

MOFFETT FEDERAL AIRFIELD

**RESPONSES TO COMMENTS ON
DRAFT OPERABLE UNIT 5 RECORD OF DECISION**

MAY 10, 1996

This report presents point-by-point responses to regulatory agency comments on the February 7, 1996 Draft Operable Unit 5 (OU5) Record of Decision report prepared by PRC Environmental Management, Inc. (PRC) for Moffett Federal Airfield (Moffett Field), California. Comments were provided by Mr. Michael Gill of the U.S. Environmental Protection Agency (EPA) in a letter dated March 20, 1996. Comments also were provided by the California EPA from Mr. C. Joseph Chou of the Department of Toxic Substances Control (DTSC) and Mr. Michael Rochette of the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in letters dated March 25, 1996.

EPA GENERAL COMMENTS

Comment 1. The record of decision (ROD) is intended to be the document where the final selection of a remedy is recorded, along with that remedy's ARARs. This ROD does not properly define the discharge method to be used at OU5, nor does it provide the level of appropriate detail of the regulations that apply to this portion of the remedy. Each discharge option (i.e., reinjection, surface water discharge, reuse, etc.) will trigger different ARARs. In addition, the ARARs will freeze at the time the ROD is signed; thus, a ROD that does not select a discharge option is not a complete ROD. The Navy should select a discharge method and present it along with its ARARs in this ROD. A table with ARARs (as in the feasibility study) should provide appropriate detail and explanation. Describe which ARARs apply to the remedy, where they come from, why they must be attained, indicate whether Federal or State regulations apply and include citations. They should be separated into chemical, location and action specific ARARs.

Response: *The Navy's selected discharge method for operable unit 5 (OU5) is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local publicly owned treatment works (POTW) or the Moffett Field storm drain system. The Navy has included in the ROD applicable or relevant and appropriate requirements (ARARs) that apply to the selected remedy including the discharge method.*

Comment 2. The continued operation of the Building 191 pump station is necessary for the successful implementation of the selected pump and treat alternative at OU5. Without its operation, the northern portion of the base will flood during the rainy season and could change groundwater flow direction. This may cause problems for the pump and treat system. Its absence implies that the remedy is effective without it. The operation of Building 191 needs to be made part of the remedy.

Response: *Operation of the Building 191 pump station is not part of the Navy's remedy as an engineering or institutional control. Instead, the Moffett Field drain system and pump station operation are essential aspects of current land use by National Aeronautic and Space Administration (NASA) as well as all other reasonably foreseeable future land uses. These aspects of current land use are addressed as*

existing site conditions with impacts that must be considered in the design and implementation of the remedy. The ROD adequately outlines the necessary performance standards of the remedy and a review of the remedy will be conducted periodically to ensure that the remedy continues to provide adequate protection of human health and the environment.

EPA SPECIFIC COMMENTS

Comment 3. Statement of Basis and Purpose, Page DS-1. The discharge method to be used should be defined and added to discussion of the selected remedial action.

Response: *The discharge method for OU5 is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system. The discharge method has been added to the discussion of the selected remedial action.*

Comment 4. Assessment of the Site, Page DS-1. Rearrangement and modification of this paragraph is suggested as follows:

"OU5 consists of the aquifers...and vinyl chloride. Actual or threatened releases of these COCs from OU5, if not addressed by implementing the response action selected in this ROD, may present a current or potential threat to public health, welfare, or the environment. The area that is targeted for treatment is the southern plume at OU5. There is no action required for the northern plume because the groundwater does not satisfy the state's criteria as a potential drinking water source and poses no unacceptable risk to human health or the environment."

Response: *The paragraph has been modified as suggested.*

Comment 5. Description of the Selected Remedy, Page DS-2. The selected discharge method should be included in the third bullet.

Response: *The discharge method for OU5 is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system. The discharge method has been included in the third bullet.*

Comment 6. Section 1.2, Page 5. A more descriptive title for this section would be "Site History and Summary of Enforcement Activities."

Response: *The title has been changed as suggested.*

Comment 7. Section 1.2, Page 7, Last Paragraph. Please include references to the soils investigation activities and documents for the soils overlying the OU5 aquifers. The OU2-East ROD, signed in December, 1994, determined that no action was necessary for the soils overlying the OU5 aquifers (except for petroleum contaminated areas). The many petroleum related activities performed in this area should also be referenced.

