



Department of Environmental Protection

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NAS PENSACOLA
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May 8, 1995

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

Re: Draft Remedial Investigation, Site 2, NAS Pensacola,
February 24, 1995

Dear Mr. Hill:

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

General Comments

We have concerns about some of the assumptive conclusions made throughout portions of the document based upon overall conditions of the Pensacola Bay system. These assumptions are based on previous studies which used different analytical methods and areas which were not part of the open bay system. This is particularly true of our departments sediment study. The document uses these data in a presumptive manner and combines all the data sets. Some of the data points were in the bayous which flow into the bay and are not representative of the open bay system. If one combines only those samples performed in the open bay, the percentage of metals and organic compounds is very small compared to the localized area of Site 2. The document presumes that the heavy metal contamination at Site 2 is indicative of the bay system in general, and may have been from other areas of the bay. However, NAS Pensacola discharged industrial wastes directly into the bay at a minimum of 34 years (1939 - 1973, p. 2-1). Any contamination found in the sediment at Site 2 is likely from the Naval Air Station, and any other contamination found in the open bay system may also be from NAS Pensacola rather than other sources. Rather than attempting to verify the sources within the bay we should concentrate on Site 2.

Specific Comments

1. Figure 5-3 (Sediment Sampling Locations)

A figure should be included which shows the location of the reference (Background) samples.

2. Section 7.2 (Sediment Chemistry)

On page 7-10, under Metals the subsection, the document indicates mercury does not occur naturally in the environment. This is not correct.

3. Section 10.2.2.2 (Effects to Benthos)

a. Subtitle USEPA Region IV SSV Comparison

This section indicates "the term "exceeds" refers to those concentrations found at Site 2 which were above the USEPA Region IV SSVs." How is the term "exceeds" used in relation to those constituents which do not have an SSV guideline? In most cases for other media, twice background is the excepted norm. Should this not also be the case for sediment?

b. Subtitle FDEP Metal-to-Aluminum Ratios

This section states "FDEP (1988) states "that lack of complete digestion may give metal-to-aluminum (MTA) ratios which appear unusually high." This is a misquote from the FDEP document. Specifically, the document (FDER, 1988) states on p. 33 item 2. that "if aluminum is not completely released through digestion, metal to aluminum ratios may appear unusually high." Therefore this is one of the limitations of using the metals-to-aluminum ratio with the CLP process. We believe using this process with the CLP-PQL data may be quality relevant, but not conservative. If the total digestion method had been used the contaminant values would have been higher then the CLP-PQL analysis. However, using the MTA method would have then been quantitatively relevant.

c. Subtitle USEPA Region II Interim Ecological Risk Assessment Guidelines

We are unfamiliar with the Region III ERA guidelines. There is a more recent USEPA draft

document which has been proposed which we believe provides better guidelines for performing an ERA. The document is titled: *Ecological Risk Assessment for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (Draft, September 26, 1994).

4. **Figure 10-1 (Percent SSV Exceedance for Metals Site 2 vs. FDEP 1993)**

The sampling data used for this figure included samples not within the open bay system, but used all of the data points which included bayou samples and non-point source samples. If any comparison were to be made at all, it should be related only to those samples which are within the open bay system and not necessarily non-point source related.

5. **Section 10.2.2.3 (Metals)**

As stated previously, using the FDEP metal-to-aluminum ratio is inappropriate as total digestion was not used. If total digestion was performed, higher metal values would have been detected than what was found using the **CLP-PQL** methodology. The MTAs then would have been relevant. Also, any metals comparisons made related to Figure 10-1 should be eliminated.

This section also indicates that any dredging of the sediments could increase mobility and bioavailability of contaminants. This is true, but bioavailability and mobility has a likelihood of occurring based upon low total organic carbon (TOC) in the sediment throughout the site and due to hydrologic conditions in the open area of the bay, respectively.

6. **Section 10.2.2.4 (Organics)**

On page 10-27, the document refers to a particular sampling station (Station 18) performed by FDEP in 1993, and compares this to the maximum value for total **PAH** at Site 2. A map location of Station 18 is not identified anywhere in the document. The highest PAH values in the **FDEP** study were located in Bayou Chico, not the open bay system. Any comparison to the **FDEP** PAH values should be eliminated from the document unless they are only qualitatively compared to the open bay system samples, and non-point source related

samples.

