32501.011
09.01.11.0026

EnSafe

ENVIRONMENTAL ANC

5724 Summer Trees Drive • Memphis, Tennessee 38134 • Telephone 901-372-7962 • Facsimile 901-372-2454

October 10,1997

N00204.AR.001536
NAS PENSACOLA
5090.3a

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

RE: Remedial Investigation Report for NAS Pensacola Operable Unit 2
Contract # N62467-89-D-0318/059

Dear Mr. Mitchell:

On behalf of the Navy, EnSafe is pleased to submit one copy of the Remedial Investigation Report for Operable Unit 2, at Naval Air Station Pensacola, Florida. A final response to comments is provided to facilitate the review process. If you should have any questions or need any additional information regarding this document, please do not hesitate to call me.

Sincerely,

EnSafe Inc.

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
Tom Dillon, NOM – 1 copy
Linda Boldyreff, John C. Pace Library – 1 copy
Judeth Walker, NAS Pensacola – 1 copy
EnSafe File – 1 copy
EnSafe Library – 1 copy
EnSafe Pensacola – 1 copy

DRAFI' REMEDIAL INVESTIGATION REPORT OU 2
NAS PENSACOLA, FLORIDA
RESPONSE TO DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMENTS

(John Mitchell; November 25, 19%)

COMMENT:

1. The Table of Contents on page v should list and title the Appendices.

RESPONSE:

The revised Table of Contents contains and titles the appendices.

COMMENT:

2. In Section 6.3.2, Table 6-4 shows only the tidal influence for Site 27 wells; not the monitoring wells for Sites 11 and 30 indicated on Page 6-6. Also, Monitoring Well 11GI08 is not shown in Figure 3.

RESPONSE:

Table 6-4 has been revised to focus on wells near tidally influenced bodies of water. Figure 3 only exhibits the wells used in the study. Well 11GI08 was not used.

COMMENT:

3. Section 6.5 (Surface Water Hydrology indicates there are no active streams at OU 2. This is incorrect. The drainage at Site 30 from Wetland 5 through Wetland 5b and Wetland 6 has continuous flow and was likely a natural stream prior channelization.

RESPONSE:

Section 6.5 has been revised to clarify surface water hydrology at OU 2.

COMMENT:

4. Section 7.1.1.1 (VOC Surface Soil Contamination) states no VOC were observed in surface soil. Figure 4 indicates that sample 25GS03 exceeded for vinyl chloride. Also, this section attempts to write off chloroform detection as a false positive based upon nebulous assumptions. This should be better clarified. Also, chloromethane may be found at low levels in tap water, but I am unaware of chloroform being used as a supplement to tap water.

RESPONSE:

No VOC exceedances were detected in surface soil. Figure 4 in Appendix I exhibits subsurface VOC exceedances in the revised OU 2 RI. Section 7.1.1.2 no longer refers to common laboratory contaminants. Figure 4 has been revised removing 25GS03 as an exceedance for vinyl chloride.

COMMENT:

5. Section 7.1.1.2 (VOC Subsurface Soil Contamination) states benzene is likely a false positive and is a common laboratory artifact. This is not likely. However, the detections of methylene chloride, acetone, chloromethane and chloroform may be found as laboratory contaminants. They could also be contaminants in the soil. Were these constituents found at significant levels in the laboratory blanks. If not, they are likely of concern in the soil.

RESPONSE:

Section 7.1.1.2 no longer refers to a false positive or common laboratory contaminants.

COMMENT:

6. In Section 7.2 (Groundwater), a Table indicating those wells sampled in Phase II would be beneficial for review. This would also be of use in the figures.

RESPONSE:

The table requested is more appropriately placed in Section 5. Table 5-1 provides the wells sampled during Phase II.

COMMENT:

7. In Section 7.0 (Nature and Extent of Contamination) a Section needs to be included for surface water analytical results. If there are no surface water results, then this should be noted in Section 7.5 (Data Gaps).

RESPONSE:

Section 7.4 now discusses how the Sites 40 and 41 investigations are to assess impacts to wetlands adjacent to OU 2 and Bayou Grande. It also discusses how the limited OU 2 sediment and surface water sampling were not designed to replace or supplement the sampling to be performed during the Sites 40 and 41 investigations.

COMMENT:

8. Section 7.6 (Current and Potential Receptors) indicates that the coastal waters in and around NAS Pensacola are Class II which is for Shellfish Harvesting and Propagation, rather then for Recreation and Maintenance of Fish and Wildlife Population which would be Class III.

