



TETRA TECH EM INC.

June 29, 2006

Dear RAB Members,

On behalf of the Navy, enclosed please find the February 1, 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](mailto:Carolyn.hunter@ttemi.com).

Sincerely,

Carolyn Hunter  
Community Relations Specialist  
Tetra Tech EMI

**FINAL**  
**MEETING MINUTES**  
**RESTORATION ADVISORY BOARD**  
**NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD**  
**CONCORD, CALIFORNIA**  
**FEBRUARY 1, 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 (Detachment Concord), California. The meeting was held from 6:30 p.m. to 8:30 p.m. on February 1, 2006, at the Concord Police Department Community Room in Concord, California. Agreements and action items are described by topic under Sections I through V and are summarized in Section VI. 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**

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

**March 2006 RAB Agenda Approval**

The interim U.S. Navy RAB Co-chair, Louise Lew (Navy Environmental Business Line Team Leader) stated that the Navy is in the process of identifying a presentation topic for the March 1, 2006 RAB meeting. John Hill (Navy Base Closure Manager) stated that the Navy is considering a presentation on the Base Realignment and Closure (BRAC) process. Once a presentation topic is determined, the Navy will distribute the March 2006 agenda to the RAB.

**Action Item**

1. Once a presentation topic is determined, the Navy will distribute the March 1, 2006 agenda via e-mail to the RAB.

**II. NOVEMBER RAB MEETING MINUTES APPROVAL**

Ms. Lew stated that since the November 1, 2005 RAB meeting minutes were sent out for review on January 31, 2006. Due to the short review period for the RAB members, she proposed to approve the meeting minutes at the March 1, 2006 RAB meeting. The RAB agreed to add approval of the November 2005 RAB meeting minutes to the March 2006 RAB meeting agenda.

**Action Item**

2. The RAB will review the November 1, 2005 RAB meeting minutes will add approval of them to the March 1, 2006 meeting agenda.

### **III. COMMITTEE REPORTS AND ANNOUNCEMENTS**

Ms. Williams opened the floor for committee reports and announcements. Ms. Lew noted that the Concord Police Department Community room was not available for the April or May 2006 meetings, as the Concord Police Department needed the room those evenings. The Navy will identify an alternate meeting location for the April and May 2006 RAB meetings. There were no other committee reports or announcements were offered.

#### **Action Item**

3. The Navy will identify an alternate meeting location for the April and May 2006 RAB meetings.

### **IV. REMEDIAL PROJECT MANAGERS (RPM) UPDATE**

#### **Navy Update**

Ms. Lew reviewed the Navy RPM update (Attachment C).

Ms. Lew stated that the Navy submitted the Final Action Memorandum for Taylor Boulevard Bridge (Site 30) on November 30, 2006. U.S. Environmental Protection Agency (EPA) provided the Navy a concurrence letter on the Final Action Memorandum for Taylor Boulevard Bridge (Site 30) on January 19, 2006. Phillip Ramsey (EPA) provided the RAB a history on Site 30 and the action memorandum. Igor Skaredoff (Martinez resident) asked if there is a schedule and a certain time of year for the work to be done on Site 30. Mr. Ramsey confirmed that the work done at Site 30 will need to be conducted during the dry season. Lik-See Chung (Navy RPM) stated that the Navy is planning on completing the work at Site 30 during 2007.

Mr. Skaredoff asked if the Navy has a status update on the work that is being done at Site 1. Mr. Chung stated that the Navy submitted a Site 1 Landfill Cover-Draft Remedial Action Work Plan to the agencies in October 2005 and received comments in January 2006. The Site 1 Landfill construction is scheduled to occur in summer 2006.

The Navy submitted the Treatability Study (TS) and Supplemental Feasibility Study (FS) Draft Data Gaps Technical Memorandum at the Litigation Area for agency review on November 7, 2006.

#### **EPA Update**

Mr. Ramsey reviewed the EPA RPM update (Attachment C).

Mr. Ramsey provided the Navy comments on the Military Munitions Program Preliminary Assessment on November 22, 2005. EPA provided comments on the Black Pit at Red Rock soil borrow area as well as the 23A explosive ordnance disposal area. Mr. Ramsey stated that the Navy needs to conduct additional research on the site history and provide more detail in the preliminary assessment. EPA is in agreement with most of the Navy's recommendations in the preliminary assessment.

Mr. Ramsey stated that EPA provided comments on the TS and Supplemental FS Draft Data Gaps Technical Memorandum at the Litigation Area on December 29, 2005. EPA is recommending that the Navy look into the possibility for dredging the slough.

Mr. Ramsey stated that he provided comments on the Site 1 Landfill cap design regarding the hydraulic conductivity of the low permeability layer.

