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HUNTERS POINT
SSIC NO. 5090.3

Pete Wilson
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Peter M. Rooney
Secretary for
Environmental
Protection

June 25, 1998

Rec'd 1 July 98
MEM

Commanding Officer
Engineering Field Activity, West
Naval Facilities Engineering Command
Attn: Mr. Michael McClelland, Code 1832
900 Commodore Drive
San Bruno, California 94066-2402

**COMMENTS ON PARCEL F DRAFT FEASIBILITY STUDY, HUNTERS
POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA**

Dear Mr. McClelland:

Enclosed are comments on the draft Feasibility Study for Parcel F from
DTSC's Human and Ecological Risk Division.

If you have questions regarding these comments, please call me at (510)
540-3844.

Sincerely,

Valerie Heusinkveld
Hazardous Substances Scientist
Office of Military Facilities

Enclosure

cc: see next page

Mr. Michael McClelland
June 25, 1998
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cc: Ms. Sheryl Lauth (SFD-8-2)
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San Francisco, California 94105-3901

Mr. David Leland
California Regional Water Quality Control Board
San Francisco Bay Region
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Richard _____
Bill R. _____

MEMORANDUM

Pete Wilson
Governor

James M. Strock
Secretary for
Environmental
Protection

TO: Valerie Heusinkveld, Project Manager
Site Mitigation Branch, Region 2
700 Heinz, Second Floor, Building F
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FROM: James M. Polisini, Ph.D.
Human and Ecological Risk Division (HERD)

DATE: June 25, 1998

SUBJECT: HUNTERS POINT DRAFT PARCEL F FEASIBILITY STUDY
[PCA 14740, SITE 200050-47 H:28]

Background

We have reviewed the document titled *Parcel F Feasibility Study, Draft Report, Hunters Point Shipyard San Francisco, California*, dated April 3, 1998. This draft Feasibility Study (FS) was prepared by Tetra Tech, EM Inc., of San Francisco, California and Levine-Fricke-Recon Inc. of Emeryville, California. This review focused exclusively on Section 3.0, which defines and applies the selection criteria. This review is in response to your written work request.

Hunters Point Shipyard (HPS) is situated on a promontory in the southwestern portion of San Francisco Bay. HPS is bounded on the north and east by San Francisco Bay and on the south and west by the Bayview Hunters Point district of San Francisco. The on-base property at HPS is approximately 497 acres on land.

General Comments

1. The recently-released (May, 1998) final sediment ambient concentrations released by the San Francisco Regional Water Quality Control Board (SFRWQCB) should be compared to the ambient concentrations used in this Feasibility Study to determine whether the conclusions and volumes would be dramatically changed.
2. An Effects Range-Median (ER-M) of 351 $\mu\text{g}/\text{kg}$ tributyl tin (TBT) attributed to the EPA is used in the assessment of TBT sediment concentrations. This value was reportedly taken from the Contaminated Sediments News number 18. Contaminated Sediments News number 18 contains no value of 351 $\mu\text{g}/\text{kg}$ tributyl tin, but refers to a U.S. EPA Region X report on TBT in Puget Sound. The approach used was equilibrium partitioning (EqP) theory normalized to organic carbon in sediments. The TBT sediment effect concentration would then vary between each sampling site based on the organic carbon content. In addition the summary of the Region X report contained in the Contaminated Sediments News number 18 states: "Results of Region 10's study suggest that bulk sediment, and organic carbon-normalized sediment TBT concentrations may be poor predictors of the bioavailable fraction of TBT. Thus, Region 10 strongly recommends that sediment cleanup decisions at Superfund sites in Puget Sound be based on TBT concentrations in interstitial water."



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and on any associated biological effects testing." We contacted Karen Keeley, the EPA Region X contact for the TBT report, and were told that the TBT report contained no ER-M value for TBT in bulk sediment and that EPA Region X screens sediment TBT based on a TBT in pore water concentration of 0.05 $\mu\text{g/l}$ (as TBT ion) to 0.15 $\mu\text{g/l}$ as TBT ion. Please explain how the single value of 351 $\mu\text{g/kg}$ was developed given varying organic carbon content and outline the methodology used including the octanol-water partitioning factor, aquatic toxicity values and organic carbon content.

