

Hornecker, Lynn M (EFDSW)

From: Hornecker, Lynn M (EFDSW)
Sent: Friday, October 26, 2001 2:52 PM
To: 'bartonj@rb5s.swrcb.ca.gov'
Cc: 'laudonl@rb5s.swrcb.ca.gov'; 'fdonofri@dtsc.ca.gov';
'jantzr@mail.co.stanislaus.ca.us'; 'boggsk@mail.co.stanislaus.ca.us';
'dchuck@mail.arc.nasa.gov'; 'solliges@mail.arc.nasa.gov';
'ahanif@mail.arc.nasa.gov'; 'fordk@mail.co.stanislaus.ca.us'; Potacka, Marianna K
(EFDSW)
Subject: Responses to RWQCB Comments, Site 17 Feasibility Study, NASA Crows Landing
Flight Facility

Hello Jim,

I have attached the Navy's responses to your comments on the Site 17 Feasibility Study dated June 2001.

Please do not hesitate to call if you have questions. Thank you for providing comments.

V/R

Lynn Marie Hornecker
SOUTHWESTNAVFACENCOM
BRAC PROGRAMS OFFICE
(619) 532-0783/Fax (619) 532-0780
26 October 2001



clresponsestoRWQCB
Site17FS.pdf...

RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 1

Comment	Response
<p>Comments prepared by James Barton, California Regional Water Quality Control Board, Central Valley Region, Sacramento Office dated 17 September 2001</p> <p>Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility, Administrative Area, Stanislaus County, California</p> <p>Addressee: Marianna Potacka, Base Realignment and Closure (BRAC) Environmental Coordinator, BRAC Operations, Southwest Division, Naval Facilities Engineering Command</p>	
<p>We have reviewed the <i>Draft Feasibility Study, NASA Crows Landing Flight Facility, Administrative Area, Stanislaus County (FS)</i>, received 28 June 2001. The FS addresses Installation Restoration Program (IRP) Site 17 vadose zone and the Administrative Area groundwater plume. The FS summarizes the site soil and groundwater assessment and characterization; identifies site cleanup objectives; describes, screens, and provides a detailed analysis of the site remedial alternatives; and proposes remedial action approaches.</p> <p>At the July 2001 Base Realignment and Closure Cleanup Team (BCT) meeting, the Navy indicated that pilot studies have not been conducted at the site for enhanced bioremediation, the proposed remedy. The Navy suggested that pilot studies could be conducted after finalizing this FS, during the Design Phase. The Navy provided excerpts from a bench scale test entitled <i>Laboratory Biotreatability Study (Lab Study)</i>, September 1999, to support the proposed enhanced bioremediation remedy for groundwater at the Administrative Area.</p>	<p>The Navy appreciates the participation of the RWQCB in the development of the subject Feasibility Study (FS) for NASA Crows Landing Flight Facility (the Facility).</p> <p>The Navy did not intend to recommend a remedial alternative in the subject FS, and the Navy will revise the text of the FS, as appropriate, to ensure that no recommendations are provided.</p> <p>The FS is intended to document the evaluation, screening, and detailed analysis of remedial action alternatives. The FS is intended to provide a basis for the selection of remedial alternatives as stated on page 1 of the FS. Tables 5 and 6 may be revised or deleted from the FS because these tables appear to include recommendations for remedial actions.</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 2

