

N00221_003626
MARE ISLAND
SSIC NO. 5090.3.A



Department of Toxic Substances Control



Terry Tamminen
Agency Secretary
Cal/EPA

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

Arnold Schwarzenegger
Governor

January 27, 2004

Southwest Division
Naval Facilities Engineering Command
Attn: Mr Jerry Dunaway
1220 Pacific Highway
San Diego, California 92132-5190

Dear Mr. Dunaway:

Navy Mare Island Draft Technical Memorandum, Evaluation of Offshore Data Gaps, dated 8/29/2003

The Department of Toxic Substances Control has reviewed the subject document. The attached comments are forwarded to you for your consideration.

In addition, we believe that additional characterization is warranted in cells 30, 31, 32, 33, 34, 35, 36, 37, 38 and 39. These correspond to outfalls numbered 21, 22, 50, 23, 24, 25, 26 and 27. Most of these have never been sampled. Some of the outfalls that have been sampled show high levels of PCBs and Hg.

Should you have any questions regarding this letter, please call me at (510) 540-3773.

Sincerely,

Chip Gribble
Remedial Project Manager
Base Closure Unit
Office of Military Facilities

cc: Mr. Gary Riley
Ms. Emily Roth

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 8
To	Jerry Dunaway	
From	Chip Gribble	
Co.	Navy Southwest Div	
Dept.		
Fax #	510-540-3773	
	619-532-0940	

Attachment

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Department of Toxic Substances Control



Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

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700 Heinz Avenue, Suite 200
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Gray Davis
Governor

TO: Chip Gribble, DTSC Project Manager
Henry Chui, DTSC Project Manager
OMF Berkeley Office
700 Heinz Street, Second Floor
Berkeley, CA 94704

FROM: James M. Polisini, Ph.D.
Staff Toxicologist, HERD
1011 North Grandview Avenue
Glendale, CA 91201

DATE: October 21, 2003

SUBJECT: MARE ISLAND NAVAL SHIPYARD DRAFT TECHNICAL
MEMORANDUM, EVALUATION OF OFFSHORE DATA
GAPS
[SITE 201208-18 PCA 18040 H:46]



BACKGROUND

HERD reviewed the document titled *Draft Technical Memorandum Evaluation of Offshore Data Gaps, Mare Island, Vallejo California*, dated August 29, 2003. This Technical Memorandum was produced by Tetra Tech EM Inc. of San Diego, California and Sullivan Consulting Group of San Diego, California.

Mare Island Naval Shipyard (MINSY) was the first naval station on the Pacific Coast, where shipbuilding began in 1854. The former MINSY is located on a peninsula approximately 30 miles northeast of San Francisco. The peninsula is bounded to the east, south, and west by the Napa River (Mare Island Strait), Carquinez Strait, and San Pablo Bay, respectively. Mare Island was originally an island of approximately 1,000 acres with surrounding wetlands of approximately 300 acres. Fill material was added to enlarge Mare Island and connect it to the mainland. MINSY has been in operation under Navy control from approximately 1853 until the recent transfer to the City of Vallejo through the State Lands Commission.

Chip Gribble
October 21, 2003
Page 2

The area addressed in this Technical Memorandum submitted for review is the offshore sediments on Mare Island Strait as well as the southern portion of Mare Island identified as the Dike 12/Dike 14 Area. Excluded from this evaluation are the areas of IR04, currently identified as Investigation Area (IA) F2 and the subtidal area surrounding the outfall of the Industrial Waste Water (IWW) Treatment Plant. IA F2 was used for sandblasting and painting operations from early 1950s to 1992. IR04 is underlain by Spent Sandblast Material (SBM) or artificial fill. Both IR04 and the outfall of the IWW Treatment Plant are addressed in separate studies and a removal action.

GENERAL COMMENTS

It is imperative to realize, when assessing the results of previous offshore sediment concentrations and bioassay results, that the model for the Sampling and Analysis Plan (SAP) was modified from the 'standard' SAP implemented at other Navy bases in California at the request of the Navy. The Navy requested that the regulatory agencies and Resource Trustees consider a cell-based SAP to allow rapid consideration of dredging removal as the presumptive remedy for sediments which exceeded the evaluation criteria.

