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NAS PENSACOLA
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April 12, 1995

U.S. Environmental Protection Agency
Attn: Ms. Allison Humphris
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: Final Comprehensive Sampling and Analysis Plan Errata Pages
NAS Pensacola
Contract # N62467-89-D-0318/CTO-036

Dear Ms. Humphris:

On behalf of the Navy, EnSafe/Allen & Hoshall is pleased to submit one copy of the **Final Comprehensive Sampling and Analysis Plan errata pages** for the Naval **Air Station Pensacola in Pensacola, Florida**. Also included are the response to comments on the Comprehensive Sampling and **Analysis Plan**. Please replace the pages in the July 1994 version with the pages enclosed.

Please let me know if you have any questions or comments regarding the plan.

Sincerely,

EnSafe/Allen & Hoshall

Henry H. Beiro
Task Order Manager

Enclosures

cc: EnSafe/Allen & Hoshall file
EnSafe/Allen & Hoshall Library
EnSafe/Allen & Hoshall Pensacola file
Bill Hill, SOUTHNAVFACENGCOM — 1 copy
Bill Gates, SOUTHNAVFACENGCOM — 1 copy
Ron Joyner, NASP — 9 copies
John Mitchell, FDEP — 1 copy
Melissa Waters, NOM — 1 copy
Phil Crotwell, BEI — 1 copy

**U.S. ENVIRONMENTAL PROTECTION AGENCY
TECHNICAL REVIEW AND COMMENTS
FINAL COMPREHENSIVE SAMPLING AND ANALYSIS PLAN
NAVAL AIR STATION (NAS), PENSACOLA
PENSACOLA, FLORIDA**

Comment 1: Pages 3-1 through 3-3, Section 3.1

EPA looks forward to receiving a copy of the expanded, updated well inventory in the near future.

Response:

The well inventory was submitted to the USEPA and FDEP in December 1994.

Comment 2: Page 8-1, Section 8.0, Paragraph 3

Section 8 lacks sufficient detail regarding the decision-making process and/or the field investigatory steps to be used in completing an adequate ecological risk assessment. The absence of this information is not critical for the aquatic sites, since it can be presented in the RI/FS Work Plans for OUs 15-17. In contrast, the RI/FS Work Plans for terrestrial sites are being finalized through the approval of site-specific SAPs. Neither the original Work Plan (prepared by E&E) nor the site-specific SAPs for terrestrial sites contain this information. It must therefore be incorporated into either the CSAP or the site-specific SAPs. Clarification and agreement by the Parties up front on an acceptable approach for conducting the terrestrial ecological risk assessment is critical, particularly since "ecological risk assessment has not yet evolved to where standard risk can be calculated, as in human health risk assessments." (CSAP, Section 8.4). Early communication and consensus on this issue will facilitate the timely development of adequate RI Reports.

Response:

The protocol has been designed so that it can be adapted easily for use in terrestrial areas. E/A&H will provide greater detail in Section 8 concerning the approach for conducting ecological risk assessments at terrestrial sites. The information will include key information shown in the outline submitted to EPA by E/A&H in October 1993.

Following are some specific comments regarding the information which should be included in the CSAP (or SAPs) in order to ensure completion of an adequate ecological risk assessment for terrestrial sites.

Comment A:

Since there are currently no recommended soil screening values with which to compare soil contaminant levels, the Navy should develop a "criteria list" for use in determining whether or not to pursue field and laboratory testing beyond the chemical assessment stage (Phase IIA). Following is a recommended list of factors:

- What is the frequency of contaminant detection?
- **Are** contaminants present (especially inorganics) at **or above twice** mean background (elevated levels)?
- Are elevated contaminant concentrations widespread **or** localized?
- What is the mode of action (e.g., toxic effects) of **the contaminant(s)** detected? Can they biomagnify?
- What **are** the potential **receptor** species **and** habitats?

Response:

The above information has been **incorporated** into the CSAP for estimating ecological **risk** at terrestrial **sites**.

Comment B:

Phase **II**, if **performed** at terrestrial sites, should **not be** limited to toxicity **testing** (page 8-9, paragraph 3). Other measures, such as **soil** contaminant **bioaccumulation** tests, and food chain modeling (ingestion), should **also** be considered and implemented. **Also**, specify the type of toxicity **test** to be **performed** (e.g., bulk **soil** or **soil** elutriate).

