# California Regional Water Quality Control Board
## San Francisco Bay Region

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TREASURE ISLAND
SSIC NO. 5090.3.A

Date: September 1, 1999
File No. 2169.6013 (DFL)

Commanding Officer
Engineering Field Activity, West
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, CA 94066-2402
Attention: Mr. Ernesto Galang

**Re: Regional Water Quality Control Board Comments on Draft Site 12 Operable Unit Remedial Investigation, Naval Station Treasure Island, San Francisco, California (dated June 1, 1999)**

Dear Mr. Galang:

Thank you for the opportunity to review the subject document. San Francisco Bay Regional Water Quality Control Board (RWQCB) comments are included as an attachment to this letter.

If you have any questions regarding this letter, please call me at 510-622-2377 or contact me by email at dfl@rb2.swrcb.ca.gov.

Sincerely,

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

C:\Treasure Island\12ridl.se9

Attachment

cc: Mr. James A. Ricks, Jr. (SFD-8-2)
U.S. Environmental Protection Agency
75 Hawthorne Street
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Mr. David Rist
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Mr. James B. Sullivan
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Admin Record File (3 copies)

**Regional Water Quality Control Board Comments on Draft Site 12 Operable Unit Remedial Investigation, Naval Station Treasure Island, San Francisco, California (June 1, 1999)**

GENERAL COMMENTS

1. Section 3.3.1.1. The ARARs preliminary analysis is incomplete in that a number of ARARs related to water and water quality are not included. Additional discussion is included in the specific comments.

2. Section 3.6.4.7 discusses the groundwater sampling results for metals. One notable result from these data is the Buildings 1311/1313 area, where persistent and elevated concentrations of arsenic have been observed in a number of wells. While the modeling exercise indicates attenuation to concentrations below levels of concern before discharge to the Bay, the data show concentrations from the most recent round that show very similar concentrations from four wells in this area, suggesting minimal attenuation. The elevated arsenic concentrations in this area warrant further attention to sources and fate and transport mechanisms. Why are arsenic concentrations at Site 12 elevated in this group of wells?

3. The modeling of contaminant transport assumes a point of exposure at the shoreline. The point of exposure is not, nor should it be, coincident with the point of compliance. It is RWQCB policy to establish an appropriate separation between the point of compliance and the point of exposure.

4. The next version of this document should be updated to reflect all relevant sampling and analysis results available at the time.

SPECIFIC COMMENTS

1. Section 2.5.2. Please check the typical gradient value of 0.0013, which lies outside the range of gradients (0.0015 to 0.004) presented in the same section.

2. Section 2.5.4. The Pilot Beneficial Use Designation Project resulted in a draft report recommending de-designation of the potential beneficial use of municipal and domestic supply for groundwater at Treasure Island. This recommendation has not been enacted as a Basin Plan amendment at this time. Until a Basin Plan amendment is enacted, groundwater in areas that meet the Resolution 88-63 criteria will continue to be designated with the MUN beneficial use. Municipal supply ARARs would apply, unless a case for exemption based on the exemption criteria is demonstrated. If the Navy is interested in providing input to the Basin Plan amendment process, this report should include or reference the Navy's analysis of the water balance at TI and present a demonstration of the potential for saltwater intrusion as a result of groundwater extraction.

3. Section 3.3.1.1. The ARARs analysis is incomplete in that a number of ARARs are not included:

- The San Francisco Bay Basin Water Quality Control Plan (Basin Plan). The Basin Plan, developed under the authority of the Porter-Cologne Water Quality Control Act (California Water Code Section 13240), establishes water quality objectives, including narrative and numerical standards that protect the beneficial uses of surface water and groundwater in the region. The beneficial uses of the underlying groundwater at Treasure Island as specified in the Basin Plan are: agricultural supply (AGR); industrial service supply (IND); municipal and domestic supply (MUN); industrial process supply (PROC); and fresh water replenishment (FRSH). RWQCB staff has recommended deleting the MUN designation for groundwater at Treasure Island, but this recommendation has not been incorporated into the Basin Plan at the present time. The Navy has stated that the AGR, IND and PROC uses are unlikely but has provided no evidence or demonstrations to support the statement. Without such evidence or demonstration, the Navy must show either that impacts to water quality from Navy activities do not and would not impair designated beneficial uses or that the Navy's remedial actions will restore water quality so that the designated beneficial uses would not be impaired.

