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UNITED STATES ENVIRONMENTAL PROTECTIOI

REGION IV

345 COURTLAND STREET. N.E.
ATLANTA. GEORGIA 30365

AUG 22 1991

4WD-RCRA&FFB

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Ms. Suzanne Sanborn
Remedial Activities Branch
Department of the Navy - Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 10068
Charleston, S.C. 29411-0068

RE: EPA Review of Interim Data Reports for RI/FS Sites: 1, 2, 11, 15, 26 and 30
NAS, Pensacola, Florida.

Dear Ms. Sanborn:

EPA Region IV has completed its review of the Phase I Interim Data Reports for Remedial Investigation/Feasibility Study (RI/FS) Sites 1, 2, 11, 15, 26 and 30 which were received in this office on June 4, 1991. Enclosed are our comments on these documents.

As Secondary Documents, these Interim Data Reports "may be finalized in the context of the corresponding primary document" (Federal Facilities Agreement (FFA), Section VIII.B.2.). In the present case, the corresponding primary document is the Phase II RI/FS Work Plan. EPA's primary interest in providing comments on these Secondary Documents is to assist the Navy in directing the content and quality of these future investigations, which will, in effect, constitute the full RI. We appreciate your serious consideration of each of our comments to this end.

In the future, while we welcome your submittal of Interim Data Reports for other sites as background information, these documents will not necessarily be subject to EPA review. Rather EPA may defer its review to submittal of the final RI/FS work plan. This work plan should use all available information (including information gathered in the screening investigation,. or any earlier investigations) to propose and justify an investigation which will adequately characterize the site for the purposes of performing a Baseline Risk Assessment and selecting a Remedial Action.

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If you have any questions regarding these matters, please call me at (404) 347-3016.

Sincerely yours,

Allison W. Drew

Allison W. Drew, RPM
RCRA & Federal Facilities Branch
Waste Management Division

cc: James Malone, SOUTHDIV
Ron Joyner, NAS
Eric Nuzie, FDER

TECHNICAL REVIEW AND COMMENTS
INTERIM DATA REPORTS (PHASE I - SCREENING)
RI/FS SITES 1, 2, 11, 15, 26 & 30
NAVAL AIR STATION (NAS), PENSACOLA

GENERAL COMMENTS PERTAINING TO SITES 1, 2, 11, 15, 26 & 30:

1) The Work Plane for these 10 sites were submitted as Group-specific or Operable Unit-specific documents. This was in accordance with Section VIII.C. and D. of the FFA which states that all Primary and Secondary Documents "shall be for a specific operable unit(s)". Why weren't the Interim Data Reports also submitted according to this format?

2) These Interim Data Reports are Secondary Documents, and most nearly fall under the category of Preliminary Characterization Summary Reports (see listing in Section VIII.D.l. of the FFA). As stated in Section VIII.B.2. of the FFA, Secondary Documents are regarded a8 "input or feeder documents" which comprise "discrete portions of the primary document [in this case, the RI/FS Work Plan)". Greater emphasis should therefore be placed on preparation of the primary document than on the "feeder" secondary document. Since the Phase II Work Plan will, in effect, be the RI/FS Work Plan, it is EPA's opinion that reporting efforts should have focused on using the information gained in Phase I to justify and support recommendations for the Phase II investigation rather than a straight presentation and discussion of the data. I.E. the Phase II recommendations ehould have been much more substantive.

3) All currently available, relevant information should be included in the screening report so that the most complete conceptual model possible can be developed. The reports generally include only passing references to previous investigations performed at these sites (e.g. Site 1, page 3-31: "...these results are generally consistent with those previously reported by Geraghty & Miller (1986)..."). All historical information on waste management practices at the site and data from previous investigations should be used to map out the present extent of contamination, and potential migration/exposure pathways, to the maximum extent practicable. Given the amount of information which currently exists for these sites, every effort should be made to make the next phase of field work the final phase. This makes development of as clear and complete a model as possible particularly critical at this point. The more complete the model, the greater the certainty with which the existing data gaps can be identified and targeted for investigation in the most efficient manner possible.

