB voted to approve the meeting minutes.

Action Item

2. The Navy will finalize and distribute the June 7, 2006 RAB meeting minutes.

III. COMMITTEE REPORTS AND ANNOUNCEMENTS

Ms. Williams opened the floor for committee reports and announcements. Ms. Williams reminded the group that the RAB meetings are being held to discuss the environmental cleanup of NAVWPNSTA Seal Beach Det Concord and not the planned reuse of the land. If the RAB has reuse questions, they should contact Ric Notini (City of Concord) at (925) 671-3024.

Ms. Williams distributed the RAB application that was submitted by an interested community member.

The RAB members took a vote on the new RAB applicant and voted to approve the applicant. Ms. Williams welcomed Kent Fickett (Audubon Society) to the RAB.

IV. REMEDIAL PROJECT MANAGER (RPM) UPDATE

Navy Update
Ms. Jacobsen reviewed the Navy RPM update (Attachment C).

Ms. Jacobsen announced that the Site 1 Tidal Area Landfill cap construction has been put on hold and that a stop work order is in place for construction due to the discovery of munitions related items in the landfill. Most of what has been found thus far has been deemed inert, but one recovered item is pending classification. The Navy is going to develop an explosives safety submittal plan (ESS) prior to continuing work at the Site 1 Tidal Area Landfill. The Navy will have to delay work at the landfill until the ESS has been approved by the Naval Ordnance Safety and Security Activity (NOSSA). The team is working with NOSSA for their expedited review so that construction can continue this summer. In the event that the ESS is not approved during this summer, there is the potential that the remainder of the cap construction would not be completed until after the winter rainy season.

Curtis Lindskog (Shaw Environmental) asked if the Navy has conducted a geophysical survey at the Site 1 Tidal Area Landfill to test for UXO. Ms. Jacobsen stated that a geophysical survey has not been done because it would not work to detect UXO due to the presence of other metal debris which interferes with the analysis.

Igor Skaredoff (Martinez resident) asked if there is any chance of chemical weapon hazards in the landfill. Ms. Jacobsen stated that there should not be a chemical weapon hazard issue at the landfill if everything was properly disposed of. Mr. Skaredoff stated that he is concerned that there is chemical warfare materials located in the Site 1 Tidal Area Landfill. Ms. Jacobsen stated that there are no records of chemical warfare materials being disposed of at the Site 1 Tidal Area Landfill. Phillip Ramsey (U.S. Environmental Protection Agency [EPA]) stated that there are inert materials located in the landfill.

Cindy Welles (Clyde resident) asked if there are full drums that were disposed of in the landfill that have been excavated. Ms. Jacobsen stated that they have mostly excavated scrap metal to date and have not seen drums. Rick Weissenborn (Navy Base Realignment and Closure [BRAC] Environmental Coordinator [BEC]) stated that the Navy's past practice for disposing of drums was to crush them in a landfill to maximize space in the landfill.

Ms. Jacobsen stated that the Navy has granted an extension request for an additional month of agency review time on the Litigation Area Supplemental Feasibility Study (FS).

Ms. Jacobsen stated that the Draft Annual Amendment to the Site Management Plan (SMP) was distributed for agency review on June 15, 2006.

EPA Update

Mr. Ramsey stated that EPA submitted a letter to the Navy to extend the review time for the Litigation Area Supplemental FS in order to complete the review.

Mr. Ramsey stated that his focus for June 2006 was reviewing the Litigation Area Supplemental FS and the Litigation Area Year 1 Monitoring Technical Memorandum. The Litigation Area is EPA's highest priority site at NAVWPNSTA Seal Beach Det Concord. Mr. Ramsey stated that EPA is working with the State Agencies to provide the Navy with comments on the Litigation Area Supplemental FS. If the comments from the agencies are not resolved within 30 days per the informal dispute resolution process, the Litigation Area Supplemental FS will go through the formal dispute process. Mr. Ramsey stated that EPA is planning on providing the Navy comments on the Litigation Area Supplemental FS by the end of July 2006.

Mr. Ramsey stated that EPA is currently reviewing the Draft Annual Amendment to the SMP.

Mr. Ramsey stated that EPA is also reviewing the Navy's Environmental Condition of Property (ECP) report for the Inland Area. Jessica Hamburger (Contra Costa Resource Conservation District) asked if the ECP could be put on the Navy's website so the public could access it. Mr. Weissenborn stated that he is currently working with the Navy's website technicians to get the BRAC Program Management Office West website up to date with all of the historical documents that were on the previous website. In the mean time, Mr. Weissenborn will provide an electronic copy of the ECP to anyone who requests a copy.

Ms. Hamburger announced that the Port Chicago Explosion Commemoration is occurring on July 15, 2006. The event is open to the public.

San Francisco Bay Regional Water Quality Control Board (Water Board) Update
Alan Friedman (Water Board) announced that the Water Board issued four underground storage tank (UST) closure letters to the Navy in June 2006. Mr. Friedman is currently reviewing other UST documents.

Mr. Friedman stated that he is in the process of reviewing the Litigation Area Supplemental FS and the Year 1 Monitoring Technical Memorandum. Mr. Friedman stated that there has been a wetlands restoration specialist added to the Water Board team who will be reviewing wetlands site documentation.

VI. LITIGATION AREA YEAR 1 MONITORING TECHNICAL MEMO (TIDAL)

Xavier Fernandez (Tetra Tech EM Inc. [TtEMI]) provided a presentation on the Litigation Area Year 1 Monitoring Technical Memo. The presentation is included as Attachment D.

Ms. Welles asked if the Navy is assessing why one groundwater sample result is higher than in previous events. Mr. Fernandez stated that he is not sure why one sample showed elevated levels of metals because the groundwater wells on either side of it are not elevated. Ms. Williams asked if the Navy is planning on going out to the Litigation Area in the near future to re-sample the well that had the elevated groundwater concentrations. Ms. Jacobsen stated that the Navy is evaluating long term trends in groundwater quality, so future monitoring is planned next year, but not immediately. The groundwater in the Litigation Area is not a drinking water source.