Mr. Ramsey stated that EPA approved an extension letter the Navy submitted for preparation of the Site 27 ROD. The Navy has an additional 90 days to prepare the ROD.

Mr. Ramsey attended a general Inland Area, Site 1 and Site 30 tour with biologists from the California Department of Fish and Game, the U.S. Fish and Wildlife Service, the Navy, and Navy contractors on January 5, 2006.

Mr. Ramsey attended a reuse forum meeting for service providers hosted by the City of Concord on January 18, 2006.

Mr. Ramsey attended the monthly RPM/Base Closure Team meeting on January 25, 2006. During the meeting, the BRAC process was discussed. The Integrated Project Team, West office in Daly City will be in charge of the Tidal Area cleanup. The BRAC Project Management Office in San Diego will be in charge of the Inland Area cleanup and transfer. The RPMs also discussed the Site Management Plan schedules and the Site 13 Burn Area. Mr. Ramsey stated that EPA is requesting that the Navy continue quarterly groundwater monitoring for the recently installed wells at the Site 13 Burn Area.

Mr. Skaredoff asked where the Navy has found mercury at Tidal Area Sites 2, 9, and 11. Mr. Ramsey stated that EPA is requesting that the Navy collect additional samples in Otter Slough for mercury analysis. Mr. Skaredoff asked if the Navy knows where the mercury is coming from. Mr. Ramsey stated that the source of mercury is unknown. John Kaiser (San Francisco Bay Regional Water Quality Control Board [Water Board]) stated that the Tidal Area Site 11 has the highest mercury levels in the region. Mr. Ramsey stated that the Site 31 has very high levels of mercury, higher than Tidal Area Site 11. Joanna Canepa (Tetra Tech EMI [TtEMI]) stated that the Navy performed a Time Critical Removal Action in 2002 and removed all of the mercury contaminated soil at the site except for the areas that could not be accessed under existing pipelines.

#### **Department of Toxics Substances Control (DTSC) Update**

Jim Pinasco (DTSC) stated that he attended the reuse forum meeting for service providers hosted by the City of Concord on January 18, 2006. Mr. Pinasco provided an update of the meeting to the RAB via e-mail. Ms. Williams asked Mr. Pinasco to send the City of Concord reuse forum notes to Carolyn Hunter (TtEMI) so that she can distribute them to RAB members.

Mr. Pinasco announced that DTSC management signed the Site 17 No Further Action Record of Decision (ROD) and provided it to the Navy at the January 2006 RPM meeting.

#### **Action Item**

4. Mr. Pinasco will provide Ms. Hunter with the notes from the City of Concord reuse forum for distribution to the RAB.

#### **Water Board Update**

Mr. Kaiser announced that the Water Board management signed Site 17 No Further Action ROD, and provided the signature page to the Navy.

Mr. Kaiser announced that a new Water Board RPM has been chosen for Detachment Concord. The new RPM is Allan Friedman who is a City of Concord resident as well as been with the Water Board since 1987. Mr. Friedman has done a variety of work for the Water Board including serving as an RPM for Treasure Island and Travis Air Force Base. Mr. Friedman will attend the March 1, 2006 RAB meeting.

#### **V. TREATABILITY STUDY TO EVALUATE SEDIMENT REMOVAL OPTIONS FOR THE LITIGATION AREA FEASIBILITY STUDY PRESENTATION**

Steve DelHomme (TtEMI) provided a presentation on the TS to Evaluate Sediment Removal Options for the Litigation Area FS. The presentation is included as Attachment D.

Gregory Glaser (Danville resident) asked about an EPA comment that requested that the Navy conduct additional surveys at the Litigation Area. Mr. Ramsey clarified that EPA commented that the Navy did not show sediment volume calculations in the report. Mr. DelHomme stated that the Navy will present volume calculations in the Litigation Area FS.

Mr. Skaredoff asked how the Navy plans to weigh the possible damage done to the plants when removing the contamination in the sloughs. Mr. DelHomme stated that the Navy will evaluate the impacts of removing contamination and its affect on the plant species surrounding the slough as part of the evaluation of the short-term effectiveness. Mr. Skaredoff asked how much sediment the Navy is planning to remove from the slough and whether it would change the look or function of the slough. Mr. DelHomme stated that depending how much sediment will need to be removed, Navy will need to back fill clean sediment into the slough to keep the integrity of the walls structurally sound to avoid collapse. Mr. Skaredoff stated that similar work has been done at Peyton Slough and he recommended that the Navy visit that site. Mr. DelHomme acknowledged that he was familiar with that site.