Some specific examples where the inclusion of other existing information in the present reports would have been useful include:

a) Site 1, Section 3.9.4.3: What were the VOC concentrations observed during G & M's earlier sampling events? Comparison of these values with values from the present round of sampling may provide useful information on contaminant migration or degradation. For example, vinyl chloride is a degradation product of TCE. what, if any, changes were observed in the relative distribution and concentration of these two VOCs between 1984 and 1991?

b) Site 2: Identification of hazardous waste and product storage facilities, maintenance facilities, tank farms, vessel dockage areas, etc. and correlation of their locations with waste migration patterns and 'outfall" connections should have been included in the present report. This information may have facilitated the interpretation of sampling results and helped to focus further sampling events.

c) Site 30: Shallow groundwater results for this site suggest the presence of two separate sources of groundwater contamination which appear unrelated to Site 30. Inclusion of available information on the past and present uses of surrounding land and buildings (e.g. in the vicinity of B001) may have facilitated interpretation of sampling results and helped to focus further sampling events.

4) For Risk Assessment purposes, a background or control sample location should be chosen and the collected sample analyzed for the same parameters.

5) Significant problems with lab QA/QC were evident in some of these reports. It is recommended that either stricter analytical protocols be instituted for future samples or another lab be used that can produce useable data.

6) EPA concurs with FDER's general comments 1-7.

SITE 1 - SANITARY LANDFILL

Interim Data Report

1) Page 1-1, Section 1., Paragraph 1:
The date given for the GQAPP in Section 5 - "References" is 1989, A revised edition of the 1989 version was submitted in July 1990. Was the work performed at this site done according to the 1989 or 1990 version of the GQAPP?

2) Page 2-1, section 2.2, Paragraph 1:
Briefly describe what is meant by "most suitable conditions"? Easily accessible? Visibly affected/stressed areas?

3) Page 2-3, Section 2.4, Paragraph 1:
Exactly how was the asbestos survey conducted?

4) Page 2-3, section 2.5, Paragraph 1:
Considering that the purpose of the Phase I investigation was to determine all possible contamination at the site, it is not clear why the preliminary survey did not also include using the methodologies described in Section 6.1.2 of the 1990 GQAPP -i.e. VOC air sampling, whole air collection and solid absorbents or Section 6.1.4 - Semi-Volatile sampling. The Mini-Ram particulate monitor 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). The Mini-Ram used at this site measured in milligrams per cubic meter. The tests were only run for 15 minutes per location which is a very minimal amount of time for any type of air monitoring. The Mini-Ram has a high degree of uncertainty inherent in this 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 Mini-Ram.

5) Page 2-3, Section 2.5, Paragraph 1:
Section 6.1.3 referenced here pertains to Hi-Vol samplers; how does this relate to the Mini-Ram sampling since they are two separate sampling methodologies?

6) Page 2-4, Section 2.6, Paragraph 1:
Why was the Bicron micro-R-meter chosen over the sodium iodide probe gamma scintillation detector?

7) Page 2-5, Section 2.7, Paragraph 4:
Why were the 'yy' and 'zz' designations included, since they are apparently not used? Also, Grid Survey Origins and the believed landfill boundaries should be clearly labeled in the figures in Appendix C.

8) Page 2-7, Section 2.10, Paragraph 1:
Where is Beaver Pond and the "adjacent marshy area"? These features are not labeled in Figure 2-1. Also, all roads in this figure should be labeled, particularly those which are referenced later in the text.

9) Page 2-7, Section 2.10, Paragraph 1:
Why were surface water samples not collected directly into their sample containers? Also, it would seem impractical and very difficult to obtain a representative sample of water from one foot above the bottom of a water body using a stainless steel bowl.

10) Page 2-7, Section 2.10, Paragraph 2:
The decontamination procedure given in Section 6.10 of the 1989 GQAPP was not acceptable (See 7-7-89 ESD memo to McCurry-WES). If this was the procedure used instead of the decontamination procedure given in Section 6.10 of the 1990 version, then the equipment cannot be considered adequately decontaminated as per the Environmental Compliance Branch Standard Operating Procedures and Quality Assurance Manual (ECBSOPQAM), April, 1986 (revised February 1, 1991).

11) Page 2-8, Figure 2-2:
The pond names would be useful in this figure. Also, what is the pond at the far right edge of this map, below the Golf Course Pond? Why was it not sampled?

12) Page 2-8, Figure 2-2:
As a general rule, both a sediment and a eurface water sample should be collected from the selected sampling location whenever practicable. Why was a surface water sample not collected at locations SD002 and SD004?