Mr. Fickett asked if it is time for the Navy to conduct the groundwater sampling event at the Litigation Area. Ms. Jacobsen stated that the Navy just issued the Litigation Area Year 1 Monitoring Technical Memo for agency review. The Navy would like to see what the agencies recommendations are for groundwater monitoring prior to going out and conducting another round of sampling. Mr. Fickett asked if there is a change in groundwater seasonally in the Litigation Area. Joanna Canepa (TtEMI) stated that the water levels and flow direction change seasonally. Mr. Ramsey stated that EPA the spike in one groundwater sample may represent a localized source, and that EPA is not focused on that in their comments on the report.

Mr. Skaredoff asked if there is a plan to cleanup the groundwater in the Litigation Area so it does not impact the sloughs. Mr. Fernandez stated that the groundwater flow rate is extremely slow so the slough will not likely be impacted by groundwater contamination. Mr. Skaredoff asked if surface water samples have a higher mercury concentration in warmer weather due to the methylation at the site. Mr. Fernandez stated that surface water samples collected during the wet season may have lower concentrations than samples collected during the dry season because the additional water from rain and runoff may dilute concentrations of chemicals in the slough.

Mr. Fickett asked if there was risk to the California black rail due to groundwater contamination in the Litigation Area. Mr. Fernandez stated that primary risk driver to the rail is sediment, however new sediment that is not contaminated is being slowly deposited onto the site. There is a thick vegetative mat which protects the black rail from being directly exposed to contaminated sediment. Mr. Fickett asked how the contaminants could affect the birds in the Litigation Area. Mr. Fernandez stated that there may be effects in bird reproduction, but that the Navy had performed bird population surveys during the first 5 Years of monitoring. The survey data showed an increasing trend in the population of the black rail at the site.

Greg Glaser (Danville resident) asked if there is a separate monitoring technical memo assessing contamination in the Litigation Area sloughs and mosquito ditches. Mr. Ramsey stated that EPA raised the issue of monitoring in the sloughs and mosquito ditches to the Navy a year ago. EPA did not want the Navy to develop separate monitoring plans for the different sites in the Litigation Area. Mr. Ramsey recommended that the RAB go through the Litigation Area Supplemental FS and the Year 1 Monitoring Technical Memorandum to get the entire story of the site. Mr. Ramsey stated that EPA is reviewing both of these documents.

VII. SOLID WASTE MANAGEMENT UNITS (SWMU) SITES 2, 5, 7, AND 18 TREATABILITY STUDY WORK PLAN (INLAND)

Wilson Doctor (BRAC PMO West) provided a presentation on the SWMU Sites 2, 5, 7, and 18 Treatability Study Work Plan. The presentation is included as Attachment E.

Ms. Welles asked if the Navy takes soil vapor collected onsite to an offsite area for disposal. Mr. Doctor stated that the Navy would run soil vapor through a treatment system, possibly a carbon filter, onsite to make sure it is clean before it is released into the air.

Mr. Fickett asked what would happen if the Navy leaves the sites as is. Mr. Ramsey stated that there is still a source area from previous tank onsite that needs to be addressed. Mr. Weissenborn stated that the Navy cannot access the contaminated soil that remains onsite because of the location of the building, which makes soil vapor extraction an option for site cleanup.

Mr. Ramsey asked if the Navy plans on installing additional monitoring wells at the SWMU Sites prior to conducting the pilot study.

Mr. Glaser asked if the Navy is assessing whether a pilot study is needed at the SWMU Sites or if they are trying to determine which pilot study is acceptable to conduct. Mr. Ramsey stated that it looks like there is a need for conducting a pilot study at the SWMU Sites to determine the best way to remediate the site, but that a laboratory treatability study to evaluate an enhanced bioremediation remedy is not necessary.

Mr. Fickett asked where at the SWMU Sites the Navy is planning on conducting the pilot study. Mr. Doctor stated that the Navy will conduct the pilot study where there are the highest levels of contamination based on previous sampling events.

Mr. Skaredoff asked how much a pilot study generally costs. Mr. Doctor stated that it would cost the Navy approximately $3.5 million dollars to conduct the pilot study and the full scale cleanup of the SWMU Sites. The Navy and agencies would have to decide that the pilot study is working effectively prior to initiating a full scale cleanup of the site.

VIII. SITES 2, 9, AND 11 UPDATE (TIDAL)

Ms. Jacobsen provided a presentation on the Sites 2, 9, and 11 Update. The presentation is included as Attachment F.

Mr. Skaredoff asked why there is mercury contamination at Rhodes Road. Ms. Jacobsen stated that the mercury may have been brought onto the site as part of the road fill, or it may be the result of the Navy wood chipping and incineration activities that took place.

IX. NEXT MEETING AND ACTION ITEMS

The next RAB meeting is scheduled for 6:30 to 8:30 p.m. on Wednesday, August 2, 2006 at the Concord Police Department Community Room.

The following action items were generated during the RAB meeting on July 5, 2006:

No.	Action Item	Target Date for Completion	Completion Date (or Status)
1	The Navy will distribute the revised agenda for the August 2, 2006 RAB meeting.	7/28/06	This action item was completed on 7/26/06
2	The Navy will finalize and distribute the June 7, 2006 RAB meeting minutes.	8/2/06	This action item was completed on 7/18/06

ATTACHMENT A

ATTENDEES AND AFFILIATIONS
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006
(One Page)

ATTENDEES AND AFFILIATIONS
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

Name	Affiliation	Telephone
Lisa Anich*	Friends of Mount Diablo Creek	(925) 689-2642
Joanna Canepa	TtEMI	(425) 673-3652
Wilson Doctor	U.S. Navy BRAC PMO West	(619) 532-0928
Xavier Fernandez	TtEMI	(415) 222-8302
Kent Fickett*	Audubon Society	(925) 254-5156
Alan Friedman	Water Board	(510) 622-2347
Greg Glaser*	Danville Resident	(925) 363-5570
Jessica Hamburger*	CCRCD	(925) 672-6522 X118
Carolyn Hunter	TtEMI	(415) 222-8297
Kim Jacobsen	U.S. Navy, NAVFAC Southwest	(619) 532-1448
Curtis Lindskog	Shaw Environmental	(925) 288-2324
Phillip Ramsey	EPA	(415) 972-3006
Igor Skaredoff*	Martinez Resident	(925) 229-1371
Steve Tyahla	The Source Group	(925) 944-2856 X306
Rick Weissenborn	U.S. Navy BRAC PMO West	(619) 532-0952
Cindy Welles*	Clyde Resident	(925) 685-2698
Mary Lou Williams*	Concord Resident	(925) 685-1415

Notes:

*	Community Restoration Advisory Board (RAB) Member
CCRCD	Contra Costa Resource Conservation District
EPA	U.S. Environmental Protection Agency
IPT West	U.S. Navy Integrated Project Team West, NAVFAC SW
PMO West	U.S. Navy Project Manager Office West
TtEMI	Tetra Tech EM Inc.
Water Board	San Francisco Bay Regional Water Quality Control Board

ATTACHMENT B

AGENDA
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

(One Page)

AGENDA

NAVAL WEAPONS STATION SEAL BEACH (NWSSB) DETACHMENT CONCORD
RESTORATION ADVISORY BOARD (RAB) MEETING

Wednesday, July 5, 2006
6:30 p.m. – 8:30 p.m.

