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SSIC NO. 5090.3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

January 31, 1997

Mr. Stephen Chao
Naval Facilities Engineering Command
Engineering Field Activity, West
900 Commodore Way, Bldg. 210
San Bruno, CA. 94066-2402

Re: *Draft Final Phase II Station Wide Ecological Assessment Tech Memo*, dated 1/14/97
Draft Final Phase II Station Wide Ecological Assessment Response to Comments, dated 11/7/96

Dear Mr. Chao,

The U.S. Environmental Protection Agency (EPA) has received the subject documents and provides the following comments. In recent months, we have met with your contractor, Montgomery Watson, on three separate occasions. These meetings allowed us to successfully reach agreement on most responses to comments. A number of these responses were verbally agreed to and will soon be submitted to us. Contingent upon a review of this submittal (to be sent February 15th), we agree with all responses to comments that do not deal with requests for scattergrams. These comments (16, 17, 22, 42, 44, 51, 52, 66, 85, 89, 93, 110) were addressed by the subject technical memorandum. The following attached comments address this technical memorandum. It has been reviewed by our Technical Support Section.

The document we are responding to is a "Draft Final" version. As specified in the Federal Facility Agreement (FFA) §9.9, the period between the draft final and the final submittal of a primary document is considered an informal dispute period. If the regulatory agencies have any remaining issues that must be addressed, we normally need to respond within 30 days to prevent the document from being finalized. Otherwise, the document automatically goes final. For the record, we want to document our verbal agreement to extend the comment period to January 31, 1997. This was due to both a RAB request for an extension and verbal agreement at the RPM meeting of December 11, 1996. Therefore, we now enter into informal dispute because of the outstanding issues adddressed in the attached comments. If you have any questions, please call Clarence Callahan at 415-744-2314 or me at 415-744-2385.

Sincerely,

Michael D. Gill

Michael D. Gill
Remedial Project Manager
Federal Facilities Cleanup Office

cc: J. Chou (DTSC), K. Eichstaedt (URS), T. Mower (PRC) (email), S. Olliges (NASA), M. Rochette (RWQCB), P. Strauss (MHB), K. Walsh (MW) (email)

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COMMENTS
Draft Final Phase II Station Wide Ecological Assessment Tech Memo, dated 1/14/97

1. We are still having a problem with the analyses of the data that support the SWEA and particularly this group of technical memoranda. We would like to get specific data from the Navy and/or sit down with the Navy in front of the computer where these data are maintained, so that we can address our questions directly. Specific comments follow.

2. It is not clear to EPA from the information how these data were arranged for evaluation. For instance, was amphipod survival and the COCs ranked for each sample at each site from high to low and tested for significance? Except for the metals, there are many "holes" in the data set that would make the comparison uneven or without paired data. With only two Aroclor 1254 and four Aroclor 1260 results, what was the ranking for these COCs against survival? We don't believe that ½ the detection limit adds much to the evaluation of these data.

3. Attachment 1. The observation for arsenic and amphipod reburial and amphipod survival and TOC normalized arsenic concentrations indicates some interesting comparisons with other contaminants, especially in light of possible cumulative effects.

   From the sample data, the Navy should examine the chemistry as grouped by site ranges of survival, 31-93%; sites 19-74%, 20-72%, 22-72%, 30-69%; sites 18-65%, 27-59%; sites 29-50%, 26-46%, 28-44%. These survival ranges closely approximate the proposed ranges as reported by Mearns et al, (1986). The chemistry from these sites should be examined for correlations with each other, i.e., what chemistry is similar in the groups that may help explain the closely related survival? Are other factors correlated among these groups? Are there chemicals that can be identified that suggest a relationship to the ranges of survival shown? Are the echinoderm data, e.g., pore water chemistry from similar samples? Can the dissolved chemistry be related in any way to the whole sediment tests? Again, Spearman rank correlation should be used to evaluate these data.

4. Attachment 2. Correlations of organochlorines. There were only two (2) detects for DDT and none (0) for dieldrin, yet both are indicated as significant. How was this accomplished? There are other COCs with similar detection levels. Perhaps, the data structure should be explained. Where are the detection limits provided? What is the relationship between the occurrence and concentrations of organic contaminants and metals at the various sites? These relationships should be evaluated at a minimum from the sites where bioassay information is available.

5. Attachment 7. The request was to provide scatter plots of all variables, not just those with significance. The graphs showing the COC and survival, e.g., Cd, cannot be read very easily or at all in some cases. Can partial codes be used to plot these data, or smaller print to avoid overlapping codes that makes them illegible? Have any

transformations been tried for percent survival? What are the possible explanations for some of these sites to have higher survival at higher concentrations? What other possible collocated COCs or other measured factors were present at concentrations that might result in these patterns of responses?

6. Echinoderm responses vs. COCs. Please plot the data from the origin for both axes. Were the contaminants not measured in each dilution series? Why aren't these results presented rather than estimates from each dilution? Was 2 ppb measured in the Cd series or is this just estimated from the series estimates?

   These data for sites PWNC-18 and 19 should be examined for correlations between each survival level and the concentration of chemicals in that particular dilution level.

7. Response to EPA Comment 17. How was amphipod reburial calculated? Were the amphipods placed in home sediment from their collection site or were they allowed to rebury into the test sediment? The calculation of percent reburial should be made from the number that survived, not from the number tested for survival in the original test. The interpretation of reburial can be a useful indicator of the viability of the organism after exposure (if permitted to rebury in home sediment) or an indicator of viability and sediment quality (if permitted to rebury in test sediment). What was done here?

8. We would like a floppy disk with the following data:

Sites /	Data
SSRP-31	all chemical conc. for bulk sediments and pore water samples;
SSNC-18	median particle size;
SSNC-19	% fines
SSNC-20	SEM/AVS ratios
SSRP-26	echinoderm survival data;
SSRP-27	amphipod survival data;
SSRP-28	
SSRP-29	
SSRP-30	
SSWL-22	

Citations:

Mearns, A.J., R.C. Swartz, J.M. Cummins, P.A. Dinnel, P. Plesha, P.M. Chapman. 1986. Inter-Laboratory Comparison of a Sediment Toxicity Test Using the Marine Amphipod, *Rhepoxynius abronius*. Marine Environmental Research 19:13-37.