Specific Comments

3. The San Francisco Regional Water Quality Control Board (SFRWQCB) has released the San Francisco Bay ambient sediment concentration report (Gandesbery and Hetzel, 1998). The sediment concentrations contained in this report for inorganic elements and organic compounds should be used rather than those contained in the Shearwater Site Order and the Long-Term Management Strategy (LTMS) (Section 3.1.4, page 3-8 and Section 3.2.1, page 3-11).
4. Our understanding of the value used by the U.S. EPA to evaluate sediment tributyl tin (TBT) concentrations is that it was dependent on the total organic carbon (TOC) content of the sediments (Section 3.1.4, page 3-9). The units are therefore $\mu\text{g TBT/g sediment carbon}$. This report uses a 351 $\mu\text{g TBT/kg sediment}$ value for the low volume scenario which is presented as an EPA Region X ER-M. The EPA Region X contact, Karen Keeley, explained that Region X does not use bulk sediment TBT concentration to screen sites, but rather uses sediment pore water TBT concentrations. Stations TC5M03, TCST01, TDST01, TESS02, and TF5M03 (Table A-1-13) have TBT pore water concentrations exceeding 0.05 $\mu\text{g/l}$. Please determine whether these stations were included in both the low and high volume scenarios and explain the discrepancy between the TBT value used and the methodology preferred by EPA Region X. Please see General Comment number 2.
5. We do not believe the statement regarding the polychlorinated biphenyl (PCB) cleanup value 'accepted' by the U.S. Fish and Wildlife Service (USFWS) for Commencement Bay Nearshore/Tideflats in Washington (Section 3.1.4, page 3-9) is correct. The USFWS accepted the 150 $\mu\text{g/kg}$ PCB based on risk management criteria, but stated that a PCB concentration of 30 $\mu\text{g/kg}$ would be the protective concentration. We accept this 150 $\mu\text{g/kg}$ PCB sediment concentration for evaluation of the low volume scenario, but please amend the implication that the USFWS considered 150 $\mu\text{g/kg}$ PCB protective.
6. HERD has continuously recommended that the human health risk assessment for HPA include the fish and/or shellfish ingestion pathway. The Remedial Action Objectives (RAOs) developed in this FS do not directly consider protection of human health (Section 3.2, page 3-10). However, the remedial alternatives which sever the exposure pathway for sediment to fish and/or shellfish may be protective of human health. We recommend that the DTSC Project Manager consider this human health pathway when evaluating the remedial alternatives proposed here.
7. An EPA TBT sediment value of 351 $\mu\text{g TBT/kg sediment}$ is presented as an ER-M equivalent (Section 3.2.1.2, page 3-12). The TBT value I have seen attributed to EPA is 1255 $\mu\text{g TBT/kg organic carbon}$. At a 1 percent total organic carbon level this would be 12.55 $\mu\text{g TBT/kg sediment}$, nearly identical to the Tetra Tech EMI (TiEMI) value of 13 $\mu\text{g/kg}$. Please see General Comment number 2.

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8. It was our understanding that the Corps of Engineers (COE) Testing Guidelines for Dredged Material Disposal at San Francisco Bay Sites was withdrawn after release of the draft document (Section 3.2.1.8, page 3-13).
9. The bulk sediment bioassay criterion (Section 3.2.1.8, page 3-13) is based on 80 percent of the 75 percent survival at the Parcel F reference site. We believe a 75 percent amphipod survival rate is not indicative of an unimpacted reference site. The San Francisco Regional Water Quality Control Board (SFRWQCB) regional monitoring program has noted unexplained adverse effects in bioassays at differing time for sites thought to represent unimpacted sediment. We believe the survival rate at the Parcel F reference site is a case of unexplainable amphipod mortality at this site. A working standard that has developed in review of other sediment investigations in San Francisco Bay is a criterion for impacted vs. unimpacted sediment of 76 percent survival in the amphipod bioassay. The 76 percent survival as an absolute bioassay criterion. Sample locations with amphipod survival below this criterion should be further evaluated. The Army Corps of Engineers '80 percent rule' should not be applied this 76 percent absolute amphipod survival criterion.
10. Consideration of the accretion and erosion areas outlined in the San Francisco Sediment Budget Study (Section 3.2.3, page 3-15) should be used with some caution. The digitized sounding data were grouped by quadrangles approximately 400 feet on a side. According to the author, in some cases the individual sounding locations were more than 1000 feet apart. The uncertainty in the boundary between accretion and erosion areas is therefore on the order of 200 feet. Once areas of concern are identified, the more detailed hydrographic survey information should be analyzed to more closely identify specific areas of concern at the boundary of accretion and erosion area..
11. RAOs were not developed for the Yosemite Creek area (Area XI) (Section 3.3, page 3-15). We recommend that regulatory agencies consult to determine a course of action for this area.
12. The San Francisco Bay Sediment Budget Study (SFBSBS) evidence of accretion is the basis for concluding that Area I sediments will continue to be covered (Section 3.3.1.3, page 3-17). Detailed hydrographic sounding data should be examined to confirm this conclusion if the sampling locations are within 200 feet of the boundary of an accretion or erosion area.
13. HERD considers the solid phase bioassay survival rate of 62 percent for station TAST03 as an indication of potentially adverse effects (Section 3.3.1.6, page 3-18).
14. Station S-02 should be retained as a station of remedial concern under the high volume scenario, but may be eliminated under the low volume scenario (Section 3.3.2.6, page 3-21). The fact that there was high survival at Station TXST01 with sediment lead concentrations similar to S-02 and high survival at Station TCST01 with higher sediment TBT is encouraging, but not sufficient to eliminate station S-02 from the high volume scenario for Area II. If sediment concentrations were absolute predictors of bioassay response we would not be required to perform paired chemical and biological analyses.
15. There is considerable discussion regarding the chemical results for station TCSM03 in Area III as 'anomalous' (Section 3.3.3.2, page 3-24 and Section 3.3.3.5, page 3-

