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Ma. Allison Drew
Remedial Project Manager (RPM)
United States Environmental Protection Agency
Region IV
Waste Management Division
RCRA and Federal Facilities Branch
345 Courtland Street, NE
Atlanta, Georgia 30365

Dear Ms. Drew:

Enclosed for your review are the Navy's Responses to EPA, FDER and other TRC review comments for the Draft Workplans Phase I : Groups H, I, P, and Q (OU 11-14) for the Naval Air Station Pensacola, Pensacola, Florida. The Navy's Responses to review comments for Group L will be submitted later due to the fact that EPA has ~~has~~ recently submitted their review comments. The Draft/Final document submittals for Groups H, I, P, and Q are due for transmittal no later than June 16, 1992.

Please contact Ms. Suzanne O. Sanborn, if you should have any questions concerning the Navy's response to your review comments.

Sincerely,
J. B. MALONE, Jr., P.E.
MANAGER, INSTALLATION
RESTORATION EAST SECTION
JAMES B. MALONE, JR., P.E.
MANAGER, INSTALLATION
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Encl :

- (1) Navy Responses to FDER comments
- (2) Navy Responses to FDNR comments
- (3) Navy Responses to EPA comments

copy to:

NAS Pensacola (Mr. Ron Joyner) w encl
FDBR (Mr. Eric Nuzie) w/out encl
FDNR (Mr. John Mitchell) w encl

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Attachment A

RESPONSES TO COMMENTS FROM THE
U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IV (EPA)
DRAFT WORK PLANS FOR GROUPS E, I, P AND a
NAVAL AIR STATION (NAS), PENSACOLA
PENSACOLA, FLORIDA

GROUP E - SITE 8 (Rifle Range Disposal Area) and SITE 22 (Refueler
Repair Shop)

Comment 1; Page 1-1:

The following comments pertain to the phased approach presented here and detailed in Section 14 of the work plan:

a) The field activities needed to accomplish the proposed goals of Phases I through IV must be performed in a single investigative effort, i.e. one which is not interrupted by lengthy periods of demobilization and report preparation.

Response:

The Navy agrees that the investigative efforts need to be as uninterrupted as possible for all sites; however, the overall complexity of this multi-site investigation requires that the investigative effort be staggered to some degree. The reviewer's objection to a phased investigative approach is contradictory to the EPA's document 87-76, the Remedial Project Manager's (RPM) Primer, which points out the benefits and advocates a phased approach to agency-led investigations. Phasing allows the periodic evaluation and presentation of data to the various concerns involved, and permits the periodic and necessary agency input to complete all site investigations as quickly and efficiently as possible. As discussed at the January 13, 1992, RPH meeting: 1) all draft reports will be submitted by the contractor to the EPA and Florida Department of Environmental Regulation (PDER) at the same time as to the Navy; and 2) the interim data reports will be less formalized. These two changes will serve to shorten the time between mobilizations.

Comment 1; Page 1-1:

b) The present document must be prepared under the assumption that it will be the only RI/FS Work Plan prepared for this Operable Unit. This document must therefore propose sampling locations which will satisfy the objectives of (i) field screening, (ii) characterization and (iii) extent delineation. Since the locations of all samples beyond the screening investigation are contingent on screening results, it is critical that the work plan include not only the proposed sampling locations but also (i) a rationale for selection of each of these tentative locations (i.e. satisfaction of an existing data gap), and (ii) the strategies and contingency plans which will be used to modify the location and number of these samples as needed. In short, plans for a complete investigation must be delineated up front to the maximum extent possible in order to streamline the field investigation and

assure successful completion of the RI/FS in a timely manner. The specific number, types and locations of samples can be revised or refined as needed under this one work plan.

Response:

All proposed Phase I screening samples were designed to provide the maximum amount of information about a site for which there is little existing data. The purpose of the Phase I investigation is to provide data which will be necessary to focus the Phase II sampling effort. It is not practical nor possible to efficiently delineate the sample types and locations that will be used for characterization and extent delineation purposes (Phase II) prior to evaluating screening data. Presenting a detailed sampling rationale at this point of the investigation would: a) require restructuring of the entire work plan investigative approach, and b) require developing a detailed new rationale section of the work plan which would have to be reviewed and approved by EPA/FDER. Both of these efforts will slow down the investigative process. It is the Navy's intent to revise the appropriate sections of a site work plan following the evaluation of screening data, and to provide specific rationale for additional sampling as part of these revisions. For example, the additional proposed sampling locations at Operable Units (OUs) 1-5 are based on the Phase I results for those sites, and the rationale for each Phase II sampling location was presented in detail in the revised work plans. In the future, these revisions will be provided in the format of addendums to the original work plans.

Comment 1; Page 1-1:

c) The purpose of the screening portion of the investigation is to "focus" later sampling events so that the time and expense required to adequately characterize the site is ultimately reduced. The benefits derived from screening will be either partially or fully negated unless this portion of the investigation is completed as rapidly as possible. Under the current schedule, it will take six months to complete the screening portion of the investigation and initiate collection of the data (i.e. DQO Level III and IV) needed to perform a BRA and select a Remedial Alternative. In short, the screening process must be significantly shortened if it is to remain useful. The following specific comments are offered:

- 1) more overlap of the field tasks listed in Figure 23-1 is needed, particularly of the various survey tasks.

Response:

This figure is for planning purposes only; the schedule which is driving the project is contained in the Federal Facilities Agreement (FFA) Site Management Plan (SMP). Every effort will be made to shorten the field effort by overlapping specific tasks; however, the overall goal is to submit the RI reports for this site group within 385 days of work plan approval (see the FFA SMP), and the Navy fully intends to comply with this schedule.

Comment 1; Page 1-1:

- 2) the proposed investigative techniques must be re-evaluated to assure that the most rapid field screening methodologies and

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analytical techniques are being utilized. At present, many of the sampling techniques employed for field screening appear to differ little from the techniques used to collect higher DQO Level data during the subsequent "characterization" and "extent delineation" portions of the investigation (e.g. well installation, sampling and hydrologic assessment takes 4 weeks for both the screening and characterization portions of the investigation). The goal at the screening stage must be to provide the information needed to select higher DQO sampling locations as rapidly as possible.

Response:

It is not practical to re-evaluate the proposed investigative techniques at this stage of the investigation. The screening techniques that are proposed in this workplan, and in particular the analytical screening techniques, have worked well for the purposes for which they were intended on the 22 sites at which they have been employed to date. Although it is true that some aspects of the field effort are comparable in time required for the screening and characterization phases (e.g. well installation), it should be recognized that in most cases, there are more sampling locations during the screening effort. Additionally, some of these tasks (e.g. hydrologic assessment) inherently require the same amount of time regardless of the intended purpose of the resulting data.

Comment 1; Page 1-1:

- 3) The screening data should be compiled for presentation (e.g. tables, graphs, figures, plots) as it becomes available. Full evaluation of the data and determination of any necessary modifications to the proposed characterization/extent delineation sampling plans must be completed within two weeks of receipt of the final piece of screening data. These results and recommendations should immediately be provided to all parties to the FFA for review and evaluation. EPA requests that a meeting be held to discuss these items no later than three weeks from the date of the parties' receipt. Following formal agreement by all parties regarding these recommendations, field work must immediately recommence.

Response:

The Navy agrees in principle with the suggestion that a meeting be held to discuss screening results and resolve additional required sampling numbers, types, and locations as soon as possible after completion of the fieldwork and hopes that all RPMs involved with the project could agree to such a meeting. If this type of meeting were held, the need for: detailed plan-ahead rationale (as requested in Comment 1b) would be effectively eliminated.

Comment 1; Page 1-1:

- d) At the conclusion of the Remedial Investigation, Operable Unit-specific draft RI/FS and Baseline Risk Assessment reports shall be submitted for review. Data collection efforts must therefore be directed towards definitive site characterization (i.e. lateral and vertical extent of contamination and hot spot identification) since this

information is needed to provide the quantitative data base essential for preparation of the Baseline Risk Assessment and evaluation of Remedial Alternatives.

Response:

This comment is noted.

Comment 2; Page 1-2:

With regards to the efficient elimination of screening sites from the RI/FS process, screening level data (DQO Level I & 2) are acceptable to show that contamination exists and that an RI/FS study is warranted. However, due to the probability of false negative data, this level of data is not acceptable to show that no contamination exists, and therefore further site characterization will be required before the site can be eliminated. DQO Level III & IV data must be used to substantiate no further action decisions. The number and locations of the samples collected must also be adequate to verify the absence of contamination for all potential pathways (media). In order to attain this goal, background samples must also be collected.

A separate strategy should be developed for the investigation of screening sites so that the determination of whether these sites will require No Further Action or an RI/FS may be made as efficiently and cost-effectively as possible.