Response: *The following statement has been added to the last paragraph of Section 1.2.*

The soils investigation activities for OU2 soils overlying OU5 groundwater are provided in the final OU2 remedial investigation (RI) report published in May 1993.

Sites with petroleum contamination were also investigated and the results summarized in the Revised Final IRP Petroleum Sites Characterization Report (PRC 1994).

Comment 8. Section 1.3, Page 9, Paragraph 1. This paragraph should be rewritten. EPA's Technical Assistance Grant (TAG) was not awarded to Silicon Valley Toxics Coalition until late 1993. The Technical Review Committee (TRC) was formed prior to the award of the TAG. They both preceded the formation of the RAB. In this paragraph, also mention the publication of miscellaneous site work fact sheets that are used as communication tools for community participation.

Response: *This paragraph has been rewritten to reflect the changes specified in this comment.*

Comment 9. Section 1.3, Page 9, Paragraph 2. Please note the size of the mailing list for the proposed plan.

Response: *The proposed plan was sent to approximately 450 people on the Moffett Field mailing list. This statement has been added to this paragraph in the ROD.*

Comment 10. Section 1.4, Page 10. Please update the station-wide ROD submittal date to be consistent with that in the Moffett Federal Airfield BRAC Business Plan (May 1997).

Response: *The submittal date for the station-wide ROD has been corrected to May 1997.*

Comment 11. Section 1.4, Page 10, Paragraph 4. Mention that Moffett Federal Airfield has already been transferred to NASA.

Response: *A sentence has been added to state that Moffett Field has already been transferred to the NASA.*

Comment 12. Section 1.5, Page 11, Paragraph 2. Please double check these COC concentrations to ensure that they are consistent with those listed in Table 3. Presently, the values of 1,2-DCE, 1,2-DCA, and 1,1-DCE are inconsistent.

Response: *The chemical of concern (COC) concentrations shown in this paragraph are correct. The maximum concentrations observed in groundwater since 1989 for some of the COCs listed on Table 3 have been changed to show the correct values.*

Comment 13. Section 1.5, Page 11, Paragraph 2. Clarify that it has been determined that the inorganics detected at "ambient concentrations" are naturally occurring.

Response: *A statement has been added indicating that the inorganic compounds detected at ambient concentrations are naturally occurring.*

Comment 14. Section 1.6, Pages 17, 18, Ecological Risk Summary.

- A. Please explain how the discharge option will affect the ecological risk.
- B. Clarification - Section 404(f)(1) of the Clean Water Act provides a permit exemption for the maintenance of drainage ditches. However, it does mean the area is not a wetland (sic); it is still a jurisdictional wetland which is subject to the ecological risk assessment. In addition, pursuant to Section 404(f)(1), ditch maintenance does not include filling in the ditch or expanding it. See attached memo for clarification (dated August 19, 1987). EPA suggests you remove the phrase "...and thus, are not considered jurisdictional wetlands." from the bottom of Page 17.
- C. Clarification - Any remedial action affecting the drainage ditches will not require a permit if the ditch is on site pursuant to a CERCLA cleanup. However, the substantive requirements of a permit will have to be met.
- D. Are you considering Section 404(f)(1) to be an ARAR? If so, you should include in the ARARs section of the ROD.
- E. Please explain how and why Section 402 of the Clean Water Act exempts the pond area from being a jurisdictional wetland. In order to avoid confusion, similar to above, we suggest you remove the phrase "...the area is not a jurisdictional wetland under Section 404 of the Clean Water Act" and reorganize the sentence.

Response:

- A. *The discharge method for OU5 is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system. Because the selected remedy will likely treat extracted groundwater to nondetectable levels, discharge of treated OU5 groundwater to the storm drain system does not pose an unacceptable ecological risk.*
- B. *The sentence has been corrected as suggested.*
- C. *A sentence has been added to state that substantive requirements of a Section 404 permit will be met.*
- D. *Section 404(f)(1) is considered to be an ARAR because the discharge method may involve discharging to the storm drain system.*
- E. *Corrections have been made as suggested.*

Comment 15. Table 3, Page 19, 20. Same as Comment 12.

