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**San Francisco Bay  
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August 10, 1998  
File: 2619.6013

Mr. David Rist  
Department of Toxic Substances Control  
Office of Military Facilities  
700 Heinz Avenue  
Berkeley, CA 94710

**Re: RWQCB Comments on Draft Remedial Investigation, Offshore  
Sediments, Naval Station Treasure Island, dated June 1998**

Dear Mr. Rist:

Regional Water Quality Control Board (Board) staff have reviewed the referenced report and are providing comments as an attachment to this letter.

If you have any questions regarding these comments, please call me at 510-622-2377.

Sincerely,

David F. Leland, P.E.  
Groundwater Protection and Waste  
Containment Division

Attachment

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cc: Admin Record (3 copies)

James Ricks (EPA)  
David Rist (DTSC)  
Martha Walters (SFRA - Mayor's Office)  
James Polisini (DTSC)  
James Sullivan (BEC)  
Richard Knapp (TEEM)

community RAB:  
Richard Hansen Harkan Van Wye  
Paul Hehn ARC Ecology  
Pat Nelson  
Dale Smith  
John Hillman  
Nathan Brennan



**Regional Water Quality Control Board, San Francisco Bay Region,  
Comments on the Draft Remedial Investigation Offshore Sediments  
Operable Unit Report, Naval Station Treasure Island, San Francisco,  
California, dated June 1, 1998.**

**GENERAL COMMENTS:**

1. The characterization and discussion of erosional and depositional environments needs to be expanded. RWQCB staff have several concerns regarding this issue. First, the net bathymetric changes depicted in Figure 2-1 are based on comparison of two points in time separated by 35 years, and say little about current or future areas of erosion or accretion. Second, recent USGS studies, as presented at the 1996 State of the Estuary conference, suggest that the Bay estuary system may be in a sediment deficit condition. This could indicate that areas presented as accretional are or will become erosional. This in turn makes problematic the conclusions presented in this document regarding the relative insignificance of elevated chemical concentrations measured in sediment at depth. The Navy needs to present an analysis to support the suggestion in this document that sediment currently at depths not expected to be in contact with the biosphere will remain so.
2. In a number of instances, detections of chemicals at levels of concern in Phase I samples were not confirmed by Phase II results, leading to rejection of the Phase I results. A rationale for this screening step must be presented. Without an adequate basis for the approach, it would be appropriate to include the Phase I results in identifying areas of concern.
3. The document should present a thorough discussion of storm drain monitoring and maintenance activities. Sediment has been removed from the storm drain system recently. How much sediment was removed? Was sediment removed from catch basins, storm drain lines, or other locations? What were the chemical characteristics of the sediment? Is sediment removal ongoing?
4. The document should use the RWQCB ambient sediment values (Ambient Concentrations of Toxic Chemicals in San Francisco Bay Sediments, May 1998) instead of the Shearwater values. The Shearwater values were preliminary in nature and were provided to the Navy to assist in the evaluation of ambient concentrations of toxic chemicals in sediment.
5. The assumptions used in the effects assessment in Section 12 lead to an excessively restrictive set of conditions that must be met before an area is considered of concern.

6. The rejection of porewater data showing AWQC exceedances in instances where accompanying sediment did not confirm the result constitutes an additional screening criteria and is not justified. At a minimum, the document should present and evaluate the likely explanations for the results and show convincingly why porewater exceedances of AWQC are not of concern.