  Because groundwater at Treasure Island discharges to San Francisco Bay, and because groundwater contamination may migrate with groundwater to the Bay, surface water beneficial uses of San Francisco Bay are ARARs for Treasure Island. The beneficial uses of the surrounding surface water bodies as specified in the Basin Plan are: ocean, commercial, and sport fishing (COMM); estuarine habitat (EST); industrial service supply (IND); marine habitat (MAR); fish migration (MIGR); navigation (NAV); preservation of rare and endangered species (RARE); water contact recreation ((REC1); noncontact water recreation (REC2); shellfish harvesting (SHELL); fish spawning (SPWN); and wildlife habitat (WILD).

  The Basin Plan states that groundwaters with the beneficial use of freshwater replenishment shall not contain concentrations of chemicals in amounts that will adversely affect the beneficial uses of the receiving surface water, in this case San Francisco Bay. This narrative water quality objective for groundwater and the numerical water objectives in Table 3-3 of the Basin Plan are ARARs because groundwater at Treasure Island discharges to San Francisco Bay.

- State Water Resources Control Board (SWRCB) Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality Water in California. This policy governs the further migration of contaminated groundwater and requires cleanup of contaminated groundwater to background levels.

- SWRCB Resolution No. 92-49. This resolution established requirements for investigation and cleanup and abatement of discharges. In particular, Section III.G states that dischargers must abate the effects of the discharges in a manner that promotes the attainment of either background water quality, or the best water quality that is reasonable.

4. Section 3.5.3. Is the seepage velocity described here a Darcy velocity or pore-water velocity?

5. Section 3.6.2. A more thorough justification is needed for the conclusion that only diesel and weathered diesel were encountered at Site 12. The text states that motor oil range hydrocarbons were usually detected with TPH-d. There are a number of locations where elevated TPH-m results are not coupled with low TPH-d results. See for example 12HP036, 12HP119, 12HP125, and 12HP128. What is the explanation for this type of result?

6. Section 3.6.4.1. The units in the first paragraph appear to be in error, and should be mg/L.

7. Section 4.3.2.2. The RWQCB report on the pilot beneficial use designation project is a staff report dated April 4, 1996.

8. Section 6.2.1. The data for 12HP206 do not appear to be presented on Figure 6-1.

9. Section 6.2.2. The next version of this document should be updated with additional results from recent investigations in the Buildings 1311/1313 area.

10. Section 6.2.2, leachability study results. The RWQCB has commented separately on the recently submitted technical memorandum on leachability study results.

11. Section 6.3, third paragraph. The text states that there may be a correlation between soil and groundwater results in the areas noted. We question the conditional nature of the statements in the paragraph. If there is not a correlation, then another as yet unidentified source must be present to account for the presence of petroleum hydrocarbons in groundwater. Is this the conclusion the reader is to draw from this paragraph?

12. Appendix D. We could not find logs for borings numbered between 12HP117 and 12HP181 in the appendix.

Appendix O

13. Section O.6.0. Support for the selection of the transverse and vertical dispersivity values must be provided.

14. Table O-1. A TOC value of 1.2% is used in the modeling. Please provide a reference for this value.

15. Table O-2. The source term assumes waste release from 1940 to 1965, with apparently no release since 1965. This does not seem supportable. While no new waste may have been added after 1965, the waste in place would continue to leach constituents. This is significant and must be represented in the modeling.

16. Section O.6.2. The modeling calculates concentrations at an estimated point of exposure at the shoreline. First, additional explanation of what specific location was used in developing these estimates should be provided. Second, the point of

exposure is not, nor should it be, coincident with the point of compliance. This is not consistent with RWQCB policy, which is to establish an appropriate separation between the point of compliance and the point of exposure.