UNITED STATES ENVIRONMENTAL PROTECTION
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

MAR 1 0 1993

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Commanding Officer
Attn: Ms. Linda Martin - Code 1851
SOUTHNAVFACENGCOM
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Re: Review of Sampling and Analysis Plans *(SAP)* for Investigative Categories 2 (Sites 1, 25, 27 & 39) and 3 (Sites 2, 11, 30 & 38); NAS Pensacola, Florida
EPA Site ID No.: FL 9170024567

Dear Ms. Martin:

The Environmental Protection Agency (EPA) has completed its review of the the Navy's Sampling and Analysis Plans (SAPs) for Investigative Categories 2 (Sites 1, 25, 27 & 39) and 3 (Sites 2, 11, 30 & 38). Our comments are enclosed. Please feel free to contact me if you have any questions or require further clarification on these issues. In accordance with the schedules in the FY93 Site Management Plan, EPA anticipates receipt of the revised SAPs which incorporate our comments within 21 days of your receipt of this letter.

In accordance with Section XV. (Sampling and Data Document Availability) of the Federal Facilities Agreement, EPA also wishes to inform the Navy of its intent to perform technical oversight and possibly collect split samples during the upcoming field activities planned for Category 2 and 3 sites. Please provide us with your anticipated field schedules for these sites at your earliest convenience *so* that we may establish official dates and inform you of our plans.

Sincerely yours,

Allison W. Drew, RPM
Department of Defense Remedial Section
Federal Facilities Branch

Enclosure

cc: Ron Joyner, NAS, Pensacola
Eric Nuzie, FDER
Henry Beiro, Ensafe/Allen & Hoshall

TECHNICAL REVIEW AND COMMENT
DRAFT SAMPLING AND ANALYSIS PLANS
FOR CATEGORY 2 (SITES 1, 25, 27 & 39)
AND CATEGORY 3 (SITES 2, 11, 30 & 38)
NAVAL AIR STATION (NAS) PENSACOLA
PENSACOLA, FLORIDA

GENERAL COMMENTS

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.

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.

3. As recommended by EPA in previous correspondence and agreed to by the Navy, an inventory of all existing wells is planned for the entire base. In order to assure the accesibility 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.

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 ammend 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.

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 of samples.

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.

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.

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.

9. A full scale aquifer test (minimum 48 hours) which is designed to evaluate the hydraulic properties of the aquifer and underlying aquitard, the leakance 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 tests needed to design an 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 a 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 11. 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.

SPECIFIC COMMENTS

CATEWRY 2:

SITE 1 (Sanitary Landfill)

1. Page 6, Figure 4-2:
A. It is assumed that all existing permanent monitoring wells, with the exception of GM03 and GM44, are structurally competent and may be used to obtain groundwater samples of acceptable quality. The planned well inventory must be completed prior to initiating Phase II monitoring well installation activities in order to verify this assumption.

B. Much of the organics data obtained from permanent wells was disqualified (e.g. contaminant present in method blank). EPA therefore recommends that the existing permanent wells be resampled in order to confirm the presence of this groundwater contamination prior to installing additional permanent wells. some of the intermediate wells proposed may not be necessary if the concentrations of constituents are found to be below MCLs.

C. The groundwater sample collected from Phase I temporary well TW020 contained 150 ppb of trichlorophenol. In order to verify and monitor this contamination, a permanent well must be installed at this location during the upcoming round of field work.

D. Proposed intermediate well locations 28 and 44 do not appear justified based on the contamination which was detected at these locations during Phase I sampling (7 ppb of methylene chloride in well GM35, and 14 ppb of methylene chloride in well GM41, both of which were disqualified). A more appropriate location for an intermediate well is adjacent to GM33, since the groundwater sample collected from this well contained levels of benzene above the MCL.

E. Based on the fact that much of the temporary well data was invalid, and most of the organic data collected from permanent wells was listed with qualifiers (for samples collected from both the surficial and main producing zones) the installation of deep wells in the main producing zone is not warranted until additional quality groundwater sampling and analysis is conducted. Before additional deep wells are installed, the existing shallow and deep wells should be sampled, and the proposed intermediate wells should be installed and sampled.

F. Examination of this figure reveals that some of the proposed sampling locations are markedly similar to those selected by the U.S.EPA's Environmental Services Division (ESD) in June 1992. The proposed sampling scheme should be revised utilizing findings of that study.

SITE 25 (Radium Spill Site)

1. Page 5, Figure 4-1:
Tne number of soil samples proposed for this site seems excessive. The Navy should provide some justification for expending the resources and time which will be required to complete an investigation of this level of effort.