Comment	Response
<p>The Administrative Area includes the area formerly designated as the Site 17 groundwater plume. The Navy discovered in 2000 that the Site 17 carbon tetrachloride (CT) groundwater plume had co-mingled with UST Cluster 1 and UST Site 117 petroleum groundwater plumes. Board staff, in discussion with the Navy, determined that due to the high levels of CT and associated chlorinated constituents at the two former petroleum sites, the Navy could no longer address those sites as petroleum-only groundwater cleanup sites. Hence, the Navy renamed all three of the sites as the Administrative Area groundwater plume.</p>	
<p>General Comments</p>	
<p>1. We feel that there is insufficient evidence currently to support the proposed selected remedy – enhanced bioremediation. We disagree with the concept proposed at the July 2001 BCT Meeting, to go ahead with the design phase in the Remedial Action without a pilot study evaluation or adequate bench-scale testing during the FS stage, and do not consider the design phase the appropriate time to collect that data. Until adequate bench and pilot studies are completed, we cannot evaluate whether this remedy, as proposed in the FS, is best for the site.</p>	<p>Response to General Comment 1. The Navy will revise the FS, as appropriate, for clarification. The FS is intended to document the evaluation, screening, and detailed analysis of remedial alternatives. It was not the Navy's intent to recommend a remedial alternative in the FS. The Navy will identify a recommended alternative in a Proposed Plan following the completion of the FS. Please see the Response to Specific Comment 20 for additional discussion of the in-situ enhanced bioremediation project.</p>
<p>2. We disagree with several of the Navy's interpretations of the State's Applicable or Relevant and Appropriate Requirements (ARARs), To-Be-Considered Requirements (TBCs), and Permit Requirements of CERCLA. We have electronically provided our position previously to all parties by way of the State Water Resources Control Board, Office of Chief Counsel Memorandum, Applicable or Relevant and Appropriate Requirements (ARARs), To-Be-Considered Requirements (TBCs), and Permit Requirements of CERCLA (Memo) and have attached it to these comments (Attachment A).</p>	<p>Response to General Comment 2. The Navy acknowledges the State of California's position.</p>

RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE

Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001

PAGE 3

Comment	Response
<p>3. The pilot study should also provide sufficient evidence that aquifer water quality conditions and quantities of CT (and daughter products) – degrading microcosms present in groundwater at the site are conducive to successful monitored natural attenuation. Microcosms may need to be added into any substrate applied to enhance bioremediation.</p>	<p>Response to General Comment 3. The Navy will provide additional information on the planned in-situ enhanced bioremediation project in the plans that are planned for submittal to the RWQCB soon.</p>
<p>4. Waste Discharge Requirements (WDRs), adopted by the Board, are required to conduct the pilot study. The application is included as Attachment B. Before the substrate is applied, we will need to evaluate the substrate (metals have exceeded our Water Quality Objectives in the past) and the contingency plan to remove the substrate, in the event that problems arise in the aquifer after initiating the application.</p>	<p>Response to General Comment 4. The Navy acknowledges the RWQCB's position on WDRs.</p>
<p>5. We agree that referencing the former name associated with the site groundwater plume, Site 17, is necessary to provide continuity in the documentation. But the document title text and cover letter uses both terms interchangeably, Site 17 and Administrative Area, to describe the FS. Since Administrative Area Plume is the newer term, used to describe the commingled groundwater plume, please use the term Administrative Area Plume when describing the groundwater plume (not the soils) in subsequent related document titles, text, and cover letters. We also request that the title of this FS include the term IRP Site 17, since the vadose zone remediation is separate from the groundwater plume. Also note that the signature page is unnamed.</p>	<p>Response to General Comment 5. The Navy will revise the FS, as appropriate, for consistency in nomenclature. The FS dated 1999 addressed two components for IRP Site 17: the vadose zone (the demolished hangar area) and the groundwater release that consisted primarily of carbon tetrachloride beneath the demolished hangar area.</p> <p>This draft FS dated June 2001 addresses two components for IRP Site 17: the vadose zone (the demolished hangar area) and the groundwater release which extends beyond the boundary of the demolished hangar area. The groundwater release, known as the Administration Area Plume, encompasses the carbon tetrachloride plume and the releases from UST Site 117 and UST Cluster 1.</p>
<p>Specific Comments</p>	
<p>1. Section 2.2 Local Geology and Hydrogeology, page 5: The text describes the water levels and groundwater flow patterns over time. Please include the latest quarterly information in a figure(s) that depicts the groundwater flow direction, water level contours and monitoring wells on a site-specific plan map. Note which wells have shown vertical gradients, and provide a</p>	<p>Response to Specific Comment 1. Text and figures will be revised to include information collected during recent sampling activities.</p>

RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE

Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 4

Comment	Response
<p>corresponding table of vertical gradients. Also, highlight all of wells that are currently monitored on a quarterly basis.</p>	
<p>2. Figure 5: The Figure uses groundwater monitoring data from July 2000 – March 2001, depending on which well is indicated, to draw the boundary of the contaminated groundwater plume. The Navy has conducted two rounds of Hydropunch® groundwater sampling, to refine the location of the plume boundary at the site. Please incorporate the latest analytical data (including quarterly monitoring data from the most recent quarter), locate the Hydropunch® sampling points, and redraw the groundwater plume on another Figure. Label Figure 5 results of sampling as the maximum concentrations by location (if true) over the number of quarters represented in the figure, and redraw the plume boundary.</p>	<p>Response to Specific Comment 2. Text and figures will be revised to include information collected during recent sampling activities.</p>
<p>3. Section 2.2 Local Geology and Hydrogeology, page 5: The text describes slug tests used to estimate hydraulic conductivity and effective porosity for the aquifer. Recently, the Navy has begun Administrative Area pumping tests to better define the aquifer characteristics. Please describe the latest aquifer data, and include it with the slug test data.</p>	<p>Response to Specific Comment 3. The text will be revised to present data collected during recent pumping tests.</p>
<p>4. Section 2.2 Local Land and Groundwater Use, page 7, paragraph 1: The text describes the most productive water-bearing zone in the upper aquifer as just above the Corcoran Clay. Please add the depth to the Corcoran Clay at the site here in the text.</p>	<p>Response to Specific Comment 4. The text will be revised to include the estimated depth or depths of the Corcoran Clay at the Facility.</p>
<p>5. Section 2.3 Local Land and Groundwater Use, page 7, paragraph 3: The text states that the nearest residence is one mile west of the plume. The next sentence says that one of the two next nearest residences is 0.6 miles east of the plume. Please correct the text.</p>	<p>Response to Specific Comment 5. Distances between the plume boundary and the nearest wells will be verified and the text will be revised for clarification.</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 5

Comment	Response
<p>6. Section 3.3.1 Soil, UST 117, page 13: The text contains several references to concentrations of soil gas extracted from vapor extraction wells. Please add a figure showing the locations and concentrations described in the text.</p>	<p>Response to Specific Comment 6. The text will be revised to provide concise descriptions of the previous and current projects at UST Site 117 and UST Cluster 1 because these sites are located above the Administration Area Plume. Vadose zone closure documents for UST Site 117 and UST Cluster 1 will be submitted separately under the petroleum corrective action program and detailed maps and discussions of the contaminants will be provided in the closure documents.</p> <p>Vapor extraction well locations within the Administration Area Plume will be added to a figure in the FS.</p>
<p>7. Section 3.3.1 Soil, UST Cluster 1, page 13: The text references Figure 4 for soil boring CL1-SB-12. Figure 4 does not show any soil borings with the designation –SB-, and only shows groundwater monitoring well designations –GW-.</p> <p>a) Please include the soil boring locations on a figure.</p> <p>b) Also, the text states that the concentrations were detected in the soil near the borings. This would imply that additional soil samples were taken outside of the borings. Please clarify where the soil was sampled, in the borings or outside of the borings.</p> <p>c) Provide the depths of the samples with the highest contaminant concentrations, or add the symbol for feet to the number in the parentheses of the boring location identification number, if it is actually related to depth.</p>	<p>Response to Specific Comment 7. Please see the response to Specific Comment 6.</p>
<p>8. Section 3.3.3. Data Gaps, page 17: The text states that the lateral and vertical extent of the groundwater commingled plume is unknown. The Navy has recently conducted Hydropunch® groundwater sampling to address this data gap (see Specific Comment 2). Please summarize the recent investigations and modify this text.</p>	<p>Response to Specific Comment 8. Text and figures will be revised to include information collected during recent sampling activities.</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 6

