

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

November 13, 1998

Mr. Stephen Chao  
Naval Facilities Engineering Command  
Engineering Field Activity, West  
900 Commodore Way, Bldg. 210  
San Bruno, CA 94066-2402

Re: Site 22 Draft Final Feasibility Study Report, dated July 10, 1998

Dear Mr. Chao:

The U. S. Environmental Protection Agency has reviewed the above referenced document, including the Navy's Responses to Comments on the Site 22 (Golf Course Landfill 2) Draft FS Report. For the most part, EPA comments on the Draft FS Report were addressed. We have a few minor concerns pertaining to the presentation of ARARs, which can be easily addressed in the Final FS Report (see attached comments). In addition, we recommend that Alternative 2 (Biotic Barrier) be expanded to include additional provisions, as discussed further below.

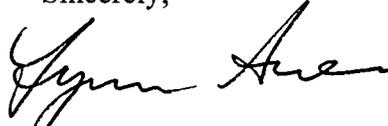
Existing information for Site 22 indicates that water quality at perimeter wells is not impacted, even though refuse is located below the groundwater table and infiltration of irrigation water from the overlying golf course has been occurring for the past 25 years. The groundwater at Site 22 has a total dissolved solids (TDS) concentration greater than 10,000 milligrams/liter (mg/L), indicating that the ground water is not suitable for drinking water, as defined by EPA's Groundwater Classification Guidelines. Therefore, drinking water protection standards are not relevant and appropriate for this site. Risks to occupational, residential, and ecological receptors through dermal contact, ingestion, and inhalation of landfill materials are within the acceptable carcinogenic risk range of 1.0E-4 and 1.0E-6 and less than the noncarcinogenic hazard index of 1.0 for the contaminants of concern. Current land use plans are to continue operating the site as a golf course.

Four remedial alternatives were presented in the Feasibility Study Report. EPA recommends that Alternative 2 (Biotic Barrier) be revised to include institutional controls to address future changes in land use, measures to limit infiltration, and a ground water and gas monitoring plan with contingencies, in case elevated concentrations of groundwater contaminants or landfill gas are detected. In addition, Alternative 2 should provide for long-term maintenance

to insure that a 1.5 foot soil cover is maintained.

If you have questions, please contact me at (415) 744-2396.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynn Suer". The signature is fluid and cursive, with the first name "Lynn" being larger and more prominent than the last name "Suer".

Lynn Suer, Ph.D.  
Remedial Project Manager

cc: Joseph Chou, RWQCB  
Tim Mower, (TTEMI)(fax)  
Sandy Olliges, NASA  
James McClure, RAB  
Peter Strauss, RAB  
Kevin S. Woodhouse, City of Mountain View

**Specific Comments:**

1. **P. 4, Section 1.2.2. Aquifer Use.** This section should be revised to acknowledge EPA's Groundwater Classification Guidelines for defining a potential source of drinking water. The NCP Preamble directs EPA to use these Guidelines when determining the appropriate remediation for contaminated groundwater at CERCLA sites, and EPA's OSWER Direction #9283.1-09 directs EPA to defer to the NCP Preamble and the Guidelines when a state does not have an EPA endorsed Comprehensive State Groundwater Protection Program (CSGWPP). Since the State of California does not have an endorsed CSGWPP, the broader definition of potential source of drinking water, as specified by EPA's Guidelines, applies to Site 22. The EPA definition of potential drinking water includes groundwater with a total dissolved solids (TDS) concentration of 10,000 mg/l or less and a yield of 150 gallons per day (as compared with the definition stated in State Board Resolution 88-63, which specifies 3,000 mg/l TDS and 200 gallons per day).

Data from the perimeter wells indicate that TDS concentrations range from 9,500 to 45,000 mg/L. It is likely that these concentrations are lower than would be expected if there were no recharge from the golf course irrigation water. Therefore, the groundwater does not seem to meet either the U.S. EPA or the State of California's definition of potential source of drinking water based on TDS concentration.