Location: Concord Police Department Community Room
1350 Galindo Street, Concord, CA 94520

6:30 – 6:40	Call to Order ➢ Welcome ➢ Introductions ➢ Public Comments ➢ August Agenda Approval Lead: Community Co-chair
6:40 – 6:50	Approval of June 2006 Meeting Minutes Review Unresolved Business Lead: Navy Co-chair
6:50 - 7:30	Committee Reports/Announcements ➢ RAB Announcements, Reports or other business ➢ Remedial Project Managers' Update (Navy/EPA/DTSC/RWQCB)
7:30 – 7:40	Break
7:40 – 7:50	Litigation Area Year 1 Monitoring Tech Memo (Tidal) Presenter: TTEMI
7:50 – 8:20	SWMUs 2, 5, 7, and 18 Treatability Study Work plan (Inland) Presenter: TTEMI
8:20 – 8:30	Sites 2, 9, and 11 Update Presenter: Navy
8:30	Adjourn

NWSSB DETACHMENT CONCORD RAB Meetings are held the first Wednesday of every month, unless changed.
Information regarding the Environmental Restoration program at NWSSB Detachment Concord can be found at:
- Tidal and Inland prior to December 2005 - http://www.sbeach.navy.mil/Programs/Environmental/IR/IR.htm
- Tidal after December 2005 – will be
https://portal.navfac.navy.mil/portal/page?_pageid=181,1&_dad=portal&_schema=PORTAL
- Inland after December 2005 - http://www.navybracpmo.org/brac2005/bracbases/ca/concord/default.aspx;
In addition, a public voicemail is available for questions at (925) 246-4333.
NAVFAC Public Affairs Officer: Mr. Lee Saunders, (619) 532-3100, lee.saunders@navy.mil
Lead RPM Tidal Area and Navy RAB Co-Chair: Mrs. Kim Jacobsen, (619) 532-1448, kimberly.jacobsen@navy.mil
BRAC Environmental Coordinator: Mr. Rick Weissenborn (619) 532-0952, richard.weissenborn@navy.mil
Community RAB Co-Chair: Mary Lou Williams, Mlou1015@aol.com

ATTACHMENT C

NAVY REMEDIAL PROJECT MANAGER'S UPDATE
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

(1 Page)

Navy RPM/BCT Update for 5 July 2006 Meeting of Naval Weapons Station Seal Beach, Detachment Concord Restoration Advisory Board (RAB)

Summary of Navy Remedial Project Manager (RPM) Activities since the last RAB Meeting held on Wednesday, 7 June 2006.

Tidal Area

- **June 15 and 30, 2006** – Navy issued stop work order at Site 1 Landfill Cap Construction due to several findings of inert munitions and possible Munitions Potentially Posing an Explosives Hazard (MPPEH) to begin required consultation with Naval Ordnance Safety and Security Activity.
- **June 26, 2006 –** Navy agreed to extend review period to allow for potential informal dispute resolution on Litigation Area FS until August 30, 2006.
- **June 26, 2006 –** Navy emailed draft Memo to File for the NWS Concord Site 1 Landfill Cap minor change (from clay to geomembrane) to USEPA for input before distributing to all agencies.
- **June 27 2006 –** The Navy issued Response to Agency Comments and Draft Final Addendum 01 Data Gaps Sampling and Analysis Plan (Field Sampling Plan/Quality Assurance Project Plan) Tidal Area Sites 2, 9, and 11. Draft Final document has revised sampling locations per agency comments. A few more changes may occur following agency review of Draft Final and site walk.

Inland Area

Tidal and Inland Areas

- **13 June 2006 -** The Navy issued the 2006 Draft Annual Site Management Plan (SMP) Amendment. Amendment included extension requests Tidal and Inland Projects. Also, SMP was split between Tidal and Inland area (now two SMPs).
- **28 June 2006 –** TTECI distributed for the Navy draft agendas for the July 5 and August 2, 2006 RAB meetings,draft June 2006 RAB Meeting Minutes, and Final May 2006 RPM Meeting Minutes by email.
- **29 June 2006 –** TTECI distributed for the Navy November 2005, February 2006, March 2006, April 2006, and May 2006 Meeting Minutes by email
- **5 July 2006** – The Navy met with the project managers from USEPA, DTSC, DFG, and the SFBRWQCB. This was our regular monthly meeting.

ATTACHMENT D

LITIGATION AREA YEAR 1 MONITORING TECHN ICAL MEMO (TIDAL) PRESENTATION
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

(16 Pages)

Overview of Draft Year 1 Monitoring Technical Memorandum
Litigation Area Sites
Naval Weapons Station Seal Beach Detachment Concord
by Xavier Fernandez, Tetra Tech EM Inc.

