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NAS PENSACOLA
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Program Management Office

Shelby Oaks Plaza
5909 Shelby Oaks Dr.
Suite 201
Memphis, TN 38134
Phone (901) 383-9115
Fax (901) 383-1743

EnSafe/Allen & Hoshall* Branch *Offices:

Charleston
935 Houston Northcutt Blvd.
Suite 113
Mt. Pleasant, SC 29464
Phone (803) 881-0029
Fax (803) 856-0107

Cincinnati
400 TechneCenter Dr.
Suite 301
Milford, OH 45150
[illegible]e (513) 248-8449
[illegible]513) 248-8447

Pensacola
2114 Airport Blvd.
Suite 1150
Pensacola, FL 32504
Phone (904) 479-4595
Fax (904) 479-9120

Norfolk
303 Butler Farm *Road*
Suite 113
Hampton, VA 23666
Phone (804) 766-9556
Fax (804) 766-9558

Raleigh
5540 Centerview Drive
Suite 205
Raleigh, NC 27606
Phone (919) 851-1886
Fax (919) 851-4043

Nashville
311 Plus Park Blvd.
Suite 130
Nashville, TN 37217
Phone (615) 399-8800
Fax (615) 399-7467

Dallas
[illegible] Fuller Drive
[illegible]26
[illegible], TX 75038
Phone (214) 791-3222
Fax (214) 791-0405

March *17, 1997*

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

RE: Site 38 and OU-2 Remedial Investigation Report, NAS Pensacola
Contract #N62467-89-D-318/0059

Dear Mr. Mitchell:

On behalf of the Navy, EnSafe/Allen & Hoshall is pleased to submit one copy of the response to comments for the Site 38 and OU-2 Remedial Investigation Report at the Naval **Air** Station Pensacola. 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, SOUTHNAVFXENGCOM - 2 copies
Ron Joyner, NAS Pensacola - 2 copies
Gena Townsend, USEPA - 1 copy
Denise Klimas, NOAA - 1 copy
Judeth Walker, NAS Pensacola - 1 copy
EnSafe/Allen & Hoshall File - 1 copy
EnSafe/Allen & Hoshall Library - 1 copy
EnSafe/Allen & Hoshall Pensacola - 1 copy

Draft Remedial Investigation Report OU-2
NAS Pensacola, Florida
Response to Department of Environmental Protection Comments

(John Mitchell Comments **11/18/96)**

COMMENT:

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

RESPONSE:

The Navy agrees to amend the Table of Contents as suggested.

COMMENT:

2. In Section **6.3.2** (Tidal Influence), 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:

The Navy agrees to rewrite this section appropriately.

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:

The Navy agree that wetland 5A, 5B is natural drainage and an active stream supported by wet weather seeps and springs, however it is not on site, The Navy contends these wetlands are adjacent to and receives drainage from 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:

The Navy agrees to rewrite this section clarifying the suspected false positives and including the vinyl chloride hit.

For the reviewer's edification, many bromine and chlorine containing compounds are found in tapwater as a result of the chlorination process. Bromoform, chloroform, and a host of other chloro/bromo methane derivatives are found frequently in tapwater. The Navy did not suggest chloroform was a supplement to tapwater.

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:

The Navy agrees to review laboratory data and provide additional text explaining these contaminants. If they are of a concern in soil the text will reflect the contaminant's presence.

COMMENT:

6. In Section 7.2 (Groundwater), a Table indicating those wells sampled in Phase 11 would be beneficial for review. This would also be of use in the figures.

RESPONSE:

The Navy agrees and plans to provide separate figures for Phase I and Phase II with appropriate text changes.

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:

The Navy disagrees that off site water bodies should be included, except to say that they are affected by OU-2 and are being investigated under Site **41.**

Surface water samples were collected in accordance with the OU-2 sampling and analysis plan, the immediate removal action in Wetland 5b, and the phase IIA assessment of wetland 5b. No data gap exists in this area relative to general surface water quality.

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 than for Recreation and Maintenance of Fish and Wildlife Population which would be Class III.

