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NAS PENSACOLA  
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June 27, 1997

Florida Department of Environmental Protection  
ATTN: John Mitchell  
Twin Towers **Office** Building  
2600 Blair Stone Road  
Tallahassee, FL 32399-2400

**RE:** Site 2 Remedial Investigation Report **Errata** for NAS Pensacola  
Contract # N62467-89-D-03 18/0059

**Dear** Mr. Mitchell:

On behalf of the Navy, EnSafe/Allen & Hoshall is pleased to submit one copy of the Site 2 Remedial Investigation Report Errata, at Naval Air Station Pensacola, Florida. If you should have any questions or need any additional information regarding this document, please do not hesitate to *call* me.

Sincerely,

EnSafe/Allen & Hoshall

Henry H. Beiro, P.G.  
Task Order Manager

Enclosure

cc: Bill Hill, **SOUTHNAVFACENGCOM** — 2 copies  
Ron Joyner, NAS Pensacola — 2 copies  
Gena Townsend, USEPA — 1 copy  
Denise Klimas, NOAA — 1 copy  
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**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
FINAL REMEDIAL INVESTIGATION REPORT, SITE 2  
NAS PENSACOLA, FLORIDA**

(John Mitchell's Comments of 5/8/95)

**COMMENT:**

1. The response to my General Comment does not address the main point (e.g., the assumptive conclusions made throughout **portions** of the document based on previous studies which **used** different analytical **methods** and data **used** from **various** bayous which flow into the bay). **These** comparisons **are used** in a presumptive manner. It was **also** agreed in previous **partnering** meetings that only the department's sediment results from Pensacola Bay proper would be **used** for a general comparison and that **data** from Bayous Chico, Grande and Texar would be removed. Also, if data **points** from Escambia Bay, East Bay and Santa Rosa Sound were included for comparison, they should **also** be excluded.

**RESPONSE:**

**ALL** references to the NOAA-FDEP Pensacola Bay 1993 **data has been** removed from the document. It should be pointed out that use of "any" **data** in a screening assessment is presumptive in **nature** (e.g., USEPA Region 4 **SSVs are from three separate studies, using** different analytical techniques **and from many bay** systems; **Florida SQAGs are from** many bay systems throughout Florida, NOAA-NBS **are from estuarine water** bodies throughout the U.S. ). Navy felt that **data** within the Pensacola Bay complex **was as** relevant, or more, as **data** from outside of the system.

**COMMENT:**

2. Response to Specific Comment No. 3.c.: The document does not mention the **USEPA** Draft Ecological **Risk** Assessment for Superfund: Process for Designing and Conducting Ecological **Risk** Assessments (Draft, September 26, 1994) in the text of Section 10.2.2.2 nor in Section 12 (References).

**RESPONSE:**

It was felt that no citation for **this** reference was needed in Section 10.2.2.2 since it was not used in comparing contaminant concentrations to benchmark values or criteria. The reference was **used** in the **risk** assessment approach and **has** been included in Reference Section 12.

**COMMENT:**

3. Response to Specific Comment No. **4**: Although I agree there is a qualitative relevance to comparison with similar bottom types/sediments, comparison should **still** not be made to data **from the** bayous adjacent to Pensacola Bay, **only those data** points in the "open" bay should be used (**see** Comment No. **1**).

**RESPONSE:**

Agreed. **See** Response to Comment Number **1**.

**COMMENT:**

3. Response to Specific Comment No. **5**: I have no problem with your response. I found the section comparing metals-to-aluminum **using** a **nitric** acid **analytical** method vs. a hydrofluoric acid method very interesting. Tom Seal of the department's Office of Water Policy thought EnSafe should consider publishing these **results**. The department does not have such comparative studies, although I understand there are laboratories which have performed this **comparison**. However, **the** department does not have access to these results nor, to **our** knowledge, were they published.

I do have a question related to the analytical results. For example, Figure 23 appears to show detections for cadmium which are lower than the **analytical results** in Appendix A. Were different analytical results **used** for **this** comparative study? If **so**, **this** should be noted. If not, then the **figures** indicating detections at values lower than what is in Appendix A need to be revised.