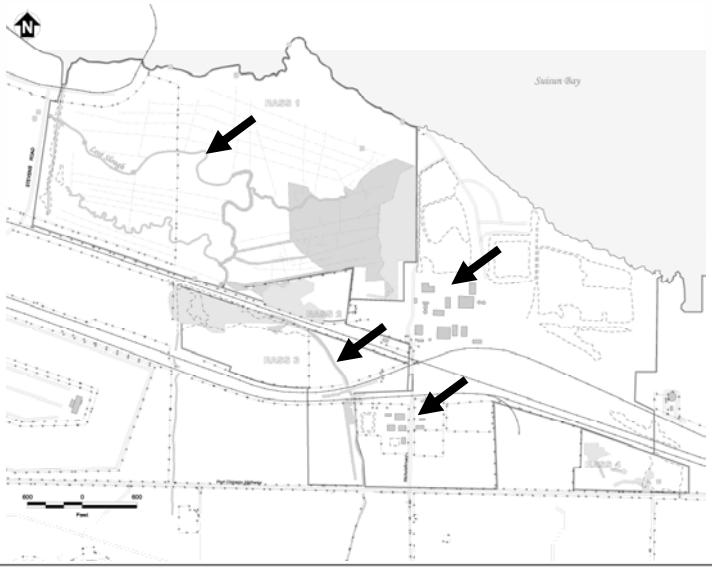
Presentation Overview

- **Orientation to Litigation Area Sites and History**
- **Monitoring Plan Components**
  - Marsh Surface Soil
  - Groundwater
  - Surface Water
  - Supplemental evaluation of risk to the California Black Rail
  - Plant communities
- **Questions and Answers**

Litigation Area Ecosystem

- Undeveloped wetlands
- Historic metals contamination from neighbors and previous owners
- Property purchased by Navy in 1960s as a land buffer
- Supports significant populations of sensitive species
  - Salt Marsh Harvest Mouse (endangered)
  - California Black Rail (threatened)
  - Soft Bird's Beak and other rare plants

Litigation Area Features

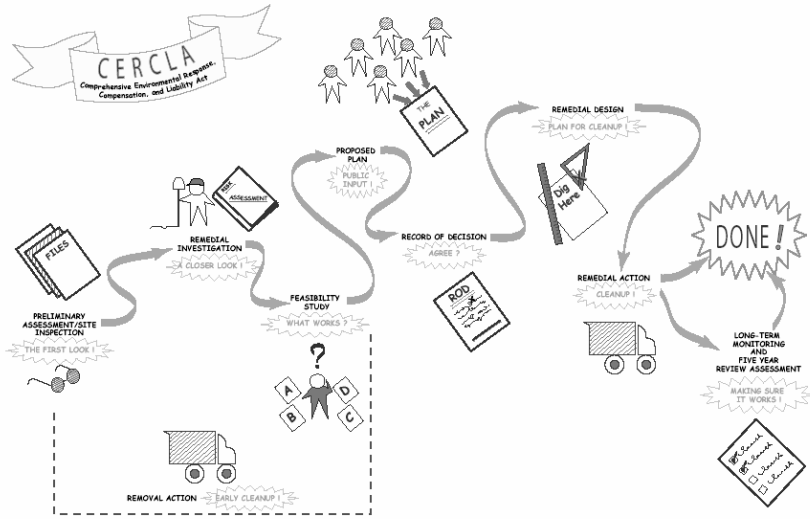


Litigation Area Site Chronology

- 1983: Sites identified by Navy
- 1988: Remedial Investigation/ Feasibility Study (RI/FS) completed
- 1989: Record of Decision (ROD) and Remedial Action Plan (RAP) documented selected remedy
- 1991: Pre-remediation monitoring
- 1993-96: Remediation and restoration conducted
- 1995-2000: Post-remediation monitoring
- 2001-2003: First Post-remediation Five Year Review
- 2004: Revised Monitoring Plan, Draft Supplemental FS
- 2005-2006: Treatability Study
- 2006: Draft Final Supplemental FS; Draft Year 1 Monitoring Technical Memorandum

For original remedial action, the most contaminated portion of each site was cleaned up; some contamination was left in place to avoid destruction of sensitive habitat

CERCLA Process



Final Five Year Periodic Review Assessment June 30, 2003

Purpose

- Evaluate implementation and effectiveness of selected remedy
- Determine whether additional actions are necessary

Recommendations

- Prepare new monitoring plan – finalized in 2004
- Conduct data gaps evaluation – draft in 2004
- Conduct supplemental FS – draft in 2004, draft final 2006

- This Monitoring Plan does not cover those areas included in draft supplemental FS (sediment in ditches and sloughs, Nichols Creek). A separate monitoring plan will be developed for those areas, as necessary.

Monitoring Objectives – 2004 Final Monitoring Plan

- Evaluate compliance with regulatory requirements
- Assess the effectiveness of prior remedial activities
- Identify changes in site conditions
- Assess ongoing risk to the environment

Overview: Components Year 1 Monitoring

- Marsh Surface Soil
- Groundwater
- Surface Water
- Supplemental Evaluation of Risk to the California Black Rail (threatened bird)
- Vegetation community

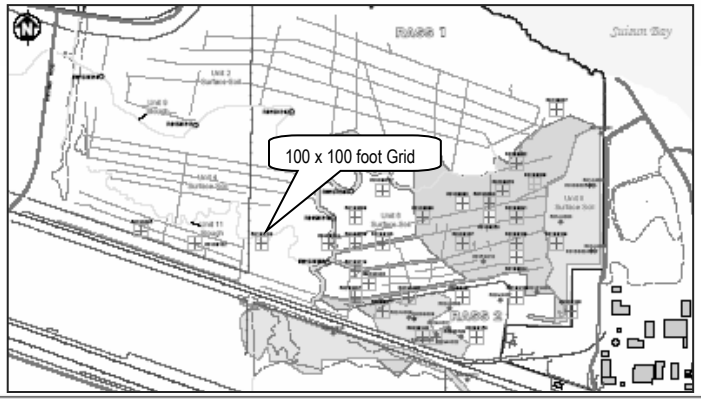
View of the Marsh Surface

Marsh Surface Soil Monitoring Objectives

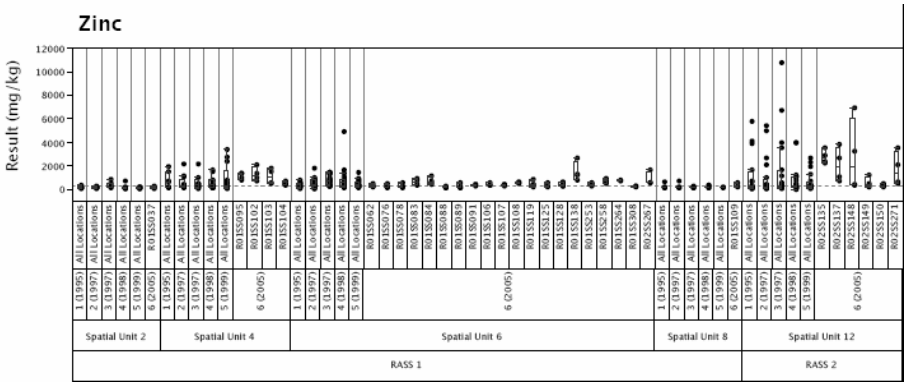
1. Compare metals concentrations in marsh surface soil with ecological benchmarks
2. Detect any significant change in the estimated risk posed to the environment from exposure to marsh surface soil