**SPECIFIC COMMENTS:**

1. Page ES-1. Please provide dates of the Phase II investigation.
2. Page ES-3. The document should present further explanation of the statement that there is no correlation between amphipod survival and sediment or porewater HIs.
3. Page ES-4. The document should note whether or not any assessment of water column exposures was conducted. If not, the document should explain why this potential exposure pathway was not evaluated.
4. Results by Area. What is the explanation for the observation of some chemicals in porewater but not in sediments?
5. Section 2.4.1. Please clarify the current velocities noted at the end of the first paragraph.
6. Section 2.4.3, p. 2-8. Recent USGS studies (e.g., Jaffe et al., as presented at the 1996 State of the Estuary conference and summarized in the State of the Estuary 1992-1997 report) suggest that the Bay may be in a sediment deficit condition. Please discuss these results and their significance for TI. Are areas shown to be accretional in the period 1955-1990 still accretional? Are they expected to remain so? For how long?
7. Section 2.5, p. 2-10. Please clarify the references to sampling months in the last two paragraphs of this page. Does the last sentence of the page refer just to 1994 sampling?
8. Page 6-2. The RWQCB has recently published a summary of ambient concentrations of toxic chemicals in San Francisco Bay sediments (Gandesbery and Hetzel, May 1998). These values should be used in this analysis instead of the Shearwater site values.
9. Page 6-28. Please explain the statement that median detection limits were below AWQC except for copper, lead, mercury and silver. Does this mean that because of elevated detection limits that it is not possible to draw any

conclusions regarding the occurrence of the four metals noted in relation to AWQC?

10. Page 6-36 and Figure 6-25. Screening of copper values against the reference site maximum may not be appropriate given the low acute AWQC for copper.
11. Section 6.3. Please explain the statement that detection limits were above AWQC for seven metals. Does this mean that because of elevated detection limits that it is not possible to draw any conclusions regarding the occurrence of the four metals noted in relation to AWQC? This does not appear to be the case based on the figures. The subsequent text mentions only nickel as a case where the detection limit was above the AWQC. Please clarify.
12. Section 12.1.1. It would appear from the discussion that direct ingestion of surface water and pore water also would be a complete exposure pathway. Also, does dermal contact with water include contact with respiratory organs noted in the second paragraph of the section?
13. Section 12.2.2.2. The discussion leads to consideration of effects only if a number of generous assumptions are met. Low dose and high TRV resulting in HQs "much greater than 1.0", a statement that values for high dose and low TRV greater than 1.0 present "no immediate risk" and will likely not be addressed further, and a limitation on the exposure pathways considered lead to a circumscribed set of conditions that the Navy would consider of concern.
14. Section 12.6. After the lengthy general discussions of sediment characteristics and bioavailability, conclusions that relate to specific areas of TI are presented. The linkages between the discussions and the conclusions are not clear and should be presented to the reader. Also, the conclusion that lead is the only metal bioavailable in sediments in the skeet range requires further explanation.
15. Section 14.2. For several of the areas discussed, elevated porewater HIs are dismissed because chemicals contributing to the elevated HIs were not measured at elevated concentrations in sediment collected from the same location. Examples include elevated porewater HIs at locations A6, A8, and A10, and a porewater HI of 60 at location B10. The rationale for drawing such conclusions is not clearly presented. The apparent lack of correlation between sediment and porewater results could be the result of localized conditions that render chemicals particularly soluble, occurrence of elevated sediment concentrations near the specific location at which the sample was collected, variability in chemical occurrence within the bulk sediment sample

itself, or other reasons. Please present a rationale for concluding that porewater results must be confirmed by available sediment results to be considered significant. This approach also should be included in the discussion of screening criteria, with the basis for its use presented.

16. Page 14-6, second paragraph. Is it selenium or vanadium that was the COEC?
17. Further explanation of the results is warranted.
18. Page 14-8, second paragraph. Please explain why using an acute AWQC supports a conclusion of minimal potential risk from copper. Wouldn't using a chronic AWQC result in a higher HQ?
19. Section 14.2.5. This discussion is confusing and contradictory. For example, selenium is not identified as a porewater COEC, but is considered of highest concern in porewater at location E3. Mercury is identified as a COEC at E1 and E5 but is not mentioned as a chemical of highest concern.
20. Section 14.2.6. 1) Please explain how lead is a COEC but does not contribute to the HIs, and how mercury contributes to the HIs but is not a COEC. 2) Please explain how the conclusion regarding lack of bioavailability was reached for locations where COECs were detected and SEM:AVS ratios exceeded 1.0 (G1, G3, G15, G17, and G20).
21. Section 14.4. Eliminating porewater COECs based on absence of the COEC in sediment constitutes an additional screening criteria and is not adequately justified in the document.