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April 16,1993

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

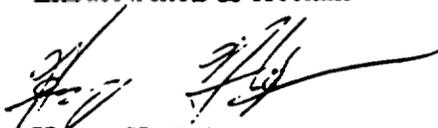
**RE: Final Sampling and Analysis Plans, Category 11: Sites 1, 25, 27, and 39, NAS-Pensacola,
Contract # N62467-89-D-0318/059**

Dear Ms. Drew:

Enclosed please find five copies of each *Final Sampling and Analysis Plan, Remedial Investigation/Feasibility Study*, for Category 11: Sites 1, 25, 27, and 39 for the Naval Air Station Pensacola in Pensacola, Florida.

If you should have any questions or need any additional information regarding the plan, please do not hesitate to call me.

Sincerely,
EnSafe\Allen & Hoshall



Henry H. Beiro
Task Order Manager

Enclosure
Final Sampling and Analysis Plans

EPA REGION IV
TECHNICAL **REVIEW AND** COMMENT
DRAFT SAMPLING **AND** ANALYSIS PLANS
FOR CATEGORY 2 (**SITE25 — RADIUM SPILL SITE**)
NAVAL AIR STATION (NAS) PENSACOLA
PENSACOLA, **FLORIDA**

GENERAL COMMENTS

Comment 1:

The following statement appears in Section 1.0 of each **SAP**: "This investigation will delineate the nature, magnitude and extent of any contamination identified in work previously conducted by E&E as Phase I of the **Work Plan**." These SAPs must also include a brief statement of the provisions/investigative approach which will be followed in characterizing and delineating any additional contamination identified in the upcoming field event.

Response:

Any additional sources or contamination previously not detected will **be** investigated by the collection of additional samples from any given media, sampling of additional media not included in the site-specific **SAP**, installation of additional monitoring wells to delineate extent and depth of contaminants, and performance of aquifer response tests to characterize subsurface hydrologic conditions. Prior to the initiation of additional field activities, a field change request will be submitted to the Navy for approval, and the EPA and FDER will be notified.

Comment 2:

Section 1.0 of each **SAP** must include a statement indicating that the **RI** will provide the basis(/supporting data) for completion of an FS and a BRA. Currently, **only** some of the SAPs contain such a statement.

Response:

Agreed. Change made.

Comment 3:

As recommended by EPA in previous correspondence and agreed by the Navy, an inventory of all existing wells is planned for the entire base. In order to assure the accessibility and validity of the groundwater sampling locations proposed in these SAPs, this inventory must be completed prior to initiating any additional field work. This will allow the Navy to reserve adequate time and resources for the installation of any additional temporary or permanent wells needed to complete the planned investigations.

Response:

Agreed. A well inventory has been completed to **assess** the accessibility and validity of the groundwater sampling locations. Any monitoring wells that are found to be in disrepair will be repaired or abandoned in accordance with Florida regulations. The abandoned monitoring wells will be replaced with additional monitoring wells **as** necessary.

Comment 4:

Section 4.0 of the SAPs includes the following statement: "Sample locations are presented on Figures...and are not expected to vary as they have been based on data collected during Phase I activities." Please amend this statement to include a reference to the paragraph which was inserted in Section 14.2 of each RI/FS Work Plan describing plans to adjust (e.g. redirect or expand) Phase II sampling activities as needed.

Response:

Any additional sources or contamination previously not detected **will** be investigated after SOUTHDIY **has** been notified. **See** Comment 1 of General Comments for a discussion of the provisions/investigative approach to be followed during the upcoming field investigation.

Comment 5:

The table entitled RI Sampling Analytical Requirements, which appears in Section 4.0 of each **SAP**, must be expanded to include a column entitled "DQO Level" which provides the DQO analytical level (**I** through **V**) to be used in analyzing of each sample or group or samples.

Response:

All sediment, surface water, groundwater and soil samples **will** be collected at Data Quality Objective Level IV protocol. A column has been added to the table entitled RI Sampling Analytical Requirements listing the DQO levels for the sample groups.

Comment 6:

According to Section **4.0** of each **SAP**, the Navy proposes to modify the surface **soil** sampling interval from 0-1' to 0-2'. As previously discussed and agreed to by the Parties, surface soil samples must be collected from 0-1' for risk assessment purposes.