Response:

The Navy did not intend to use screening level data to verify the absence of contamination on a site. Rather, it is intended to focus a subsequent sampling effort on a site in order to efficiently collect DQO Level III & IV data at the most useful locations. The rationale for DQO Level III & IV (Phase II) sampling locations will be based on Phase I results, and will be submitted to all parties involved prior to sampling in order to ensure that the data will be adequate to verify the absence of or to characterize contamination. The selection of background sample locations will be integral to this effort. Background soil and groundwater samples are proposed to be collected during the Phase II investigation of Site I (see the investigation work plan for Group A). It is anticipated by the Navy that at least one Phase II sampling effort will be required on all sites in order to determine the absence or presence of Contamination. In addition, the Navy believes that the screening methods proposed in the work plan are an efficient and cost-effective method to focus Phase II DQO Level III & IV sampling.

The Navy agrees with this comment, and would like to come to an agreement with EPA/FDER RPMs regarding the development of an action strategy for screening sites.

Comment 3; Page 2-1 through 14-1:

Regarding organization of the material contained in Sections 2. through 7., the following comments are provided:

a) It would be advantageous to all parties concerned if the general/regional non-site specific information contained in the work plans (i.e. climatology, biological resources for the peninsula,

general occurrence of surface water, regional hydrogeology, health and safety plan, quality assurance plan, etc. and any appendices that apply to every site) were removed and placed in a single separate generic work plan document. Thereafter, the documents for each site or group of sites should contain only site-specific or related descriptions and data. This should prove to be cost and time-effective for the Navy, and less cumbersome for all parties involved in the review process.

Response:

As agreed upon by the **RPMs** at the January,, 13, 1992 RPH meeting in Atlanta, it would be impractical and inefficient at this stage of the investigation to rearrange work plan information on the scale suggested by the EPA.

Comment 3; Page 2-1 through 14-1:

b) As described on page B-1 of the USEPA document entitled Guidance for Conducting Remedial Investigation and Feasibility Studies Under CERCLA, the RI/FS Work Plan must, at a minimum, consist of the following **5** elements:

- A. Introduction
- B. Background and Physical Setting
 - 1) Facility-wide Information (if this will prove more cost and time-effective than the approach recommended in "a")
 - 2) Site-specific Information
- C. Initial Evaluation
- D. Work Plan Rationale
- E. RI/FS Tasks

The present work plan contains a reasonably complete Introduction (Section 1.) and Site Background/Physical Setting (Sections 2. through 7.). However, from this point, the work plan skips over tasks C. and D. and proceeds to describe the specific tasks to be conducted during the field investigation (Section 14.). Please refer to pages 2-1 through 2-12, 3-1 through 3-18, and Appendix B of the guidance for further information on completing these tasks. Both tasks must be included as separate sections within the work plan to precede Section 14.. Finally, please note that it is essential to include, in summary form, all previously collected data and information on the site in order to fully develop the conceptual model required by Task C. The conceptual model will provide the basis for Task D (identifying data gaps) and hence the determination of appropriate sampling methodologies and analytical parameters.

Response:

It is the Navy's understanding that this document is a guidance document, and the organization of material presented in it is merely a suggestion by the EPA. It would seem that the important aspect of any work plan is not the style but the content of the included material. In order to compile reasonably accurate and specific Initial Evaluation and Work Plan Rationale sections, some amount of data must be available; otherwise, it would appear that any plan of action would be formulated on subjective rationale. The Navy anticipates that the proposed Phase I data will be sufficient to provide a preliminary understanding of site

conditions, and, based on the Phase I data, the Phase II section of the work plan will be revised to include a conceptual understanding of site contamination and the specific rationale for further investigation of the site. It should be noted that, for all sites for which existing data is available, that data has been summarized in the Site History (Section 3) of the appropriate work plan.

Comment 3; Page 2-1 through 14-1:

c) The potential Operable Unit-specific location, action and chemical-specific ARARs must also be presented as a part of this work plan see p. 2-9 of the above-referenced guidance document).

Response:

This information will be incorporated into a revised Phase II section of the work plan following the evaluation of screening data. Although it may be presented in a different format from that in the guidance document, the revised work plan will contain all of the information required by the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA.

Comment 3; Page 2-1 through 14-1:

d) Please note that, as per Section VIII.G.2 of the Federal Facilities Agreement, all primary documents are subject to review for "consistency with CERCLA, the NCP and any pertinent written U.S. EPA/State-issued guidance or policy".

Response:

This comment is noted.

Comment 4; Page 2-2:

The site descriptions include references to other "sites in the immediate vicinity" of these sites. An NAS Pensacola Supply well is also located proximate to one of the sites. These features should be located and identified on this figure.

Response:

The PHP and the SHP show the locations of all NAS Pensacola sites; because of the close proximity of these adjacent sites, their illustration on this map would defeat the purpose of having a location map for the Group H sites only. Presently, all NAS Pensacola water supply wells are inactive, and the facility obtains its water from a Navy-owned well field located approximately three miles north of NAS Pensacola. Consequently, unless contamination is found in the same aquifer zone which this supply well is open to, the presence of this well near these sites has very little bearing on the Group E investigation.

Comment 5; Page 3-2:

In general, whenever soil borings (such as the 15 mentioned here), monitoring wells or samples of any kind have been collected at the PSC on a date which precedes the preparation of these work plans, a figure must be included which illustrates all sampling locations. This figure

must include a key or legend which defines the media the sample was collected from. In the case of subsurface samples, it must also identify the hydrogeologic unit from which the sample was collected.

Tables should also be provided, as appropriate, to summarize any contamination detected in these previous sampling events.

Response:

All available information concerning the results of the previous sampling by Geraghty and Miller (G & M) was included and summarized in this section. A map showing the locations of the borings has been added to this section of the work plan.

Comment 6; Page 4-1:

This section should include a NOM average monthly climatic data table summarizing the current temperature and rainfall data for the Pensacola area.

Response:

The Navy understands the potential applicability of this type of data to the site investigation. However, given that this data is readily available, it would seem more appropriate to evaluate it alongside the site-specific data in a report, should it be deemed necessary to the site investigation. The request for the inclusion of such general information in the work plan would seem to be contradictory to the EPA's comment no. 3a.

Comment 7; Page 5-1 through 5-9, Section 5.1:

Those sections discussing the distribution of wetlands at NAS Pensacola should be expanded and updated to include the results of National Wetland Inventories and the recent study performed by EPA under an Inter-Agency Agreement (IAG) with the Navy.

Response:

The Navy understands that these sources of information exist, and they will be used in the investigation as a scoping/planning tool. However, the Navy is still obligated to evaluate and characterize the wetlands at NAS Pensacola on a very specific basis using the results of this investigation, and not those of a previous study. With regard to the applicability of these sources of information to a specific site investigation, please see the response to the EPA's comment no. 6.

Comment 8; Page 5-9:

According to the site description, "the majority of...[Site 22] is covered by grasses or hard packed soils." (p. 2-4) This statement appears to contradict the present statement that: "Site 22 is covered by an asphalt parking area." Please correct the discrepancy.

Response:

The text in this section has been revised to accurately indicate the surface conditions over the appropriate portions of the site.

Comment 9; Page 6-1:

A figure(s) should be added to this section illustrating the locations of intermittent streams, drainage pathways and freshwater wetlands at NAS, Pensacola.

Response:

It would seem to be more appropriate to the investigation to illustrate these features on a site-specific scale, as opposed to a large, base-wide scale. Where applicable, all intermittent streams and freshwater wetlands that are adjacent to sites (i.e., pertinent to the investigation of those sites) are shown on the appropriate site-specific maps. The surface drainage pathways for the Group E sites will be evaluated during the Phase I investigation.

Comment 10; Page 6-2:

"Both sites are relatively flat, and have been cleared and/or paved to some degree". How much of these sites have received fill?

Response:

According to Ron Joyner of NAS Pensacola, the maximum amount of fill received by these sites is an approximately 3-inch sand/clay structural base underlying all of the asphalt or concrete paved areas. This information has been added to the text on page 6-2.

Comment 11; Pages 7-1 through 7-6:

Please refer to EPA's Specific Comment 422, 23a. and 24 on the Draft Group O Work Plan. Regarding comment 24, if adequate information does not exist to confirm the proposed aquifer classification, the necessary data must be collected during the RI/FS.

Response:

Group O specific comment no. 22: Please see the response to EPA comment no. 6 for the Group H work plan.

Group O specific comment no. 23a: This comment is noted.

Group O specific comment no. 24: A classification of the Sand-and-Gravel Aquifer in the southern Escambia County based on the concentration of total dissolved solids has been added to the text in this section.

Comment 12; Page 11-1:

a) Assuming the work done on these sites will be performed in accordance with the 1991 generic work plan documents, all sections of the Operable Unit-specific work plan, including references, must be revised and updated accordingly.

b) Also, if the generic work plan documents are in conflict with Region IV's ESD SOP/QAM, the latter document will override the former.

Response:

a) All work done on these sites will be performed in accordance with the 1991 generic work plan documents, subject to their approval. However, given that these revised 1991 documents have yet to be approved, the work plan accurately references all 1990 approved generic documents.

b) The 1990 GQAPP and the GBSP, which were approved by the EPA, contain all SOPs for this investigation. When there is not a conflict with these documents, every effort will be made to comply with the procedures in the Region IV ESD SOP/QAM.