Jessica Hamburger (Contra Costa Resource Conservation District) asked whether the mosquito ditches would be filled in the Litigation Area, as the Mosquito Abatement District has been moving away from ditches and using natural sloughs to control mosquito populations. Mr. DelHomme stated that the Mosquito Abatement District's input on the FS was that the mosquito ditches could not be filled in the Litigation Area. The ditches are still being used since the outbreak of the West Nile Virus.

Mr. Kaiser asked for an update on the tide gate in Otter Slough. Mr. DelHomme stated that the Navy looked into repairing the tide gate and those repairs to the tide gate were going to be costly. Kevin Hall (Safety Kleen) asked if there is a reuse plan for the sloughs. Mr. Ramsey stated that this is a wetland area and it will continue to stay the same.

Mr. Chung and Ms. Williams thanked the former Navy Lead RPM, Steve Tyahla (The Source Group Inc.) for all of his hard work and dedication to the cleanup of Detachment Concord.

#### **VI. NEXT MEETING AND ACTION ITEMS**

The next RAB meeting is scheduled for 6:30 to 8:30 p.m. on Wednesday, March 1, 2006, at the Concord Police Department Community Meeting Room in Concord, California.

The following action item was generated during the RAB meeting on February 1, 2006:

<b>No.</b>	<b>Action Item</b>	<b>Target Date for Completion</b>	<b>Completion Date (or Status)</b>
1	Once a presentation topic is determined, the Navy will send out the March 1, 2006 agenda via e-mail to the RAB.	2/24/06	This action item was completed on 2/22/06
2	The RAB will review the November 1, 2005 RAB meeting minutes and approve them at the March 1, 2006 meeting.	3/1/06	This action item was completed on 3/1/06
3	The Navy will identify an alternate meeting location for the April and May 2006 RAB meetings.	3/1/06	This action item was completed on 3/15/06
4	Mr. Pinasco will provide Ms. Hunter with the notes from the City of Concord reuse forum for distribution to the RAB.	3/1/06	This action item was completed on 3/1/06

**ATTACHMENT A**

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

**FEBRUARY 1, 2006**  
(One Page)

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

**FEBRUARY 1, 2006**

<u>Name</u>	<u>Affiliation</u>	<u>Telephone</u>
Wayne Akiyama	Shaw Environmental, Inc.	(925) 288-2003
Lisa Anich*	Friends of Mount Diablo Creek	(925) 689-2642
Beth Byrne	Concord Resident	(925) 686-4815
Harry Byrne	Concord Resident	(925) 686-4815
Joanna Canepa	TtEMI	(425) 673-3652
Lik-See Chung	Navy, IPT West	(650) 746-7454
Kirsten Duey	The Source Group Inc.	(925) 944-2856
Ernie Galang	Navy, IPT West	(650) 746-7469
Gregory Glaser*	Danville Resident	(925) 820-2562
Kevin Hall	Safety Kleen	(510) 755-4150
Jessica Hamburger*	CCRCD	(925) 672-6522 X118
Pat Hawlett	Concord Resident	(925) 687-8313
John Hill	Navy, BRAC PMO	(619) 532-0985
Carolyn Hunter	TtEMI	(415) 222-8297
John Kaiser	Water Board	(510) 622-2368
Louise Lew	Navy, IPT West	(650) 746-7450
Mario Menesini *	Walnut Creek Resident	(925) 935-1168
John Montagh	City of Concord	(925) 671-3082
Sarah Anne Moore	Navy, BRAC PMO	(619) 532-0965
Jim Pinasco	DTSC	(916) 255-3719
Phillip Ramsey	EPA	(415) 972-3006
Anne Rikkelman	Concord Resident	(925) 689-2662
Bill Schaal	TN&Associates	(415) 760-6624
Igor Skaredoff*	Martinez Resident	(925) 229-1371
Steve Tyahla	The Source Group Inc.	(925) 944-2856 X306
Mary Lou Williams*	Concord Resident	(925) 685-1415

Notes:

*	Community RAB Member
CCRCD	Contra Costa Resource Conservation District
CDFG	California Department of Fish and Game
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
IPT West	U.S. Navy Integrated Project Team West, NAVFAC SW
BRAC PMO	U.S. Navy Base Realignment and Closure Project Management Office
RAB	Restoration Advisory Board
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**

**FEBRUARY 1, 2006**

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## AGENDA

### NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD RESTORATION ADVISORY BOARD MEETING

Wednesday, February 1, 2006

6:30 p.m. – 8:30 p.m.