Response:

The maximum concentrations observed in groundwater since 1989 for some of the COCs listed on Table 3 have been changed to show the correct values.

Comment 16. Section 2.0, Page 23, Paragraph 3. Please clarify the future treatment option. The ARARs would need to be determined for this treatment option in order for it to be a viable remedial alternative in the ROD.

Response: The future treatment option involves constructing a groundwater treatment plant in the future should the affected groundwater become necessary for drinking water use. The state does not accept this option because it prefers alternatives that can be initiated upon completion of the ROD. Consequently, no discussion of the ARARs specific to this alternative has been presented in the ROD.

Comment 17. Section 3.0, Page 26. Once again, the selection of a discharge method, along with identification of associated ARARs should be made in this document. We suggest providing these ARARs in a table, as was done in the FS.

Response: The discharge method for OUS is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system. ARARs that apply to the discharge method have been presented in the ROD.

Comment 18. Section 3.1, Page 26, Chemical-Specific ARARs.

- A. Include citations.
- B. What are the MCLs? Are they stricter than the state counterpart?
- C. What sections of the Porter-Cologne Water Quality Control Act are applicable or relevant and appropriate?

Response: The chemical-specific ARARs are shown on Table 4 of the ROD.

Comment 19. Section 3.2, Page 27, Location-Specific ARARs. You indicate that there are some endangered species on the base, yet you do not include the Endangered Species Act or the state equivalent as an ARAR.

Response: The Endangered Species Act is an ARAR and is shown on Table 5.

Comment 20. Section 3.3, Page 27, Action-Specific ARARs.

- A. Your references to ARARs are too general (i.e., "The air stripper generates an air stream that must meet the BAAQMD substantive requirements..."). Please identify with specificity the ARARs, with citations, and indicate why they apply.
- B. The ARARs for the selected discharge option must be identified in the ROD.

Response: A. The Bay Area Air Quality Management District (BAAQMD) requirements that apply to discharges to the atmosphere have been identified with citations in the ROD.

B. ARARs that apply to the discharge method have been presented in the ROD.

Comment 21. Table 5, Page 30. Please provide the selected discharge method in this table.

Response: *The discharge method has been identified as suggested.*

Comment 22. Section 4.0, Page 31, Last Paragraph. Clarify that it has been determined that the inorganics detected at "ambient concentrations" are naturally occurring.

Response: *A clarification has been made by adding a statement indicating that the inorganic compounds detected at ambient concentrations are naturally occurring.*

Comment 23. Table 6, Page 33. If the information is available, please break the costs out into capital, program and O&M costs.

Response: *The table has been modified to show capital and construction costs, operation and maintenance (O&M) costs, and present worth costs.*

Comment 24. Section 6.0, Page 35, Paragraph 2. The paragraph states "...the nearest residential area is far from the OU5 area." Please quantify this distance.

Response: *The nearest residential area is approximately 1 mile southwest of OU5. This statement has been added to the text.*

EPA COMMENTS ON RESPONSIVENESS SUMMARY

Comment 25. Section 3.1, Comment 2, Building 191. If Building 191 is necessary for successful implementation of the remedy, it should be part of the remedy and discussed in the body of the ROD.

Response: *See Response to EPA general comment 2.*

Comment 26. Section 3.1, Comment 3. This question asks about ongoing Navy financial responsibility and the answer doesn't address that subject. The U.S. government retains responsibility, unless otherwise negotiated. EPA suggests changing the last sentence in the response to: "Any transfer of financial responsibility from the U.S. government would be negotiated and documented as part of the terms and consideration for the conveyance."

Response: *The sentence has been changed as suggested.*

Comment 27. Section 3.1, Comment 4. Adding the following sentence to the response will provide more clarity: "Cleanup of COCs in OU5 will occur wherever groundwater is a potential drinking water source."

Response: *The sentence has been added as suggested.*

Comment 28. Section 3.2, Comment 1. Please briefly elaborate on what EPA and DOD guidance suggest for post-ROD public participation. Exactly how will people who do not attend the RAB be informed? Fact Sheets? RAB member updates to the community?