Marsh Surface Monitoring Implementation

- Collected 128 Surface soil samples for metals analysis
- 32 100x100 foot grids, 4 samples collected from each
- Samples collected in July-August 2005



Evaluation of Data Compared with Previous Sampling Rounds



Results and Conclusions: Marsh Surface Soil

- **Concentrations of several metals exceeded sediment risk thresholds**
- **No identifiable trends in contaminant concentrations relative to previous monitoring events were observed**
  - **Evaluated by summary statistics and exposure point concentration calculations**
- **Future marsh surface soil monitoring is recommended on 5 year intervals per the monitoring plan**

Groundwater Monitoring

Groundwater Monitoring Objectives

1. Assess trends in groundwater quality
2. Detect any significant change in the estimated risk posed to ecological receptors from exposure to groundwater
3. Detect any transport of contamination from offsite sources onto Navy property

Groundwater Monitoring Implementation

- Collected water samples from 23 existing wells onsite during wet season
- Measured water levels
- Installed 3 new deep groundwater wells
- Analysis of metals in all wells

Groundwater Monitoring Results

- Concentrations of metals in groundwater exceeded the site-specific water quality benchmarks in several wells
- Most wells had similar metals concentrations when compared with past monitoring events
- Well R02AG009 showed markedly higher concentrations of cadmium, nickel, and zinc
- Groundwater flow direction is seasonally variable, but is generally to the northwest (in shallow aquifer)
- Groundwater is not a potential drinking water source (not potable)

Groundwater Monitoring Recommendations

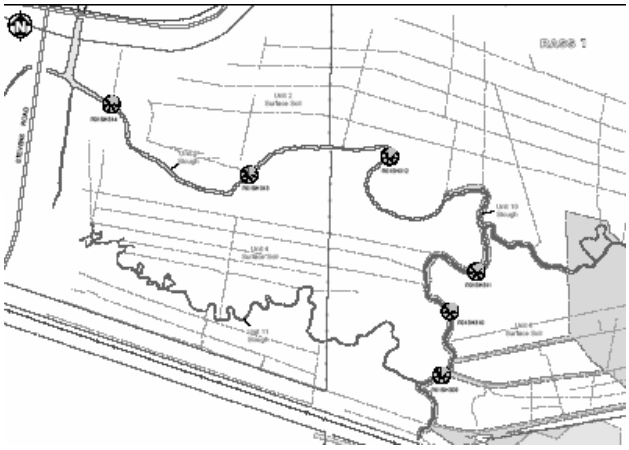
- **Monitor a subset of 14 "sentinel" wells for metals on an annual basis per the monitoring plan**
  - **Sentinel wells selected based on proximity to the site boundary or observed trends in metals concentrations**
- **Monitor all 26 wells on a 5-year basis per the monitoring plan**
- **Collect water levels in offsite wells concurrent with future water level measurement events**

View of Surface Water Features

Surface Water Monitoring Objectives

1. Assess surface water quality
2. Detect any significant change in the estimated risk posed to ecological receptors from exposure to surface water
3. Evaluate the potential for off-site transport of elevated concentrations of metals to Suisun Bay

Surface Water Monitoring Implementation



- Collected surface water samples from 6 locations during wet and dry seasons (3 events per season)
- Analysis of metals

Surface Water Monitoring Results & Recommendation

No significant changes in concentrations observed relative to previous rounds

Wet Season:

- Arsenic, lead, mercury and zinc concentrations did not exceed water quality standards
- One copper and one selenium result exceeded their respective chronic water quality benchmarks

Dry Season:

- Arsenic, cadmium, mercury, and selenium did not exceed water quality standards
- Copper and zinc exceeded both the chronic and acute water quality benchmarks in some samples

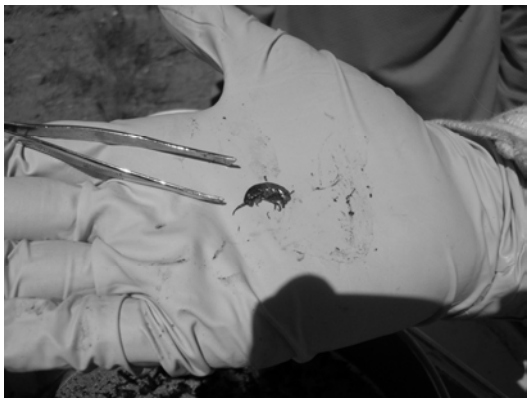
Recommendation:

Continue annual monitoring of surface water per the monitoring plan. Discontinue monitoring if no water quality benchmarks are exceeded after six events

Supplemental Evaluation of Risk to the CA Black Rail

1. Assess a data gap in the 5-year review Baseline Ecological Risk Assessment as a 1-time sampling event
2. Evaluate risk to the California Black Rail from ingestion of metals in soil and prey on the marsh surface

Black Rail Risk Monitoring Implementation



- Collected black rail food items from marsh surface
  - amphipods (see photo)
  - gastropods (snails)
  - *Scirpus* seeds
- Analysis of metals in food items
- Use of food item and soil concentrations in a food-chain model to evaluate risks

Results and Recommendations: Supplemental Evaluation of Risks to the California Black Rail

- Concentrations of metals in soil and Black Rail prey items remain at levels that may pose unacceptable risk
- Revised risk estimates for mercury and selenium were higher than in previous assessments; zinc and cadmium were lower
- Future surface soil monitoring should be used to recalculate Black Rail risk levels
- No additional Black Rail food item monitoring is necessary