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

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- 6:30 – 6:40 Call to Order
- Welcome
  - Introductions
  - Public Comments
  - March Agenda Approval
- Lead: Community Co-chair
- 6:40 – 6:50 Approval of November 2, 2005 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 – 8:30 Treatability Study to evaluate sediment removal options for the Litigation Area  
Feasibility Study
- 8:30 Adjourn

**ATTACHMENT C**

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

**FEBRUARY 1, 2006**

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***Navy RPM Update for 1 February 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, 2 November 2005.
  - **03 November-** The Navy met with the project managers from EPA, DTSC, DFG, and the SFBRWQCB. [This was our regular monthly meeting.]
  - **07 November** – The Navy issued a letter submitting the document entitled “*Draft Treatability Study and Supplemental Feasibility Study Data Gaps Technical Memorandum at the Litigation Area, Naval Weapons Station Seal Beach, Detachment Concord.*” [This document provides the results of field investigations conducted at the Litigation Area site during summer 2005 to fill data gaps for the Supplemental FS.]
  - **30 November** – The Navy issued a letter submitting the document entitled “*Final Action Memorandum for Taylor Boulevard Bridge (Site 30), Naval Weapons Station Seal Beach, Detachment Concord.*” [This document is signed action memorandum for performance of a remedial action (RA) at Site 30]
  - **01 December-** The Navy met with the project managers from EPA, DTSC, DFG, and the SFBRWQCB. [This was our regular monthly meeting.]
  - **02 December-** The Navy issued a letter submitting the Final Meeting Minutes of the 3 November 2005 monthly Remedial Project Managers’ meeting.
  - **08 December-** The Navy met with the Agencies to discuss scoping of the sampling and analysis plan (SAP) for an investigation of mercury at Tidal Area Sites 2, 9, and 11. [A the draft SAP will be submitted in late February.]
  - **05 January** – The Navy met with project managers from USFWS, DFG, and EPA to Tour Sites 1, 2, 9, 11, and 30 and discuss protocols for endangered species monitoring.
  - **25 January** - The Navy met with the project managers from EPA, DTSC, DFG, and the City of Concord. [This was our regular monthly meeting.]



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

U.S. Environmental Protection Agency  
Restoration Advisory Board Update  
February 1, 2006

Correspondence Issued:

November 22, 2005: Review of Sept. 2005, Draft Preliminary Assessment for Munitions  
December 29, 2005: Review of Nov. 2005, Draft Litigation Area Treatability Study  
January 9, 2006: Review of October 2005, Draft Remedial Action WP for Site 1 Landfill  
January 9, 2006: Approval of Site 27 Record of Decision Extension Request  
January 19, 2006: Approval of Site 30 Final Action Memorandum

Meetings:

January 5, 2006: Sites 1 and 30 Site Visit/ General Tour of Inland Area  
January 18, 2006: City of Concord Mayor's Forum: Reuse Project Overview  
January 25, 2006: Monthly Project Managers Meeting

Major topics:

BRAC Transition

Site Management Plan - extension requests

Site 13 Groundwater Data/modification of sampling scope

February 1, 2006: Concord RAB

Prepared by:

Phillip Ramsey  
U.S. Environmental Protection Agency  
75 Hawthorne Street (SFD-8-3)  
San Francisco, CA 94105  
[ramsey.phillip@epa.gov](mailto:ramsey.phillip@epa.gov)  
(415) 972-3006

**ATTACHMENT D**

**TREATABILITY STUDY TO EVALUATE SEDIMENT REMOVAL OPTIONS FOR THE  
LITIGATION AREA FEASIBILITY STUDY PRESENTATION  
RESTORATION ADVISORY BOARD MEETING  
NAVAL WEAPONS STATION SEAL BEACH DETACHMENT CONCORD, CALIFORNIA**

**FEBRUARY 1, 2006**

(28 Pages)



## **Treatability Study and Supplemental Feasibility Study Data Gaps at the Litigation Area**

### **Naval Weapons Station Seal Beach Detachment Concord**



by  
**Steve DelHomme, P.E.**  
SuITech

February 1, 2006



## **2005 Litigation Area Activities**



- **Additional Data Was Required To Complete A Feasibility Study (FS) For the Litigation Area**
- **Field Work Conducted During Summer 2005**
- **Draft Treatability Study Submitted Nov. 7, 2005**
- **Agency Provided Comments on Dec. 28, 2005**

# Overview



- **Purpose of the Treatability Study and the Data Gaps Investigation**
- **Site Refresher**
- **Site Survey**
- **Treatability Study**
- **Results**
- **Questions**