Comment 13; Page 11-1:

"All samples will (be) collected, handled, packaged, preserved, and transported in accordance with the GQAPP and SQAP, and with U.S. Navy and EPA procedures". There is no reference to the 1991 ECB SOPQAM anywhere in this document. Also, the appendix containing the SQAP should be referenced here.

Response:

Please see the response to EPA comment no. 12b. A reference to the appendix containing the SQAPP was added to the text in this section.

Comment 14; Page 14-1:

"However, the analysis of these samples will be subject to less rigorous Quality Assurance/Quality Control (QA/QC) requirements, which reflect the "focusing" objective--rather than a formal contaminant quantification objective--of this phase". This approach is not acceptable. If the desire is to collect screening level data in the initial stages of the investigation for the purpose of focusing later sampling events, then it would seem more time- and cost-effective to utilize mobile analytical instruments on site. The relatively rapid analytical turnaround times associated with these instruments would permit immediate utilization of screening results to determine subsequent sampling events at higher DQO levels.

Response:

The analytical screening techniques developed for this project provide rapid turn-around of analytical results (2 to 3 days), and due to laboratory-grade quality control, give more accurate results than mobile on-site analytical instruments can provide. Consequently, the Navy believes that these screening techniques are both time- and cost-effective.

Comment 15; Page 14-2:

a) Why will the preliminary survey not also include the methodologies described in Section 6.1.2 of the 1990 GQAPP: VOC sampling, whole air collection and solid absorbents; or Section 6.1.4: Semi-Volatiles sampling. The GQAPP does not clearly state when these methods will be used. Please clarify.

b) The Mini-Ram particulate monitor discussed in Section 6.1.1 should be used for health and safety determinations. It does not measure gases emanating from the site. Some of the constituents of concern are commonly measured in the nanograms per cubic meter range (ex - pesticides, PCBs). According to the GQAPP, the Mini-Ram to be used at this site will measure in milligrams per cubic meter and the area in question will only be monitored for 5 minutes. This is a very minimal amount of time for any type of air monitoring. The Mini-Ram has a high degree of uncertainty inherent in the instrument as evidenced by the

high detection limits. VOCs are more commonly measured by the TO-14 method and PCBs/pesticides by the TO-4 method instead of the Hini-Ram. The OVA and HNu are also primarily for use in making health and safety determinations and are not appropriate for making the determination that further air monitoring is unnecessary.

Response:

a) The air sampling procedures in the GQAPP mentioned by the reviewer are intended to be employed during the characterization phase of the site investigation, should the screening surveys indicate a need for formal air sampling.

b) The intended purpose of using a Mini-Ram particulate monitor during the screening phase of the investigation is to determine whether airborne particles (dust, etc.) may represent a significant pathway for the migration of contamination off-site. The methodology and the choice of using the Mini-Ram for this purpose is a standard SOP in the 1990 GQAPP, which has been approved by the EPA. In addition, the use of an OVA for the purposes of identifying "hot spots" during a surface emission survey is an accepted industry practice to determine the need for locating specific areas that require formal air monitoring/sampling at a site.

Comment 16; Page 14-2:

According to Section 6.1.1 of the GQAPP, the OVA will be held 2-inches above the surface. This is not acceptable. The OVA should monitor the breathing zone of field personnel.

Response:

The breathing zone of field personnel is monitored during the surface emissions survey. The purpose of placing the OVA 2-inches above the surface is to determine the organic vapors emanating from the site surface itself.

Comment 17; Page 14-2:

Section 6.1.3 of the GQAPP referenced here pertains to Hi-Val samplers; how does this relate to the Hini-Ram sampling since they are two separate sampling methodologies?

Response:

The appropriate section of the GQAPP was incorrectly referenced. The reference should have been to Section 6.1.1. The correct reference has been added to the text on page 14-2.

Comment 18; Page 14-2:

Section 6.3.2 discusses using a Geiger Hueller (GM) detector and an alpha scintillation detector. The text here references using a micro-R-meter and a gamma scintillation detector. The safety plan (Appendix A) only references using a micro-R-meter. Which of these instruments will actually be used for radiation monitoring?

Response:

The work plan text is correct for these sites. The safety plan has been revised to include the use of a gamma scintillation detector.

Comment 19; Page 14-4:

"The depth to water is assumed to be 10 feet at Site 22". Page 3-2 of this document states that the water table at site 22 was encountered at 4.5 feet during the 1984 Geraghty & Miller study. Please explain this apparent discrepancy.

Response:

The assumption that the depth to water is 10 feet at this site is made for the purpose of estimating sample numbers only. To avoid confusion, this information has been added to the text.

Comment 20; Page 14-4:

The methodology given in Section 6.4 of the GQAPP and referenced here is not acceptable. A 16-ounce jar will not provide adequate head space for the OVA. Five minutes will not be long enough for the sample to reach equilibrium. The sample should be equilibrated to 25C, not 20C. Also, soil samples for headspace analysis should not be composited but collected as grab samples to prevent undue aeration of the sample.

Response:

The methods of headspace analysis listed in this section comply with the ARARs for determining the presence of excessively contaminated soils at petroleum sites as specified by the FDER (Chapter 17-770, Florida Administrative Code). Furthermore, the methodology for conducting headspace analysis listed in the GQAPP was approved for this investigation by the EPA in 1990.

Comment 21; Page 14-5:

Section 13.2 indicates that residual fuel was disposed of to the E-NE of Building 1681. Will the proposed sampling locations be adequate to detect this potential contamination? It may be useful to indicate the approximate location of the disposal area(s) in some figure.

Response:

The proposed sampling locations should be sufficient to focus a higher WO level of sampling (Phase 11). The approximate location of the disposal area is believed to be within the shaded sampling area shown on Figure 2-2.

Comment 22; Page 14-5:

The soil sampling methodology alluded to here (Section 6.6 of the GQAPP) has some deficiencies: 1) VOC soil samples must be collected as grab samples, not as composites (Section 6.6.1); 2) VOC samples should be collected into 2-oz, not 8-oz glass containers; 3) the homogenization process for the soil samples must be explained in more detail. Please correct these deficiencies.

Response:

As stated on the bottom of page 6-30 of the 1990 GQAPP, "Samples to be analyzed for volatile organics will not be homogenized or **composited**;...". Additionally, the GQAPP specifically states that the sample will be placed in a 40 ml (approximately 2 oz.) glass vial. The GQAPP is very explicit in the description of the soil homogenization process in this section. It would be helpful if the EPA would review the pertinent documents in conjunction with previous comments and responses.

Comment 23; Page 14-5:

As stated on page 6-2, surface water at Site 22 tends to pond on the area covered with crushed oyster shells during heavy rains. Additional soil samples should be collected in this area.

Response:

The sampling locations shown on Figure 14-1 are tentative, and will be adjusted based on the preliminary screening surveys. If it appears that surface drainage patterns flow towards the shell covered area, additional Phase I soil samples will be collected there. The work plan has been modified to include this strategy.

Comment 24; Pages 14-5 through 14-8:

A simple statement of the proposed sampling locations for each media is not adequate. A justification/rationale, describing how each of these proposed samples will fill existing data gaps must also be provided for each sample.

Response:

Please see the response to EPA comment no. 1b.

Comment 25; Pages 14-7 and 14-11:

The statement on page 7-5, that horizontal groundwater flow in the surficial zone is expected to be towards the north at Sites 8 and 22, is based on water levels measured at Sites 1 and 24, which are located to the north. The potentiometric surface of the surficial zone is a subdued replica of the topography, except where heavy pumping occurs. Based on the topographic map, sites 8 and 22 are located slightly south of a ground water divide. It is possible that the potential horizontal direction of ground water flow at these sites is toward the south, or at least in a radial direction. Care should be taken to ensure that the well installation plan will adequately define any contaminant plume which may exist. Specifically, additional monitoring wells should be installed to the east and southeast of Building 1681 based on the location of suspected contaminants and the direction of ground water flow at the site.

Furthermore, the potential vertical ground-water flow direction between the Surficial Zone and the Major Producing Zone varies below NAS, Pensacola. At higher elevations, such as the center of the peninsula, the water levels in the Surficial Zone are greater than the water levels of the Major Producing Zone. In these areas, the potential vertical ground water flow direction is from the Surficial Zone to the Major Producing Zone. At lower elevations, the water levels of the Major Producing Zone are greater than the Surficial Zone water levels, and the potential vertical flow direction is the reverse. Sites 8 and 22 are located in areas where vertical ground water flow direction is the reverse. It is important that cluster wells penetrating the Surficial, Low Permeability and Major Producing Zones be installed at these sites so that vertical contaminant migration may be monitored.

Response:

The groundwater flow direction at these sites will be determined using the water level data which will be collected during the screening phase of the investigation. Four additional wells (one situated at each corner of the Site 8 sampling area) have been added to the proposed Phase I investigation. Should the surficial groundwater flow direction be towards the south, then additional Phase II wells will be proposed south of the sites to determine the downgradient extent of possible contamination. Based on the Phase I analytical results, permanent surficial and main producing zone wells (as required) will be installed at these sites during the characterization phase (Phase II) of the investigation. These wells will be installed at locations that will be adequate to determine the extent of potential groundwater contamination.

