



## Specific Comments

1. The range and average HPS-specific biotransfer factors (BTFs) for flying and crawling invertebrates appears to contain an error (Section 9.2, page 9-3). The soil to flying invertebrate BTF for lead is listed as 0.062 and the soil to crawling invertebrate BTF for lead is listed as 0.061. The average soil to invertebrate BTF, however, is listed as 0.074. This average value cannot be the average of the two separate values listed. Please correct the error and determine that the arithmetically correct average BTF was used in calculations of ecological hazard.
2. Please insert the correct units of g/kg in the denominator of equation 10-1.
3. The soil concentrations related hazard quotients in the station-by-station discussion (Section 11.3) were checked at random and found to agree both with the tables presenting the soil concentration (Table 4a through 4l) and the values presented in the Technical Memorandum.
4. The range of soil concentrations presented in the summary of risk by chemical of potential concern (Section 11.5, pages 11-37 through 11-40) do not agree with the associated tables (Table 4a through 4l) nor the Technical Memorandum. Telephone conversations during the week of April 10, 2000 confirmed that there are discrepancies. Proposed corrections to this section were transmitted via electronic mail on April 10, 2000. The correct values are included in this memorandum as Attachment A.
5. The adjustment of the lead and nickel intake rates is specific to HPS and should not be used at other Navy sites without prior review by HERD. HERD, the California Fish and Game and the U.S. EPA Region 9 agreed to consider differences in the absolute bioavailability of the lead and nickel compounds administered in toxicity experiments and the potentially lower bioavailability of lead and nickel compounds at HPS Parcel E in calculating the intake used to develop these two hazard quotients. HERD recommended a deionized water Waste Extraction Test (WET) be performed to compare the water solubility in the WET test to the known water solubility of different lead compounds as a simple method to evaluate the lead compounds which are present at HPS Parcel E. The Navy determined that the sampling and analysis cost would be prohibitive compared with the additional removal of approximately 100 yd<sup>3</sup> based on the most protective soil level developed in the Validation Study (VS). Laboratory techniques for quantitatively assessing the type of lead compounds in soil, and therefore the bioavailability, have been used at other sites subsequent to preparation of the Parcel E VS (Jorgensen and Willems, 1987). Future Ecological Risk Assessments (ERAs) which attempt to determine the bioavailability of lead in soil should employ

these techniques.

6. The hazard quotients (Table 5a through 5l) were checked at random and found to arithmetically correct.
7. Hazard quotients in the summary table of hazard quotients in excess of 1.0 (Table 6) were compared at random to the detailed hazard quotient tables (Table 5a through 5l) and found to agree.
8. The soil sampling locations should be indicated in the Technical Memorandum on Figure 2 or a similar figure as they are indicated in Figure 10 of the VS report.
9. Please include the units of mg/kg for the concentration in prey items ( $C_{prey}$ ) in the back calculation formula presented in the Technical Memorandum (Section 3.0, page 3-1).
10. We accept the home range of 3,048 acres for the red tailed hawk (Technical Memorandum, Section 3.2.3, page 3-9) for the Parcel E HPS assessment due to the poor quality of habitat at Parcel E compared with habitat at the nearby San Bruno Mountain. This value for red tailed hawk home range would not be applicable if more suitable habitat was present at HPS Parcel E.
11. We suggest a new section heading be included prior to discussion of the dose estimate formula to separate this discussion from the preceding discussion of exposure parameters for the red tailed hawk (Technical Memorandum, Section 3.2.3, page 3-10). The VS report has a section separator at this location in the text. No written response is necessary for this comment.
12. The more recent allometric scaling factor for mammals (Sample and Arenal, 1999) (Section 3.3.1, page 3-12) should be used in future terrestrial ecological risk assessments.
13. The soil concentrations described in the text for calculation of Ecologically Protective Soil Concentrations (PSCs) (Technical Memorandum, Section 4.0, pages 4-1 through 4-14) should be described as mg/kg wet weight since both wet weight and dry weight concentrations are listed in the associated tables.

## Conclusions

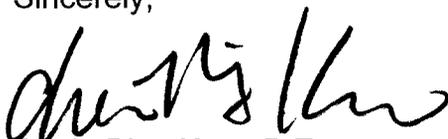
The re-evaluation of lead and nickel bioavailability contained in the Technical Memorandum which develops Protective Soil Concentrations is site specific to Hunters Point. Some determination of the form of lead

present is imperative for bioavailability to enter into the calculation of intake. The Navy chose not to perform an assessment of the form of lead and instead include an additional 100 yd<sup>3</sup> of soil in the Feasibility Study. Methods for determining the form of lead in soil, which have been employed at other California sites (i.e., Travis Air Force Base Small Arm Range) should be used in any future assessment of potential lead bioavailability.

Soil concentrations in the Technical Memorandum which entered into the calculation of Protective Soil Concentrations were wet weight soil concentrations. Any Protective Soil Concentrations must be expressed in mg/kg dry weight, as wet weight concentrations would vary over the course of the year.

If you have any questions, Please contact me at (510) 540-3822.

Sincerely,



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