Comment	Response
<p>9. The text continues with a comment that the exact location and properties of the Corcoran Clay are unknown at the site, since wells are not completed through the clay. The Navy has completed a monitoring well down to the top of the Corcoran Clay (17-MW-15) at 270 feet below ground surface. While the text does not recommend additional work here, we strongly oppose drilling through the Corcoran Clay within the highest concentration areas of the groundwater plume, due to the high potential for cross-contamination into the lower aquifer by nearby irrigation pumping of the lower aquifer. We do support an additional investigation to determine whether the plume exists below the Corcoran Clay, without drawing the existing plume downward below the Corcoran Clay.</p>	<p>Response to Specific Comment 9. Comment acknowledged. The Navy will work with the RWQCB during the development of future aquifer investigations. The Navy does not intend to implement activities that would have a high potential for causing cross-contamination.</p> <p>Previous Navy field investigations did not identify the depth of the top or thickness of the Corcoran Clay beneath the Facility. Previously published estimates of the depth of the top and thickness of the Corcoran Clay appear to have been extracted from regional hydrogeological studies that were conducted by others.</p>
<p>10. Section 4.2 Remedial Action Objectives, page 21, S2 and G3, and Section 7.2 Groundwater Remediation at Administration Area Plume, page 60: The text gives the excess carcinogenic risk level ranges as 10^{-4} to 10^{-6}. We accept the listed ranges of values terminology, but please note that 10^{-6} is considered the de minimus risk level by the State of California.</p>	<p>Response to Specific Comment 10. The Navy acknowledges the State of California's position on de minimus risk levels.</p>
<p>11. Section 4.2 Remedial Action Objectives, page 24, with Table 2: The text refers to Table 2 for potential ARARs. We do not agree with the process for selecting ARARs, which references the National Priorities List. The State Water Resources Control Board's and the Regional Water Quality Control Board's position is the CERCLA Sections 14 and 120(a)(4), not CERCLA Section 121(d), govern the application of state requirements at this facility, since it is not listed on the National Priorities List. CERCLA 120(a)(4) requires the federal facility to comply with all state laws concerning removal or remedial actions, including state laws regarding enforcement. Section 120(a)(4) does not refer to ARARs. We recognize that the Navy believes that it is obligated to comply with CERCLA Section 121(d) and the ARARs</p>	<p>Response to Specific Comment 11. The Navy acknowledges the State of California's position on ARARs. The Navy will comply with substantive requirements of Federal, State, and Local laws and regulations.</p>

RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 7

Comment	Response
process.	
<p>12. Section 7.2, Groundwater Remediation at Administration Area Plume, page 61, paragraph 3: The text states that MNA (Monitored Natural Attenuation) is the only groundwater alternative to meet remedial action objectives (RAOs) and ARARs for the Administrative Plume. We disagree with this statement, since the Lab Study and previous FS (1999) stated that air sparging would meet both RAOs and ARARs. Note that the following paragraph (4) states that groundwater extraction would meet both RAOs and ARARs, which contradicts paragraph 3. Please remove this statement on MNA.</p>	<p>Response to Specific Comment 12. The text will be revised for clarification and consistency.</p> <p>For clarification, the previous FS dated 1999 did not address the entire commingled plume. The FS dated 1999 provided for remediation of the suspected source area of the carbon tetrachloride (CT) in the vicinity of well 17-MW-02 where the highest concentrations were measured. The FS dated 1999 addressed CT as the primary contaminant with concentrations much less than 1,000 micrograms per liter (ug/L). Since the FS dated 1999 was published, several additional contaminants were identified in much higher concentrations than the maximum CT. For example, acetone and methyl ethyl ketone have been measured at concentrations exceeding 20,000 ug/L. The FS dated 1999 addresses a source area that is a much smaller area than the commingled plume – the Administration Area Plume – and the FS dated 1999 addressed lower chemical concentrations and fewer chemicals than are now known to exist within the Administration Area Plume.</p>
<p>13. Section 7.2-Groundwater Remediation at Administration Area Plume, page 61, paragraph 5: The text states that in-situ enhanced bioremediation may be used as a portion of the final remedy, with monitored natural attenuation. The text continues to state that treatability studies will be conducted to confirm the assumptions that this remedy will work. Without a site-specific pilot study, we cannot concur with the recommendation to use the remedy as proposed in the FS. Please prepare a draft work plan by 30 September 2001 that details a pilot study for in-situ enhanced bioremediation. Due to the extremely complex aquifer conditions needed, in order to make the process work, we cannot concur with the FS and proposed final remedy until the pilot study is complete.</p>	<p>Response to Specific Comment 13. The Navy plans to submit a site-specific work plan for in-situ enhanced bioremediation soon.</p> <p>Please see the Navy's opening statements pertaining to the FS. It was not the Navy's intent to recommend a final remedy in the FS. The FS is intended to present remedial alternatives for analysis and comparison.</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 8