RESPONSE:

The comment is unclear as to what is requested. The Navy would appreciate if the State would make an official determination or reference the applicable rule or regulation.

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:

The Navy agrees that commercial laboratories can make mistakes. Pesticide analysis is exceptionally sensitive and *can* be cross contaminated easily. The opinion of the reviewer is unclear as to the recommended action to take. Please clarify.

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:

The data validation section provided offers a consolidation of "reams" of paper. If the actual validation report is needed in the report, the Navy will provide an additional volume containing the data validation reports for each sample delivery group. **A** sample delivery group contains **20** samples.(see OSWER guidance **9355.3-01).**

COMMENT:

1I. 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:

The Navy agrees to clarify this table and the appropriate text.

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:

Although the Region **IV** Supplemental Guidance to RAGS was well intended, with respect to calculating a groundwater EPC, it was not adequately presented. The approach used in the OU-2 risk assessment was a hybrid **of** the traditional EPC method and what was perceived as the intent of the supplemental guidance. The perceived intent of the supplemental guidance was that since most sampling regimes are designed to define the extent of a plume, this might result in the biased placement of monitoring wells in uncontaminated areas of the aquifer thus causing a low bias on concentration. Since many of the groundwater COPCs were not members of a well defined plume, a simplifying assumption, which defined a separate plume for each COPC comprised of all the detected concentrations at a given site, was made. To guard against any inadequacies in this simplifying assumption, the traditional ***95%*** UCL was calculated based on the data from all monitoring wells at a given site. The greater of the arithmetic mean of detected concentrations (to overcome low bias caused by the sampling regime) and the 95% UCL was selected as the EPC for a given parameter at a given site. The outcome of this was a reasonable maximum exposure concentration for use in the risk assessment. The calculation of the groundwater EPC will be changed, as necessary, according to the Partnering teams needs. These decisions were necessary to provide the most conservative yet defensible approach to the public. If the current philosophy of the Partnering team is to use FGCGs and MCLs for groundwater cleanup targets, then it is futile to argue this point. The Navy believes that neither the traditional 95% UCL approach nor the "arithmetic mean in the plume" approach have much contact with reality. In a baseline risk assessment, the best way to visualize risk in groundwater is through risk maps which assign risk to each monitoring well with a supporting table that details the COCs. The Navy is prepared to provide this if agreed upon by the Partnering Team.

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 11 data. Therefore, Phase I groundwater data is relevant for organic contamination.

RESPONSE:

These surface waters spoken of are off site from OU-2 proper and are wholly contained on another CERCLA site. Please clarify how this is a data gap if it is to be covered under another on going investigation.

The Navy has been operating on a Partnering team decision to deal with any surface water or sediment contamination in adjacent sites within the assessment of the site 40 or 41 investigations. It is the opinion of the Navy that this does not affect the feasibility study of remediating sources to those wetlands or surface water bodies.

The Navy agrees the Phase 1 data is relevant only as screening data. The Navy was not interested in publicly defending this data for use in a risk assessment.

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 Navy is not certain of the request. The figures provided tables by site and the associated map locates the sampling data in context of OU-2.

Draft Remedial Investigation Report OU-2
NAS Pensacola, Florida
Response to University of Florida Center for Environmental & Human Toxicology

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. 105). **FDEP** typically regards soils from 0 to 2 feet as surficial soils when evaluating potential risks from direct soil contact.

RESPONSE:

E/A&H did not define surface soil as any particular interval on page 10-5, rather, we explained what was indicative of soil sampling at OU-2. Specifically, much of the surface soil collected was taken from the 0-1' interval. Surface soil taken from the 0-2' interval was also used in the risk assessments as well. The statement made on page 10-5 will be clarified.

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:

See response to **FDEP** comment number 12.

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 Navy agrees and will provide a discussion of this exposure.

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 Pb. 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:

Use of a FI/FC term is generally discussed in the Region IV supplement to RAGS (11/95). In general, a FUFC term is a factor applied to an EPC to address hot spots. A 95% UCL on the mean was calculated for each COPC to serve as an EPC. In instances where the data distribution caused the 95% UCL to exceed the maximum detected concentration (usually due to an elevated