It is inappropriate to install wells into the deeper zones of the Sand-and-Gravel Aquifer until contamination in the surficial zone is confirmed. The need for deeper wells at these sites can be assessed following the Phase I investigation. In addition, the thickness of the low permeability zone (LPZ) across NAS Pensacola (approximately 15 to 25 feet) would preclude the installation of a monitoring well within this zone. A well screened into the LPZ, with the associated permeable sand filter pack, would 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. Laboratory permeability data will be available for the LPZ material from work performed at nearby sites (Site 1) during Phase II activities at those sites, and can also be used to assess the potential for vertical contaminant migration.

Comment 26; Page 14-8:

PVC bailers may not be used for sampling the ground water monitoring wells. A more inert material such as Teflon should be used.

Response:

As specifically stated in the 1990 GQAPP, only Teflon or stainless steel bailers will be used in sampling the Phase I stainless steel wells.

Comment 27; Page 14-8:

The decontamination procedures given in Section 6.10 of the GQAPP are correct. However, for field cleaning equipment, the procedure given on page 6-39 should be used. The procedure given on page 6-40 should be used with adequate ventilation (as in a lab) because of the nitric acid fumes.

Response:

Field equipment decontamination generally does use the procedure given on page 6-39. However, Teflon implements to be used for metals analysis require the nitric acid rinse shown on page 6-40. All field decontamination stations are set up in areas that are open and well-ventilated.

Comment 28; Page 14-8:

All water level measurements for the Operable Unit must be collected within a reasonable period of time (i.e. a few hours) if they are to be considered valid.

Response:

This comment is noted.

Comment 29; Page 14-9:

What is the rationale for collecting soil samples at the intervals specified here?

Response:

These intervals are chosen for the purposes of characterizing the full spectrum and extent of soil contamination, and have been listed in all previously submitted and approved work plans.

Comment 30; Page 14-9:

The procedure indicated for the collection of soil samples is acceptable for lower DQO levels. However, shallow soil samples intended for ecological risk assessment purposes should be collected as 6-inch cores. The most significant ecological risk would most likely be posed by contamination in the top 6 inches (burrowing animals, translocation into plants via roots, exposure to terrestrial organisms and runoff). Surficial contamination may be lost from the sediment if the proposed bucket auger is used.

Response:

As stated on page 14-9, the first sampling interval from which soil samples will be collected is 0 to 0.5 feet. Additionally, the methodology listed in the work plan also states that a bucket auger or a split spoon sampler will be used to collect the soil samples. The use of a split-spoon sampler will yield the six-inch core soil sample suggested by the reviewer; however, it is unclear how the use of a bucket auger will permit the loss of contamination.

Comment 31; Pages 14-9 through 14-15:

Statements such as "[Phase II sampling locations] will be determined based on the Phase I results" are overly vague and general. The rationale for the number and locations of samples to be collected for all media during Phases II through IV must be more thoroughly strategized and communicated in the RI/FS Work Plan. Please refer to **Comment #1**.

Response:

Please see the response to EPA comment no. 1b.

Comment 32; Page 14-10:

a) Table 14-2 indicates that the ground water samples will not require field blanks or preservative blanks. This is incorrect. Please correct the text.

b) Why will soil and groundwater samples be analyzed for different parameters?

c) The Analytical Suite Designation A should be reworded to clearly show that TAL metals analyses will be performed on the samples.

Response:

a) The text has been modified accordingly.

b) The proposed analytical suite to define the full spectrum of contamination is the same for soils and groundwater; only the parameters necessary to the remedial design are different.

c) Table 14-2 has been modified accordingly.

Comment 33; Page 14-11:

The proposed sample locations in Figure 14-2 do not differ substantially from those locations given in Figure 14-1. Why couldn't all the samples shown in these two figures be collected during one sampling episode?

Response:

The Phase II sampling locations shown on Figure 14-2 are tentative, and will be adjusted based on the results of the Phase I sampling. Consequently, because there are two phases of sampling proposed, with the planning of one dependent on the results of the other, it is not possible to collect both sets of samples concurrently.

Comment 34; Page 14-12:

Section 14.2.2 states that the proposed number of monitoring wells for the Phase II RI is four at Site 8 and two at Site 22. However, three wells are shown at each site in Figure 14-2. Please correct this discrepancy.

Response:

The text has been modified to indicate that there will be three wells at each site.

Comment 35; Page 14-12:

a) Why are PVC monitoring wells proposed for Phase II activities when stainless steel temporary wells were proposed for Phase I? The higher DOO Level of the analyses proposed for Phase II samples appears contradictory to this approach.

b) If materials other than stainless steel are to be used in well construction, a thorough rationale for the selection of the alternate material must be submitted in accordance with Attachment A: "Information Requirements for Justification of Alternative Well Casing Materials for Groundwater Monitoring Well Construction".

Response:

a) The Phase I activities indicated a need for an appropriate, durable material which could be reused many times and which could be adequately decontaminated between uses; consequently stainless steel was chosen as the well construction material. Given that all Phase II wells will be permanent, the Navy did not feel that it was necessary nor, cost-effective to use stainless steel as the well construction material.

b) A justification for the use of PVC as a well construction material was sent to the EPA under separate cover on January 14, 1992. The EPA's response to this submittal was received by the Navy on March 13, 1992. Although the EPA's position is clear, the Navy intends to use PVC as a well construction material where appropriate for this investigation.

Comment 36; Page 14-12:

The Guidelines for Groundwater Monitoring Well Installation, March 1989 alluded to in Section 6.7 of the GQAPP was not included in this submittal for review. If mud-rotary drilling is used, samples of the mud, etc. must be collected and analyzed to ensure that these materials are not a potential source of contamination. The well construction methods given in Section 6.7.3 are inadequate. Sand, bentonite, etc. should be tremied into the borehole, not allowed to free-fall. The screen slot size is given as 0.015-inch in the GQAPP. In the workplan, the screen slot size is given as 0.01-inch; which is correct? Hydration time for the bentonite is not given. Please provide this information.

Response:

These guidelines are protocol for Southern Division; all procedures given in the GQAPP conform with that protocol. These guidelines can be provided to the EPA under separate cover. Mud analyses are available from the commercial company that manufactures the material; this information can be provided in the appropriate report when mud rotary drilling is used. The procedures for well installation given in the GQAPP have been approved by the EPA. The screen slot size of .015-inch is for permanent wells; all Phase I temporary wells will employ a slot size of .01-inch. The hydration time for bentonite that is used in well construction can be included in the appropriate report when permanent monitoring wells are installed.

Comment 37; Page 14-12:

Water supply wells located near a site should be sampled during the RI. These wells include water supply wells that influence the direction of ground-water flow beneath a site.

Response:

All three inactive NAS Pensacola water supply wells will be sampled in conjunction with the Phase II activities for Operable Units 1-5 (see the revised work plans for these sites).

Comment 38; Page 14-13:

Define the phrase "limited aquifer testing" as it is used here. Exactly how will the specific capacity test be conducted? Conducting the specific capacity test in conjunction with well development is not acceptable. Aquifer testing should be conducted on a well that has already been developed to obtain the most accurate results.

Response:

The limited aquifer testing will consist of specific capacity testing on wells that are capable of sustaining a measurable yield, or slug testing on those wells that cannot sustain a measurable yield. The specific capacity testing will be consist of noting the static water level in the well, and then beginning a steady discharge from the well. The pumping water level in the well is recorded when it has stabilized, and the pump is turned off; the water level recovery in the well as it returns to static conditions is then recorded. The specific capacity testing will be conducted following well development, after the water level in the well has stabilized. The text in Section 14.2.4 has been changed to clarify this last point.

Comment 39; Page 14-14:

Regarding the proposed biota sampling, EPA concurs with FDNR's general comments pertaining to the scope and timing of this portion of the investigation, which were submitted in their review of the Phase II RI/FS Work Plans for Groups A through E.

Response:

Given that FDNR's general comments for the scope and timing of biota sampling for Groups A through E are the same as those for E, I, L, P, and Q, please see the response to FDNR's general comment nos. 3 and 4 for Groups E, I, P, and O.

Comment 40; Page 14-15:

EPA concurs with FDNR's general comment pertaining to the timing of the topographic survey, which was submitted in their review of the Phase II RI/FS Work Plans for Groups A through E.

Also, what benchmark will the elevations be surveyed relative to?

Response:

Please see the response to FDNR's general comment no. 2 for Groups E, I, L, P, and O.

For the topographic survey, all elevations will be referenced to a USGS benchmark, or a datum with an established elevation that has been surveyed relative to a USGS benchmark.

Comment 41; Page 14-16:

The Sample Custody procedures given in Section 7 of the GQAPP must conform with the ECB SOPQAH.

Response:

Please see the response to EPA comment no. 12b.

Comment 42; Page 14-16:

Containerizing the purge/development water for the temporary monitoring wells is acceptable; however, this water should not be poured **down** the well prior to abandonment until the analytical results have been reviewed to determine if the water contains any contaminants of concern.