Comment	Response
<p>14. In addition, the Lab Study, dated September 24, 1999, stated in the Executive Summary on page E-2 that successful complete dechlorination of carbon tetrachloride, using molasses injection, was questionable. The Lab Study also stated that success in changing an entire aquifer's water quality condition from anaerobic to aerobic for the final aerobic degradation of the methylene chloride is questionable. We agree with both statements. Complete CT dechlorination should be demonstrated in bench-scale studies, prior to conducting the pilot study.</p>	<p>Response to Specific Comment 14. The Navy will revise the text of the discussion of the previously conducted laboratory biotreatability study.</p>
<p>15. Table 1: The highest detected concentration value for the Chlorinated Aliphatic Hydrocarbon (CAH) 1,2,3-trichloropropane (1,2,3-TCP) is missing from Table 1. Please add the value, or delete the row if no value exists.</p>	<p>Response to Specific Comment 15. The table will be revised to identify the maximum concentration of 1,2,3-TCP.</p>
<p>16. Table 2, page 2, SWRCB Resolution No. 68-16: We disagree with the Navy's interpretation that Resolution 68-16 is not applicable to the project, since it does not apply to restoration of contaminated aquifers. Please review Attachment A regarding applicability of all State ARARs and applicability of SWRCB Resolution 68-16 to restoring contaminated aquifers.</p>	<p>Response to Specific Comment 16. Please see the Response to Specific Comment 11.</p>
<p>17. Table 2: Also, the Navy Comments column in Table 2 uses the same comment language for both SWRCB Resolution 68-16 and SWRCB Resolution 92-49 (page 3). The result is that the Navy comment to ARARs for SWRCB Resolution 68-16 is repeated under the Navy comment on SWRCB Resolution 92-49.</p>	<p>Response to Specific Comment 17. Please see the Response to Specific Comment 11.</p>
<p>18. Table 2: Please edit each of the three comments in Table 2 (SWRCB Resolution No. 68-16, SWRCB Resolution 92-49, and Title 23 CCR) to reflect the Board's determination regarding the applicability of the SWRCB resolutions.</p>	<p>Response to Specific Comment 18. Please see the Response to Specific Comment 11.</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 9

Comment	Response
<p>19. Table 4, page 2: Remedial Alternative Air Sparging/Soil Vapor Extraction (SVE) and page 4: In-situ Bioremediation with Monitored Natural Attenuation: The Limitations and Institutional Implementability for Air Sparging/Soil Vapor Extraction (SVE) indicate that it may not be effective and is technically difficult to implement. In-situ Bioremediation with Monitored Natural Attenuation requires changing the entire aquifer dissolved oxygen level from anaerobic to aerobic for complete dechlorinization of CT. Since the most practical way to change the aquifer from anaerobic to aerobic is to introduce oxygen by air sparging (which is stated as ineffective and technically difficult), how will the entire aquifer be changed from anaerobic to aerobic?</p>	<p>Response to Specific Comment 19. The text will be revised to provide additional details for the in-situ enhanced bioremediation alternative.</p>
<p>20. We cannot evaluate the FS recommendation for MNA, or In-Situ Bioremediation with Monitored Natural Attenuation, or the Table 4 Institutional Implementability for In-Situ Bioremediation with Monitored Natural Attenuation at this time, until the requested bench and pilot studies of the technology are complete and accepted by the Agencies.</p>	<p>Response to Specific Comment 20.</p> <p>The Navy believes it is possible to evaluate the Monitored Natural Attenuation (MNA) alternative without conducting pilot tests for in-situ enhanced bioremediation. Evidence from groundwater sampling activities shows attenuation of contaminant concentrations with time and with distance from source areas. The Navy will expand the text of the FS to document the existing evidence that natural attenuation is occurring at the Administration Area Plume.</p> <p>The Navy plans to implement an in-situ enhanced bioremediation project at a source area within the Administration Area Plume. Preliminary results of the project may be available 8 months after the treatment is initiated. The RWQCB and other team members will be provided with preliminary data as it becomes available.</p> <p>If the Navy agrees to finalize the FS after the review of preliminary data from the in-situ enhanced bioremediation project, then the FS will be completed 12</p>

**RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 CENTRAL VALLEY REGION, SACRAMENTO OFFICE**
 Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
 Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
 PAGE 10

Comment	Response
	<p>months or more after the start of the in-situ enhanced bioremediation project. The Proposed Plan that identifies the selected remedy would be developed and the public would be provided an opportunity to review the Proposed Plan after the FS is completed. The Record of Decision would be developed after completion of the Proposed Plan and public review period.</p> <p>If the Navy agrees to finalize the FS after the review of preliminary data from the in-situ enhanced bioremediation project, then the completion date for the Record of Decision will be delayed by more than one year.</p> <p>The Navy will work with the RWQCB on a strategy for completion of the FS, Proposed Plan, public participation activities, and the Record of Decision for the Administration Area Plume that is both expeditious and protective of human health and the environment.</p> <p>The Laboratory Biotreatability Study published in 1999 stated that anaerobic control and treatment microcosms were incubated up to 224 days and aerobic control and treatment microcosms were incubated up to 252 days. The duration of the laboratory treatment was more than 7 months excluding planning, data evaluation, and reporting activities.</p>
<p>21. Table 6 Recommended Remedial Actions for Groundwater, Proposed Tasks, page 3: We agree that a Study of In-Situ Bioremediation with Monitored Natural Attenuation for UST Cluster 1 and the Administrative Area is needed. We do not agree that the Site 17 and Intermediate Co-mingled Plume should be broken out as separate sites from the Administrative Area plume, as done in Table 6. Both should be included under the one heading Administrative Area plume, and not as separate areas. Please revise the text so that there is one plume, not subsets of that plume.</p>	<p>Response to Specific Comment 21. Table 6 may be substantially revised or deleted. It is not the Navy's intent to present recommendations in the FS. References in the text that refer to subsets of the Administration Area Plume will be deleted.</p>

RESPONSES TO COMMENTS FROM THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION, SACRAMENTO OFFICE
Subject: Draft Feasibility Study, National Aeronautics and Space Administration (NASA) Crows Landing Flight Facility,
Administrative Area, Stanislaus County, California

DATE: 26 OCTOBER 2001
PAGE 11

Comment	Response
<p>22. Table 6 Recommended Remedial Actions for Groundwater, Proposed Tasks, page 4: We agree that a Contingency Plan will need to be prepared for MNA, or In-site Bioremediation with Monitored Natural Attenuation. We would prefer to see the outline and description for such a plan in the FS, and not wait until the Remedial Action phase. Please provide the outline and description of the Contingency Plan in the requested pilot study report, and include the draft Contingency Plan with the remedy in the FS.</p>	<p>Response to Specific Comment 22. The Navy will include a brief description of the planned contents of the contingency plan in the text of the FS.</p>

TRANSMITTAL

Date: 26 October 2001

From: Lynn Marie Hornecker *ZMH*
CROWS LANDING

To: Diane Silva
Code 01LS.DS

Subj: CERCLA Administrative Record Materials
Former Naval Auxiliary Landing Field, Crows Landing

Installation: Former Naval Auxiliary Landing Field, Crows Landing

UIC Number: N60211

Document Title (or subject):

Author: Lynn Marie Hornecker

Recipient: James Barton RWQCB

Record Date: 26 October 2001

Approximate Number of Pages: 12

EPA Category: 01.1

Sites: Site 17

Key Words: FS, groundwaters

Contract: N/A

CTO Number: N/A