



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

February 13, 1995

Mr. Stephen Chao  
Naval Facilities Engineering Command  
Engineering Field Activity, West  
900 Commodore Way, Bldg. 101  
San Bruno, CA. 94066-2402

Re: *Draft Final Operable Unit 5 Feasibility Study*, dated January 30, 1995

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has received the subject document and response to comments. As stated in the Federal Facility Agreement, §9.9, if the regulatory agencies have any comments on a draft final document, then we are in informal dispute until such time that these comments are resolved. Some problems still exist and these are reflected in the attached comments, but EPA does not consider these issues a deterrent to finalizing the document. Many of the comments center around issues that will need to be resolved (e.g. fully understanding the sand channel configurations) before implementing a remedial design, but are not necessary to finalize this feasibility study. A summary of these comments were discussed with you at last Friday's RPM meeting (February 10th). Contingent upon satisfactory response to these enclosed comments, the document can be finalized. This should be done within thirty days of receiving this letter. If you have any questions, please call me at 415-744-2383.

Sincerely,

A handwritten signature in cursive that reads "Michael D. Gill".

Michael D. Gill  
Remedial Project Manager  
Federal Facilities Cleanup Office

cc: C. Joseph Chou (DTSC)  
Michael Bessette (RWQCB)  
Ken Eichstaedt (URS)  
Sandy Olliges (NASA)  
Peter Strauss (MHB)  
Mike Young (PRC) (Fax)

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## COMMENTS

*Draft Final Operable Unit 5 Feasibility Study*, dated January 30, 1995

### GENERAL COMMENTS

1. EPA understands that although the results of the pilot/bench studies are incomplete at this time, the early results appear to yield enough data to consider the technologies (air sparging/soil vapor extraction and the Iron Curtain). In the interest of speeding up the RI/FS process, we also agree that these preliminary results are enough to proceed through the Feasibility Study. Once the pilot / bench study reports are finalized, they should be forwarded to the regulatory agencies as soon as possible. If final results are in conflict with the preliminary results, it may be necessary to reconsider the selected alternative.
2. Appendix C, the calculation of Risk Based Concentrations for an occupational irrigation scenario, while appropriate, presents only a partial picture of the potential risk at OU5. As stated before, EPA Preliminary Remediation Goals (PRGs) have been used by other sites to present a screening level (not a cleanup level) for various contaminants and should be used in lieu of these RBCs. EPA suggests that the Navy either remove this appendix and rely solely on the OU5 RI risk assessment or explain that this appendix presents only one potential scenario at OU5. Other scenarios (i.e. ingestion of groundwater) are obviously considered when making the determination of whether remediation is appropriate for the site. If you remove the appendix, we suggest you move the last appendix, H, into Appendix C's place to minimize any textual changes and rippling effects.
3. Some of the ARARs need more specificity in the tables so that the agencies will be able to determine their applicability to the suggested alternatives.
4. In Chapter 6, the Detailed Analysis of Alternatives, almost every Long and Short Term Effectiveness section states that because inorganic constituents will remain above MCLs, it is doubtful that this groundwater can be used as a drinking water source without further treatment. It appears that no matter which alternative is selected, inorganics will remain in the groundwater and therefore remain a risk. This is true for all alternatives, except Alternative #3, where the Navy says the municipality who wants to pump the groundwater for drinking water will have to treat the inorganics. How can the Navy defend the selection of an alternative that does not reduce or remove this risk? It appears that these statements need to be changed to reflect the findings of Appendix A, where it is shown that inorganics that exist in OU5 groundwater are shown to be naturally occurring. If we have misunderstood this appendix (that is, that inorganics are from anthropogenic sources), then the Navy should include an alternative to remediate inorganics.
5. Several sections of the OU5 Feasibility Study Report (FS) contain strong statements regarding the site-specific hydrogeology and contaminant fate and transport processes that are not supported by presentation and discussion of data that were used to develop the interpretations. A general premise in the FS is that the "majority" of the contaminants will be captured or remediated (depending on the alternative) by placing a barrier or reaction cell across sand channels in the A aquifer. This premise that contaminants that exist at locations outside of the channels will desorb and flow to the channels is not supported by the data

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COMMENTS ON DRAFT FINAL OPERABLE UNIT 5  
FEASIBILITY STUDY

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QUESTIONS MAY BE DIRECTED TO:

**DIANE C. SILVA**  
**RECORDS MANAGEMENT SPECIALIST**  
**NAVAL FACILITIES ENGINEERING COMMAND**  
**SOUTHWEST**  
**1220 PACIFIC HIGHWAY**  
**SAN DIEGO, CA 92132**

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be presented in the FS to support statements made concerning gradients, flow rates, and preferential flow pathways. It is recommended that if supporting data are available, groundwater contours be generated for the specific depth intervals identified in the groundwater flow model or at least be referenced in the text.

