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MOFFETT FIELD
SSIC NO. 5090.3

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

April 2, 1993

Mr. Stephen Chao
Naval Facilities Engineering Command
Western Division
900 Commodore Way, Bldg. 101
San Bruno, CA. 94066

Re: Draft Final OU1 Remedial Investigation Report, dated March, 1993

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has reviewed the subject document. Attached are issues to be addressed before a final document can be approved. They are separated into two sections: Baseline Risk Assessment and the remainder of the document. The Baseline Risk Assessment was evaluated by Dr. Venkat Rao, Senior Toxicologist in SAIC's McLean, Virginia office. The remainder was reviewed by SAIC/TSC Soil Scientist Scott Kinderwater. Please call me at 415-744-2383 if you have any questions.

Sincerely,

Michael D. Gill

Michael D. Gill
Remedial Project Manager
Federal and Technical Programs Branch

cc: Elizabeth Adams (RWQCB)
Joseph LeClaire (Montgomery Watson)
Fred Molloy (SAIC)
Cyrus Shabahari (DTSC)

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BASELINE RISK ASSESSMENT COMMENTS

GENERAL COMMENTS

1. Inconsistent units for metals have been used in this report. Use of both mg/kg (Tables 7.2-3, 7.2-4, and 7.2-6) and μg/kg (Tables 7.2-8 and 7.2-9) could potentially lead to errors in risk calculations (mg/kg units are normally used in exposure equations).

SPECIFIC COMMENTS

1. Section 7.2.2, Page 7-7, Paragraph 3

   Is the Navy justifying the use of unvalidated AirSWAT data by presenting a description of qualifiers? Validated data is required for the baseline risk assessment (BRA). The report does not clearly explain AirSWAT data quality. This point needs additional clarification.

2. Section 7.2.5, Page 7-12, Paragraph 3

   The Navy only partially addressed the discrepancies in Table 7.2-3. Arsenic is not identified as a chemical of potential concern (COPC), in Table 7.2-3. Since the report stated that all Class A carcinogens were retained as COPCs even if they do not meet the detection frequency and toxicity screening criteria (page 7-11, last line), it is not clear why arsenic, a Class A carcinogen, was not identified as a COPC in Table 7.2-3. This point needs additional clarification.

3. Section 7.2.5, Page 7-14, Paragraph 1

   Mercury and selenium are listed as COPCs in the leachate at Site 1. They have also been included in Table 7.2-8; however, they are not classified as COPCs. These two chemicals are above background concentrations and should be classified as COPCs.

4. Section 7.2.5, Page 7-14, Paragraph 2

   Mercury is cited as a COPC in the leachate at Site 2. It has also been included in Table 7.2-9 but not as a COPC. This chemical is above background concentrations and should be classified as a COPC.

5. Section 7.3.3, Page 7-27, Paragraph 5

   The AirSWAT Program may not require validated data, however, the BRA does. The use of unvalidated data should be clearly explained along with its implications in the report.

6. Section 7.3.4.2, Page 7-40, Paragraph 3

Please explain why the paths adjacent to the landfills are not passable during the rainy season. In addition, the frequency of exposure was determined only by field crews, whose primary function was not to count individuals; therefore, this frequency may be a low estimate. The 39-week per year recreational exposure frequency is also low considering California's last six years of drought.

7. Table 7.2.11

Benzo[a]pyrene (B[a]P) equivalent factors are normally used to estimate the excess life-time cancer risks for polycyclic aromatic hydrocarbons (PAHs) (Krewski et al. 1989). This report has adopted B[a]P cancer slope factors for all PAHs. The Health Effects Assessment Summary Tables (HEAST, 1991) presents the B[a]P CSF as 11.5 and not 12 as shown in this table.

8. Section 7.4, Page 7-46

With regard to using EPA's biokinetic uptake model for lead in the BRA, the Navy maintains that lead was deleted from the BRA due to its low levels. However, lead is retained in Tables 7.2-3 and 7.2-4 where it is not classified as a COPC. Yet in Tables 7.2-6, 7.2-8, and 7.2-9, lead is listed as a COPC. Please explain these discrepancies.

9. Table 7.4-1

The cancer slope factor (CSF) of 5.1E-02 $(mg/kg\text{-}day)^{-1}$ presented for tetrachloroethene is the oral and not the inhalation CSF. Please correct the inhalation CSF.