SITE 27 (Radium Dial Shop Sewer)

1. Page 5, Figure 4-1:
A. The upcoming field effort must focus on characterizing the potential source area for this site, namely, the waste line connecting former Building 709 to the sewer. It is unclear whether the proposed soil sampling locations will adequately characterize this source area and permit an effective evaluation of the associated risks. In order to fully characterize the radium contamination and determine its migration potential, it may be necessary to remove the overlaying asphalt and/or to excavate the sewer line and sample the adjacent soils. The problem lies in determining whether disturbing the surface will cause more contamination and/or migration of the radium. The means for addressing and resolving these problems must be presented in the SAP.

B. The highest concentrations of Ra-226 and/or organics were detected at Phase I locations TW010 and TW015 (proximate to Phase II locations 3 and 19). Permanent wells are needed at the corresponding Phase II locations and at Phase II location 1 (background). Groundwater at all other locations should be monitored first using one of the temporary methods recommended, since there is no definite indication of groundwater contamination at these locations.

SITE 39 (Oak Grove Campground)

(no specific comments)

CATEGORY 3:

SITE 2 (Waterfront Sediments)

1. Page 3, Section 2.1:
"Previous studies have described the bay sediments to be fine sands, silty sands, and fine muds, depending on water depth...". Is the distribution of these different sediment types across Site 2 known? If not, this information should be determined and used to select appropriate sampling locations, since the type of sediment will undoubtedly affect the magnitude of contamination.

A fairly thick flocculent layer above the sediments has been noted during previous investigations at Site 2. Since this layer may bind contaminants, it should also be sampled and analyzed if an appropriate sampling method can be determined.

It may be informative to bias sampling efforts towards areas of softer, less consolidated bottom sediments (if this determination can be made), since these characteristics would indicate more recent deposition.

2. Pages 8-9, Table 4-1/Physical Parameters, Sediment:
Ten "PPS" samples will probably not be sufficient to characterize particle size and total organic carbon (TOC) for the sediment. Samples for these two parameters should be collected along selected transects, since particle size is likely to vary with distance from shoreline, water depth and flow patterns. The TOC and particle size measurements can then be used to generate maps illustrating the distribution of sediments with similar TOC content and

particle size. This information is particularly important, since sediment particle size significantly affects the type of benthic macroinvertebrate community that can live in a particular area.

3. Page **10,** Physical Parameters, Biota:
According to this section, biota samples will be collected at locations that "generally represent the general biotic condition of sediments at the site", targeting "areas of likely contamination". Yet Table **4-1** shows that biota samples will be collected at all 80 sampling stations. Please clarify.

4. Pages **10-12,** Rationale for Sampling Approach:
A. At least one or two control transects must be included in the proposed sampling. Ideally, control transects should be located on either side of Site **2,** given the tidal nature of the system. However, this may be difficult given the location of the site at the southeastern corner of the peninsula.

B. "... the northern, eastern and western most extents of Site **2** have been omitted from the sampling approach...". More justification is needed for this omission. The goal of the Site **2** investigation should be to characterize and delineate the contamination associated with **all** potential contaminant sources (e.g. outfalls) at Site **2** using high quality data. This approach will ensure that the information needed to appropriately direct and refine sampling efforts for **OU 42:** Pensacola Bay (e.g. identification of potential contaminant pathways to **the** Bay) is available as early as possible.

5. Page **11,** Figure **4-1:**
A. The proposed transect sampling is very thorough. However, the planned analyses for full scans and infaunal benthic macroinvertebrates may prove very costly and time-consuming. One possible means of focusing this effort would be to perform an initial evaluation of sediment type (e.g. estimated grain size analyses, TOC content) and a water column depth profile (e.g. strip chart recording) at each of the 80 sampling stations, and use this information to select a subset of stations on which to perform subsequent sediment and biota sampling and high quality analyses. The preliminary evaluation could be conducted **1-2** weeks prior to sampling the sediment and biota.

B. This figure does not show the locations of the temporary monitoring wells proposed in Table **4-1.** Please revise accordingly.

6. Page **17,** Section **4.5.3:**
Change the wording in the second sentence of this section to be consistent with that of Section **4.0** (page **10) as follows:** "The survey will focus on analysis of benthic grab samples to determine the distribution and diversity of macroinfauna, as well as the presence or absence of the pollution indicator species...".

7. Appendix A:
Calibration - Please include the frequency of calibration **of** the Hydrolab Data Sonde units during field deployment (e.g. calibrated during the weekly instrument checks?).

Deployment - How will the instrument be marked? What precautions will be taken against vandalism, boat traffic, etc.?

Dissolved Oxyaen - Since it is stated that the DO membrane may require changing after only a few days, indicate whether any field testing will be done to determine whether the DO membrane will need to be changed more frequently than the weekly instrument check interval.