**RESPONSE:**

The data provided in Appendix F (Figure 23) are **from** samples collected **in** association with the Sites **4/42** Contaminant Assessment phase of the RI. The comparison study was provided to support the comparison of FDEP metals regressions to Site 2 metals data. **Analytical** data for both hydrofluoric (HF) and nitric acid (**NA**) **digestion** methods **has** been provided in Table 1 of Appendix F.

**COMMENT:**

5. **Response to Specific Comment No. 6:** **As** stated previously and by agreement in previous partnering meetings, comparison to **the** departments data is to be **to** only those samples in the 'open' portion of the bay, not data **from** the bayous or other bays to **the** east. Text and Figures in the document need to be modified accordingly.

**RESPONSE:**

Agreed. See Response to Comment Number 1.

**COMMENT:**

4. Response to **Specific** Comment No. 7: Although the term '**open** bay' **has** been explained at previous partnering meetings as well in my preceding comments, I will clarify **this** again. "**Open**" bay means Pensacola Bay only, not bayous or other bays adjacent to Pensacola Bay.

**RESPONSE:**

Agreed. **See** Response to Comment Number 1.

(Jane Fugler's Comments of April 7, 1995)

**COMMENT:**

5. Comment No. 2: I agree that the latest Florida Sediment **Quality** Assessment Guidelines were used in the document. However, **this** should **be** noted in the text on pages **10-5** and 10-8.

**RESPONSE:**

Agreed. The text on pages 10-5 **and** 10-8 will reference the latest Florida Sediment Quality Assessment Guidelines (SQAGs).

**COMMENT:**

6. Comment No. 3: Please refer to the preceding Comment **No. 4**.

**RESPONSE:**

**See** Response to Comment Number **4** (for John Mitchell's Comments).

**COMMENT:**

7. Comment **No. 5**: The text should **also specify which sample from the** Ponar Dredge was **for VOC analysis**. It appears that **the sample for VOC analysis was taken after** sediment was **removed from the dredge and placed** in the **stainless steel bowl**. **If this is the case, the actual amount of VOCs possible in the sediment would be altered (release of VOCs)** due to the disturbance of the sediment prior to sampling. Please clarify **this** in the text.

**RESPONSE:**

Sediment samples were deposited from **the** Ponar dredge into a **stainless steel bowl** before the sample for VOC analysis was collected. After the VOC sample was collected; **the**

remaining sample was homogenized before samples for the remaining analyses were collected. This protocol is referenced in Chapter 7 CSAP (E/A&H 1994). However, the text from Section 5.2.2 has been clarified to state how the sediment samples were collected for VOCs and other analyses.

**COMMENT:**

8. **Comment No. 12:** We are not *confusing exposure* rates **and** exposure frequency **as stated** in your comment. The last sentence on page 10-118 expresses an "exposure frequency" of 350 days per year while Table 10-12 and Figure 10-27 show an "exposure frequency" of 175 days per year. **Also**, footnote "b" of the Table reflects an "exposure frequency" of 365 days per year. **This** should be **corrected** in **the** text **and** tables, and, should **this** result in any changes in the calculated results, the correction should be made.

**RESPONSE:**

The nonsubsistence fisherman exposure frequency of **175 days** per year is shown on Table 10-12 and Figure 10-27. Other corresponding text and tables have **been** modified to reflect these changes.

(Ligia Mora-Applegate's comments 4/17/95)

**COMMENT:**

9. **Comment 4:** It **has** been discussed by the partnering team, **as** well **as** prior to partnering, that the acceptable **risk** level is **1.0E-6** at **NAS** Pensacola. **This** **has** been the remedial action or management level at other sites **at** the facility, either **through** interim removal actions or institutional controls. Also, risk may **be** based cumulatively, or for a single constituent.

**RESPONSE:**

The risk level provided by the state of Florida is recognized as a risk goal not codified or institutionalized as a law or regulation. The Navy agreed **only** to compare all scenarios to **this goal**.

(Dr. Stephen **Robert's** comments of **4/14/97**)

**COMMENT:**

1. Comment **2**: Although the investigation did incorporate the SQAG values, **this needs** to be noted in the text on pages **10-5** and **10-8**.

**RESPONSE:**

The SQAGs have **been** noted in the text on pages **10-5** and **10-8**.

**COMMENT:**

2. Comment 6: The comment provided by Mr. **Roberts was** not **imposing** "their personal feelings rather than **FDEP** cancer **risk** goals" **as stated** in your comment. **As** stated previously, it **has been discussed** by the partnering team, **as** well as prior to partnering, that the acceptable risk level is **1.0E-6** at NAS Pensacola.

