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January 9, 1995

Mr. Bill Hill
Code 18211
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Re: Naval Air Station Pensacola, National Priority List Site, Technical Memorandum, Preliminary Results - Site 2 Remedial Investigation, November, 1994

Dear Mr. Hill:

We have reviewed the above referenced document and offer the following comments.

1. **Section 4.1 (Water Chemistry)**

We agree that the possibility exists that sodium matrix interference may be causing the high analytical values for silver. However, verification of the results should be performed using special analytical techniques to prove this hypothesis. The sample results shown in Table 4-1 indicate silver at 126-to-288 times the Florida Surface Water Quality Standard (FSWQS) of *0.05* µg/L.

Also, this section indicates that "organic/semivolatile substances found.....are most likely normal" based upon similar concentrations found at the control stations. Semivolatile constituents are not "normal" to the marine environment. However, due to the active use of and surrounding upland area of the Pensacola Bay system, *they* are likely ubiquitous to *the* site at these levels,

2. **Section 4.2.1 (Sediment Chemistry - Metals)**

a. Table 4-3, and under *the* subsection "Zinc" on Page 32, indicates that a zinc concentration of 1790 ppm was excluded in the range of results as it was considered an outlier. According *to* FDEP sediment management staff, this value is quite possible. Sediment samples which FDEP has taken in Bayou Chico have had values well above 1,000 ppm.

Therefore, it should not be excluded or else the sample should be re-evaluated.

b. Table 4-4 uses data from the NOAA, NS&T program for comparative purposes. *This* data was based on only two stations within *the* total Pensacola Bay *system.* Due to the original purposes and methods of these data, it should not be applied for comparison in the study *of* sediment at Site 2. We do believe this document provides good reference information. For better comparative purposes, we recommend using the information from the *Florida Coastal Sediments Atlas* (FDEP, 1994), which was submitted to Ensafe about two weeks ago.

According to Table 4-3, silver was detected at values ranging from 1.4 mg/kg - 4.3 mg/kg, with an average of 2.48 mg/kg. Therefore, silver should be included in Table 4-4 as it exceeded the Sediment Screening Value (SSV) of 2 mg/kg.

Also, in Table 4-4, total PAR was provided for analysis. Individual PAH exceedences should also be included.

c. On Page 27, the memorandum *states,* "As previously mentioned, Site 2 values were labeled as "elevated" based on SSVs established by Region IV. This term should not imply that concentrations exceeding the SSV indicate environmental injury or impact." The purpose of the SSVs is not to imply "injury," but to be used as a screening tool for further study in Phases IIB and III.

d. This section further discusses "the relevance *of* several studies that have been used to compare Site 2 metal concentrations." It states under subsection USEPA Region IV SSVs that "First, none of these studies used accounted for grain-size effects; secondly, natural metal concentrations in sediments were not considered for effects levels generated; and third, other physicochemical effects were not used to assess the effects levels proposed." We would like to address each of these conclusions.

First, it is true they did not account for grain *size* effects. However, *they* were not meant too. Secondly, natural metal concentrations are considered for the FDEP metals-to-aluminum ratios. Thirdly, the percentage of total organic carbon, a physicochemical effect, is considered in both the NOAA Long and Morgan (1991), and the FDEP MacDonald

(1993) study. Also, it should be noted that *the* analysis for metals at the control stations were mostly "non-detect (ND)."

Under the subsection FDEP Metal-to-Aluminum Ratios, the memorandum states, '"Based on conversation with Tom Seale (FDEP; 4-20-94), the digestion procedures used for Site 2 would reveal conservative values for metals when plotted against regression lines. For this reason, we believed comparison to FDER's ratios were relevant and most conservative." We agree there may be some relevance for comparison. However, it is not conservative as comparisons are based on different analytical methods. The total digestion method used by FDEP would be relevant to the ratios, but the CLP methodology is different and should not be applied across-the-board to the respective ratios. Also, note that Mr. Seal's last name is misspelled.

We agree with the statement under the subsection NOM NS&T that "contaminants have an affinity for fine-grained sediment." However, it should be noted that this *does* not represent bio-availability. That is the reason *the* SSVs were established to further determine whether analysis for bio-availability be performed.

e In the analysis of the various metals at the end of this section, we believe any direct comparison to NOM NS&T values and FDEP metal-to-aluminum ratios should be eliminated. The total digestion methodology was not performed to adequately compare the FDEP ratios, and the NS&T data is minimally relevant. Also, any inferences within the metal, organic, and pesticide subsections should be eliminated.

3. **Section 4.3 (Conclusions)**

The evaluation provided in this section leads to the conclusion that further study to analyze ecological affects is unfounded. We cannot agree with this analysis, As we have stated in the above comments, we believe analysis should primarily be based upon the Region IV SSVs and comparisons made to the Florida sediment atlas. The other reference documents use different analytical methodologies then *the* analysis performed at this site. The next phase (Phase IIB) of the study should proceed.

4. Section 6.0 (Recommendations)

We agree that further investigation is warranted for the site. As the SSVs were exceeded, we suggest benthic toxicity analysis be performed rather then the tissue analysis recommended. This is especially relevant due to the low TOC at Site 2. Low TOC values indicate a higher potential for contaminant toxicity and bio-availability.

Thank you for the ability to comment. If you have any questions, please call (904) 487-2231.

Sincerely,

John Mitchell
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