



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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November 20, 2001

Richard Mach, Jr., P.E.  
BRAC Environmental Coordinator  
for Hunters Point Shipyard  
Southwest Division, Naval Facilities Engineering Command  
1220 Pacific Coast Highway  
San Diego, CA 92132-5190

**RE: Hunters Point Shipyard Sediment Dynamics Study, Summer 2001 Field Summary Report, dated September 28, 2001**

Dear Rich,

Please find enclosed EPA's review of the Hunters Point Shipyard Sediment Dynamics Study, Summer 2001 Field Summary Report, dated September 28, 2001. This document is an interim deliverable; the forthcoming Validation Study should incorporate the complete results of the Parcel F Study.

There are far too many unidentified and unqualified limitations in this study for the conclusions to have any meaning. Further, because of the lack of a standard method for the Sediment Transport Measurement Systems (STMS) as well as many of the input variables that comprise the input parameters, the weight-of-evidence supporting the study conclusions are weak. Multiple lines of evidence for sediment dynamics near Hunters Point will need to be developed before any degree of certainty can be attained that will provide support for site related management decisions.

Please feel free to contact me at 415-744-2392 if you have any questions or comments.

Sincerely,

A handwritten signature in black ink that reads "Michael Work".

Michael Work  
Remedial Project Manager  
Superfund Division (SFD-8-3)

Attachment

cc: (see Distribution List)

## **Distribution List HPS**

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**EPA's Review of the  
Hunters Point Shipyard Sediment Dynamics Study  
Summer 2001 Field Summary Report**

**GENERAL COMMENTS**

1. Throughout the report, several generalized, qualitative statements were provided regarding data interpretation and significance, with no citations or other (more quantitative) validation. While it is recognized that the document is intended to present interim results, a greater effort to elucidate data and model limitations and uncertainties should have been included in the discussion. Please provide citations and more quantitative validation in future documents, and in this document if it is revised.
2. The issue of contaminant transport via pore water should be addressed within the larger realm of sediment dynamics and transport. However, neither the Validation Study Work Plan (May 15, 2000) nor the two Sediment Dynamics Reports attempt to address this issue. Please address the issue of contaminant transport via pore water in future documents.
3. The Introduction indicates that there are four objectives of this study including: *1. Identify areas of sediment deposition and erosion; 2. characterize fate and transport of sediment-bound contaminants; 3. estimate rates of sediment accumulation; and 4. predict the likelihood of subsurface sediment remobilization under various weather conditions, including extreme events.* While these objectives are in agreement with those specified in the Work Plan, the limitations associated with each were not adequately accounted for or discussed. Because these limitations speak directly to the certainty of the study conclusions, it is impossible to know how reliable the results of the study are. Also, item #4 has not yet been addressed to any practical extent in either the Winter and Summer Reports. Please discuss the limitations associated with each objective and the impact of these limitations on the study conclusions in future documents.
4. The report does not specify the "area of influence" the model can be used to predict. Even if the sample station locales are representative of sediment in areas that are known to be most contaminated, it is possible that the model may not represent the larger sediment milieu near Hunter's Point. Please clarify the area the model represents and discuss how well the model does or does not represent the sediment milieu near Hunters Point in the future evaluations and presentations of this study.
5. Surface sediment chemistry data available from previous investigations at Hunter's Point, should be correlated with the model presentation in order to strengthen the validation of the model assumptions. Please include this correlation in future documents.

## SPECIFIC COMMENTS

6. **Field Operations, Page 1, Paragraph 1:** The text states that “one system was deployed on the northern side of HPS and two were deployed in South Basin (Figure 1).” During previous sediment and benthic invertebrate sampling events conducted by the Navy, “sampling areas” were identified (designated as areas I - X). The North locale is in Area I, and the South stations are in Areas IX and X. Neither the Work Plan nor this report provide specific rationale for the selected sediment study sampling locations. Please list the specific criteria considered when determining the best location(s) for the tripods (i.e., tripods were placed in areas with confirmed sediment contamination, in areas within an unbiased and randomized grid pattern, or according to best professional judgment).
7. **Station South 1, Page 5, Paragraph 2:** It is indicated that the average water salinity was approximately 26 parts per thousand (ppt). The units used to report salinity (ppt) are not consistent with the “psu” salinity units in the Winter 2001 report. For consistency, please use consistent salinity units in all Parcel F documents.
8. **Hydrodynamic Data, Pages 3 - 6.** There are several quality control and/or quality assurance (QA/QC) shortcomings associated with the hydrodynamic data set. Based on the sheer number of field problems, the integrity of this data is in question. Please discuss the integrity and usefulness of the hydrodynamic data in light of the problems listed below:

**Page 3, Paragraph 1:** QC checks indicate “that the OBS data for Station North 1 were lost due to an instrument malfunction.”

**Page 3, Paragraph 2:** “Altimeter (bottom elevation) data for Stations South 1 and South 2 were highly variable and considered to be unreliable.”

**Station South 1, Page 4, Paragraph 3:** “The gradual increases in SSC from about July 22 to August 3 were apparently caused by biofouling of the sensor port. . . Biofouling appears to have affected the background trend of the SSC data again starting on August 6.”

**Station South 2, Page 5, Paragraph 1:** “Apparent biofouling of the STMS instruments affected current, SSC, and salinity data. . . . SSC signals were large and erratic from July 21-26 and after August 12 (Figure 6c). Diagnostic data from the ADV were analyzed and found to be characteristic of a large mat of vegetation lodged within the tripod structure of attached to the ADV Ocean sensor. The conductivity sensor at this station was also fouled with organic material after recovery.”

**Station North 1, Page 5, Paragraph 1:** “No SSC data were recorded at this

station because of instrument malfunction. . . The system was relocated a short distance west of the original site in shallower water.” Data from these two locales should not be combined, but recorded as two distinct data sets based on their different locations and 2 meter depth differential. Lastly, rather than “*The system was relocated a short distance west. . .*,” it would be useful to know measured distance difference between stations. Please specify the distance between the original and relocated stations and clearly state that no data from the original station was used in the study.

9. **Summary and Conclusions, Page 6, Paragraph 1:** The data set is too limited and there are too many associated uncertainties (i.e., hydrodynamic field data) to support anything more than "general" conclusions. Without a more rigorous study, results from this investigation will not help site managers make informed technical decisions for Parcel F. Please clearly discuss these limitations and uncertainties in the Validation Study.
10. **Summary and Conclusions, Page 6, 4<sup>th</sup> bullet:** It is stated “Small increases in SSC at Station South 1 were associated with peak spring tides.” If true, this conclusion would only be based on a single day of data. The spring tide duration was from July 21 - 24, while biofouling of the sensor port was reported on approximately July 22. Therefore, July 21 would have been the only day available to measure spring tides without sensor port problems. Please clarify whether this conclusion is based on data collected on a single day or explain how data from other days is reliable enough to have been used to draw conclusions.
11. **Summary and Conclusions, Page 6, last bullet:** It is indicated that “temperature and salinity were higher in South Basin compared with Station North 1, reflecting its more restricted circulation. ” A source of fresh water recharge (via surface or ground water) or discharge from the sanitary treatment plan into the South Basin might be other possible explanations for lower temperature and salinity at the North 1 location. Please discuss other possible explanations for the lower temperature and salinity at the North 1 location.