**RESPONSE**

**See** Response to Comment Number **1** (Ligia Mora-Applegate).

**COMMENT:**

3. Comment No. **10**: Your response is adequate. However, ~~the~~ text needs to be corrected on page **10-116**. The second sentence states the **95%** UCL was calculated, but would not be used. However, ~~this~~ is contradicted in the next paragraph where it **states** the lowest value of either the **maximum** concentration or the UCL would be used for computing **risk**.

**RESPONSE:**

*All* references to use of ~~the~~ UCL for human health **risk** assessment have ~~been~~ deleted, use of **maximum** values have been stated as **necessary**.

:

**COMMENT:**

4. Comment No. **11**: The last sentence on page **10-118** expresses **an** exposure frequency of 350 days per year while Table **10-12** and Figure **10-27** show **an** exposure frequency of **175** days per year. Also, footnote "b" of the Table reflects an **exposure** frequency of **365** days per year. This should be corrected in ~~the~~ text **and**, should ~~this~~ result in any **changes** in the calculated results, the correction should be made.

**RESPONSE:**

See Response to Comment Number **4** (Jane Fugler).

**Specific Comments on the RI**

**COMMENT:**

1. On page xi of the Executive Summary, the last two sentences **need to be** modified to reflect **the** following:

The document states that "Site 38 is not a likely continuous source of contaminants to Site 2 at concentrations above risk-based action levels," and that surface water analytical data

did not indicate any contamination. The surface water analytical **data** was an overall water quality analysis which did not actually measure pore water from sediment, nor a groundwater point of discharge. These samples were not established related to points of discharge from Site 38. Contamination in Site 38 wells adjacent to Pensacola Bay and Site 2 exceed the **Florida Surface Water Quality Standards (FSWQS)** which must be met at the point of discharge. Although at high **tide**, groundwater flow reverses inland from the **bay**; at low tide contamination flows toward **the bay**. The current point of compliance for that **contamination is** the nearest monitoring well to the bay unless **the** actual point of discharge *can* be determined to be below **FSWQS**. **This** should be reflected in the text.

## RESPONSE

The text has been changed to show that the surface water data was an overall analysis of water quality and did not measure pore water from sediment. But, a sample point was established during the Phase IIB sampling program (Location IO) that was intended to sample the closest "potential" discharge point **from** Site 38. This sampling location was requested by USEPA. Volatile organics were **measured** in sediments **collected** at that point but none were detected. This will be made clear in the text.

## COMMENT:

2. Section 4.3.1 (Facility Survey) mentions the **NADEP** facilities **as** currently active. **The NADEP** is now closed, although it was **still operating** at **the** time of **the** investigation. **The** document should **reflect current**, as well as past **conditions and** activities at these facilities.

## RESPONSE:

**NADEP** in the **area** of Site 2 **has** been closed **since 1995**. The buildings currently in **this** area **are** empty, **and** some have **been razed**. Section 4.3.1 **has been** modified to show that there are currently **no** industrial activities at **NADEP** in **the area of Site 2**.

**COMMENT:**

3. Figure 4-1 does not have the outfalls identified as indicated in the legend and in the text of Section 4.3.2 (Drainage System).

**RESPONSE:**

The **outfalls** were inadvertently left off Figure 4-1 but have been included on Figures 6-1, 6-2, and 6-3 of the report.

**COMMENT:**

4. Section 4.3.2 (Drainage Systems) mentions on page 4-13 **sanitary** sewer lines formerly discharged at Site 2. Please indicate whether these lines were plugged or removed when the Wastewater Treatment lines were installed or **are** they currently a conduit for contaminant migration?

**RESPONSE:**

The sewer lines and the IWTP lines were flushed **and** closed in **1995** and are **no** longer considered a conduit of **contaminant migration**. These changes have **been** made in Section 4.3.2.

**COMMENT:**

5. On page 5-3, the last sentence indicates a shallow monitoring well was installed at the southwest corner of Building 76, but Figure 5-3 shows it at the southwest corner of building 75. Please correct accordingly.

**RESPONSE:**

The text in Section 5.2.3 has been corrected to **indicate** that the **monitoring** well is located at the southwest corner **of** Building 75.