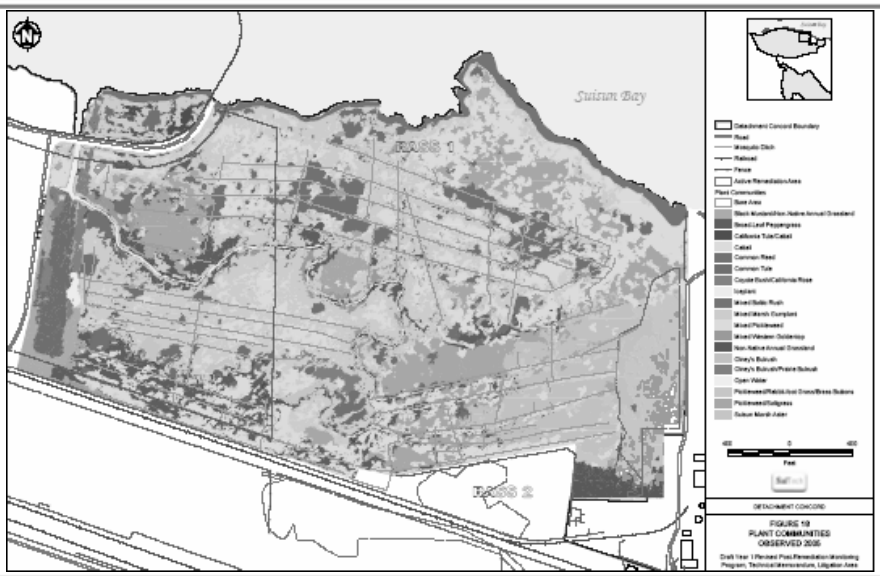
Vegetation Communities Monitoring

<u>Objective:</u> Assess landscape-scale changes in site conditions that could result in negative impacts to plants and wildlife

<u>Implementation:</u>

- **Ground-level vegetation surveys**
- **Aerial surveys**
- **Remote sensing analysis**

Vegetation Communities Monitoring



Vegetation Community Monitoring

- 18 vegetation communities identified, including several special status plants and native plants
- No indications of contaminant-related plant impacts
- Results represent first year of this type of monitoring, so no conclusions about trends in plant communities can be drawn until the next monitoring event
- Future vegetation community monitoring is recommended on a 3 year interval

Overall Summary – Draft Year 1 Monitoring Technical Memorandum

- Monitoring of soil, surface water, groundwater, prey tissue, and vegetation communities performed in 2005 and 2006
- Presents the first year of monitoring under the 2004 monitoring plan (year 6 since remediation)
- Does not cover monitoring for areas included in the Draft Supplemental FS (sediment in sloughs and ditches, Nichols Creek). Separate monitoring plans may be established for those sites as necessary.
- Final Year 1 Monitoring Technical Memorandum Due in August 2006
  - Comments on the Draft Technical Memorandum have been received from the U.S. Environmental Protection Agency and the California Department of Fish and Game

Questions

ATTACHMENT E

SOLID WASTE MANAGEM ENT UNITS SITE 2, 5, 7, AND 18 TREATABILITY STUDY WORK PLAN (INLAND) PRESENTATION
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

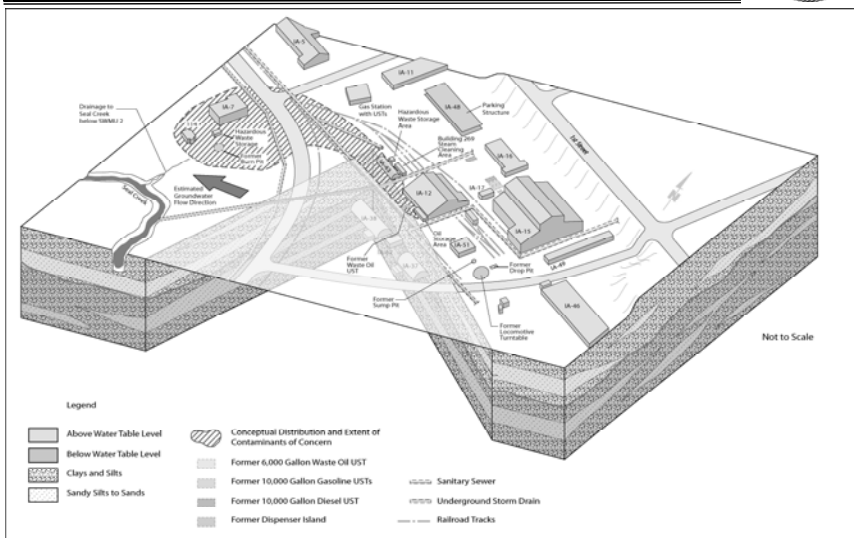
(5 Pages)

Overview of Pilot Study
Solid Waste Management Unit Sites
2, 5, 7 & 18

Naval Weapons Station Seal Beach, Detachment Concord
Restoration Advisory Board Meeting
July 5, 2006

Presented by:
Wilson Doctor
Remedial Project Manager
Acknowledgements: Tetra Tech EMI

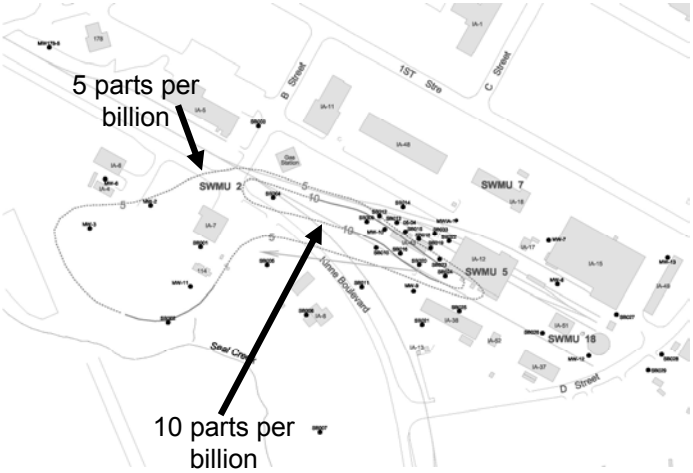
Site Conceptual Model



Remedial Action Objectives

- **Prevent potential intrusion of VOC (volatile organic compound) vapors**
- **Prevent domestic use of groundwater containing VOCs**
- **Prevent off-site migration of VOC plume**

Tetrachloroethene (PCE) in Groundwater



Groundwater remediation area: 208,650 square feet or 4.8 acres

N

Remedial Alternatives Evaluated in the 2005 FS Report

- Alternative 1: No Action
- Alternative 2: Air Sparging and Soil Vapor Extraction (SVE)
- Alternative 3A: Enhanced Bioremediation throughout plume and SVE
- Alternative 3B: Enhanced Bioremediation in main portion of plume and SVE
- Alternative 4: Pump and Treat and SVE