Response: The Navy will provide progress reports to the RAB members during regularly scheduled RAB meetings during the RD/RA phases of the remediation. The Navy will also complete a fact sheet detailing the design which will be mailed to every person on the Moffett Field mailing list. Prior to the start of construction, the Navy will hold an open house to discuss the design and construction activities.

Comment 29. Section 3.3, Comment 1. Please provide a reference to the document in which the leaching evaluation can be found.

Response: The results of an evaluation of leaching from each of the OU2-East sites can be found in the OU2 RI Report dated May 1993.

Comment 30. Section 3.3, Comment 6. If Building 191 is necessary for successful implementation of the remedy, it should be part of the remedy and discussed in the body of the ROD.

Response: Operation of the Building 191 pump station is not part of the Navy's remedy as an engineering or institutional control. Instead, the Moffett Field drain system and pump station operation are essential aspects of current land use by NASA as well as all other reasonably foreseeable future land uses. These aspects of current land use are addressed as existing site conditions with impacts that must be considered in the design and implementation of the remedy. The ROD adequately outlines the necessary performance standards of the remedy and a review of the remedy will be conducted periodically to ensure that the remedy continues to provide adequate protection of human health and the environment.

Comment 31: Section 3.4, Comment 1. Please add that the east side soils at Moffett Field (e.g. OU2-East) were not necessary to remediate because they presented no unacceptable risk for an industrial scenario use, as noted in the no action OU-2 East ROD. The use of that land is presently not restricted for industrial use.

Response: The suggested additional text is confusing. The Navy does not want to imply to the public that the risk management decision supporting the "no action" remedy selection for OU2 was based on faulty future land use assumptions.

Comment 32. Section 3.5, Comment 3. Please add a statement that clarifies that "EPA Region 9 reserves the right to take site specific risk reduction or remedial measures when contaminant concentrations are estimated to pose risks in this range."

Response: The statement has been added for clarification as suggested.

Comment 33. Section 3.5, Comment 4. Please clarify in the last sentence that "...there were no unacceptable risks to site workers..."

Response: The sentence has been changed as suggested.

EPA EDITORIAL COMMENTS

Comment 34. Page DS-3. The correct spelling of the Executive Officer's name is "Barsamian."

Response: The name has been changed as indicated.

Comment 35. Section 1.4, Page 10, Paragraph 1, Last sentence. Grammatical correction: "The remaining sites are planned to be addressed..."

Response: The grammatical error has been corrected as suggested.

Comment 36. Responsiveness Summary, Section 3.12, Comment 1. We suggest the following grammatical changes to sentences in the third paragraph:

Sentence 2: "There are other Superfund or non-Superfund sites that are comparable to OU5 in size and area."

Sentence 3: "But the extent of contamination at OU5 is different and is therefore addressed accordingly."

Sentence 5: "The selected remedy, treatment of groundwater using air stripping, is anticipated to achieve the cleanup goals over the duration of the remediation period."

Response: The paragraph has been rewritten for clarity, with the suggested revision.

DTSC GENERAL COMMENTS

Comment 1. The State agreed with the Navy that additional data to confirm the extent of the plume and subsurface geology could be collected during the remedial design phase. Even though, it will be appropriate to outline the proposed investigations in the subject document. Currently, there is no proposed investigation mentioned in the text; the term "phase approach" appeared many times in the responsiveness summary but without any description. The vagueness of "phase approach" may raise more concerns from regulatory agencies and communities about how this information will be properly generated.

Response: The Navy believes that the data at OU5 are adequate to move forward to the remedial design. Additional data may be collected during the remedial design if it becomes necessary.

The Navy has removed the term "phased approach" wherever it appeared in the document to avoid confusion. Following construction and startup of the treatment system, the Navy will monitor the performance of the system to evaluate system effectiveness.

Comment 2. Please include a statement regarding the need to continue to operate the Building 191 pumping station. Without continuing operation of the pumping station, flooding of the site is likely which would cause the need for more extensive remedial work.

Response: For the purposes of the OU5 remedy selection, the operation of the Building 191 pumping station is considered to be an existing site condition associated with present and foreseeable future land uses has potential impacts that will be evaluated during the RD/RA for the remedy. Once the selected remedy of pumping

and treating OU5 groundwater is implemented, the effect on groundwater flow attributable to the pump station operation will likely decrease in significance because the system of extraction wells will be designed to control the movement of the plume.