Response:

Development and purge water is proposed to be poured back into the temporary wells to minimize the disposal costs of investigation-derived wastes for the project. Given that the wells will be temporary and that only groundwater specific to that location will be reintroduced, this practice should have no adverse effect on the aquifer or the collection of future groundwater samples.

Comment 43; Page 14-16 through 14-17:

How will the investigation-derived waste (water, cuttings protective clothing, etc.) ultimately be disposed of, and by whom?

Response:

The procedures to dispose of the investigation-derived wastes are being developed by the Navy, and will be provided to the EPA when their development is complete.

Comment 44; Page 16-1:

a) In order to conduct the proposed ground water modeling, parameters such as transmissivity, storage values, and hydraulic conductivity will be utilized, However, only slug tests are proposed for these sites. Storage values cannot be determined from slug tests, and hydraulic properties determined from these tests are less representative of overall aquifer properties than would be the case if an aquifer test were performed.

b) If groundwater contamination requiring Remedial Action is detected, then further aquifer testing must be conducted prior to modeling. To accurately determine the hydraulic properties of the Surficial Zone, a 72-hour aquifer test should be conducted with multiple monitoring wells at varying distances from the well.

c) Finally, since contaminant movement is most likely 3-dimensional, use of a 3-dimensional contaminant transport model would provide more reliable information for the purposes of the risk assessment and feasibility study.

Response:

a) When it is determined that groundwater modeling will be required for remedial design at a site, formal aquifer testing will be performed.

b) If groundwater contamination requiring Remedial Action is detected, then formal aquifer testing will be conducted to provide the modeling data needed for the remedial design. The Navy agrees that individual aquifer tests required for the modeling effort should be conducted for a significant period of time. However, a 72 hour aquifer test is considered to be too long for the surficial zone at NAS Pensacola. For this zone, the aquifer testing should be done for a minimum of eight hours, or until adequate and stabilized drawdowns which can be used for aquifer test analysis occur in adjacent observation wells.

c) If the evaluation of Phase II chemical and aquifer test data, indicated that contamination in the surficial zone is migrating into deeper zones of the Sand-and-Gravel Aquifer and that this contamination will require remedial action, the Navy may at that time make the decision to employ a 3-dimensional transport model.

Comment 45; Pages 18-2 through 18-4:

a) Please refer to EPA's Specific Comments 60, 61 and 62 on the Draft Group O Work Plans.

b) Also, the reference to IRIS should be moved to Section 18.3 (Toxicity Assessment). IRIS should be utilized as the primary source of toxicity information.

Response:

a) Response to specific comment no. 60. The risk assessment will be performed in full accordance with the referenced risk assessment guidance document. The selection of chemicals of concern will be as specified in this document. The risk assessment section of the work plan has been modified accordingly.

Response to specific comment no. 61. The Navy agrees with this comment. The risk assessment section of the work plan text has been modified accordingly.

Response to specific comment no. 62. Comment noted. However, all the bulleted items listed in Section 18.4 were added per EPA comments received in 1990 on other work plans.

b) The reference to IRIS has been moved to Section 18.3.

Comment 46; Pages 19-1 through 19-3:

In general, the USEPA guidance document: Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA must be followed in preparing this portion of the work plan. Extensive revision and expansion of this section will be required in order to accomplish this objective. The following specific comments are provided:

a) Page 19-1, Paragraph 1:

Description and details of the specific tasks to be performed as part of the FS must be included in the present RI/FS Work Plan.

Paragraph 2

The text should be clarified to indicate that these FS scoping activities will be performed concurrently with the RI.

Paragraph 3

What is meant by use of the term "applicable"? How will determination be made as to whether a given technology is applicable? The contractor's "engineering judgment" is not an appropriate selection criteria. Please refer to Chapter 4 of the guidance document for further clarification on the screening of remedial technologies.

General response actions must be developed prior to the identification of potential treatment technologies. This process must be more clearly identified and described. Please refer to the guidance.

b) Page 19-2: Paragraph 1:

How do the screening and assessment of potential technologies differ? Are these really two separate steps? Please revise and expand this section in accordance with pertinent portions of the guidance document (e.g. Sections 4.1.2.1, 4.2.4, Figure 4-4). The selection criteria listed here are incomplete and incorrect.

Paragraph 2

This section is out of place and should be deleted. Risk Assessment does not play a role in the technology or process option selection processes. Some of the evaluation criteria used in the Detailed Analysis of Alternatives are risk-based (e.g. will the remedial action provide for overall protectiveness of human health and the environment). However, the Risk Assessment is not formally tied in to the process until after the RI/FS is completed (see Section 6.3 of the guidance).

Paragraph 3:

Please refer to the guidance for a complete listing and description of those steps in the PS process which follow the identification of potential technologies and revise/expand this section accordingly. Also, please note that treatability studies are typically needed whenever treatment has been identified as an alternative. If treatability studies will be conducted, then the necessary information and plans, as per the guidance (Chapter 5), must also be included.

Paragraph 4:

The final task of the FS is to present a comparative analysis of alternatives against the evaluation criteria (see Section 6.2.2 of the guidance). It is not the task of the contractor to select the Remedial Action for a site. Please refer to Section 6.3 of the guidance document for further description of the selection process.

c) Page 19-3, Paragraph 2

Greater detail on the organization and content of the FS Report is needed. Please refer to appropriate sections of the guidance document (e.g. Table 6-5).

Response:

a), b), and c) Reviews of previously approved work plans (specifically Groups A, B, C, D, E, E, F, G, J, K, M, N, and O) have not yielded comments of this type or extent on the Feasibility Study section, and the Navy fails to see why they are appropriate for this work plan. At any rate, additional information regarding the performance of a feasibility study will be provided to the EPA when a) it is determined that a feasibility study will be required for a given site, and b) when specific information for a given site concerning the contaminated media, the type of contaminant(s) present, and the risk these pose to health and the environment are available.

Comment 47; Page 20-1:

The concept of 90% and 100% draft reports may not be applicable for these sites. Why not just prepare one all-encompassing report for review?

Response:

Per the agreement between RPM in Atlanta in January, 1992, from now on reports will be submitted by the contractor as a 100% draft to the Navy, BPA, FDER, and the TRC. Review comments will be incorporated into a draft final, which will become final in 30 days if no further comments are received. The text has been modified accordingly.

Comment 48; Appendix A:

The site specific safety plans need to be updated. The plans given here for sites 8 and 22 were approved 6-10-89. The decontamination procedure given on page 3 is not in conformance with the 1991 ECB SOPQAM. The plans also indicate that OVA/HNU, micro-R-meter, and O2/explosimeter monitoring equipment will be used in the field. This should also be noted in the work plan text.

Response:

Although the SSPs were approved on 6-10-89, they are still valid as to the understanding of these sites. Given that no additional information concerning these sites is available, there is no need to update the SSPs. Per the comment regarding the decontamination procedure, please see the response to EPA comment 12b. There is reference to the use of air monitoring equipment in the appropriate sections of the text when these instruments will be used to collect quantitative data (Sections 14.1.1.1 and 14.1.1.2). Should any "hot spots" etc. be identified, or should air vapor readings exceed the action levels shown in the SSP, all subsequent work will employ the use of this equipment for health and safety purposes. It is standard contractor protocol to take the necessary steps to ensure proper health and safety; this is understood, and is not an item that needs to be included in the work plan text. Again, the use of the micro-8-meter is a standard personal safety protocol of the contractor and does not need to be included in the site investigation work plan.

Comment 49; Appendix B:

The following errors were noted on page 7:

- a) The method shown for mercury analysis is the one for solid and semi-solid waste only; the method for liquid waste is 7470.
- b) No analyte and media are specified for EPA method 325.3

Response:

- a) The method for mercury analysis for liquid waste has been changed to EPA 7470 in the SQAPP.
- b) EPA method 325.3 has been changed to EPA method 300 in the SQAPP. This analytical method and the ASTM D-808-81 method together yield total halogens.

GROUP I - SITE 17 (Transformer Storage Yard); SITE 18(PCB Spill Area)
and SITE 20 (Transformer Accident Area)

Comment 1; General Comment:

The following comments, identified for the Group H Work Plans, are also applicable to this work plan and must be addressed in its revision:

1, 2, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 22, 24, 26, 27, 28, 29, 30, 31, 32, 35, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49.

Response:

Please see the responses to EPA comments 1, 2, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 22, 24, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, and 49 for the Group H draft work plan.

Comment 2; Page 6-2:

Will the investigation for Site 2 include analyses for the constituents of concern for Site 28, i.e. PCBs?

Response:

As shown in Table 14-1, the Phase I screening analytical parameters include total PCBs.

Comment 3; Page 14-3:

Why was no sample proposed for the northeastern corner of the gravel area?

Response:

A proposed soil boring has been added to the northeastern corner of the gravel area.

Comment 4; Page 14-4:

Section 6.9.2 in the GQAPP merely references Section 6.5 (Soil Gas Survey) and Section 6.6 (Soil Sampling). This does not provide enough detail on exactly what techniques will be used for sediment sampling.