Pilot Study Options

- Alternative 2 (Air Sparging)
  - Pilot Study Work Plan (8 months preparation and approval)
  - Pilot Study (7 months)
  - Summary Report (4 months)
  - Total Time 1 ½ Years
- Alternative 3A (Bioremediation)
  - Treatability Study Work Plan (8 months preparation and approval)
  - Treatability Study (6 months field and lab studies)
  - Summary Report (4 months)
  - Pilot Study Work Plan (6 months)
  - Pilot Study (10 months)
  - Summary Report (4 months)
  - Total Time 3 Years

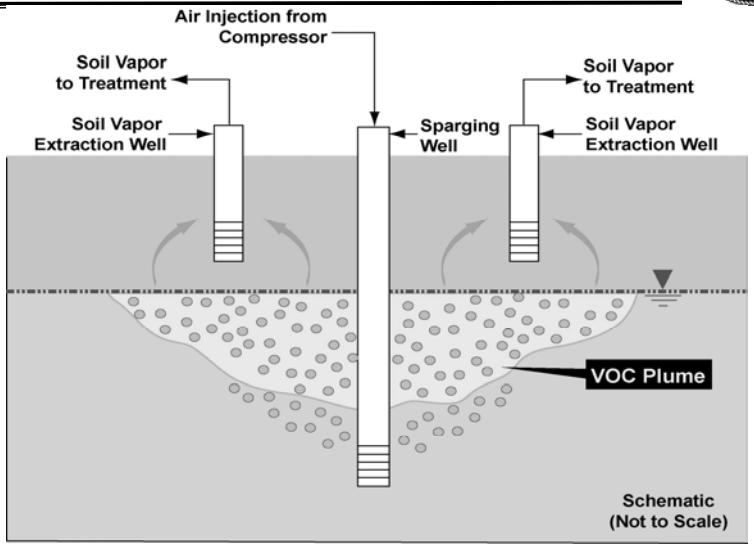
Pilot Study Decisions and Next Steps

- Navy initially intended to evaluate Alternative 3 (Bioremediation) due to lower cost
- Navy has now decided to evaluate Alternative 2 (Air Sparging) due to higher reliability and shorter time for implementation
- Next Steps
  - Pilot Study Work Plan (draft for review on 9/30/06)
  - Conduct Pilot Study (to be completed 8/07)
  - Pilot Study Summary Report (final 12/07)
  - Revised Draft Final Feasibility Study
  - Proposed Plan
  - Record of Decision
  - Remedial Design
  - Remedial Action

Alternative 2: Air Sparging with Soil Vapor Extraction

Protection of human health and the environment	Yes
Compliance with ARARs	Yes
Long-term effectiveness and permanence	Reduces contaminants to below remedial goals
Reduction in toxicity, mobility, or volume through treatment	Yes
Short-term effectiveness	Minimal short term risks
Implementability	Technically feasible
Cost	$3.5 Million (~4 year timeframe)

Typical Air Sparging System



Questions

ATTACHMENT F

SITES 2, 9, AND 11 UPDATE PRESENTATION
RESTORATION ADVISORY BOARD MEETING
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA

JULY 5, 2006

(9 Pages)

Overview of Draft Final Addendum
Data Gaps Sampling and Analysis Plan
Tidal Area Sites 2, 9, and 11

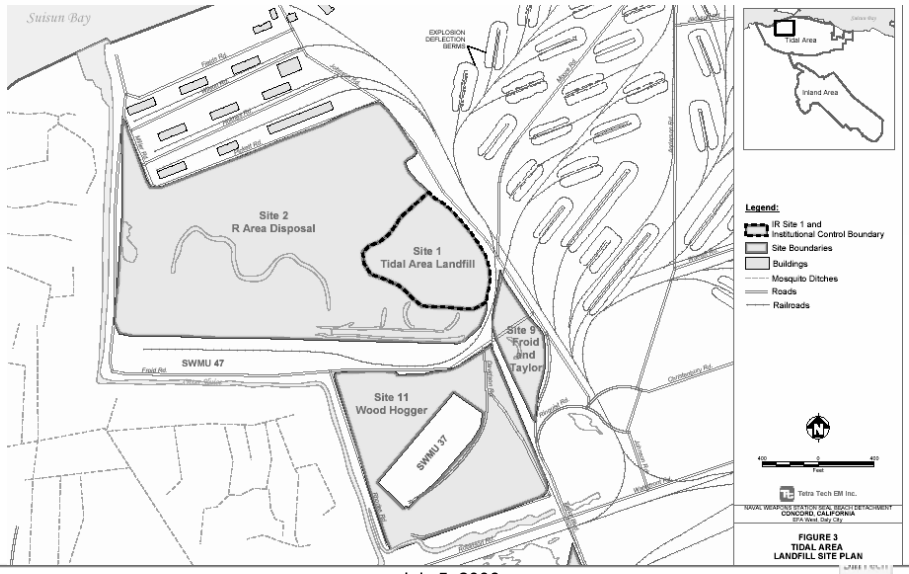
Naval Weapons Station Seal Beach
Detachment Concord

by
Kimberly Jacobsen, P.E.
Naval Facilities Engineering Command Southwest
July 5, 2006

Presentation Overview

- **Tidal Area Sites and History**
  - Site Location and History of Operations
  - Timeline of Previous Investigations
- **Draft Final RI in Progress**
  - First Round Data Gaps Sampling Results
  - Second Round Draft Data Gap Proposed Sampling
    - Proposed Sampling
    - Next Steps
- **Questions and Answers**

Tidal Area Sites



Sites 2, 9, and 11 History of Operations

- Pre-1927: Pacific Coast Shipbuilding Company
- 1927: Navy acquires property for ordnance storage and handling
- 1942: Waterfront handling facilities begin (1944 Port Chicago explosion)
- 1999: US Army obtained indefinite use permit for munitions handling in Tidal Area

Site 11: Wood Hogger

- 30-acre area, operated mostly from 1950's to 1972, borders Otter Slough and south of Froid Rd
- Multiple Operations
  - incinerator to burn wood chips (sold chips 1969-1972)
  - crates treated with pentachlorophenol (wood preservative) and used wood hogger to create wood chips
  - Recently used as storage area for scrap metal and wood
- Habitat
  - upland, non-native grasses
  - paved areas
  - intermittent ponds (tidal wetlands)