2. **Pp. 4-5 Aquifer Use.** Drinking water standards (MCLs) are not chemical-specific ARARs, since the groundwater at Site 22 does not fit the State or Federal definition of potential drinking water. However, other beneficial uses, such as agricultural supply and industrial supply, as specified by the San Francisco Bay Basin Plan, should also be considered. Water quality objectives to protect these beneficial uses may be chemical-specific ARARs.
3. **Section 1.5.1, Page 23. Groundwater.** We concur that Ambient Water Quality Criteria (AWQC) need not be cited as chemical-specific ARARs, if a pathway to surface water does not exist. However, the case supporting the contention that shallow groundwater does not flow to surface water is weak (p. 15). Please provide additional support for this statement, or include AWQC as ARARs.
4. **Section 1.5.1, Page 24, Landfill Gas.** The Navy's response to EPA's previous Comment 20(c) is adequate. However, this response should be included in the text of this section to clarify why BAAQMD Regulation 8, Rule 34 is neither "applicable", nor "relevant and appropriate." This can be accomplished by simply incorporating the Navy's response to this comment into the text of this section.
5. **Section 1.5.1.** Even if there are no chemical-specific ARARs for the site, numerical

“trigger levels” should be identified in the Record of Decision and Monitoring Plans for the site. If these values are exceeded, then the Navy must evaluate alternatives for further action, consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Please add language to the Groundwater and Landfill Gas sections to indicate that “trigger levels” will be included in the Record of Decision and Groundwater/Landfill Gas Monitoring Plans.

5. **Section 5.2.2., Page 49, and Table 5.** Although the Federal Government is exempt from liability under the Migratory Bird Treaty Act, it is not exempt from compliance with the Act (personal communication with Jim Haas, U.S. Fish & Wildlife Service). Further, contractors doing work for the Federal Government are not exempt from the Act. Please revise the text and Table 5 to reflect the applicability of this Act.
6. **Section 1.5.3, Pp. 24-26 and Table 5.** We do not agree with the Navy’s response to EPA’s previous Comment 22. It is necessary to identify which provisions of the federal and California state solid waste regulations are more stringent in order to specify the correct numeric standards (e.g., cap thickness) in the Record of Decision. Since this determination was apparently already made during the OUI RD/RA, then it should not be too burdensome to include this information in the Site 22 FS.
7. **Table 5.** Federal and State ARARs are combined in this Table. This gives the impression that potential State ARARs may not have been solicited from the State and fully considered. Potential State ARARs should be listed in a separate Table. By presenting State ARARs separately, the reader will be assured that the State ARARs were fully considered.
8. **Section 1.5.2. Page 24.** According to the Navy’s response to EPA’s previous Comment 21(b), State regulations pertaining to special status species (i.e. Guidelines for Implementation of the California Environment Quality Act (CEQA)) were considered, and determined not to be applicable, relevant or appropriate. These regulations should be listed separately in a table of Potential State ARARs (see comment 5), and the Navy’s response to Comment 21(b) included as a comment in the Table.
9. **Page 73, Table 5.** The criterion for determining the applicability of the Endangered Species Act is the presence of critical habitat for endangered species, not sightings of species. The text and table should be revised to state that there is no critical habitat for endangered species at Site 22, if this is the case.
10. Please consider adding a table for chemical-specific ARARs, even though there are none. The Table would refer to the text for an explanation as to why there are no chemical-specific ARARs. This rather bureaucratic recommendation is intended to make the document more user-friendly, as some readers may simply browse the tables, rather than read the text in detail.
11. **Section 4.2. Alternative 2.** A provision for limiting infiltration and ensuring proper

operation of the irrigation system should be identified for Alternative 2. The HELP Model identifies that the existing condition produces a 22 percent infiltration rate and that the infiltration rate for Alternative 3 is less than 3 percent.

12. **Appendix G.** The thickness of the soil cover over the waste is an essential criterion in evaluating the alternatives and prescribing long-term maintenance activities. As identified in trench logs S22-T13 and S22-T12, trash was encountered at a depth of 1 foot. In trench logs S22-T5 and S22-T11, trash was encountered at 0.5 feet. The HELP model uses a minimum cover thickness of 1.5 feet to evaluate the existing conditions (Alternative 1 and 2). The Alternatives 1 and 2 solutions should describe the longer-term maintenance of the soil cover (existing and biotic) to ensure that a 1.5 foot soil thickness is maintained.