## Purpose of the Treatability Study and Data Gaps Investigation

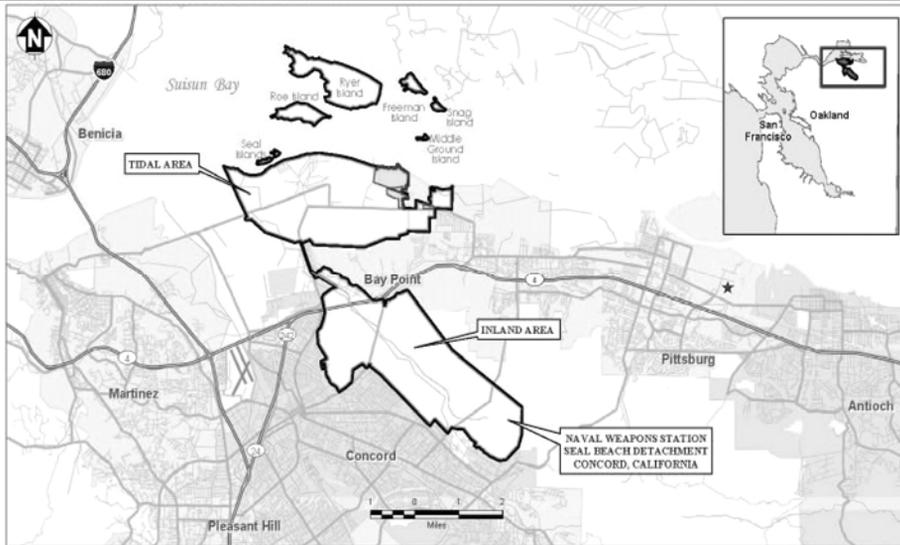


To supplement information available for evaluating remedial options at the Litigation Area. The four main elements include:

- **Topographic and Bathymetric Survey  
(and Visual Observation by Engineers)**
- **Treatability Study**
- **Additional Sediment Characterization**
- **Vegetation Survey**

(Contaminants Arsenic, Lead, Cadmium, Copper, Selenium, Zinc)

## Site Vicinity



## Site Refresher

### Aerial Photo – USGS, February 2004



## Field Effort



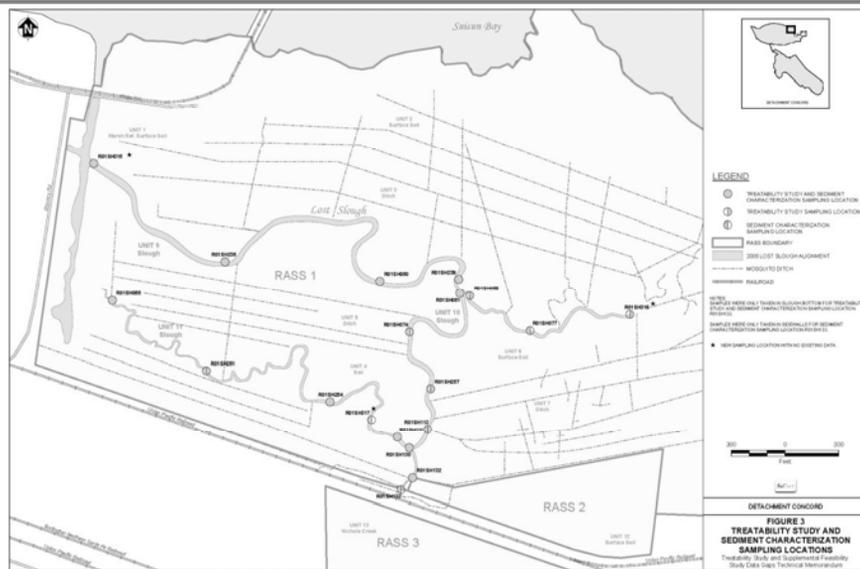
- Sample Locations Previously Determined Based on 5-Year Review Data
- Survey Crew Located Survey Stakes, Then Performed Bathymetric and Topographic Surveys
- Sample Crew Followed Behind Survey Crew After Sample Locations Marked
- Most Sampling and Surveying Done From Small Boat Except Unit 11 Slough

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## Sample Locations



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## Visual Observations and Comments



- Located Many Previous Sampling Stakes
- Very Limited or No Boat Access in Some Areas
- Very Heavy Growth on Bank and in Slough
- Rapid Flow Rate Out of Smaller Sloughs
- Hard Clay / Difficult Sampling to Depth
- Very Difficult to Locate Unit 11 Slough

## Unit 9 Slough Near Mouth at High Tide



## Unit 9 Slough At High Tide



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## View In Unit 9 Slough



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## View In Unit 9 Slough



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## View In Adjacent Slough



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## View In Unit 10 Slough



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## View In Unit 10 Slough



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## View In Unit 10 Slough



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## View In Unit 10 Slough



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## View In Unit 10 Slough



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## Unit 11 Slough at Mouth – High Tide



