STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737

April 11, 1994

Commander
Western Division
Naval Facilities Engineering Command
Attn: Mr. Stephen Chao, Project Manager
900 Commodore Drive, Bldg. 101
San Bruno, California 94066-2402

Dear Mr. Chao:

DRAFT OPERABLE UNIT 5 (OU5) FEASIBILITY STUDY REPORT, NAVAL AIR STATION MOFFETT FIELD

The California Environmental Protection Agency (Cal/ EPA) has reviewed the subject document. The document was reviewed for completeness, technical adequacy and regulatory compliance. Comments regarding the document have been prepared by the Department of Toxic Substances Control (DTSC) and San Francisco Regional Water Quality Control Board (RWQCB).

Review of the document leads to the following comments:

GENERAL COMMENTS

1. The State cannot accept the no action alternative because it does not protect all the beneficial uses of the groundwater or restore the groundwater aquifer in OU5.

2. The California Primary Drinking Water Standards, California Code of Regulations, Title 22, Chapter 15, should be listed as a chemical-specific ARAR. The maximum contaminant levels (MCLs) for the primary drinking water constituents shall not be exceeded.

3. Through out the text, it is mentioned that the shallow aquifers in OU-5 will not be used as potential drinking water sources. This is not necessarily true for OU-5, in California, "all surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply except when Total Dissolved Solids (TDS) exceeds 3,000 mg/L or the water source does not provide sufficient water to supply a single well capable of producing an average sustained yield of 200 gallon per day."(from SWQCB Resolution No. 88-63)

4. Different remedial technologies should be evaluated in Section 6 and 7. It is extremely difficult to determine if the selected technology is efficient and cost-effective without comparing to other available treatment technologies.

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6. Page 85, 4th Paragraph

Please explain how to determine the pumping rate of 28,800 gallons a day for fifty years. The Feasibility Study should also address how the pumping system will affect salt water intrusion and land subsidence.

7. Page 85, 4th Paragraph

Air stripping is a viable treatment technology for the contaminants of concern mentioned in this report. However, the contaminant concentration levels given in Table 13 through 19 would be too low to apply thermal oxidation as secondary emission control system.

8. Page B-12

The labor cost seems to be overestimated. This is especially important in comparing the long term cost between Alternative 2 and 3. If the cost for system monitoring is $30.00/hr, then the total cost for Alternative 3 can reduce from $7,824,056.00 to $6,784,056.00 over a period of fifty years.

Please respond to all comments. If you have questions regarding these comments, please contact me at (510) 540-3830 to ensure a coordinated approach for all regulatory comments.

Sincerely,

C. Joseph Chou
Engineering Geologist
Site Mitigation Branch

Enclosure

cc: Ms. Elizabeth Adams
Regional Water Quality Control Board
2101 Webster Street, Suite 500
Oakland, California 94612

Mr. Michael D. Gill
U.S. Environmental Protection Agency
Region IX, Mail Stop H-9-2
75 Hawthorne St.
San Francisco, California 94105

Mr. Mark Berscheid
Department of Toxic Substances Control
P.O. BOX 804, HQ-12
Sacramento, California 95812-0806

SPECIFIC COMMENTS

1. Page 11, 5th Paragraph

Please provide more detailed analytical information of JP-5 plume. Although it is indicated that petroleum contamination is currently being addressed in a separate investigation. However, the evaluation and screening of remedial action alternatives should take into account the possible requirements to treat petroleum product contamination in groundwater.

2. Page 12, 4th Paragraph

It is stated that the B2 aquifer zone does not appear to be affected by the A1- and A2- aquifer zone contaminants. If previous investigations have performed some degree of aquifer testing (i.e., pump tests) that support this conclusion, these results should be referenced in this report. If supporting data is not available then this issue requires evaluation before a remedial technology included in the screening process can be fully evaluated.

3. Page 30, Table 6

Please explain why City of Fremont is listed among the cities of Santa Clara County.

4. Page 34, 4th Paragraph

Please see General Comment No. 2.

5. Page 36, 4th Paragraph

It is premature to predict that the local communities would not use Moffett Field for residential buildup if federal government relinquish control of the base.