10. Table 7.6-1

Inclusion of a comment on the uncertainties in the risk tables is a good idea. However, the format adopted in Table 7.6-1 discussing the uncertainties is vague. What impact will this discussion on uncertainties have on the feasibility study?

11. Appendix F, Table 9

The Navy responded that the requested modifications were made. Table 9 could not be found in Appendix F.

References

Health Effects Assessment Summary Tables (HEAST). 1991.

Krewski, D., T. Thorslund, and J. Withey. 1989. Carcinogenic Risk Assessments of Complex Mixtures. Tox. Indust. Health, 5:851-867.

EPA. 1991. Supplemental Risk Assessment Guidance for Superfund. August 16, 1991.

COMMENTS OF REMAINDER OF OU1 REMEDIAL INVESTIGATION REPORT

GENERAL COMMENTS

1. The Solid Waste Assessment Test for NAS, Moffett Field, prepared by IT Corporation (IT) in 1989, states "that metals and organic compounds resulted in slight deterioration to the groundwater quality near the Site 1 landfill and that only metals have slightly affected the groundwater near the Site 2 landfill."

   The groundwater contamination associated with Sites 1 and 2 is to be addressed in the Operable Unit 5 (OU5) Remedial Investigation (RI) Report. Any discussion of groundwater contamination would be more appropriately addressed in that report.

2. EPA and the California Department of Toxic Substances Control expressed concern during their review of the draft document that the contract laboratory was unable to attain the contract required quantitation limits (CRQLs) for most samples. IT stated as a response:

   > *CRQLs for organics analysis on soils/sediments, as provided in the EPA Contract Laboratory Program, Statement of Work for Organics Analysis, are based on wet weight. The quantitation limits calculated by the laboratory for soil/sediment are calculated on a dry weight basis, as required by the contract, and will subsequently be higher. The CRQLs listed in Appendix B are the low soil/sediment CRQLs. The medium soil/sediment CRQLs for volatiles are 125 times the low soil/sediment CRQL; semivolatiles are 60 times the low soil/sediment CRQL; and pesticide/PCBs are 15 times the low soil/sediment CRQL. Additionally, CRQLs for both water and soil/sediments are highly matrix dependent and are provided as guidance with the acknowledgement within the statement of work that they may not always be achievable.*

   IT believes that the reported detection limits are consistent with the guidance and that the interpretation of the data in determining the nature and extent of contamination is appropriate. IT also provided three reasons for the exceedence

of detection limits, but failed to resolve the major issue. We, therefore, reiterate our request that the Navy explain in the text why the CRQLs were unattainable on so many of the analyses. Please explain in Section 2.4.3,using at least three different and distinct examples, where CRQLs were not attained and specifically why the CRQL was unattainable.

IT states that CRQLs for organics analysis are based on wet weight and that quantitation limits calculated by the laboratory for soil/sediment are calculated on a dry weight basis, and will, consequently, be higher. Please include this information with Table 2.4-1 to clarify that not all CRQLs, as listed, are expected to be attained.

Due to the large number of samples with detection limits exceeding CRQLs, we request that the Navy provide an explanation for specific examples where CRQLs have been exceeded.

SPECIFIC COMMENT

Section 2.3.1, Page 2-8, Paragraphs 1 and 2

It is understood that depth determinations of landfill material were ultimately based on the interpretation of soil borings and leachate well borings. Geophysical surveys were able to define the horizontal limits of the landfill material, but were not useful in accurately defining the vertical extent of the landfill material.

The first paragraph on page 2-8 discusses electrical conductivity surveys and implies that the vertical extent of the landfill material was defined by this method "...thesurvey estimated the thickness of fill at the Site 1 landfill ranged from 0 to 34 feet." Likewise, the next paragraph states "a geoelectric cross section (Figure 2.3-8) depicts the variation of electrical resistivity with depth, suggesting a maximum fill depth of approximately 8 feet."

Figures 4.1-2, 4.1-3, and 5.1-1 implicitly show that vertical landfill boundaries were determined based on the evaluation of borehole, monitoring well, and leachate well logs.

Please clarify in Section 2.3.1 the method employed to determine the vertical extent of landfill material at Sites 1 and 2.