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09.01.32.0004

PLEASE ADDRESS REPLY TO THE  
COMMANDING OFFICER, NOT TO  
THE SIGNER OF THIS LETTER.  
REFER TO:

5090  
18211/11

16 FEB 1992

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NAS PENSACOLA  
5090.3a

Mr. Eric Nuzie  
Florida Department of Environmental Regulations  
Federal Facility Coordinator  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

Dear Mr. Nuzie:

Enclosed for your approval are copies of the Final Workplans for Operable Unit 10: Group O; Sites 32, 33, and 35. We have incorporated your appropriate comments provided on January 24, 1991, and have provided our responses.

The field work schedule will be shown in the Approved Final SMP to be submitted on or prior to March 1, 1992.

Please contact Ms. Suzanne O. Sanborn at (803) 743-0574, if you should have any questions pertaining to this document, or any other matter concerning the Naval Air Station Pensacola, Pensacola, Florida Installation Restoration Program.

Sincerely,

*R. David Criswell*  
R. DAVID CRISWELL, P.E.  
MANAGER, INSTALLATION  
RESTORATION, WEST SECTION

Encl:  
(1) Final Workplan for OU 10

Copy to W/out Encl:  
NAS Pensacola (Mr. Ron Joyner, Code 18250)  
PWC Pensacola (Mr. Greg Campbell, Code 480)  
EPA (Ms. Allison Drew)

RESPONSES TO COMMENTS FROM  
THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV,  
GROUP 0 DRAFT FINAL RI/FS WORK PLAN

**COMMENT 1, Page 2-3, Figure 2-2:**

This figure shows an IWTP discharge pipe leading to Pensacola Bay. Information concerning the effluent discharged to the Bay (presumably under an NPDES permit) and any previous permit violations that might affect the near shore sampling of surface water and sediment in conjunction with Site 13 should be included in the work plan.

**RESPONSE :**

The IWTP discharge pipe shown on Figure 2-2 is, for the majority of its length, actually buried beneath the sediment flooring the Pensacola Bay. It discharges above the sediment/water interface approximately 2,500 feet into the Bay. The figure has been corrected to clarify this. Given this distance, it is unlikely that the discharge will impact the nearshore Site 13 surface water and sediment sampling area.

**COMMENT 2, Page 3-4, Paragraph 1:**

This section states that "stormwater drainage directs flow towards the small ditch.. .which drains to Pensacola Bay and Bayou Grande"; while Figure 2-2 shows the drainage ditch leading only to Pensacola Bay. Please correct this discrepancy.

**RESPONSE :**

The text was changed to indicate that the ditch drains only to Pensacola Bay.

**COMMENT 3, Page 5-5, Section 5.1.7:**

A recent aerial photograph should be used in conducting the habitat/biota survey in order to generate a schematic map showing the locations of the different habitats at the Group 0 sites and adjacent areas.

**RESPONSE:**

Aerial photographs are used in the habitat/biota survey; however, the purpose of this survey is to delineate the presence of rare, threatened or endangered species that may be affected by site activities. Consequently, unless conditions indicate otherwise, this does not require the generation of a schematic map showing the different habitats.

COMMENT 4, Page 5-6, Section 5.2:

A site-specific background sample must be collected for surface water and sediment if an acceptable location can be identified.

RESPONSE:

Given that the only on-site surface water body at the Group 0 site complex is the small drainage ditch (which may be affected by site activities), an acceptable background location for site specific sediment and surface water does not exist.

COMMENT 5, Page 5-18, Paragraph 1:

It is unlikely that the proposed monitoring wells will provide adequate information to "determine the full (i.e. lateral/vertical) extent of groundwater contamination: (as per p.4-2 of the work plan). At a minimum, 3 wells must be installed in the low permeability zone and 3 in the main producing zone. Ideally, these wells should be clustered with wells penetrating the surficial zone and installed in areas displaying elevated contamination in the surficial zone. Locations should also be selected to maximize the amount of information available on the direction of groundwater flow in these zones.

RESPONSE:

The thickness of the low permeability zone at the Group 0 site complex is only 15 to 20 feet. Consequently, a well screened into this zone, with the associated permeable sand filter pack, could significantly reduce the capability of this zone to retard the exchange of groundwater between the surficial and main producing zones and would serve little purpose in further delineating the extent of contamination.

There are currently four monitoring wells on-site open to the main producing zone. All four wells are located in or near areas in the surficial zone which have contamination; however, none of the deeper wells exhibit significant Contamination. Given that the highest levels of contaminants in the surficial zone occur in the lower portion of this zone and the direction of groundwater flow in this portion of the zone is to the east, the work plan has been modified to include a main producing well east of the site complex. This deep well will be clustered with a proposed shallow and intermediate well and will have 10 feet of screen to facilitate any aquifer testing which may be required if the main producing zone in this area is found to be contaminated.

COMMENT 6, Page 5-22, Paragraph 3:

The proposed short-duration pumping tests are a good approach for estimating aquifer properties at specific points in the surficial zone. However, at least one long term aquifer test must be conducted on the unconfined surficial zone in order to determine the specific yield of the aquifer and the effects of any hydrologic boundaries. This data is

needed in order to adequately assess potential contaminant migration and to perform contaminant transport modeling.