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## Unit 11 Slough at Intersection With 10 – Low Tide



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## Intersection of Unit 10 and 11 Sloughs Low Tide (12-18 inches deep)



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## Slough Adjacent To Units 10 & 11



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## Slough Adjacent To Units 10 & 11



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## Slough Adjacent To Units 10 & 11



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## Shooting Ground Elevation With GPS



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**Slough Adjacent To Units 10 & 11**



**Unit 10 Slough and Adjacent Slough from the Mouth of Unit 11 Slough**



## Slough Adjacent To Units 9&10 Slough



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## Slough Adjacent To Units 9&10 Slough



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**Slough Adjacent To Units 9&10 Slough  
Impassable By Boat Past This Point**



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**Slough Adjacent To Units 9&10 Slough**



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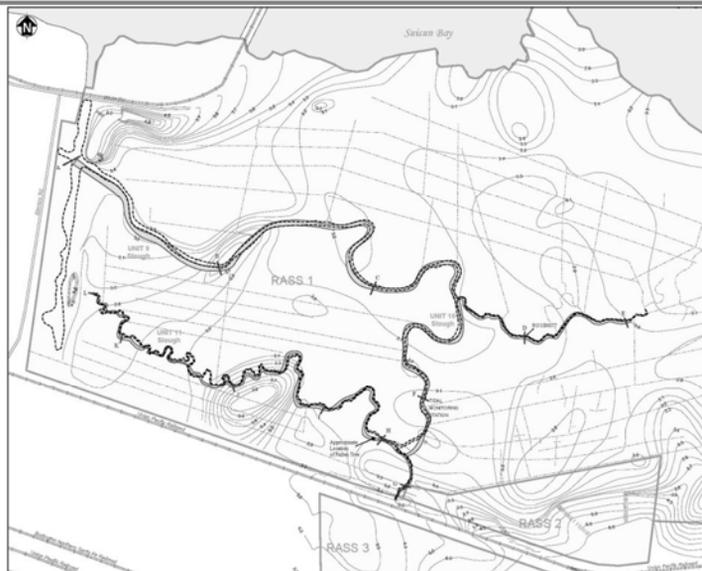
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## Survey Purpose

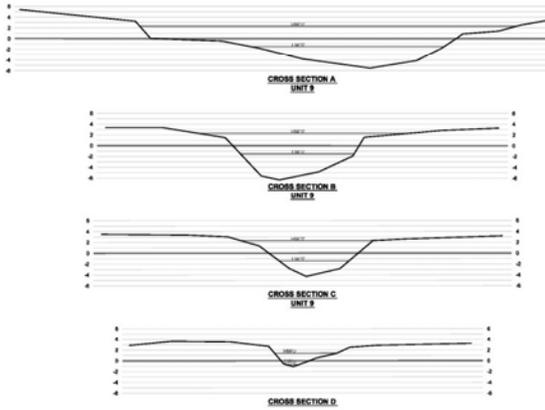


- Data To Refine Volume Calculations in Feasibility Study
- To Determine Implementability of Dredging
- Develop More Accurate Alignment and Cross Sections
- Determine Range of Tide Elevations