Response:

The technique to be used for sediment sampling is fully described in the third paragraph on page 14-4 of the work plan; the reference to Section 6.9.2 of the GQAPP was intended to equate these procedures with those that are listed in the GQAPP collecting soil samples, and was not intended to equate them with soil gas survey techniques.

Comment 5; Page 14-4:

Given the length of time for which this site has been in existence, samples should also be collected from slightly deeper intervals if possible, i.e. 6 to 12 inches.

Response:

It is not clear which site the EPA reviewer is referring to. However, if significant contamination is found in the 0.5 to 2.5 feet interval at any of these sites, the Phase II sampling intervals will be smaller in order to further define which segment of this interval (0.5 to 2.5 feet) exhibits the detected contamination.

Comment 6; Page 14-6 and 14-10:

What geophysical investigation is being referred to here?

Response:

The references to geophysical investigations has been deleted from the text on pages 14-6 and 14-10.

Comment 7; Page 14-7:

a) Based on topography, the potential horizontal direction of groundwater flow in the surficial zone is toward the south at Site 17. Therefore, an additional monitoring well should be installed downgradient south of the site, just north of Hovey Road.

b) Furthermore, the potential vertical groundwater flow direction between the Surficial Zone and the Major Producing Zone varies below NAS, Pensacola. At the higher elevations, such as the center of the peninsula, the water levels in the Surficial Zone are greater than the water levels of the Major Producing Zone. At lower elevations, the water levels of the Major Producing Zone are greater than the Surficial Zone water levels, and the potential vertical flow direction is the reverse. Site 17 is located in an area where vertical groundwater flow direction is the reverse. Cluster wells penetrating the Surficial, Low Permeability and Major Producing Zones must be installed at this site so that the vertical contaminant migration may be monitored.

Response:

a) The Navy believes that the wells shown on Figure 14-1 will be sufficient for the purposes of screening. Should the Phase I results indicate that contamination is present in the southernmost screening well, then Phase II will propose additional wells in that area.

b) Please see the response to EPA comment 25b for the Group H draft work plan.

Comment 8; Page 14-9:

The direction of horizontal groundwater flow at Site 28 is also toward the south in the surficial zone. An additional monitoring well should be installed south of the site, west of building 632.

Response:

If the Phase I results indicate that 1) groundwater flow is indeed to the south, and 2) contamination is present in the surficial zone, then additional wells will be installed south of the presumed spill area during the Phase II investigation in order to determine the downgradient extent of contamination.

Comment 9; Page 14-12:

Why will the samples listed in Table 14-2 be analyzed for gross alpha?

Response:

Radionuclides will be analyzed as part of the Phase II process of characterizing the full nature and extent of possible contamination. In addition, beta and gamma have been added to the analytical list.

Comment 10; Page 14-14:

The proposed sample locations in Figures 14-4, 14-5 and 14-6 do not differ substantially from those locations given in Figures 14-1, 14-2 and 14-3. Why couldn't all the proposed samples be collected during one sampling event?

Response:

Please see the response to EPA comment no. 33 for the Group H draft work plan.

Comment 11; Page 14-17:

While it is acceptable to install shallow wells which bracket the water table, this plan does not appear to take into account the characteristics of the suspected contaminants on a site-specific basis. The proposed wells should prove adequate for the detecting contaminants which are less dense than water, but offers little assurance that denser contaminants, if present, will be detected. Groundwater investigative strategies must be more clearly tailored to reflect individual site characteristics. Please revise the work plan accordingly.

Response:

The presence or absence of Dense Non-aqueous Phase Liquids (DNAPLs) will be investigated as part of the Phase II characterization studies. For example, all of the revised work plans for OUs 1-5 contain provisions for determining the presence of DNAPLs. The locations of the sampling points are based on the results of the Phase I screening for these sites.

Comment 12; Appendix D:

The site specific safety plans need to be updated. The plans given here for sites 17, 18 and 28 were approved 6-10-89. The decontamination procedure given on page 3 is not in conformance with the ECB SOPQAM. The plans also indicate the OVA/HNu, micro-R-meter, and O₂/explosimeter monitoring equipment will be used in the field. This should also be noted in the work plan text.

Response:

Please see the response to EPA comment no. 48 for the Group H draft work plan.

GROUP P - Site 38 (Building 71)

Comment 1; General Comment:

The following comments, identified for the Group H Work Plans, are also applicable to this work plan and must be addressed in its revision:

1, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 22, 24, 26, 27, 28, 29, 30, 31, 32, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49 for the Group H work plan, and 7b. for the Group I work plan.

Comment 7b., provided for the Group I Work Plans, should also be addressed for this work plan.

Response:

Please see the response to EPA comment nos. 1, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 22, 24, 26, 27, 28, 29, 30, 31, 32, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47 and 49 for the Group H work plan, and 7b. for the Group I work plan.

Comment 2; Page 3-3:

Since the actual procedures used by EnSafe in 1990 to remediate the contamination detected at this site were not included in this document, the methodologies cannot be reviewed. Please provide the necessary information.

Response:

The methodologies that were used by EnSafe were reviewed and submitted in their letter SOPs dated October 12, 1989, which are on file with both of the respective BPA and FDER RCRA branches. These SOPs were approved by each agency for that work, and it should not be necessary that they be reviewed as part of this work plan.

Comment 3; Page 14-2:

Why not use both an HNU and OVA for health and safety monitoring?

Response:

Because these instruments are sensitive to similar types and levels of vapors, it would be a duplication of effort and an unnecessary expense to use them both for health and safety monitoring.

Comment 4; Page 14-3:

Much of the information to be recorded by the sampling team during the Emissions Survey/Particulate Air Sampling appears identical to the information to be gathered during the Field Reconnaissance Survey. Please clarify.

Response:

The surface emissions surveys are performed in a more systematic manner than the field reconnaissance surveys. This is accomplished through the use of a grid network, or targeting specific areas such as cracks in pavement, to obtain quantitative measurements of air vapors emanating from the site surface. The mini-ram is used to obtain a quantitative measurement of the net loss or gain of particulates downwind of a site.

Comment 5; Page 14-4:

Why will only the sediment samples be analyzed in the laboratory?

Response:

The EPA reviewer misunderstood the last part of the sentence. The intended meaning was that sediment samples only would be analyzed in the laboratory for analytical screening parameters; samples from other media are proposed to be analyzed in the laboratory for the full TCL/TAL list of parameters.

Comment 6; Page 14-4:

Section 6.9.2 in the GQAPP covers sediment sampling, but merely references Section 6.5 (Soil Gas Survey) and Section 6.6 (Soil Sampling). This does not provide enough detail on exactly what techniques will be used for sediment sampling. Please provide additional information.

Response:

Please see the response to EPA comment No. 4 for the Group I work plan.

Comment 7; Page 14-5:

Why will the samples be analyzed for gross alpha but not beta or gamma?

Response:

Beta and gamma have been added to the analytical requirements.

Comment 8; Page 14-6:

What is the rationale for only having two wells in the downgradient direction of the site (towards the bay)?

Response:

These two wells are designed to yield information for preliminary characterization of groundwater downgradient of this site. If the Phase I analytical results indicate significant contamination exists downgradient of the site, additional downgradient wells will be proposed for the Phase II investigation.

Comment 9; Page 14-7:

Many of the Phase I wells at other sites will be constructed of stainless steel; yet, for this site PVC is proposed. Considering that organics (including solvents) are the primary contaminants of concern, why is PVC proposed?

Response:

The proposed Phase I wells of other sites are temporary; all permanent wells are proposed to be constructed of PVC. The Phase I wells for this site are proposed to be installed as permanent wells because of the difficulty in penetrating the concrete surface.

Comment 10; Page 14-8:

What studies will be performed to determine how tidal fluctuations may affect ground-water flow direction and gradient?

Response:

During Phase If, water levels in all on-site wells will be measured at low tide and high tide on the same day. The elevation of the Pensacola Bay immediately adjacent to the site will also be surveyed at the same time that water levels in the wells are collected. This information has been added to the work plan text in Section 14.2.4.

Comment 11; Page 14-10:

It appears from Table 14-2 that the Phase II samples will be analyzed for a greater number of constituents than samples collected during Phase I. Shouldn't this be reversed?

Response:

Soils and groundwater samples will be analyzed for the full TAL/TCL list of parameters for both the screening and characterization phases of the investigation. Phase II however, also includes Appendix IX sampling of soils and groundwater (as required by RCRA). In addition, Phase I sediment samples will be analyzed for screening parameters only, whereas Phase II sediment samples will be analyzed for the full TAL/TCL list of parameters.

Comment 12; Appendix B

a) The decontamination procedure given on page 3 does not conform with the ECB SOPQAM. The plan also indicates that OVA, micro-R-meter, O2/explosimeter and Gillian pump (for asbestos) monitoring equipment will be used in the field. This information should also be included in the work plan text.

b) The Site Safety Plan mentions that there is a potential for airborne asbestos particles. This information is not discussed anywhere in the main text. Will asbestos sampling be conducted at this site to verify if this parameter is a problem?