Comment 3. The ARARs section does not provide enough detail as presented in the OU5 Feasibility Study (FS). Several potential ARARs listed in the OU5 FS were not included in the subject document need to be addressed in the draft final version. To clarify the unnecessary confusion, a summary table of chemical-, location- and action-specific ARARs is recommended.

Response: *Summary tables of chemical-, location- and action-specific ARARs have been added to the ROD.*

DTSC SPECIFIC COMMENTS

Comment 1. Page 1, 5th Paragraph, Section 1.1. Please verify the size of wetlands on Moffett Federal Airfield. If the Navy Storm Water Retention Pond, Eastern and Western Diked Marsh area have been included as part of the wetlands, then its size appears to be more than 40 acres as described in the subject document.

Response: *The size of the wetlands at northern Moffett Field is approximately 80 acres. This area includes the eastern and western diked marshes and the diked salt marsh located between the stormwater retention ponds and the eastern and western diked marshes. The area does not include the stormwater retention ponds. The text of this section has been revised to correct the size of the wetlands and to more clearly describe the wetlands and other surface water features at Moffett Field.*

Comment 2. Page 10, 1st Paragraph, Section 1.4. The State recognizes that Sites 8, 9, 16, 17, 18 and portion of Site 10 were affected by the regional Middlefield-Ellis-Whisman (MEW) volatile organic compound (VOC) plume. However, these sites are subject to conditions of the MEW ROD but are not included with MEW ROD.

Response: *This sentence has been changed to read "Sites 16, 17, 18, and the western portion of Site 10 are located on the western portion of Moffett Field and are subject to the conditions of the MEW ROD."*

Comment 3. Page 10, 5th Paragraph, Section 1.5. Please consider including a paragraph of future Remedial Design/Remedial Action (RD/RA) work and related field work such as more detailed groundwater investigation in this section.

Response: *The Navy believes that the data at OU5 are adequate to move forward to the remedial design. Additional data may be collected during the remedial design if it becomes necessary.*

Comment 4. Page 11, 2nd Paragraph, Section 1.5. Please clarify that Tables 1 and 2 refer to the chemicals of concern (COC) list in the OU5 human health risk assessment while Table 4 represents the refined COCs list.

Response: *The distinction between the two COC lists has been made in the text.*

Comment 5. Page 11, 3rd Paragraph, Section 1.5. A brief explanation of the petroleum corrective action process should be added before the last sentence.

Response: *The following has been added to the text:*

The Navy is currently evaluating and cleaning up Moffett Field petroleum sites following the San Francisco Bay Regional Water Quality Control Board (RWQCB) guidance. An evaluation report documenting RWQCB low-risk criteria is currently planned for petroleum sites.

Comment 6. Page 11, 4th Paragraph, Section 1.5. The earlier detections were not clearly addressed. Please explain where those chlorinated VOCs were found and what are their concentration levels.

Response: *This section has been expanded to include the following discussion of historical OU5 VOC data.*

High concentrations of VOCs were detected in samples from well W7-7 near former Tank 43 during 1983 through 1985. Maximum concentrations of PCE; TCE; 1,2-DCE; and vinyl chloride were 110; 7,900; 22,000; and 2,800 µg/L, respectively. All maximum concentrations were detected in a sample collected in November 1983 except 1,2-DCE which was measured in August 1984. However, none of the samples collected from groundwater monitoring wells near well W7-7 (including W7-6, W7-8, W7-9, and W7-10) indicated levels of VOCs above 350 µg/L during 1983 through 1985. Furthermore, VOC concentrations declined rapidly in samples collected from well W7-7. Concentrations of TCE; 1,2-DCE; and vinyl chloride were 7.6; 2,574; and 500 µg/L in samples collected during November 1985. PCE was not detected at 5 µg/L in the same sample. Cometabolism of VOCs during degradation of fuel-related hydrocarbons may have contributed to the rapid decline in VOC concentrations. The Navy has installed four additional A1-aquifer zone groundwater monitoring wells (W43-1, W43-2, W43-3, and W19-1) in the area of well W7-7 and former Tank 43 since 1985. Samples collected from the nine groundwater monitoring wells near former Tank 43 since 1985 indicate significantly lower VOC concentrations.