6. Page 74, 1st Paragraph

There should be a distinction between No Action and Natural Attenuation (Intrinsic Remediation). For Natural Attenuation, the monitoring activities would include indicators that could assure that biological activities are occurring within the specified aquifers. The intrinsic remediation option should also include a plan to address the necessity of other treatment options.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

San Francisco Bay Region

Internal Memo

TO: Ron Gervason

FROM: Elizabeth J. Adams, Project Manager EA
phone # (510) 286-3980

DATE: March 30, 1994

SUBJECT: COMMENTS ON THE OPERABLE UNIT 5 DRAFT FEASIBILITY STUDY, MOFFETT NAVAL AIR STATION, FEBRUARY 18, 1994

GENERAL COMMENTS:

1. The Regional Water Quality Control Board can not accept the no action alternative proposed by the Navy for the groundwater contamination in operable unit (OU) 5. The alternative does not comply with the State ARAR, State Board Resolution 68-16, and Title 23 California Code of Regulations, Division 3, Chapter 15.

2. State Board Resolution No. 68-16, the anti-degradation policy, should be included as a chemical specific ARAR. This policy maintains that the existing high quality of waters be maintained and that further degradation of waters be avoided. This ARAR is applicable as an action and chemical-specific ARAR because it requires that the water quality of unimpacted aquifers be maintained, and that the best practicable treatment or control be utilized to maintain water quality. The no action alternative chosen by this feasibility study would allow the groundwater contamination to continue its movement through the aquifers at Moffett Field and further degrade unimpacted groundwater and surface waters.

3. Title 23, California Code of Regulations, Chapter 15 should be included as an action-specific ARAR under the discharges to groundwater section of Table 12. Any wastes left in place with a no action alternative would invoke Chapter 15, Article 5 groundwater monitoring requirements.

4. Though a "streamlined" feasibility study (FS) and use of presumptive remedies may be appropriate for the groundwater contamination in OU5, the review of one technology alternative is not sufficient. Alternate treatment trains should be evaluated in order to conduct a meaningful cost-benefit analysis with the two no action alternatives.

5. The Navy does not fully evaluate all the beneficial uses of the groundwater in OU5. Surface water recharge from OU5 groundwater

6. pg. 39, sec 2.3 The description of the no-attenuation assumption seems to be inaccurate. It states that chemicals in groundwater or soil will be diluted.

7. pg. 61, sec 4.1.2 The potential ecological risks from groundwater at OU5 need to be addresses in the feasibility study.

8. pg. 62, Table 13 through Table 19 The titles of these tables need to indicate the type of risk which is being calculated and presented.

9. pg. 69, sec 4.1.3 Potential use of the groundwater for domestic purposes is a beneficial use of the groundwater in OU5.

10. pg. 79, sec 7.1 & pg. 83 What is the rationale for the statement that the probable use of the groundwater if extracted would be for irrigating native grasses? There are many potential uses for the groundwater if extracted by private parties.

It is inappropriate to state that there are no current complete exposure pathways for environmental receptors. The pathways and potential impacts from the groundwater exfiltrating into the ditches and into surface waters are not fully evaluated yet.

11. pg. 80, Long-Term Effectiveness The potential effects of contaminants on the wetlands and surface water features are not being evaluated by the ecological assessment. The current sampling will evaluate the present impacts, but the groundwater plume from OU5 will continue to migrate throughout the years with this alternative to surface waters, and the future potential impacts can not be assessed at this time.

12. pg. 81 & pg. 85, State Acceptance The San Francisco Bay Regional Water Quality Control Board does not accept these alternatives.

13. pg. 83, Compliance with ARARs The beneficial use of surface water recharge is not addressed by this alternative contrary to what the text states.

14. pg. 91, sec 8.0 The statement that saltwater intrusion and land subsidence will occur from pumping the shallow aquifers for remediation needs to supported by a technical argument. The shallow aquifers provide low flow rates and the location of the sources are long distances from salt water sources which would indicate that saltwater intrusion effects would be unlikely. What is the basis for the statements in the text?

If you have any questions regarding these comments, please feel free to call me at the San Francisco Bay Regional Water Quality Control Board at (510) 286-3980.

occurs in both Marriage Road ditch and Patrol Road ditch which are habitats for ecological receptors. Though the text states that these pathways will be evaluated in the Site Wide Ecological Assessment, these pathways are important beneficial uses of the groundwater at OU5 and future impacts resulting from groundwater movement will not be able to be measured currently, but need to be addressed by this FS report.