Response:

a) Please see the response to EPA comment no. 48 for the Group H work plan.

b) The use of the Gillian pump for asbestos monitoring equipment has been added to the text in the appropriate sections (Section 14.1.1.1). Should the use of this equipment, indicate the presence of asbestos, then formal asbestos sampling will be conducted during Phase II.

GROUP Q - SITB 39 (Oak Grove Campground)

Comment 1; General Comment:

The following comments, identified for the Group H Work Plans, are also applicable to this work plan and must be addressed in its revision:

1, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 49b.

Comment 7b., provided for the Group I Work Plans, should also be addressed for this work plan.

Response:

Please see the response to EPA comment nos. 1, 3, 4, 6, 7, 9, 11, 12, 13, 14, 15, 16, 17, 18, 20, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, and 49b for the Group E work plan, and 7b for the Group I work plan.

Comment 2; Page 6-2:

Figures that identify surface water location/runoff pathways, and the 100 year flood plain, if applicable, should be utilized in the description of the site-specific surface water hydrology to identify potential migration pathways.

Response:

Given the low topographic elevation of Site 39, all of the site is probably within the 100 year flood plain, thus a figure is not applicable. The site-specific surface drainage patterns and potential contaminant migration pathways will be evaluated during Phase I. This site-specific analysis will be included in the interim data report for Phase I.

Comment 3; Page 14-2:

Will samples from any of the identified "hot spots" be collected for analysis?

Response:

Should any "hot spots" be located during the reconnaissance survey, Phase I sampling locations will be adjusted or added to adequately address that specific area.

Comment 4; Page 14-3:

If there are areas of site 39 suspected to have asbestos contamination, why aren't samples to be collected early in the RI/FS to verify that this is a parameter of concern?

Response:

The Phase I asbestos survey will locate and identify any construction debris on the site which may potentially contain asbestos. If any asbestos-containing material is located it will be sampled during the Phase II investigation.

Comment 5; Page 14-6:

a) What is the rationale for compositing soil samples over 5-foot intervals? Will an interval this large permit adequate detection of any contamination present?

b) Several surface soil samples should be collected for grain size analysis to determine the extent to which, if any, dust/airborne particles act as a potential contaminant migration pathway.

Response:

a) Please see the response to EPA Comment 29 for the Group E work plan. The Phase I results of the 22 sites that have been investigated thus far indicate that 5-foot intervals are sufficient to detect contamination.

b) Two surface soil samples have been added to the proposed samples. Table 14-1 has been modified accordingly.

Comment 6; Page 14-7:

Additional soil samples should be collected southwest of the site along Sherman Inlet. Two or three soil samples should also be collected between the inlet and the site.

Response:

It would seem that Sherman Inlet is a disproportionate distance from the area of presumed contamination to collect soil samples. However, should the Phase I soil sampling results indicate that further sampling in the direction of the inlet is needed to determine the extent of soil contamination, that sampling will be added during Phase I or proposed as part of Phase 11.

Comment 7; Page 14-8:

What studies will be performed to determine how tidal fluctuations may affect ground-water flow direction and gradient?

Response:

Please see the response to EPA Comment No. 10 for the Group P work plan.

Comment 8; Appendix B

The decontamination procedure given on page 3 does not conform with the ECB SOPQAM. Section 6.3.2 discusses using a Geiger Hueller (GH) detector and an alpha scintillation detector. The text here references using a micro-R-meter and a gamma scintillation detector. The safety plan (Appendix B) only references using a Hini-Rad. Which of these instruments will actually be used for radiation monitoring?

Response:

Please see the response to EPA Comment No. 18 for the Group E work plan. The use of a micro-R-meter and a gamma scintillation detector have been added to the site safety plan.

Additional Comments Pertaining to Ecological Assessment of the Sites
Included in Groups I, I, P and Q

GENERAL COMMENTS

Comment 1; Section 14.1, Phase I - Field Screening:

In conjunction with the habitat/biota survey, a site diagram and a recent aerial photograph should be used to generate a map showing the locations of the different habitats located on the site and in nearby areas. For sites which primarily consist of buildings and paved surfaces, a map such as the site map for Site 38, Group P (Figure 2-2, showing buildings and concrete/asphalt/grass surfaces) would suffice.

Response:

A site diagram and a recent aerial photograph will be used to generate a schematic map showing the locations of habitats identified during the Phase I habitat/biota surveys. The generation of this map has been added to the text in the habitat/biota sections.

Comment 2; Section 18, Baseline Risk Assessment:

For environmental concerns, the Baseline Risk Assessment should follow USEPA's Risk Assessment Guidance for Super fund, Volume 11: Environmental Evaluation Manual (1989).

Response:

The reference to this guidance document has been added to the work plan.

Comment 3; Section 18.3, Toxicity Assessment:

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

Response:

This comment is noted.

SPECIFIC COMMENTS

Groups I and P

Comment 1; Section 14.1.2:

Indicate whether there is a suitable background or control sampling point for sediment. If one exists, a background sediment sample must be collected and the sampling location identified.

Response:

The sediment samples proposed for Groups I and P are to be collected from storm and sludge drains. Given this, there is no appropriate "background" sediment sample location for these sites.

Group E and Q

Comment 1; Section 14.1.3.2:

For ecological concerns, the Phase I soil sampling should include samples at depths shallower than 5 feet.

Response:

The Phase I soil sampling results will not be the primary soil analytical data that will be used for ecological concerns. The Phase II investigation for these site groups proposes to collect soil samples over much smaller intervals, which will be adequate for ecological assessment purposes.

Group Q

Comment 1; Section 6.2, Page 6-2:

Check the distances to the nearby surface water bodies. According to Figure 2-1, Sherman Inlet appears to be located much closer than 700 feet west of Site 39. The distance is especially important with respect to the "marshy areas" associated with Sherman Inlet. Also, the closest distance to Pensacola Bay appears to be to the southeast rather than to the south.

Response:

Sherman inlet is located approximately 350 feet west of Site 39, the closest distance to Pensacola Bay is to the southeast. The text has been modified in Section 6.2 to accurately state these points.

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Attachment B

RESPONSES TO COMMENTS FROM
FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
DRAFT WORK PLANS FOR GROUPS E, I, P AND Q
NAVAL AIR STATION (NAS), PENSACOLA

Comment 1:

It is indicated that these work plans are the result of information provided by the Navy as well as E & E preliminary site inspections conducted during January of 1989. The delay of over two years to propose locations for soil borings and temporary/permanent wells is unacceptable. It is our hope that subsequent work will move a lot faster through the review system.

Response:

As agreed between the Remedial Project Managers (RPMs) in Atlanta in January, 1992, future work plans and reports will be submitted by the contractor as a 100% draft to the Navy, EPA, FDER, and the TRC. By eliminating the 90% draft versions, the review process should move faster. At any rate, the FDER reviewer should note that the work has been progressing according to the schedule contained in the Federal Facilities Agreement (FPA).

Comment 2

For Phase I, the compositing of soils over a five foot interval is unacceptable. A less extensive interval is recommended.

Response:

Phase I soil sampling is designed for screening purposes only; the five-foot interval appears to have worked well for this purpose on the 22 sites at which it has been used thus far. Phase II sampling will utilize much smaller intervals, and the results of those samples will be used for full site characterization.

Comment 3

Water generated during well purging and development at any phase should not be disposed back into the well.

Response:

Please see the response to EPA comment no. 42 for the Group E work plan.

Comment 4:

As stated in previous memos and agreed upon during a subsequent project manager's meeting held on base, some of the less rigorous QA/QC methodologies intended for Phase I soil and groundwater assessment are unacceptable. The screening phase or Phase I should be the basal phase upon which all subsequent work is based, therefore, detection limits currently used by the Department should be strived for if the Navy and its subcontractors are to avoid any comments regarding this issue.

Response:

The detection limits for Phase I screening analyses have been revised to achieve the lowest possible limits using the screening methodologies. These revised detection limits are contained in the 1991 GQAPP, which has been submitted for EPA/FDER/TRC review.

Comment 5:

Concurrent with the above comment, and as agreed upon during the previous project manager's meeting, it is expected that, when reported, the designation of "total as" for various chemical parameters will be avoided both on the tables and figures.

Response:

The designation "total as" for specific group of chemical parameters was not used in the figures presented in the Phase I interim data reports. Although the analytical screening methodologies require calculating total PAHs and total phenols as benzo-a-pyrene and pentachlorophenol, the use of these specific parameters can be excluded from future tables, and the analytical results be listed simply as total PAHs and total phenols.

Comment 6:

Will any soil samples be collected below the groundwater table to assess the vertical extent of soil contamination due to possible "sinker" constituents?

Response:

The Phase II investigations will contain provisions for investigating the presence of Dense Non-aqueous Phase Liquids (DNAPLs) in groundwaters. Should the results indicate their presence, it may be appropriate at that point to determine the effects on the aquifer matrix material.