RESPONSE:

This discussion is now contained in Section 7.7 of the revised OU 2 RI. The text has been changed to reflect "Class III" waters.

COMMENT:

9. Section 8.1.3 (Blanks) indicates detection of pesticides in blank samples. The reason given is due to the labs practice of reporting pesticide results below their method detection limits. It seems to me that pesticides would not be commonly found or detected in any lab blanks unless there is poor handling and cleaning practices by the lab.

RESPONSE:

Pesticide analysis below the method detection limit is vague at best. These numbers below the method detection limit cannot be trusted with any degree of confidence and should not have been provided by the laboratory. Laboratory blank contamination is a good example of laboratory error. While poor handling and cleaning practices by the lab cannot be ruled out, laboratory error in this case was not measurable. No changes to the text were necessary.

COMMENT:

10. Section 8.5 (Conclusion of Data Validation) states that validation reports will only be a part of the Final OU 2 report Reference File. They should be a part of all final documents, as well as part of drafts for review.

RESPONSE:

These validations reports are available for review if requested. However they are not included in the OU 2 RI.

COMMENT:

11. Table 9-2 (Fate and Transport - Travel Time Analysis) is very confusing. It appears that groundwater at Sites 12, 25, 26 and 27 reaches the nearest surface water body sooner then Site 11. However, the groundwater from these sites migrates through Site 11 which is directly adjacent to the surface water body, Bayou Grande. Please correct your calculations.

RESPONSE:

Table 9-2 of the revised Section 9 has been amended. The travel time estimated for Site 11 is still less than Site 26. This is because of the abrupt change in elevation between Site 11 and 26.

COMMENT:

12. I have some general comments related to Section 10 (Baseline Risk Assessment). In determining Exposure Point Concentrations, either the 95% UCL or Arithmetic Mean was used based on Supplemental Guidance to RAGS, EPA Region IV Bulletin 3 (1995). I believe this was interpreted incorrectly. According to the bulletin, the arithmetic mean is to be used for hot spot areas and only the arithmetic mean of those wells concentrated in the hot spot. The BRA used the arithmetic mean of all detections. Also, the BRA uses the UCL, the arithmetic mean or the maximum detection value. This is mixing two different approaches. It should be one method or the other, not both. Due to the extent of the contaminant plume and exceedances of screening values throughout the site area, the 95% UCL should be used or the maximum detected concentration if the UCL exceeds the maximum. Please see comments from Dr. Steve Roberts.

RESPONSE:

Section 10 has been revised to reflect the EPA risk assessment guidance. Section 10.2.5 addresses the COPC selection in the risk assessment. The relationship between exposure point concentrations and the 95% UCL are detailed in 10.2.7.

COMMENT:

13. In Section 11.2 (Recommendations) it states that no data gaps are noted which would limit development of a feasibility study. Surface water analysis in the adjacent wetlands and Bayou Grande is a data gap which could effect types and choice of remedial alternatives. It states this will be addressed with the Site 40 and 41 investigation. Since surface water standards may be or are exceeded, and wetland sediment have been impacted, the FS must address groundwater related to discharge.

    Also, this section states Phase I groundwater is deemed inappropriate to evaluate nature and extent due to turbidity. This may be relevant to inorganic constituents. However,

organic contaminants correlated well to Phase II data. Therefore, Phase I groundwater data is relevant for organic contamination.

RESPONSE:

Surface water samples were taken in support of the immediate removal action in Wetland 5A. The purpose of surface water samples was not to assess contamination in the wetland and therefore is not a data gap.

All data, whether Phase I or II is assessed in Section 7. The Navy disagrees turbidity has no affect on organic contaminants.

COMMENT:

14. Appendix G (Figures) was beneficial in that it broke down constituent exceedances of Preliminary Remediation Goals (PRG) by soil and groundwater for each specific site. However, the figures encompassed all of OU 2 and it became difficult to review and analyze the data because of the clutter of all sampling locations for all the sites being located on each figure. It would be nice to have the overall figure showing soil and groundwater sampling locations as in Figures 1 and 2. Site specific figures would be beneficial to better analyze the sites related to their specific contamination. Also, if a contaminant plume exists, and for reviewing remedial alternatives in the feasibility study.

RESPONSE:

The figures provided offer the extent of contamination as a "big picture". These figures illustrate the contamination found offsite and between sites equally as important as the site contamination. Small scale figures are provided to reduce the effect of clutter.

