



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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San Francisco, CA 94105
SFD 8-3

September 18, 2006

Mr. Thomas Macchiarella, Code 06CA.TM
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, CA 92108-4310

RE: Review of the Technical Memorandum to Supplement the Administrative Record for Installation Restoration Site 28, Todd Shipyards, Alameda Point, Alameda

Dear Mr. Macchiarella:

EPA has reviewed the above referenced Technical Memorandum, prepared by the Navy at the request of the RWQCB, to establish and support clean up goals for the Site 28 Record of Decision. We agree with the RB that the technical memorandum did not adequately assess arsenic clean up levels in groundwater to be protective of aquatic receptors. We defer to the RB regarding a more appropriate model than BIOSCREEN for use at this site. We offer the following comments:

GENERAL COMMENT

1. Although the text states that the groundwater remediation goal for arsenic should not be set at 2,000 micrograms per liter (ug/L), it does not propose an alternate remediation goal that is protective of aquatic life. The 2004 Water Quality Control Plan (Basin Plan) for the San Francisco Bay set 36 ug/L (4-day Average) as the Marine Water Quality Objective for Toxic Pollutants for Surface Waters (Table 3-3). This value is identical to the California Toxics Rule (CTR) salt water criterion continuous concentration (CCC). A remediation goal for arsenic in groundwater at IR Site 28 is needed for protection of receptors in San Francisco Bay since the range of detected concentrations cited in the text, 298 to 353 ug/L, exceeds this CTR criterion. Please revise the memorandum to include a remediation goal in order to be protective of receptors in San Francisco Bay.

SPECIFIC COMMENTS

- 1. Section 2.1.3.1.2, Groundwater Model Parameters, Saturation Thickness, Page 17:** The cited thickness of permeable materials for monitoring well 28SW03 is an estimated thickness since the Young Bay Mud was not encountered when this well was drilled. Please revise the text to acknowledge the fact that the thickness of permeable materials is estimated.
- 2. Section 2.1.3.1.2, Groundwater Model Parameters, R-factor, Page 18:** It may not be appropriate to select a single Kd value for copper for use in calculating the R-factor, since the potential range in copper Kd values is more than three orders of magnitude (1.3 to 3,981 milligrams per gram). Kd values are clearly dependent on soil properties, but soil is typically heterogeneous. Please provide either a range of Kd values and R-factors or conduct a sensitivity analysis.

We thank you for preparing this Technical Memorandum and look forward to resolving the outstanding issue of impact of arsenic on aquatic receptors. If you have any questions, please call me at (415) 972-3029.

Sincerely,



Anna-Marie Cook
Remedial Project Manager

cc list: Erich Simon, RWQCB
Peter Russell, Russell Resources, Inc
George Humphreys, RAB Co-Chair
Karla Brasaemle, TechLaw Inc
John Chesnutt, EPA