6. The text states that restrictions apply to the withdrawal of groundwater within Santa Clara Valley to avoid salt water intrusion and land subsidence, however these statements are without a reference or details to evaluate whether these restrictions would potentially apply to the groundwater at Moffett Field. In addition, restrictions placed on drilling wells is included in this argument without referencing a document or providing details of the restrictions. These details and references need to be provided in the text.

7. The San Francisco Bay Basin Region Water Quality Control Plan's water quality objectives for total dissolved solids (TDS) are for current municipal supplies and are not intended to be used to define "potential" drinking water resources. The appropriate standards to evaluate potential water resources is State Board Resolution No. 88-63 that defines potential drinking water sources as waters with TDS concentrations of 3,000 parts per million (ppm) or less. The text also states that three sites within OU5 exceed the State Board TDS limit. This is inaccurate since two of those sites, site 1 and site 2 are being addressed in the OU1 FS report. Only site 11 has TDS levels higher than 3,000 ppm within OU5.

8. All potential pathways have not been evaluated in the OU5 Remedial Investigation (RI) report and this feasibility study. The San Francisco Bay Regional Water Quality Control Board has supplied comments to the Navy on the RI report which still need to be addressed in this FS. These comments include the potential for volatilization of volatile organic compounds (VOCs) from the groundwater to land surface and the potential for vertical conduits o exist on site. Potential vertical conduits may exist at Moffett Field which would allow contaminants now in the shallow aquifers to migrate down to the lower aquifers which are currently unimpacted in OU5. Since undocumented and unknown wells down to the C aquifer have been found on site as well as throughout the region the Navy must address this potential pathway. Allowing the unrestricted movement of the plume increases the risks for vertical contamination of other aquifers.

9. Our agency can not allow groundwater contamination to remain without a deed restriction on the land to prevent future possible uses of the groundwater. The mixture of various zoning patterns presently surrounding Moffett Field, residential, recreational and industrial, support the need for a deed restriction if a no action alternative is the final decision of the FS. As the text states, if the government relinquishes control of Moffett Field there may be pressure to develop the area for residential purposes.

According to Chapter 15 requirements, any no action alternative must address institutional controls for as long as the "waste" remains in the groundwater.

Specific Comments:

1. pg. 11, section 1.3.2.1 Recent data obtained from the investigations at Site 5 should be included in this summary. The statement that floating product has not been detected since the original investigations in no longer accurate.

2. pg. 33 and pg. 34 Water Resources What is the source of the supply of Sunnyvale's and the city of Mountain View's water which comes from the Santa Clara Valley Water District? Is it a groundwater or surface water source? The calculations showing a surplus of water supply are calculated from non-drought conditions which may not be representative of the current or future conditions since the State seems to still be in a drought despite last year's normal rainfall. The text should address the drought conditions which have prevailed in the State for the last ten years.

Statements that the upper aquifers are not suitable as sources of drinking water due to the high TDS contents are inaccurate. These waters, except at Site 11 do meet the State standards for potential drinking water resources.

3. pg. 35 The text needs to provide references and more details regarding the actual restrictions on use of groundwater in Santa Clara Valley. Are there restrictions on placing domestic wells in certain areas for private use? Additionally, maintaining the groundwater quality of the area for potential future use is a separate issue from the current needs of the municipal supply.

The text states that Moffett Field is currently utilizing groundwater from the C aquifer to irrigate crops and water the golf course. This seems to contradict the conclusion presented earlier in the text that the TDS content of the groundwater would limit the use of the C aquifer for irrigation and agricultural purposes.

4. pg. 36, sec 1.4.4 The Water Board does not agree with the conclusion that groundwater use is unlikely in the future due to the current reports of surplus water supplies in Sunnyvale and Mountain View. These calculations were based on non-drought conditions and the conclusions do not address the resource issue of protecting the beneficial uses of the groundwater at Moffett Field.

5. pg. 38, sec 2.2 The text should clarify that no complete exposures for human health currently exist. It still needs to be determined whether there are any complete exposure pathways from groundwater exfiltration into Marriage Road ditch and Patrol Road ditch and other surface waters to ecological receptors. It should be added that Appendix A contains exposure assumptions for human health only.