

## CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SAN FRANCISCO BAY REGION

WEBSTER STREET, SUITE 500

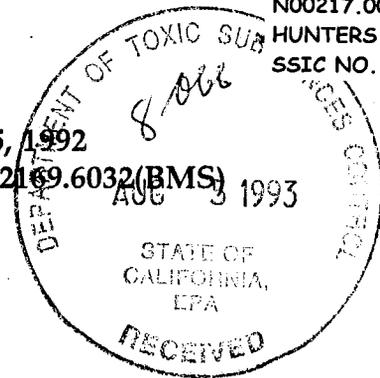
SAN FRANCISCO, CA 94612

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HUNTERS POINT  
SSIC NO. 5090.3

August 5, 1992

File No. 2169.6032(BMS) 1993



Mr. Cyrus Shabahari  
Department of Toxic Substances Control  
700 Heinz Avenue, Blvd. F, Suite 200  
Berkeley, CA 94710

**Subject: Draft Treatability Study Work Plan for Treating Subsurface Petroleum Products at Site IR-3 by Biodegradation, Naval Station Treasure Island, Hunters Point Annex, San Francisco, California, June 29, 1993.**

Dear Mr. Shabahari:

The staff of the San Francisco Bay Regional Water Quality Control Board has completed its review of the above document received in our office on June 30, 1993. Presented below are comments that should be considered.

#### GENERAL

1. The proposed target value of 1,000 ppm Total Petroleum Hydrocarbons as diesel (TPHd) in soils and sediments may be insufficient to protect water quality if soils and sediments are to be placed where they may contact groundwater or surface water. Using Marshak's "Designated Level Methodology", the following approach was used to develop a screening level for protection of water quality goals for the contaminant TPHd. The following assumptions were made: a. an environmental attenuation factor of 10 for silt and clay soils with less than 10 feet to groundwater, b. a leachability factor of 10 for organic constituents, c. an assumed average LC50 toxicity to aquatic organisms in water of 1.85 ppm (from Final Vegetation Management in the Coastal Plain/Piedmont, Appendices, Volume II, U.S.D.A., Forest Service, Management Bulletin R8-MB-23, January 1989, Table 6-15), d. a 10-fold protection factor to address the relationship between acute and chronic toxicity data. Using the above assumptions, the maximum concentration of TPHd that would not exceed the Total Designated Level for TPHd for protection of the water quality goal (no chronic toxicity) would be approximately  $(1.85 \text{ ppm} \times 0.1 \times 10 \times 10 =) 18.5 \text{ ppm}$ . Thus, a minimum target value of 100 ppm TPHd is recommended for determining the suitability of biodegradation as a treatment technology goal. If higher levels of hydrocarbons are proposed, additional performance criteria, such as bioassays to demonstrate that toxicity does not occur, should be considered.
2. The proposed approach focusses on the detection of TPHd as the major component of the waste oil ponds, yet verbal descriptions of the wastes by Navy consultants as "sludges" suggests that long-chain hydrocarbons that are more difficult to bioremediate may comprise some considerable portion of the wastes. In light of

this potential difficulty, efficiency of removal should also address the longer chain hydrocarbons by including calculations of the total organic carbon (TOC) in the samples, before and after treatment, in addition to the proposed measures of "average pollutant concentration" that focus on TPHd.

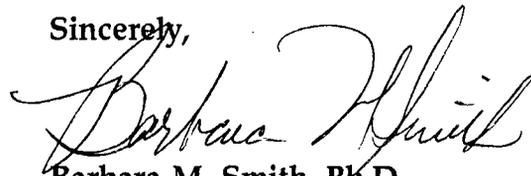
3. It is hoped that data generated at each stage of development of the remedial alternative will be shared among the agencies.

#### SPECIFIC

1. p. A-2: Please check the entries for copper on Table 2.
2. p. A-3: TPH as diesel is listed twice. Is data missing?
3. p. 9 of ECOVA's submittal: The proposed screening levels are NOT ARARs. The proposed cleanup levels have not been decided for this site. Please change the text to read "To determine if the target goals for TPH and TOC can be achieved by biodegradation,".
4. p. 9 of ECOVA's submittal: The remedy screening pan study proposes duplicates for each of the soil samples. Why isn't the study done in triplicate since three values are needed to calculate a mean and standard deviation. If the study is run in duplicate, will the results of both duplicates be presented and the costs presented as a range depending on the results of each test?

Please direct your questions to me at (510) 286-4222.

Sincerely,



Barbara M. Smith, Ph.D.  
Remedial Project Manager