Also, this page states that the "low percentage of exceedances (of the SSVs) at Site 2 was **obvious.**" Referring to our ensuing comments on Appendix B about levels of detection (LOD) for PAHs, of course exceedances were rare. Further comparison to the **FDEP-NOAA** data in Figure 10-8 is therefore misleading, as the department had LODs for PAHs as low as 10 ppb, and all below 330 ppb.

Again on page 10-29, 2nd paragraph, these comparisons are made. This paragraph also indicates the PAH risks to ecological receptors are not critical based on these comparisons and from Eisler's (Eisler 1987b) analysis for higher vertebrate species. Based on the levels detected, there is risk to the benthic invertebrate community.

7. Figure 10-8 (Percent SSV Exceedance for PAHs Site 2 vs. FDEP 1993)

Again, the sampling data used for this figure included samples not within the open bay system. See comments #3 and #5.

8. Section 10.2.5 (Conclusions)

The next to last paragraph on page 10-33 should be removed. Whether Site 2 ecological risk is lower than the rest of Pensacola Bay has not been determined and is not relevant. This specific site is adjacent to a National Priority Listed site and data show levels of contamination which are likely injurious to the environment. The purpose of the FDEP sediment quality guidelines and the Region IV SSVs were specifically designed for this type of risk evaluation, yet appear to be arbitrarily used in this document.

The last paragraph on page 10-33 recommends no further remedial action is required for this site. This is contrary to what was agreed upon in our teleconference on February 8. It was agreed at that time that sediment toxicity tests would be performed on the sediment at Site 2 and a work plan for these tests would be submitted. Also, in the Remedial Investigation work plans for Pensacola Bay and as agreed upon in previous discussions during the past two years, if SSVs are exceeded then Phase IIB (sediment toxicity studies) would be performed.

9. Section 11.0 (Conclusions and Recommendations)

Refer to comment #7.

Also, on page 11-1, the section states "historical records indicated that operations in facilities adjacent to Site 2 may have impacted the site from 1939 to 1973. It should be noted based on previous site history information in the document that discharge of hazardous substances may have occurred as far back as the 1920s and in some instances as late as 1979.

10. Appendix A (Sediment)

There still appears to be a problem with the labs meeting the required detection limits (DLs) for some constituents. Limits for arsenic and cadmium were too high in numerous samples. This was also true for the DLs for PAHs. Specifically:

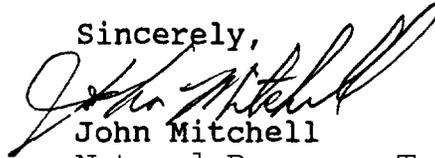
- a) The required LOD for cadmium is 1.0 ppm, yet the laboratories LOD was consistently higher than this number. Similarly, the LOD for silver was not achieved regularly.
- b) The LOD ppb for Total PCBs is 33 ppb. However, the LOD for the individual aroclors varied from 40 ppb up to 200 ppb.
- c) One of the most perplexing results is for **PAHs** (LOD = 330 ppb). The LOD were hardly ever reached. For some samples, the LOD reached has high as 6,000 ppb, although most were below 1,000 ppb.

We do not understand why undetects were often found at levels much higher than what is required by the CLP-PQLs. This inconsistency needs to be eliminated. We have rarely found this a particular problem at other federal facilities. The conclusion on page 8-17 that the quality of the analytical work was satisfactory seems suspect, and our sediment management group disagrees with this conclusion.

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

Sincerely,



John Mitchell
Natural Resource Trustee Project
Manager, Office of
Intergovernmental Programs

Reference

Seal, T.L. Calder, F.D. Sloane, G.M. Schropp, S.J. Windom, H.L. 1994. *Florida Coastal Sediment Contaminants Atlas, a Summary of Coastal Sediment Quality Surveys*. Florida Department of Environmental Protection, Tallahassee, FL. 112pp.

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