Comment 7:

In the past, E & E Buffalo Laboratory has had serious problems with methylene chloride levels detected during the screening phase chemical analyses. Said constituent and its elevated levels were purportedly a result of laboratory work. It is recommended that stricter QA/QC controls methods be used to avoid unnecessary comments regarding this issue.

Response:

This problem has been corrected in the laboratory, and in fact, was not a problem with the Batch 2 sites' (site groups F, G, J, K, M, and N) Phase I analyses.

Comment 8:

Phase I sampling and analysis results should be current (less than six months old) when submitted to the Department for review.

Response:

The FDER comment implies that non-current data is not usable, which simply is not the case. However, in the future, every effort will be made to provide Phase I results to EPA/FDER/TRC as quickly as possible.

As discussed by the RPMs in Atlanta on January 13, 1992, the interim data reports will be less formalized, which will permit a quicker submittal of Phase I data to all concerns.

Comment 9:

Who will conduct the asbestos surveys, a field geologist and his crew? Please clarify.

Response:

A certified asbestos specialist will lead the field teams during all asbestos surveys. This information has been added to the text.

SITE SPECIFIC COMMENTS

Group I (Sites 17, 18, and 28)

Comment; Site 18 PCB Spill Area; pp. 14-8, Figure 14-2.

Is there any reason as to why a tentative soil boring is not proposed at the upper right hand corner of the site?

Response:

A soil boring has been included in that area of the site in the draft final work plan.

Group E (Site 8 and 22)

Site 8 Rifle Range Disposal Area

Site 22 Refueler Repair Shop

Comment; pp. 14-11, Figure 14-2.

This figure does not clearly identify the boundaries of both sites. The shaded area is identified as "the sampling area" not the site. Does the "sampling area" reflect the aerial extent of both sites? Please clarify.

Response:

The areas of concern for both of these sites is believed to be within the shaded sampling areas, and thus these areas can be considered to represent site boundaries. The Phase I results will be used to further define the site boundaries, as well as to focus the Phase II investigative efforts.

Group P (Site 38)

Site 38 - Building 78

Comment 1; pp. 14-4.

Sediment sampling. It is indicated that each sediment sample will be composited, however, the composite interval is not indicated. Is the drainage system deep enough to warrant composite samples as opposed to grab samples? Also, please explain the methodology and tools to be used in obtaining a composite drain sample.

Response:

Each composite sample will consist of three grab samples collected immediately adjacent to each other, thus no depth interval was specified. It is anticipated that sediment thicknesses will be less than 3- to 4-inches. As cited in the work plan, the methodology and tools which will be used for sampling are contained in Sections 6.9 and 6.10 of the GQAPP.

Comment 2; pp. 14-8.

Please note, any tests done to determine aquifer hydraulic characteristics should use a minimum of three wells.

Response:

This comment is noted; however, it should be understood that in highly transmissive zones, should they be encountered during the NAS Pensacola investigation, there may be cases in which only two wells are close enough together to provide useful and reliable results.

Group 0 (Site 39)

Site 39 - Oak Grove Campground

Comment 1; pp. 14-7, Figure 14-1.

Is the aerial extent of stained soils accurately depicted on Figure 14-11 How has it been determined? Was a land survey already taken place?

Response:

The area of stained soils is within the shaded sampling area. It was determined during a preliminary site reconnaissance conducted during April 1992. A formal reconnaissance survey is proposed for the Phase I investigation.

Comment 2; pp. 14-6.

Groundwater. It is indicated that the locations of the temporary monitoring wells "will be determined after the completion of the physical and geophysical survey," therefore, are the locations of the soil borings that will be converted into temporary monitoring wells also dependent on these two surveys or do they represent, as inferred in the previous section - soils - permanent and predetermined locations?

Response:

All Phase I locations for both wells and soil borings are tentative, and are subject to change based on the Phase I surveys conducted prior to the drilling-related tasks.

Comment 3; pp. 14-11, Figure 14-2.

The installation of a temporary/permanent shallow monitoring well in the center of the site is recommended to be accomplished during the screening phase as opposed to Phase 11.

Response:

The two Phase I wells shown on Figure 14-1 should be sufficient for screening purposes. If the FDER is concerned with the central portion of the stained soil area, the sample collected from the Phase II well proposed in that area will be analyzed for a much more extensive parameter list than the Phase I groundwater samples, and thus will provide much more data for characterization purposes.

Attachment C

RESPONSES TO COMMENTS FROM THE
FLORIDA DEPARTMENT OF NATURAL RESOURCES (FDNR)
DRAFT WORK PLANS FOR GROUPS E, I, P AND Q
NAVAL AIR STATION (NAS), PENSACOLA
PENSACOLA, FLORIDA

GROUP E

Comment 1:

Surface water drainage is not adequately addressed. Where are the storm water drains or ditches in relation to the sites? These drainage systems need to be analyzed for sediment and surface water contamination.

Response:

All drainage ditches/stormwater drains that are on or adjacent to the sites will be located and mapped as part of the Phase I investigation. Additionally, where applicable based on the Phase I investigation, sediment and surface water samples will be collected during the Phase II investigation.

GROUP I

Comment 1:

We assume these sites are being grouped due to the similarity of the potential contaminants. However, they are geographically separate. These sites should be addressed individually.

Response:

Sites are grouped for planning purposes only; there will be a separate interim data report generated for each site.

GROUP P

Comment 1:

The previous drainage system in the area of building 71 discharged directly into Pensacola Bay prior to being diverted to the industrial waste treatment facility. Where was the previous outfall into the Bay? Sediment sampling should be performed in the area of that outfall.

Response:

The determination of the source of the outfalls along the southeastern boundary of NAS Pensacola and the Bay is one of the tasks that will be done during the Phase II investigation of Site 2 (Waterfront Sediments; see the 1991 revised work plan for Site Group C). Sediment sampling in the Bay will be conducted as part of the investigations of both Site 2 and Site 42 (Pensacola Bay Area).

Comment 2

Also, the location of this site is adjacent to Site 2 (Waterfront Sediments). The results from Site 2 need to be correlated with Site 38.

Response:

All of the results of the Site 38 investigation will be correlated with those of Site 2. In addition, the results of both of these site investigations will be incorporated into the Site 42 (Pensacola Bay Area) investigation.

GROUP Q**Comment 1:**

There is a lack of concern for surface waters and sediments in Pensacola Bay and Sherman Inlet which are only 700 feet south and west from the site. During heavy rainfall storm water may carry contaminated sediments to these water bodies. Any groundwater flow is likely toward the Bay and inlet. Surface water or sediment sampling should be performed in the bay and inlet.

Response:

Surface water and sediment sampling in Sherman Inlet and Pensacola Bay will be addressed by the Site 42 investigation.

GENERAL COMMENTS**Comment 1:**

The phased approach of the remedial investigation appears to prolong the investigative process. If contamination above background levels is determined within the site location, then further study will be performed laterally from the site. This seems to be a short-sighted strategy. Many of these sites have been in existence for a long history. The likelihood of off-site migration is therefore amplified. It is possible contamination would not be found on-site, yet could be found further from the site. Even though initial cost may be more to examine more parameters off-site, it would be less than the multi-phased technique which allows for possible redundancy and added costs.

Response:

The phased approach is necessary to a) provide screening data which will be used to focus characterization/extent delineation sampling, and b) to efficiently delineate those sites which will require a full scale RI/FS. Every effort will be made to complete all of the necessary tasks to complete a site investigation during Phase 11. Additionally, all Phase II investigations will include the installation of monitoring wells that are situated downgradient from a site to determine if groundwater contamination has migrated off-site, and will address sampling of areas that receive direct surface drainage from that site.

Comment 2:

A topographical survey will not be performed until the last phase of the plan. This phase will only be performed if problems are found in earlier stages. We believe the topography should be identified in the beginning to accurately address surface water drainage.

Response:

The Navy believes that surface water drainage can be adequately addressed during the site investigations using both physical observations and a standard 7 1/2-minute quadrangle topographic map available from the United States Geological Survey. The topographic survey proposed in Section 14.5 of the work plans is for the requirements of remedial planning.

Comment 3:

We also have a problem with only addressing site-specific biological resources (Section 5.2). Due to the likelihood of off-site migration of contaminants, biological resources need to be identified and later **sampl**ed beyond the site boundaries. Faunal species may not reside at a particular site, but use the resources at that site.

Response:

Detailed biological sampling, should it be required, will be conducted at a site following an evaluation of DQO Level III and IV (Phase 11) data. If it is appropriate, based on the Phase II data evaluation, this will include areas away from the immediate site. A detailed site-specific biological sampling plan will be presented to the TRC for review prior to conducting the sampling.

Comment 4:

At those sites which are the least disturbed and most natural, the flora and fauna should be analyzed for possible uptake of contaminants should contaminants be found above ARAR. This should also be performed in the benthic communities adjacent to these sites.

Response:

Please see the response to FDNR general comment no. 3. The sampling of benthic communities will be addressed for NAS Pensacola during the investigation of Sites 40, (Bayou Grande Area), 41 (NASP Wetlands), and 42 (Pensacola Bay Area).

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