DRAFT REMEDIAL INVESTIGATION REPORT OU 2
NAS PENSACOLA, FLORIDA
RESPONSE TO UNIVERSITY OF FLORIDA CENTER
FOR ENVIRONMENTAL & HUMAN TOXICOLOGY

(Dr. Steve Roberts, **11/15/96)**

COMMENT:

1. E/A&H defines surface soil samples for use in health-based risk comparisons as samples from 0 to 1 foot bls (see pg. 10-5). FDEP typically regards soils from 0 to 2 feet as surficial soils when evaluating potential risks from direct soil contact.

RESPONSE:

In order to meet needs of the FDEP, the Navy defines surface soil samples in accordance with EPA Region IV, which defines surface soil samples from 0 to 1-foot, but plans to address the 0-2 feet in the feasibility study as appropriate. No changes to the document were required.

COMMENT:

2. E/A&H correctly cite EPA Region IV guidance as indicating that the arithmetic mean of groundwater concentrations in the most concentrated area of a plume can be used as the EPC. The approach taken by E/A&H is not entirely consistent with this guidance, however. E/A&H used the greater of the 95% UCL or the arithmetic mean of the detected concentrations (see pg. 10-15). The arithmetic mean of all of the detected concentrations is not the same thing as the arithmetic mean of concentrations within the most concentrated area of the plume. Including marginally contaminated samples in the averaging process has the potential to inappropriately lower the EPC.

RESPONSE:

The revised Section 10.2.7 provides a complete explanation of the relationship between COPCs and EPC. In addition, risk has been calculated for each detected COPC (*See* Figures 10-3 through 10-26) eliminating the effect of inappropriately lowering the EPC.

1

COMMENT:

3. Inhalation exposure to chemicals in surface soils was not quantitated. Although, as the report states (pg. 10-42), the omission of this exposure route is not likely to result in a serious underestimation of total exposure, it would have been a relatively straightforward matter to include inhalation exposure estimates for the sake of completeness.

RESPONSE:

The revised Section 10.2.10 addresses the inhalation exposure to chemicals in surface soil.

COMMENT:

4. In some cases, a factor was included in the calculation of exposures from soil to account for fraction from contaminated source. In Table H-10, for example, a fraction ingested from contaminated source of 0.4 was used for benzo(a)pyrene equivalents, with a footnote indicating that this is intended to reflect the estimated fraction of the site impacted by these chemicals. I could find no description in the appendices or in the text of Volume I as to how this estimate was derived. Table H-43 lists a fraction from contaminated source of 0.1 for Aroclor 1254, and pg. 10-60 explains that this value was derived based on the frequency of detection for Aroclor 1254. Given the inherently biased nature of sampling for most sites, frequency of detection may have little resemblance to the fraction of exposure area that is contaminated. Some further explanation as to why this assumed relationship is valid for Aroclor 1254 at this site is warranted. As a general comment, the use of FI/FC to adjust the EPC for soils is valid only when the areas of contamination are well characterized. Localized areas of high contamination ("hot spots") must be carefully evaluated, and should not disappear from the analysis through the use of FI/FC approaches or through extensive averaging with values from unaffected areas.

RESPONSE:

Section 10 has been revised to reflect the EPA risk assessment guidance. Section 10.2.5 addresses the COPC selection. The relationship between exposure point concentrations and the usage of FI/FC are detailed in 10.2.7.

COMMENT:

5. There are numerous inconsistencies in the data presentation. For example, DDT was listed in Appendix E as having a maximum detected concentration of 2,800 μg/kg, but in Table H-4 the maximum detected concentration is listed as 340 μg/kg. Similarly, much of the data in Appendix E does not correspond to its presentation in Appendix H (see aluminum, beryllium, cadmium, chromium, copper, and others for Site 11, for example). Also, some chemicals present in concentrations that exceeded their PRGs were omitted from the list of COPCs (e.g., beryllium in soils and antimony in groundwater at Site 11).

RESPONSE:

Sample number LF07-07 detected 2800 μg/kg at 7-feet bls while RA07-01 detected 340 μg/kg from 0-1 feet. RA07-01 represents the maximum detected DDT in surface soil as LF07-07 represents the maximum DDT detected in sub-surface soil for Site 11. Table H4 has been revised and is included in the text as Table 10.3.1-3 exhibiting surface soil maximum concentrations.