Status: Data gap identified in area with elevated mercury in wetland sediment; additional sampling proposed

Aerial View of SW Corner of Site 11, Wood Hogger

South West Corner of Site 11: Wood Hogger Site

Otter Slough

- 10.5 acre area, borders R-Area and Wood Hogger
- Only perennial body of water in Tidal Area; channelized to drain
- Not a formal site, but of concern due to proximity to other sites.
- Habitat – tidally influenced water body, associated with Suisun Bay
- Status: RI in progress

Timeline of Investigations

Pre-2006

- 1983: Sites identified by Navy Initial Assessment Study
- 1992: Site Inspection Completed
- 1994-1995: Work plans and sampling plans completed for RI
- 1995: First round of RI field work conducted
- 1997: Draft RI Report submitted
- 1998: SAP prepared and second round RI field work conducted
- 1999: Draft Final RI submitted (4-volume report)
- 2002: Revised draft final Ecological Risk Assessment submitted
- 2003: Revised draft final RI submitted
- 2005: Data Gaps Sampling and Analysis Plan
- 2005: Data Gaps Sampling Performed

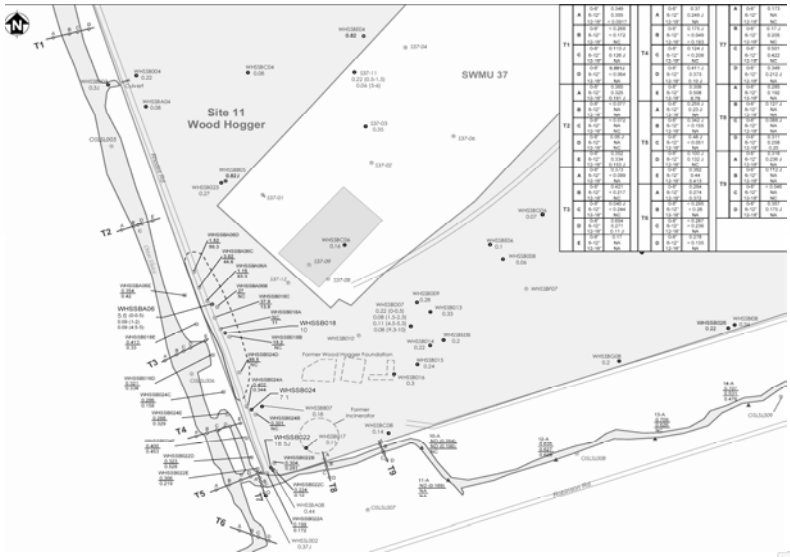
2006

- 2/23/2006: Draft Data Gaps Sampling and Analysis Plan (SAP) Addendum
- 2/24/2006-4/28/2006: Agency and community review of draft SAP Addendum
- 6/28/2006: Draft Final Data Gaps SAP Addendum Issued
- 6/28/2006-7/28/2006: Agency and community concurrence period for Draft Final SAP Addendum (to include agency site visit)
- Summer 2006: Second Round Data Gaps Sampling

First Round Data Gaps Sampling

- 101 samples analyzed in 2005 at Site 11 for mercury
  - Samples from 1995 detected elevated mercury
  - 81 Otter Slough samples - 2 exceed sediment eco-risk benchmark of 0.71 mg/kg (maximum detected 0.9 mg/kg)
  - 20 Rhodes Road samples found mercury (88 mg/kg max.)

Site 11 Mercury Sample Results



Data Gaps Identified to Complete Remedial Investigation – Site 11

Mercury in Southwest Corner of Site 11

- Elevated mercury along the Rhodes Road in the levee fill (up to 88 parts per million)
- Mercury concentrations to the North, East, and West are not delineated
- Mercury is known to bioaccumulate and biomagnify in the food chain
- As recommended by agencies after review of draft data gap SAP, additional samples will be taken in the southwest corner of Site 11 and a few other areas to more fully characterize the nature and extent of mercury in sediment/soil at the site
- Fewer samples will be taken along Rhodes Road to accommodate

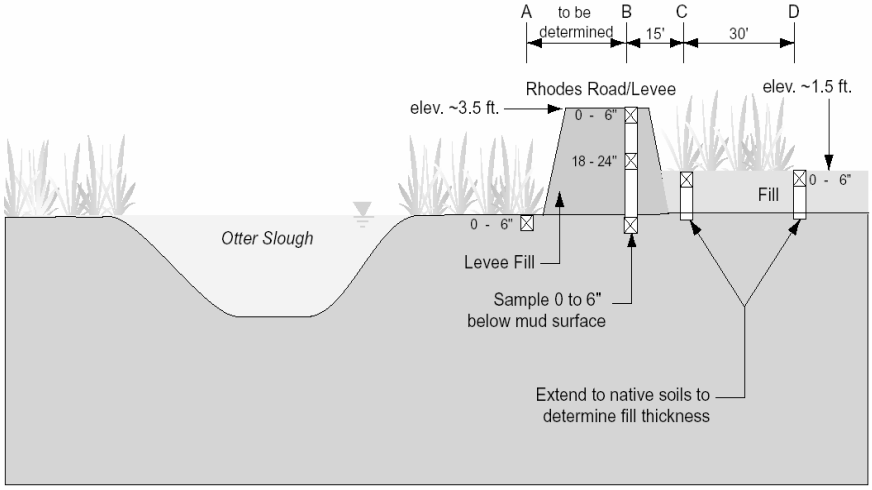
Draft Proposed Sampling

- 12 sample locations on levee
- 6 sample locations west of levee
- 29 sample locations east of levee
- 9 sample locations around incinerator and wood hogger
- 18 step out sample locations
- 98 sample locations total
- Navy and EPA discussing possible additional sampling locations in Otter Slough

Draft Final Proposed Sampling

- 13 sample locations on levee
- 4 sample locations west of levee
- 18 sample locations east of levee
- 9 sample locations around incinerator and wood hogger
- 4 samples west of Building A-29
- 8 sediment samples in water bodies and at terminus of Otter Slough
- 18 step-out sample locations
- 89 samples total

Proposed Sampling



Next Steps

- June 28, 2006 – July 28, 2006: Agency and community concurrence period for Draft Final SAP Addendum (to include agency site visit)
- July 28, 2006: Final SAP Addendum
- August 2006: Data gaps sampling
- January 11, 2007: Draft RI Report

Questions