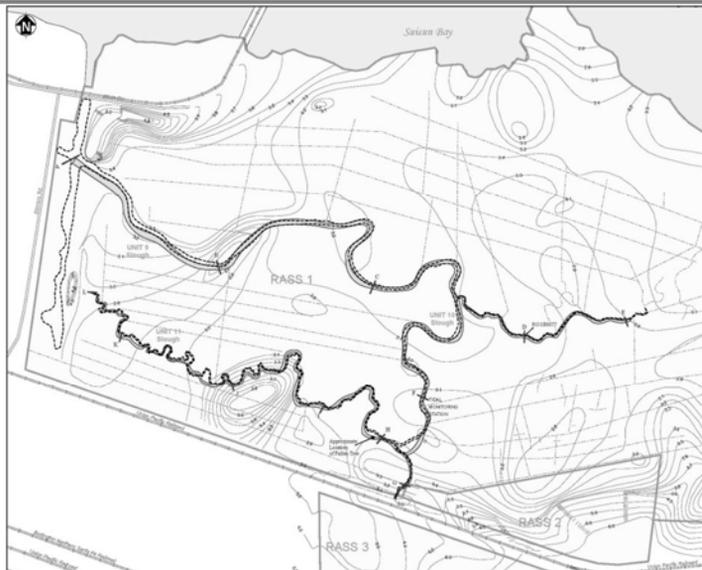
## Survey Results



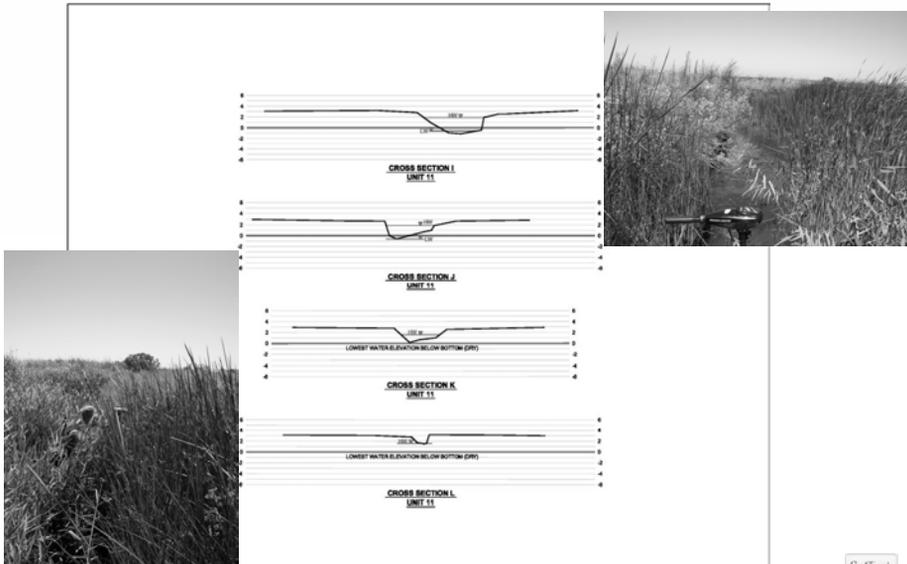
# Slough Cross Sections



# Survey Results



## Slough Cross Sections



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## Survey Results



➤ Problem – Removing / Transporting Sediment

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## Dredging – Mechanical vs. Hydraulic



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## Dredging – Environmental Dredges



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## Survey Results



- **Problem – Removing / Transporting Sediment**
- **Dredging may not be Implementable**
- **Final Slough Alignment Will Use Both Survey Data And Aerial Photographs**
- **Good Correlation Between Port Chicago Gauging Station And Slough Water Elevations**

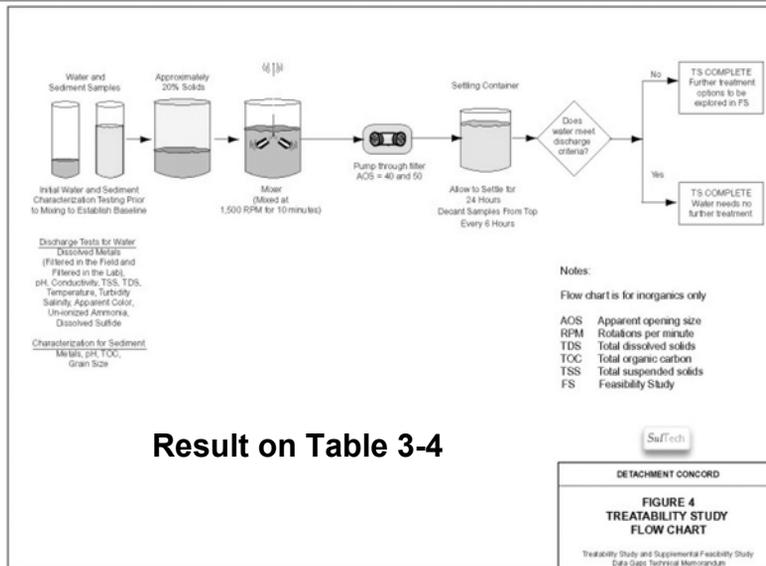
## Treatability Study



**Conducted to evaluate whether water associated with hydraulic dredging would require treatment before it could be discharged to Suisun Bay.**

- **Bench Scale Laboratory Study**
- **Selected 8 Samples to Cover a Complete Range Of Sediment Concentrations**
- **Compared Results to Surface Water Discharge Criteria**
- **Determine If Water Treatment Is Necessary**

## Bench-Scale Study



## Treatability Study Results



- **Did Not Find The Higher Concentrations That Were Detected During the 5-year Sampling**
- **Settling And Filtration Are Effective For Solids**
- **Geotextile Filtering is Effective**
- **Dissolved Metals And Ammonia Too High For Direct Discharge**
- **Treatment Options Include: Precipitation With Micro-Filtration, Ion Exchange, And Reverse Osmosis**
- **Could Transport For Off Site Treatment To Water Treatment Plant**