Comment 7. Page 18 to 21, Section 1.6, Ecological Risk Summary. It is repeatedly mentioned that there is no ecological risk to the receptors in Marriage Road ditch and the Navy channel from OU5 groundwater contamination. Please clarify if burrowing owl has been considered in the assessment.

Response: *The ecological risk to burrowing owl is being investigated under the Phase II site-wide ecological assessment (SWEA). The effect of soil gas on burrowing owls is being investigated. Please refer to the draft final Phase II SWEA report dated May 1996.*

Comment 8. Page 22, Section 2.0, Alternative 1. Please explain how to conclude that it takes at least 50 years to remediate the OU5 southern plume to MCLs.

Response: *Advective transport of contaminants by flowing groundwater and adsorption of contaminants to fine-grained sediments are primary factors that affect contaminant transport and, therefore, cleanup duration. Slower groundwater flow and sorptive materials inhibit contaminant transport. The low groundwater flow rate and high*

proportion of fine-grained, sorptive sediments at OU5 contribute to the expected long cleanup time. These factors apply to both active restoration and natural attenuation options and cleanup times under both scenarios are expected to exceed 50 years. This estimate is based on groundwater modeling using OU5-specific data. The following text has been added to Section 2.0.

The anticipated cleanup period is based on groundwater modeling using OU5-specific data. Cleanup periods under both active restoration and natural attenuation scenarios are expected to exceed 50 years because of the low groundwater flow rate and high proportion of fine-grained, sorptive sediments at OU5.

Comment 9. Page 23, Section 2.0, Alternative 4A. The third sentence should read "As contaminated groundwater flow through the reaction cells, chlorinated hydrocarbons will react with iron fillings and be detoxified."

Response: The text has been changed as suggested.

Comment 10. Page 24, Section 2.0, Alternative 4A. Hydraulic barriers, such as slurry walls, was considered as part of the remedy in the OU5 Feasibility Study (FS) and it should be included in the ROD as well.

Response: Text discussing hydraulic barriers such as slurry walls has been added to Alternative 4A in the ROD for consistency.

Comment 11. Page 34, Section 5.0. It is stated that the cleanup goals may not be technically feasible, due to the silt and clay formations in Moffett Field. Therefore, the selected remedy may be re-evaluated. However, it is not clear how the evaluation criteria will be determined.

Response: The following statement has been added for clarification.

Following construction and startup of the treatment system, the Navy will monitor the performance of the system to assess system effectiveness. Details of the evaluation criteria will be presented in the remedial design.

Comment 12. Page 35, 5th Paragraph, Section 6.0. In addition to the cost factor, it is very important to mention that the selected remedy will reduce toxicity, mobility and volume of contaminants in a shorter period of time than the passive alternative.

Response: The first sentence in the fifth paragraph has been modified as follows:

The selected remedy will permanently and significantly reduce toxicity, mobility, and volume of contaminants at OU5 in a shorter period of time than the passive alternatives.

Comment 13. Attachments. The administrative record index should be included as part of the attachments.

Response: The administrative record for this action has been made available at the information repository.

RWQCB GENERAL COMMENTS

Comment 1. The declaration statement, "...the selected remedy is protective of human health and the environment, complies with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective" requires the inclusion and analysis of the proposed discharge method for the treated groundwater or the inclusion of the proposed discharge options with comparative analysis of each alternative.

Response: *The discharge method has been added to the declaration statement. The discharge method for OU5 is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system.*

Comment 2. The discussions regarding ecological impacts need to be presented in a clearer manner. For example statements similar to the one on page 10, "Potential risks to ecological receptors were evaluated at OU5. No ecological risks were identified." should be removed or supporting text should be provided. Additionally, ecological assessment of the inhalation pathway for burrowing owls has not been completed and should be included in the ecological risk summary.

Response: *A summary of the evaluation of ecological risks at OU5 is presented in Section 1.6. This section also states that a SWEA is being completed which includes an evaluation of the effect of soil gas on burrowing owls. To avoid confusion, the statement cited from page 10 of the draft document has been removed.*

Comment 3. Please provide more information regarding the implementation and time frames of the groundwater monitoring program and of the institutional controls restricting groundwater and land uses, as the text does not provide a clear picture of how these components of the remedy are protective of human health and the environment.