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- 25). If the chemical results from this station have passed data validation the data should be considered accurate. We believe the discussion of anomolous results should be removed from the text for validated data. We agree, however, that Station TCSM03 may be excluded from the low volume scenario as long as it is included in the high volume scenario.
16. Station S-16 is eliminated from both low and high volume scenarios in Area IV based on the conclusion that accretion will cover any contaminants (Section 3.3.4.5, page 3-29). Detailed hydrographic sounding data should be examined to confirm this conclusion if the sampling locations are within 200 feet of the boundary of an accretion or erosion area. Station S-16 should remain in the low volume scenario if there is some doubt whether the station is in an area of accretion or erosion.
17. Please list the survival rates for the sediment bioassays for stations TGST03 and TIST01 rather than refer to the 80 percent of reference average (Section 3.3.4.6, page 3-29). Please see comment number 9 for HERD Interpretation of solid phase bioassay survival.
18. Area IV should be evaluated again given the preceding two comments.
19. If subsurface sediment at station S-17 is eliminated based on accretion in a berthing area (Section 3.3.5.3, page 3-31) some mechanism must be put in place to ensure the sediments are not disturbed.
20. We agree that the 64 percent amphipod survival at station TTST01 (Section 3.3.7.6, page 3-37), even though it is less than 76 percent survival, does not require further evaluation based on the high survival rates for the other five samples from Area VII.
21. It would appear that finer distinction of accretion and erosion areas are made for Area VIII based on the SFBSBS (Section 3.3.8.3, page 3-40) than may be supportable by the data hydrographic data limitations. Please see Specific Comment number 10.
22. Station location TVSS02 should be included in the high volume scenario for Area VIII (Section 3.3.8.5, page 3-41). The single contaminant which exceeds the ER-M is mercury. The ER-M is based on direct effects to benthic organisms. The greater ecological hazard for mercury is probably to higher level consumers when consuming organisms which have incorporated mercury into their tissues.
23. Would not the bioaccumulation criterion for PCBs under the high volume scenario be 30 µg/kg not the value of 150 µg/kg stated for stations S-09 and S-10 (Section 3.3.8.6, page 3-42)? Please correct this value if this is a typographic error.
24. Some of the adjectives applied to the levels by which chemical concentrations exceed ambient concentrations are confusing in the Area IX discussion (Section 3.3.9.1, page 3-43). A mercury concentration which exceeds the ambient by 2.9 times is 'significant' while a low molecular weight (LMW) polycyclic aromatic hydrocarbon (PAHs) concentration which exceeds ambient by 2.3 times is 'slight'. We suggest less divergent adjectives for such similar exceedances.
25. The word 'high' appears in line 12 of Section 3.3.10.5 (page 3-50) where it does not appear to make grammatical sense. Please amend this sentence.

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28. Please provide all the survival rates for the solid phase bioassays at Area X (Section 3.3.10.6, page 3-51) in the text for evaluation. We do not agree that an amphipod survival rate of 65 percent is indicative of no adverse effects.

Conclusions

With the exception of the treatment of tributyl tin (TBT) in the low volume scenario, the draft Feasibility Study appears to have identified those areas of Parcel E which pose the greatest ecological hazard. There are several sample locations identified in our comments which we believe should be included in the remediation scenarios.

The major risk assessment concern is the implementation of the 351 $\mu\text{g}/\text{kg}$ TBT concentration. We require the additional information listed in the specific comments to review this criterion. Review of the TBT sediment criterion could have a major effect on the conclusions of the Feasibility Study as TBT was found in many samples.

References

Gandesbery, Tom and Fred Hetzel. 1998. Ambient Concentrations of Toxic Chemicals in Sediment. Staff Report. Regional Water Quality Control Board San Francisco Region. May, 1998.

Reviewed by: Brian K. Davis, Ph.D.
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cc: Michael J. Wade, Ph.D., DABT
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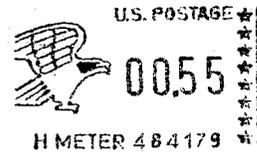
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