**COMMENT:**

6. Section 6.3 (Hydrologic Assessment), subsection Time Log, on page 6-22 indicates monitoring wells 38GS08 and 38GS21 as out of the zone of tidal influence. However, the locations of these wells is not shown on Figure 6-5. Please correct accordingly.

**RESPONSE:**

The wells referenced in **the report (38GS08 and 38GS21)** are **so far north** that they are **off** of Figure 6-5. Due to **this** issue another **figure (to be labeled 6-5a)** has been added to show the locations of the two wells discussed.

**COMMENT:**

7. In Figure 6-7 (Tidal Cycle Potentiometric Surface High Tide) and Figure 6-8 (Tidal Cycle Potentiometric Surface Low Tide), the locations of **the** buildings and the monitoring wells are not legible, but the potentiometric contours are fine. Please include a more readable figure.

**RESPONSE:**

Figures 6-7 and 6-8 have been reproduced **so** that the locations of the buildings and monitoring wells are more legible.

**COMMENT:**

8. In Section 9.5 (Conclusions), I agree that Pensacola Bay is a **dynamic system**. I do not necessarily agree with the last sentence that this complexity creates **an inability** to truly correlate Site 38 to the Site 2 contamination. However, **we are** not trying to attempt to **find** an absolute correlation. **The** inorganics detected in sediment at Site 2 **are** the same as ones historically discharged from the site. Also, the outfalls discharging into this **area** likely carried PAH contaminants. Due to the apparent "eddy-like" hydrography at this site, contaminants likely have remained entrenched throughout time at **this** location. This can be shown because of the relative little change in types and amount of contamination still

present after a hurricane went through this area prior to the last phase of sampling and analysis. If correlation is to be made to the overall complexity of the bay, the conclusions also need to indicate the correlation to Site 38.

**RESPONSE:**

The conclusion ~~has been~~ restructured to state that because Pensacola Bay is a dynamic **system**, a true correlation ~~between~~ proximal sites and observed contamination at Site 2 is difficult to establish.

**COMMENT:**

9. On page 10-9, subsection 1993 NOAA-FDEP Pensacola Survey and subsection NOAA National Benthic Surveillance Project, ~~comparison~~ concentrations should be to only those stations within the bay. Bayou and non-Pensacola Bay sampling locations should be eliminated. This would also change the range and ~~means~~ shown in Table 10-2.

**RESPONSE:**

Agreed. See Response to Comments Number 1 (John Mitchell's Comments).

**COMMENT:**

10. Table 10-3 should ~~note~~ that contaminant values ~~are~~ **mg/kg** for metals and  $\mu\text{g}/\text{kg}$  for the organic compounds.

**RESPONSE:**

Table 10-3 has been changed to reflect those contaminant values which are reported in **mg/kg** and those reported in  $\mu\text{g}/\text{kg}$ .

**COMMENT:**

11. In Section **10.2.2.3** (Metals in Sediment) and Section **10.2.2.4** (Organics), the text and Figures **10-1** through **10-8** provide comparisons to 40 FDEP sampling locations which include point **source** and bayou data. The text and figures need **to** be modified **as** agreed in previous partnering meetings to **only** compare to those sampling **location** in Pensacola Bay; excluding sampling locations in the Bayous and Escambia Bay.

Also, on page **1042**, total PAH (tPAH) was **compared** between Site 2 data and FDEP data. **This comparison is suspect as** the levels of **detection** were much lower in **the** FDEP report because of the use of a different **analytical method**. These discrepancies should be explained in the text, and the comparisons considered qualitative.

**RESPONSE:**

Agreed. **See** Response to Comments Number **1** (John Mitchell's Comments).

**COMMENT:**

12. Section 10.2.2.3 (Phase IIA/PRC **Summary**) should indicate that even though the bay system is dynamic due to tides **and storms**, the contamination levels in **the** hot **spots** stayed relatively the same after a hurricane passed through prior **to** the later round of sampling and analysis. Refer to Specific Comment No. **8**.

**RESPONSE:**

Figures 10-10 and 10-11 provide a comparison of results for pre and post-hurricane data at specific locations.

**COMMENT:**

13. Section 10.2.2.3 (**Phase IIA/PRC Conclusions**) discusses **the** water **chemistry results**. This section also needs **to reflect what is stated in my Specific Comment No. 1**. **Also, remove**

or **modify** the next to last paragraph of this section. These comparisons are qualitative and may change based upon my Specific Comments No. 9 and No. 11.