## Characterization



### Conducted To:

- 1) Evaluate Whether Slough Sidewalls Are Contaminated
- 2) Further Delineate The Depth Of Contamination On the Slough Bottom
  - Surface Samples Collected in Sidewalls Above Water Line
  - Samples Up To 3 Feet Deep in Slough Bottom
  - Results Compared To Sediment Benchmarks (Ambient And ER-M)

## Characterization Results



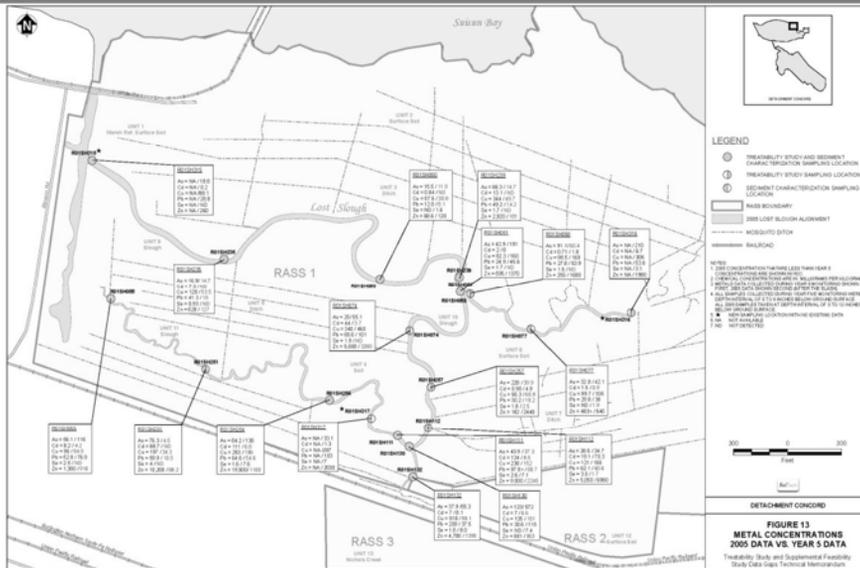
### Slough Sidewall Results

- 90-100 Percent of Sidewall Samples Above Ambient Criteria (Except Lead at 30%)

### Slough Bottom Results

- Metals Concentrations Decreased With Depth, But Some Metals Detected at the Bottom Of Sample

# Characterization Results



# Vegetation Survey



- To Evaluate Where To Locate The Remediation Infrastructure To Minimize Impacts To Special Status Plant Species And Sensitive Animal Habitat
- To Assess And Compare Ecological Impacts Of The Remedial Alternatives
- Both Aerial and Ground Reconnaissance Used

# Vegetation Survey Area



# Vegetation Survey Results



## ➤ Three Special Species Plants Observed



Approximately 190,213 Marsh Aster individuals were observed at 169 locations

## Vegetation Survey Results



### ➤ Three Special Species Plants Observed



8,429 Soft Bird's-Beak individuals were observed at 25 locations

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## Vegetation Survey Results



### ➤ Three Special Species Plants Observed



Approximately 740 Delta Tule Pea individuals were observed at 22 locations

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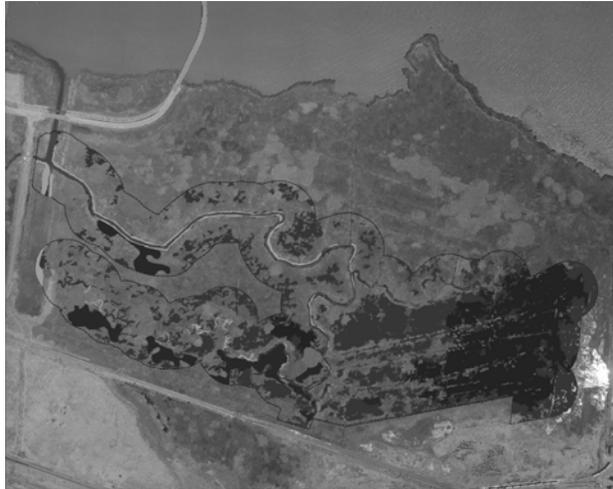
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## Vegetation Survey Results



### ➤ Plant Communities Of Interest



Appendix E:  
Plant Communities  
of Interest Map

DRAFT

Olney's Bulrush (13.23 Ac.), California Bulrush (1.97 Ac.), Narrow-Leaf Cattail (4.34 Ac.), Pickleweed (22.58 Ac.)

## Summary



- Data Collected Met The Objectives
- Final Treatability Study is Due in Feb, 2006
- Preparation of the Draft Final FS is Underway
- Incorporate New Data Into The FS To Evaluate Remedial Options For Arsenic, Cadmium, Copper, Lead, and Zinc

## Questions