Response:

It **has** been stated in the CSAP that **modeling** may be **performed in** Phase **IIA** if risk is suspected based on the **criteria** presented in the list of factors described in Comment A. Phase **III** is reserved exclusively for bioaccumulation **tests**, **which** may be completed depending on results from the **chemical** and **toxicity** analyses conducted during Phase **II**.

Bulk soil toxicity tests **will** be performed if **effects** cannot be sufficiently assessed during Phase **IIA**.

Comment C:

In October **1993**, the **Parties** held a conference call to determine **the** contents and structure of an acceptable ecological **risk** assessment. The results of **this** conference **call**, and particularly the outline which was developed, should be referenced, quoted and/or **discussed** in the CSAP as appropriate. **This** is necessary to ensure that **all data** needed to complete an acceptable **risk** assessment for terrestrial sites is **collected** during the field **stage** of **the** investigation.

Response:

E/A&H **has** discussed this outline with **EPA** and **has** included information from the outline in the framework for conducting **ecological risk** assessments at **terrestrial** as well as aquatic sites. **This** outline **has been tailored to fit** into the **existing** phased approach in Section 8 of the **CSAP**.

Comment 3: Page 8-11, Paragraph 2

The toxicity testing of reference area samples must be done at the same time as testing of all samples from the corresponding areas of concern in order to lessen the potential for variability due to test conditions. If the Navy can demonstrate low variability in toxicity test results for reference area samples through repeated sampling and testing efforts, EPA may consider modifying this requirement in the future.

Also, please clarify that a chemical analysis will be performed on a split of all samples collected for toxicity test.

Response:

Since toxicity tests are analyzed under controlled laboratory conditions, variability due to test conditions should be minimal. E/A&H has spoken with Barry Vittor and Associates of Mobile, Alabama and Trac Laboratories of Pensacola, Florida, which both provide toxicity testing services. These laboratories stated that toxicity tests from a reference area may be performed only once to determine reference conditions. These results will serve as a reference value for all terrestrial sites where toxicity analysis is being performed.

It is not anticipated that surface soil conditions will vary considerably throughout the base. However, reference samples will be collected from different areas throughout the base to yield an accurate depiction of any varying surface soil conditions. Note that all laboratories analyze their own internal control samples during toxicity analysis to ensure that the organisms used in analysis are healthy and will adequately represent site conditions.

Samples for Phase IIB toxicity analysis, if collected, will be sampled in locations where it is felt that the greatest ecological threat may exist based on the results from the Phase IIA chemical analysis. When samples for toxicity analysis are collected, split samples will be collected for chemical analysis to better correlate toxicity with confirmed constituents. However, these splits for chemical analysis will only be analyzed for those classes of constituents confirmed during the initial chemical sampling in Phase IIA.

There may be cases where samples for toxicity analysis will be collected during Phase IIA. If there is visual or olfactory evidence of contamination during the initial Phase IIA analysis, a field determination will be made to split samples for toxicity analysis. This decision will be made on a site by site basis.

Comment 4: Plate 1

This figure must be revised to more accurately locate each of the terrestrial sites. For example, according to the current figure, Site 26 overlies Site 11. This illustration is inconsistent with previous figures and documents submitted for these sites. Also, given the large size of the Plate

and the volume of environmental data which the Navy has collected to date, it should be possible to locate site boundaries more accurately than shown.

Response:

The Site 26 location has been corrected on Plate 1. The Navy believes the plate adequately represents the site boundaries for the general purpose of the CSAP.

Comment 5: Plate 2

Please recheck this figure to ensure that the full length of the sewer line is depicted, including both active and inactive segments. The current figure differs somewhat from previous figures generated for the line. Also, either revise this plate to include the terrestrial Sites which are co-located with the line, or add the line to Plate 1, in order to illustrate the overlap of the sewer line with other known terrestrial sites.

Response:

Site 36, the entire sewer line, has been included on Plate 1. North of TL 045/A for the IWTP sewer line has been added to Site 30, and south of TL 073/C for the IWTP sewer line has been added to Site 38. Those areas are marked with the corresponding site number.