8. Appendix B:
Surface Water Sampling with Depth - The following sampling regime is strongly recommended by ETAG:

	Water Column Depth	Sampling Depths
1.	0-3 feet	mid-depth
2.	3-10 feet	1 foot below surface 1 foot above bottom
3.	10 feet	1 foot below surface mid-depth 1 foot above bottom

9. Appendix C, Sediment Sample Collection Procedures:
The TCL/TAL full scan parameters should not be split between two depths

10. Appendix D, Biota Sampling Procedures:
A. Clarify the statement that the "volume of the grab's contents will be weighed."

B. A sieve mesh size of 0.5 mm is preferrable to a mesh size of 1.0 mm.

SITE 11 (North Chevalier Disposal Field)

1. Page 4, Section 3.0:
This site should be evaluated using older maps, aerial photographs, EM, etc., to determine the extent of the fill material in this area. Comparison of modern maps with older ones suggests that a significant portion of the upper arm of this peninsula is fill material.

2. Page 10, Figure 4-2:
Proposed deep wells 4, 13 and 17 are not necessary based on the existing data from temporary and permanent wells (e.g. the groundwater sample from GM28 contained elevated levels of organics just above MCLs, but the data was disqualified). The installation of deep wells in these locations should be postponed until the results of representative groundwater samples collected from the surficial and intermediate zones confirm the need for these permanent groundwater monitoring locations.

3. Page 11, Section 4.1:
Given the proximity of this site to Bayou Grande, please include an explanation in this section as to why no sediment or surface water sampling is proposed (e.g. samples will be collected in conjunction with another site

investigation).

4. Page 12, Section 4.5.1:
Why will "the soil boring locations for this investigation ... not be based on soil gas survey results? What information/data will the boring locations be based on? The text must be revised to indicate this.

5. Page 14, Section 4.5.2:
"This modification is proposed so that the auger may act as a temporary surface casing during well installation because the highly permeable, homogenous nature of the surficial aquifer zone will not provide sufficient sealing for the surface casing." Please explain/clarify this statement.

SITE 30 (Buildings 649 and 755)

1. Page 1, Section 1.0:
A. The proposed investigation is premature. The source area which was identified by U.S.EPA in the study performed last summer must be removed before initiating an extensive monitoring program of these wetlands.

B. As discussed and agreed to by the Parties, Operable Unit 5 shall be expanded to include Site 31: Soil North of Building 640. A SAP for this site must therefore be submitted for review and approval before work on this Operable Unit commences.

C. The goals of the Site 30 investigation must be expanded to include plans to assess the nature and extent of contamination associated with (i) the former UST sites in the vicinity of Buildings 649 and 755 which were transferred to the CERCLA program, and (ii) the northeast and northwest segments of the IWTP sewer line (following final agreement to this approach by the Parties). The appropriate information must also be added all other applicable sections of the SAP (e.g. "Background Information, "Field Sampling Plan", etc.). In addition, in order to properly document the extensive scope change which the above additions will entail, the Navy must submit an addendum to the present RI/FS Work Plan. The addendum should contain the bulk of the information required to document the changes in investigative scope. Text, table and figure additions to the SAP could then be minimal and, in many cases, copied directly from the work plan addendum. This approach is in accordance with the NCP (40 CFR §300.430(b)) which describes the *SAP* as only one component of a full RI/FS Work Plan.

2. Page 11, Figure 4-2:
It seems likely that, by now, the solvent contamination plume originating from this site has reached Bayou Grande. Instead of centering permanent monitoring wells around the site now, the plume should first be delineated using temporary wells, cone penetrometers, etc.. Once the location and extent of the plume is known, permanent wells should be installed to monitor the extent/ movement of the plume.

SITE 38 (Building 71)

1. Page 1, Section 1.0:
The goals of the Site 30 investigation must be expanded to include plans to assess the nature and extent of contamination associated with the southwesternmost segment of the southeastern segment of the IWTP sewer line, provided that a final agreement to utilize this approach is made by the Parties. Please refer to EPA's comment I.C. for Site 30.

2. Page 1, Section 1.0:
Since investigative work on this site has not yet begun, the 3-step approach presented in EPA's General Comment 3B. for the Batch 2 RI/FS Work Plans (Site Groups F, G, J, L, M and N) is particularly applicable to the investigation of Site 38 and should be implemented. For example, since groundwater quality is unknown at the site, EPA recommends that groundwater samples be collected by means of a Hydropunch, or similar instrument. The advantages of this temporary groundwater sampling technique.are two-fold. First, the Hydropunch allows the sampler to collect groundwater and soil samples at discrete intervals. Samples from both the shallow and deep zones can therefore be collected through the same borehole. This approach would minimize the number of boreholes required and increase the likelihood of completing any plume delineation in a single sampling round. second, if no groundwater contamination is detected, the installation of unneeded permanent monitoring wells would be avoided. If groundwater contamination is detected, then a minimum number of permanent monitoring wells could be installed at appropriate depths and locations once the extent of the plume was adequately known.