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TREASURE ISLAND
SSIC NO. 5090.3.A

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Bldg. F, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Secretary for
Environmental
Protection

Gray Davis
Governor

May 11, 1999

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

DRAFT FINAL OFFSHORE SEDIMENTS OPERABLE UNIT REMEDIAL INVESTIGATION REPORT, NAVAL STATION TREASURE ISLAND (MARCH 19, 1999)

Dear Mr. Galang:

The Department of Toxic Substance Control has reviewed the Draft Final Offshore Sediments Operable Unit Remedial Investigation Report (RIOSOU) for Naval Station Treasure Island, dated March 19, 1999. Enclosed with this letter please find comments from Mr. James M. Polisini, Ph.D., Staff Toxicologist of the Human and Ecological Risk Division of the Department of Toxic Substance Control.

If you should have any questions regarding this letter, please contact me at (510) 540-3763.

Sincerely,

David Rist
Hazardous Substances Scientist
Office of Military Facilities

Enclosure

cc: See next page.

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cc: Mr. James Ricks Jr. (SFD-8-2)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105

Mr. David Leland
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Mr. James B. Sullivan
Caretaker Site Office
Treasure Island
410 Palm Ave., Room 161
San Francisco, California 94130-0410

Ms. Martha Walters
Mayor's Office at Treasure Island
770 Golden Gate Avenue
San Francisco, California 94102

Mr. James M. Polisini, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division
1011 N. Grandview Avenue
Glendale, California 91201

Paul Hehn
Nathan Brennan
Pat Nelson
Harlan Van Wye
Dale Smith
John Allman
John Gregson
ARC Ecology
} RAB

Jerry Wickham (T&EMI)
Lisa Hunt (Navy Sediment Group)
Admin Record File (3 copies)
Carol Yamane (Geomatrix)

Department of Toxic Substances Control

Jesse R. Huff, Director
400 P Street, 4th Floor, P.O. Box 806
Sacramento, California 95812-0806

Gray Davis
Governor

Winston H. Hickox
Secretary for
Environmental
Protection

MEMORANDUM

TO: David Rist, Project Manager
Office of Military Facilities – Berkeley
700 Heinz Street, Building F, Second Floor
Berkeley, CA 94704

FROM: James M. Polisini, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: May 7, 1999

SUBJECT: TREASURE ISLAND OFFSHORE DRAFT FINAL ECOLOGICAL RISK ASSESSMENT
[PCA 18040, SITE 201209-00 H:28]

Background

We have reviewed the document titled *Remedial Investigation Offshore Sediment Operable Unit, Naval Station Treasure Island, San Francisco, California, Draft Final*, dated March 19, 1999 and prepared by Tetra Tech EM Inc. (TtEMI) of San Francisco, California. This review is in response to your written work request dated March 30, 1999.

General Comments

Some of the changes which were proposed in response to HERD comments on the Draft Remedial Investigation (RI) Report cannot be located in the Draft Final RI. The Discriminant Function Analysis may have potential application to the investigation of remedial alternatives.

Specific Comments on Navy Response to HERD Comments on the Offshore Draft RI

1. The response to Specific Comment number 4 from DTSC indicates a figure presenting all the offshore areas would be placed in the Draft Final Report as

Figure 1-2 (Page E-2). There is not figure 1-2 in the copy furnished for HERD review. Please include this requested figure in the Final Report.

2. The response to Specific Comment number 16 (Page E-16) indicates that the text on page 11-31 will be amended as suggested. Section 11 in the copy furnished for HERD review ends at page 11-14. Please ensure that the change in the text was made as agreed .

Specific Comments on the New Portions of the Draft Final RI Report

3. The sample station should be indicated in the table of classification statistics (Page J-14) to allow easier identification of those samples which were misclassified.

4. The results of the discriminant function analysis (Appendix J) are encouraging. Only 8 of 46 samples were misclassified. Two of 46 were classified as non-toxic, but were actually toxic to amphipods. Even though it appears to be the second most heavily weighted parameter, the percent fines should be removed from the data set to determine if the chemical concentration alone would provide a higher rate of successful classification. Designators of toxicity other than 68 percent mortality could also be tried to see if the classification success could be increased. Three groups of amphipod results could be constructed of those obviously toxic (e.g., less than 50 percent survival), those intermediate in toxicity (e.g., between 50 percent and 76 percent survival) and those relatively non-toxic (e.g., above 76 percent survival). This method may be useful in evaluating potential remedial alternatives. Percent fines is unlikely to be a sediment condition evaluated for remedial action.

5. All these data investigation proposals are indirect means to investigate the Navy proposal that sediments with high percent fines contribute mortality attributable strictly to physical impacts, which are separate from any sediment chemical impacts. This hypothesis should be more directly tested by testing tolerant amphipod species in parallel with *Eohaustorius estuarius* or *Rhepoxynius abronius* which have been more widely used in San Francisco Bay. *Leptocheirus plumulosis* or the tube-building amphipod *Ampelisca abdita* which are both tolerant of high fines sediments are good candidates to demonstrate the magnitude of this effect. Sediments in Clipper Cove at Treasure Island would appear to have sufficiently high percent fines to test the contribution of high percent fines to amphipod mortality.

Conclusions

Once the comments listed above are addressed the Draft Final Offshore RI will present information sufficient to evaluate remedial alternatives for sediments at Naval Station Treasure Island. The areas of concern appear clustered in Clipper Cove and near the Coast Guard station and landfill on the east side of Yerba Buena Island.

We propose that the Navy perform a parallel test of amphipod mortality in sediments with a range of percent fines using two amphipod species as outlined above.

Reviewed by: Brian K. Davis, Ph.D.
Staff Toxicologist, HERD

cc: Michael J. Wade, Ph.D., DABT
Senior Toxicologist, HERD

Clarence Callahan, Ph.D., BTAG Member
U.S. EPA Region IX
Superfund Technical Assistance
75 Hawthorne (SFD-8-B)
San Francisco, CA 94105

Susan Ellis, BTAG Member
California Department of Fish and Game
OSPR Headquarters
P.O. Box 944209
Sacramento, CA 94244-2090

Laurie Sullivan, BTAG Member
Coastal Resources Coordinator (H-1-2)
c/o U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105

James Haas, BTAG Member
U.S. Fish and Wildlife
Environmental Contaminants Section
3310 El Camino Avenue, Suite 130
Sacramento, CA 95821