Sediment cells possessing sediment pore water or elutriate concentrations exceeding the Federal Ambient Water Quality Criteria (AWQC) or the California Water Quality Objectives by some order of magnitude (e.g., copper 7 times AWQC in Cell B1 at Dike 14) must be carried forward to a Feasibility Study (FS) and assessed for potential remedial action in a FS Report (FSR). Multiple cells identified in the Draft Data Gaps Report of the Offshore Assessment exceed Federal and California water criteria. For example, elutriate or pore water concentrations of copper appear to exceed AWQC by differing multiples in numerous cells. This would not be unexpected at a Navy facility where dumping munitions into San Francisco Bay prior to docking activities was the standard Mare Island Naval Shipyard (MINSY) practice.

This Draft Data Gaps Report excludes the 'green sand' area (i.e., IR04) and the release from the Waste Water Treatment Plant (WWTP) on the western side of MINSY. These two areas remain to be fully assessed and addressed even though two removal actions have been performed at the outfall for the WWTP.

SPECIFIC COMMENTS

1. HERD has commented in the past, and continues to maintain, that the samples collected and bioassay results obtained during the Mare Island Offshore Ecological Risk Assessment (ERA) from the

Chip Gribble
 October 21, 2003
 Page 3

Regional Water Quality Control Board (RWQCB) Station #1 are not representative of 'ambient' conditions in San Francisco Bay. The application of an 'adjustment' factor for laboratory variance, when all tests are purportedly subject to similar variance, renders these comparisons even more doubtful. This statement is the basis for some HERD conclusions regarding comparisons of cell-by-cell bioassays to the reference bioassays. This comment is meant for the DTSC Project Manager and no response is required from the Navy.

2. HERD's evaluation is that the cells listed in the table below, assessed in the offshore Ecological Risk Assessment (ERA), should proceed to development of a Feasibility Study Report (FSR). HERD's recommendation is based on sediment concentration, pore water exceeding the AWQC and/or elutriate concentration exceeding the AWQC and bioassay results. HERD conducted an in depth evaluation of the previous offshore investigations, but given the time period of those investigations and the volume of material previously submitted, HERD decided to reference the Navy analysis and figure presentation to produce a recommendation on a cell-by-cell basis. Random checks of the presentations of the Navy figures outlined in the table below have been performed against previous documents and the text in the current document and appear accurate. These HERD recommendations are based on the data provided in the figures and text in the Draft Technical Memorandum produced by the Navy, as well as prior submittals and multiple discussions regarding the offshore ERA:

	Cell(s)	COEC(s)	Reference
Fleet Reserve Piers	2	PCB(s) in Elutriate	Figure 4
	4	Cu in Elutriate Hg in Sediment	Figure 4
	5	Cu in Sediment Dieldrin in Elutriate	Figure 4
Berths 1&2	17	Cu in Elutriate E.e.	Figure 6
	18	As in Elutriate	Figure 6
	19	Hg in Sediment As in Elutriate Cu in Elutriate	Figure 6
	22	Hg in Sediment	Figure 6
North Mare Island	30	As, Ag, Ni in	Figure 8

Chip Gribble
 October 21, 2003
 Page 4

Strait		Elutriate M.n.	
	38	Ag, Ni in Elutriate	Figure 8
	39	Ag, Ni in Elutriate	Figure 8
	40	Ag, Ni in Elutriate	Figure 8
	41	Ag, Ni in Elutriate	Figure 8
Pier 21		Ag, Cu in Elutriate M.n. E.e., D. e.	Figure 8
Pier 23		Ag, Cu, Ni in Elutriate E.e., M.n. D. e.	Figure 8
South Mare Island Strait	42	As in Elutriate	Figure 10
	43	Cu in Elutriate M.n.	Figure 10
	44	As in Elutriate	Figure 10
	45	As in Elutriate M.n.	Figure 10
	46	As in Elutriate	Figure 10
Dike 14	B1	Cu in Elutriate E.e.	Figure 10
	B2	Cu in Elutriate E.e.	Figure 10
	B3	Cu in Elutriate E.e.	Figure 10
	B4	Cu, Ni, Pb in Elutriate	Figure 10
Dike 12	A1	Cu, Pb in Elutriate E.e.	Figure 13
	A2	Cu in Elutriate	Figure 13
	A3	Cu in Elutriate E.e.	Figure 13
	A4	Cu in Elutriate E.e.	Figure 13
	A5	Cu, Ni in	Figure 13

Chip Gribble
 October 21, 2003
 Page 5

		Elutriate E.e.	
	A6	Cu in Elutriate E.e.	Figure 13

E.e. indicates adverse results in the *Eohaustorius estuarius* benthic bioassay.