9. Figures are included which represent the distribution of contaminants in groundwater. These figures show estimated plume boundaries based on chemical concentration data for all layers. It is recommended that chemical concentrations and plume geometries be depicted based on the depth intervals identified in the groundwater flow model. This will provide a better understanding of the three-dimensional distribution of contaminants and could be used to support statements concerning contaminant migration.
10. The document should present detailed cross-sections through the site or reference the relevant cross sections from the RI to support conclusions regarding contaminant distribution, groundwater flow pathways, and sand channel interpretations.
11. Appendix E is generally well written, presenting complex subjects concisely and in terms understandable to the non-modeler. The sections on model limitations are particularly helpful. While the sections of the appendix which present model design and calibration are generally adequate, the section which discusses model results and conclusions (Section 5.0) is uncharacteristically brief and lacks detail. This section is crucial for the reader (decision maker) to understand how the site may react to active remedial efforts. A remedial strategy hinges on hydraulic control of the site and the decision makers must thoroughly understand the modeling results. The extraction scenario should therefore be discussed in greater detail. The text should discuss how the preferred extraction scenario was derived and depict examples, including several intermediate scenarios that did not capture the plume. As discussed above, many of the issues discussed here are not necessary to complete in order to finalize the FS, but will be very important to fully understand before implementing a remedial action.

## **SPECIFIC COMMENTS**

12. Section 1.3.3.2, Groundwater Uses. A statement should be added to this section indicating that no pumping currently takes place, if this statement is true.
13. Section 1.4.1, Site Hydrogeology, page 20, paragraph 4. If there are "narrow, discontinuous channels and lenses of sand and gravel", then how will it be ascertained if the proposed remediation techniques will be effective in intercepting these channels?
14. Section 1.4.1, Site Hydrogeology, page 20, paragraph 4. This section indicates that channel deposits have been identified at three different horizons within the A1-aquifer zone; however, the details of where these zones are located are not included. It is recommended that this section be modified to include a detailed discussion of the three horizons. If this information is in other reports than they need to be summarized and referenced.

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24. Section 3.1, page 68, para 1, 2nd to last sentence. Since a Record of Decision will ultimately set enforceable standards, EPA suggests that you reword to read: "Setting cleanup standards using the MCLs for the Southern Plume area and WQC for the Northern Plume should fulfill the cleanup goal selection procedures. The standards will maintain probable and potential uses.
25. Table 3-2, page 69, comments in 3rd row. Please add the results from the Endangered Species investigation in the SWEA into the final FS.
26. Table 3-2, page 70, comments in 7th row. Please include any resolution regarding archeological areas at OU5.
27. Table 3-3, page 72, Water Quality Control Plan, row 1. Specifically identify which provisions of The Plan are applicable to the remedial alternatives.
28. Table 3-3, page 72, California Enclosed Bays and Estuaries Plan, row 2. Specifically identify which provisions of the Bays and Estuaries Plan are applicable to the remedial alternatives.
29. Table 3-3, page 72, Resolution 92-49, row 4. Earlier in the FS text you state that only section (g) of 92-49 is an ARAR. The comment section for this table should be consistent with statements made in the text.
30. Table 3-3, page 72, Water Quality Control Plan, row 6. Specifically identify which provisions of The Plan are applicable to the remedial alternatives.
31. Table 3-3, page 73, Air Emissions, California Statute 1568, row 4. The comments are confusing. When is 1568 an ARAR? Is it stricter than the federal standard? Which provisions of 1568 are applicable, or relevant and appropriate, to the remedial actions?
32. Table 3-3, page 73, Air Quality Management District Rule, row 5. AQMD has numerous rules. Which rules are considered to be ARARs? Specifically identify the provisions.
33. Table 3-3, page 74, 40 CFR 61, row 1. You refer to state regulations without providing a citation. Identify which state regulations you are referring to and explain why you consider them to be ARARs.
34. Table 3-3, page 74, Incineration, row 3. "Certain requirements could be relevant and appropriate" Which requirements are you referring to? Provide a detailed explanation.
35. Table 3-3, page 75, Storage/Treatment, Thermal Treatment, Chemical, Physical or Biological, Miscellaneous Units. With respect to these treatments, identify with specificity which requirements you consider to be ARARs.
36. Table 4-2, page 95, rows 2 and 4. Update the table with a summary of preliminary results from the treatability tests (AS/SVE and Iron Curtain).
37. Section 6.4.1, page 135, para 1. Are there to be 4 or 5 trenches installed for the southern plume? The map on Fig 6-1 shows 4 trenches. Please clarify.

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46. Appendix E, Figures E-9 through E-24. These figures do not depict the locations of the extraction or injection wells, making interpretation of the model results difficult. In addition, there are apparently no figures depicting predictive runs from the flow model. Evaluation of how the predicted groundwater flow might change during pumping/injection is therefore not possible. Please revise the appendix to include these types of figures and include discussions which evaluate the effectiveness of the modeled extraction scenario.

#### **EDITORIAL COMMENTS**

47. Figure 1-2, page 3. Identification of the Marriage Road ditch should be shown on this figure.
48. Sections 1.2.2. Chemical Usage and Waste Disposal at Moffett Field, page 6, paragraph 2: Sites 22 and 23 are not described in this section. Page 7: The term "fluids" should be described under Site 11.
49. Section 1.4.4, page 43, para 3. The text should indicate Table 1-5, not Table 1-4.