Response:

Surface soil samples will be collected from 0-1' using a decontaminated hand auger or Xitech sampler prior to advancement of the soil boring. The remaining soil samples to be collected from the soil boring will be collected from 1-3', 3-5', etc. to reduce the **risk** of cross contamination by allocating one sample interval per 2-foot long split-barrel sampler.

Comment 7:

According to Section **4.0** of each **SAP**, soil samples collected from beneath the water table using Shelby tubes will not be analyzed for Full Scan Analysis (FSA). This is generally acceptable. However, FSA analyses should be run in cases where visual or other field evidence indicates that the sample collected could potentially serve as a contaminant source for the site. In such cases, the FSA analysis may prove useful in characterizing or delineating the source material.

Response:

If physical evidence of contamination is observed below the water table, a sample will be collected for **FSA** analyses for characterization and delineation of the source material.

Comment 8:

According to Section **4.5** of the **SAPs** for Category 3 sites, "A Portland cement grout will be used to construct **all** monitoring wells..". Available historical records for numerous hazardous waste sites indicate that use of a cement-based grout is highly likely to fully or partially compromise the integrity of PVC wells over **time**. In addition, a bentonite grout will better seal the annular space around the well casing, thereby reducing the potential for channelized downward contaminant migration. For these reasons, **EPA** strongly recommends the use of a bentonite grout during monitor well installation.

Response:

In accordance with Florida Administrative Code Chapter **40A-3**, neat cement grout **is** required in all monitoring well installations. Although bentonite grout might provide a better seal in most areas, bentonite grout should be avoided in coastal areas such as **NAS** Pensacola where concentrations of total dissolved solids in groundwater are high. In

addition, the neat cement grout provides additional protection from **storm** surge (hurricanes).

Comment 9:

A full scale aquifer test (minimum **48** hours) which is designed to evaluate the hydraulic properties of the aquifer and underlying aquitard, the leakage between the two **more** permeable zones of the Sand and Gravel Aquifer, and the radial influence of pumping and any boundary effects, must be performed for those sites where groundwater extraction and treatment is needed. **A** minimum of **48** hours of pumping will allow time to collect **data** which represents the instantaneous release of groundwater from the zone being tested and the effects of gravity drainage within the aquifer. The aquifer test must be preceded by the test needed to design and appropriate pumping test (**i.e.** (i) slug tests, to provide a rough estimate of aquifer characteristics, and (ii) specific capacity, or step-drawdown, tests to estimate the pumping rates which the aquifer can sustain for given levels of drawdown). The plans for all pumping tests must be provided to EPA for review and approval prior to commencement of these tests.

Pumping tests will be required for the site as soon as it is determined that groundwater remediation is needed at that site. Based on Phase I screening results, it appears highly likely that groundwater remediation will be required for several sites in Categories **2** and **3**. However, positive confirmation of this need will be obtained only through the collection of high quality **data** as scoped for Phase **II**. The Navy may therefore choose to submit pumping test plans now, as part of the present **SAP**, or defer preparation of these plans until receipt of the Phase **II** data. If the latter option is selected, the current **SAP** must be revised to state that a Technical Memorandum detailing full-scale pumping test plans will be submitted as soon as the need for groundwater remediation is determined based on analytical results. In either case, the necessary data must be collected in a timely manner which will not delay submittal of the Feasibility Study.

Response:

In accordance with the site-specific **SAPs** and work plans, slug tests will be performed at selected monitoring wells. **If** groundwater remediation will be required, the results of the slug tests will be used to design the appropriate pumping tests. Pumping tests (up to **48** hours) will be performed at each site with the objective of evaluating the hydraulic properties of the aquifer and underlying aquitard, the leakage between the two more permeable **zones** of the Sand and Gravel Aquifer, the radial influence of pumping, and any boundary effects. Pumping tests will continue until the above listed objectives are achieved. The EPA and **FDER** will be kept apprised of the investigation **as** it progresses, and will be notified prior to conducting full-scale pumping tests. The Navy will take technical responsibility for the design and implementation of these tests. Pumping tests will be performed in accordance with the procedures provided in Section **9.6.2** of the Comprehensive Sampling and Analysis Plan (CSAP).

SPECIFIC COMMENTS

CATEGORY 2:

STIE 25 (Radium Spill Site)

Comment 1: Page 5, Figure 4-1

The number of soil samples proposed for this site **seems** excessive. The Navy should provide some justification for expanding the resources and time which **will** be required to complete **an** investigation of this level of effort.

Response:

Agreed. The number of soil borings has been reduced from 14 to 11, and the boring density reduced.