Furthermore, it is unlikely that the interaction between the surficial zone and the main producing zone will be observed after 8 hours of pumping. A 48-hour aquifer test (24 hours of pumping and 24 hours recovery) must be conducted in the main producing zone to determine the aquifer characteristics, the leakage rate between the zones, and any boundary effects within the major producing zone. This information is necessary for determining the fate and transport of contaminations in the horizontal and vertical directions and eventually for selecting appropriate remedial alternatives.

The details of these long term aquifer tests (pumping rate, duration, location of pumping and observation wells, etc.) should be submitted as an addendum to the present work plan as soon as the information needed to provide specific design details becomes available.

#### RESPONSE:

The response to this comment is divided into two parts:

##### Surficial Zone Pumping Tests:

- a) The surficial zone is a complex two-layered system based on contrasting hydraulic conductivities (Ks); hence, there is some question as to how long it may take the system as a whole to reach steady-state flow conditions.
- b) Given the persistent lateral continuity of the surficial zone lithology across NAS Pensacola, boundary conditions are not expected to be encountered within the area of potential Group 0 remediation.
- c) A steady-state flow simulation will be used to set up the groundwater flow field; hence, the modeling effort will not rely heavily on specific yield data. Effective porosity, which will be needed for transport modeling, can be estimated using the abundance of subsurface lithologic data for the site.

Given the above points, the work plan has been changed to indicate that the surficial zone pumping tests (one recovery well and one intermediate depth well) will be conducted for a minimum of 8 hours, or until adequate and stabilized drawdowns occur in the adjacent observation wells which can be used for pumping test analysis. If necessary, the flow simulation can be calibrated to match these field observations.

##### Deep Zone Pumping Tests:

- a) Recent data indicate that there is not significant contamination in the deep zone at the Group 0 sites; given this, the hydraulic properties of this zone are not viewed as critical for site remediation.
- b) Even though there is an apparently consistent vertical upward gradient from the deep zone to the surficial zone (see page 2-29, Section 2.5.4), prolonged pumping from the deep zone may induce contaminant migration from the surficial to the deep zone.

- c) Horizontal K values in the intermediate zone are relatively low, and vertical K values between the intermediate and deep zones can be expected to be even lower. Consequently, leakage affects between the surficial and deep zone should have a minimal impact on surficial zone remediation.
- d) Two Shelby-tube samplers of the low permeability zone will be collected during the drilling of the deep well; these will be analyzed in the laboratory for permeability. This information can then be used to evaluate the leakage potential between the surficial and deep zones.

Given these points, a deep zone pumping test is not recommended, nor would it provide data useful to the shallow zone remediation.

Specific details of the long-term aquifer testing will be provided as soon as the required information is available.

**COMMENT 7, Page 5-23, Paragraph 1:**

In order to improve the accuracy and usefulness of the specific capacity test results, the wells should be developed and the water level allowed to recover prior to conducting the test.

**RESPONSE:**

The text has been changed to indicate that the specific capacity testing will be conducted immediately following well development, after the water levels have fully recovered and stabilized.

**COMMENT 8, Page 5-25, Section 5.2.10.2:**

Once final procedures for the disposal of investigation-derived waste are established these should be included as an appendix to the work plan. These procedures must be established and approved by EPA and FDER prior to the initiation of the Group 0 field investigation.

**RESPONSE:**

The procedure for the disposal of investigation derived waste will be provided by the Navy to the EPA and FDER for approval.

**COMMENT 9, Page 5-27, Section 5.5:**

The Baseline Risk Assessment must also follow EPA's 1989 document entitled: Risk Assessment Guidance for Superfund: Volume II - Environmental Evaluation Manual (Interim Final).

**RESPONSE:**

The text has been changed to include this document.

COHMENT 10, Page 5-28, Section 5.5.1:

The reference to indicator chemical is not appropriate for site characterizations and risk assessment purposes and must be deleted.

RESPONSE:

The references to indicator chemicals have been deleted from the work plan.

COMMENT 11, Page 5-29, Section 5.5.3:

While it is true that toxicity assessment for human health concerns generally relies upon existing toxicity information, a toxicity assessment for the biota may involve toxicity testing (e.g. bioassays, chemical analysis of tissues) if the existing toxicity information is insufficient.

RESPONSE :

Comment noted.

COMMENT 12, Page 5-30, Paragraph 2:

IRIS should be used for the Toxicity Assessment (Section 5.5.3). Please move this reference to the appropriate section.

RESPONSE :

The reference to IRIS has been moved to the Toxicity Assessment Section.

COMMENT 13, Page 7-2, Project Schedule:

The proposed investigative schedule is overly lengthy and must be significantly reduced. The time required to complete the individual tasks listed must either be reduced or run concurrently with other tasks.

Treatability studies should begin as early as possible. If they are not started until after all data collection efforts are complete, they will either delay the entire project or not be available for use in the Feasibility Study.

The exposure assessment is part of the Baseline Risk Assessment. The information needed to perform this task will not be available until the majority of the field investigation is completed.

RESPONSE:

By reducing the time required to complete individual tasks, the overall project schedule has been reduced by approximately 20 percent to 32 weeks instead of 40 weeks. Treatability studies will begin prior to initiation of the Feasibility Study. The exposure assessment effort at the beginning of fieldwork is for the purposes of the preliminary evaluation of potential pathways by a risk assessment expert. This evaluation may necessitate the adjusting of sampling locations.

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