Response: *Details on the implementation and time frames of the groundwater monitoring program will be included in the long-term monitoring plan to be submitted to the regulatory agencies. While Moffett Field remains in the custody and control of the federal government, all necessary institutional controls restricting groundwater and land uses will be documented in the facility master plans administered by the government. In the event of future property transfer, deed restrictions documented and recorded in the context of the real estate transaction would be the appropriate means to implement institutional controls.*

Comment 4. Pumping operations at Building 191 need to be identified as a part of the remedial system and discussed within the text regarding groundwater hydraulic control and surface water flood control.

Response: *See response to EPA general comment 2.*

Comment 5. Groundwater monitoring of the northern plume should be evaluated and analyzed as the selected remedy and incorporated as such in the ROD.

Response: Groundwater monitoring of the northern plume has been included as a portion of the selected remedy.

RWQCB SPECIFIC COMMENTS

Comment 6. Page DS-2. The method of discharge should be identified as a major component of the selected remedy for the southern plume.

Response: The discharge method will be identified as a major component of the selected remedy for the southern plume. The discharge method for OU5 is water reuse for irrigation purposes at the Moffett Field golf course or other potential uses at the facility. If water reuse is not possible, the discharge will be sent to a local POTW or the Moffett Field storm drain system.

Comment 7. Page DS-2. Groundwater monitoring should be evaluated as the major component of the selected remedy for the northern plume.

Response: Groundwater monitoring of the northern plume has been included as a portion of the selected remedy.

Comment 8. Page DS-3. Please correct the spelling of the RWQCB executive officer to Loretta Barsamian.

Response: The name has been corrected as indicated.

Comment 9. Page 4, Figure 2. Please revise the conceptual cross section of hydrology to include the approximate water level and the contaminated groundwater plume.

Response: Figure 4 has been revised to indicate the approximate groundwater elevation and contaminant plume location.

Comment 10. Page 3, Section 1.1. The discussion regarding the groundwater flow is deficient. The importance of the impact from the pumping at Building 191 on the groundwater flow within OU5 needs to be discussed fully with the impacts of potential future changes to the pumping operations analyzed.

Response: Section 1.1 has been revised to include discussion of the effect of the drainage system and pumping at Building 191 on groundwater flow at OU5. The following has been added:

The Moffett Field storm drainage system has an effect on the flow direction and velocity of A1-aquifer zone groundwater at OU5. In the vicinity of OU5, the system includes the runway subdrains, Marriage Road, Patrol Road, and Navy ditches, and the Building 191 lift station. The Navy ditch penetrates deepest into the A1-aquifer zone and, therefore, probably has the greatest effect on the A1-zone groundwater. Continued operations of the storm drainage system not only affects the A1-aquifer groundwater but also is important to control surface runoff and minimize surface flooding in the OU5 area.

Comment 11. Page 11, Section 1.5, Paragraph 3. Please expand the discussion of the Navy's petroleum corrective action program and provide text briefly detailing the status of investigations and removal actions.

Response: The Navy is currently evaluating and cleaning up Moffett Field petroleum sites following the San Francisco Bay Regional Water Quality Control Board (RWQCB) guidance. An evaluation report documenting RWQCB low-risk criteria is currently planned for petroleum sites.

Comment 12. Page 34, Section 5.0, Paragraph 1. Please clarify if both the groundwater extraction and the monitoring are being proposed for 50 years.

Response: The groundwater extraction and monitoring are proposed for 50 years. The anticipated cleanup period of 50 years is based on groundwater modeling using OUS-specific data. The implementation and time frames of the groundwater monitoring program will be included in the long-term monitoring plan which will be developed during the remedial design.

Comment 13. Page 35, Section 6.0, Paragraph 1. The text does not provide sufficient information to support the statement that "The selected remedy is protective...through restricting access to the southern plume, containing migration of the plume..." Please provide a text detailing the method to restrict access and how "containing migration of the plume" will be performed as opposed to groundwater extraction.

Response: To restrict access to the groundwater at the southern plume of OUS, drinking water wells will not be permitted. Containment of the migration of the plume will be performed by groundwater extraction.