M.n. indicates mortality or bioaccumulation greater than reference in the *Macoma nasuta* bioassay.

D. e. indicates development rates less than the reference site in *Dendraster excentricus*.

3. Contrary to the statement regarding the variability of fish tissue concentrations (Section 1.1.2, page 3, item number 3) the Navy has demonstrated that different areas surrounding a single Navy base can result in differing tissue concentrations in fish or invertebrates. This was demonstrated by the Navy investigation of Parcel F at Hunters Point Shipyard (HPSY). In addition, please identify the 'time critical questions' for the offshore areas of Mare Island Naval Shipyard (MINSY) given the recent termination of the early transfer option to the City of Vallejo.
4. The Navy has had the use of California lands since establishing MINSY in 1856. A 'full scale technical study' as discussed (Section 1.1.2, page 3, item number 4) is not beyond what may be required to resolve the offshore sediment issues at MINSY. HERD is willing to discuss the Data Quality Objectives (DQOs) as stated in this portion of the text.
5. HERD has never agreed to a strict Weight of Evidence (WOE) approach in assessing ecological hazard (Section 2.0, page 6 through 8) at MINSY or any other Navy facility in California. Regulatory Agencies and Resource Trustees have always maintained that best scientific judgment would be employed to evaluate the results of any ERA. HERD recommendations for the FSR are contained in the table above. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.
6. Please correct the annotation of 'b' associated with the lack of specific cell-by-cell DTSC comments in the summary tables which has no footnote (e.g., Section 2.3.1, page 35) for each area of the offshore MINSY. The table provided above outlines the HERD cell-by-cell recommendations for the FSR.

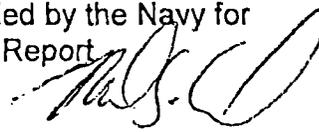
Chip Gribble
October 21, 2003
Page 6

7. Please explain why a criterion of 80 percent survival in a test relative to the laboratory control (Section 2.3.3, page 41) is relevant in a *Macoma nasuta* bioassay. Survival is not a common endpoint for this bioassay, which is designed to assess bioaccumulation. If mortality is an endpoint in addition to the bioaccumulation measurement, survival should be equivalent, within the variance of the laboratory controls, to the laboratory control group.
8. *Dendraster excentricus* should be italicized (Section 2.3.3.7 and 2.3.4, page 45). This bioassay has been utilized in San Francisco Bay specifically because it is toxicologically sensitive and has previously been used by regulatory agency monitoring programs.
9. HERD has now provided written identification of the cells which should proceed to FSR (Section 2.5.1, page 60), as noticed in footnote 'b'.
10. Bioaccumulation is not a typical measurement endpoint for an *Eohaustorius estuarius* toxicity test (Section 2.5.2.3, page 63). Please explain why this measurement endpoint was used only for Cell B3 in the Dike 14 area or correct the error.
11. HERD does not agree that the results for the single sediment sampling of the San Francisco Regional Water Quality Control Board (SFRWQCB) used in the previous Offshore ERA are representative of 'ambient' San Francisco conditions. This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.
12. Text incorrectly references cell A1 in the discussion of cell A2 (2.6.2.3, page 72). Please correct this typographic error.
13. HERD recommends that soft-bodied invertebrates (e.g., polychaetes) be collected in addition to fish and bivalves for any bioaccumulation study (Section 3.1.3, page 82). Soft-bodied invertebrate tissue concentrations exceeded all other tissue concentrations in a recent study at Hunters Point Shipyard.

CONCLUSIONS

HERD has identified cells in addition to those identified by the Navy for progress to a Validation Study or a Feasibility Study Report.

HERD Internal Reviewer: Michael Anderson, Ph.D.
Staff Toxicologist, HERD



Chip Gribble
October 21, 2003
Page 7

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