**RESPONSE:**

The **issues** discussed in specific **comment** 1 about surface water **data** being an overall water quality analysis have **been incorporated** in **Section 10.2.2.5**.

The next to last paragraph of **this section** has also **been** modified per Response to John Mitchell's Comment Number **1**.

**COMMENT:**

14. Figure **10-12** (Phase **IIB** Contaminant Components for Proposed Hazard Indices) is not easily readable for comparison; particularly for metals and PAHs. I suggest the graphs be provided with some form of hatching **marks** or the figure done in color.

**RESPONSE:**

Figure 10-12 has **been** modified with **hatching marks** so that it is more readable.

**COMMENT:**

15. On page 10-61, under subsection sediment Toxicity, the last sentence is incomplete.

**RESPONSE**

This sentence **has been** modified **so** that the last sentence under subsection Sediment Toxicity is complete.

**COMMENT:**

16. In Section 10.3.3 (Phase IIB-Risk Characterization), subsection Benthic Community, on page 10-81, please indicate on a Figure or text the locations of the four FDEP sites used for comparison. Also, the first full paragraph presents theoretical assumptions. Theoretical assumptions should not be part of the report. Just report the facts and what the data specifically presents. If one assumption is included, then all other possible variable assumptions would **need** to be mentioned.

**RESPONSE**

Figure 10-9a has been produced to show the four FDEP sites **used** for comparison.

Navy feels it is proper and relevant that explanations and possible reasons for **changes** in community indices be presented, otherwise the reader may have to **guess** or simply not understand that physicochemical variations **can** affect **benthic** communities just as much or more than chemical parameters which may be **present**. The **reasons** provided **are** based on a scientific understanding of benthic ecology. A report of "just the facts" **does** not explain to the reader why these variations are present. Science is not exact, and therefore statements such as "may" are needed in many instances.

**COMMENT:**

17. In Section **10.3.5** (Conclusion), delete the last sentence of the first paragraph **as it is an** assumption. The variables "may" or "**may not**" **reduce** actual effects. Also delete **the** last paragraph. The **Hazard** Indices (HIs) are reflective of only those **sampling** locations for which additional studies were performed. The amount of area needed to be addressed **in** the feasibility study will be based on contaminant levels as they relate to the HIs.

**RESPONSE:**

The last sentence in paragraph one **has** been deleted. Although it is correct that HI's were calculated at only those stations where additional studies were performed, it is important to understand that the stations selected for further study were based solely on elevated contaminant concentrations observed in Phase IIA and that is the justification for determining an area of impact near those subsequently sampled locations. The whole purpose of the phased approach was to further delineate the scope of subsequent sampling

and testing, if we assume that we don't know about locations other than those tested in Phase **II B**, then what is the purpose of the phased approach?

**COMMENT:**

18. **In Section 10.4.3.4 (Selection of Chemicals of Potential Concern), the first full paragraph should indicate that a COPC will be a COC if it is found to contribute a pathway that exceeds a risk of 1.0E-06 or an HI greater than 1. Please refer to previous comments on 1.0E-06 risk.**

**RESPONSE:**

**Based on EPA (RAGS) Guidance, 1.0E0-04 was used in the COC screening process. The Navy recognizes that FDEP prefers 1.0E10-06 but has not provided specific regulatory requirement for this screening level.**

**COMMENT:**

19. **In Section 11.0 (Conclusions and Recommendations), on page 11-2, the document states that surface water is not contaminated. This is a single point in time and was performed to determine general water quality (refer Specific Comment No. 1). Also, delete or modify the last sentence on this page (refer to Specific Comment No. 17).**

**RESPONSE:**

**Any reference to surface water contamination in Section 11.0 has been deleted. The last sentence on page 11-2 has also been deleted.**

**COMMENT:**

20. **Appendix D (Joint NOAA-FDEP 1993 Study Data) should have a Figure indicating the sampling locations in Pensacola Bay for the reviewer to adequately relate the comparisons. Also, any sampling locations within bayous or other bays should be removed (refer to Specific Comment No. 11).**

**RESPONSE:**

See **Response to Comments Number 1 (John Mitchell's comments).**