13) Page 2-9, Section 2-12, Paragraph 1:
VOC samples should never be composited. They must be transferred into sample containers immediately after collection to prevent undue volatilization.

14) Page 2-10, Table 2-2:
TCL is an acronym for the target compound list, and includes everything except metals. The Target Analyte List (TAL) includes the metals.

15) Page 2-10, Table 2-2:
Why weren't samples for the temporary and permanent monitoring wells analyzed for the same constituents?

16) Page 2-10, Table 2-2:
Why was gross alpha the only radiological parameter analyzed for (and only for) the permanent monitoring wells?

17) Page 2-11, Section 2.14.1, Paragraph 1:
The preceding eection states that temporary well screens were installed to bracket the water table. These welle would thus be useful for the detection of floating, but not sinking, immiscible liquids.

18) Page 2-13, Section 2.15, Paragraph 3:
Why were the water levels for the 28 temporary wells collected over a period of 5 days? This is absolutely unacceptable. Water levels must be collected over as short a time period as possible if they are to provide comparable values. This procedure is of particular importance at NAS, Pensacola, where tidal phase could have a considerable effect on water level.

19) Page 2-13 Section 2.15, Paragraph 3:
What USGS Benchmark was the previously established elevation at permanent monitoring well GM39 referenced to?

20) Page 2-14, Section 2.16.2, Paragraph 1:
As before, the decontamination procedure given in Section 6.10 of the 1989 GQAPP was not acceptable (See 7-7-89 ESD memo to McCurry-WES). If this was the procedure used instead of the decontamination procedure given in Section 6.10 of the 1990 version, then the equipment cannot be considered adequately decontaminated as per the ECBSOPQAM.

21) Page 2-14, Section 2.17, Paragraph 3:
What was the rationale for pouring the development/purge water for the temporary wells back into the well after samples were collected? This practice is not according to the ECBSOPQAM.

22) Page 2-14, Section 2.17, Paragraph 4:
How will the drummed investigation-derived materials be disposed of by NAS 'Pensacola?

23) Page 3-1, Section 3.1:
Existing data analysis should have included a discussion of historical waste management practices at the landfill and the materials disposed.

24) Pages 3-1 to 3-9, Sections 3.1 & 3.2:
A figure (or figures) illustrating the locations of all significant features described in these sections (e.g. tar pit, linear features south of the tar pit, marshy-appearing depression, the dark circular feature near the "picnic area road, medical waste disposal area, etc.) and the time periods over which these were visible should be included. A map showing the location of current significant land uses (e.g. picnic and camping areas) should also be included.

25) Page 3-13, Section 3.4, Paragraph 1:
As before, how was the asbestos survey performed?

26) Page 3-15, Section 3.5, Paragraph 3:
See comment 4 above on the inadequacies of using a Mini-Ram.

27) Page 3-15, Section 3.5, Paragraph 3:
These measurement locations should be clearly labeled in some figure (e.g. Figure 3-2).

28) Page 3-15, Section 3.6, Paragraph 1:
Was the background radiation data collected for alpha, beta or gamma radionuclides? Alao, can past disposal records or other information provide insight into the elevated radiation readings?

29) Page 3-18, Section 3.7.1, Paragraph 2:
Why is the single isolated response near Bayou Grande northeast of the landfill considered insignificant?

30) Page 3-18, Section 3.7.2, Paragraph 1:
Background electromagnetic conductivity values in the area should be provided in the text for comparison. Also, quantitative definitions of "moderate" and "strong" should be provided.

31) Page 3-18, section 3.7.3, Paragraph 1:
Again, what is background for these surveys? The 10 mmhos/m is not exceptionally anomalous and may represent ambient conductivity for the area.

32) Page 3-22, Section 3.7.3, Paragraph 2:
Given the findings summarized in sentence 4, sentence 5 should probably indicate that the depth of burial lies closer to the 10' exploration depth.

33) Page 3-22, Section 3.7.3, Paragraph 3:
The anomaly referred to here appears to be present in the deeper vertical coplanar mode rather than the shallow horizontal coplanar mode.

34) Page 3-24, Section 3.8.1, Paragraph 1:
Have there been no other studies of the shallow subsurface lithology for this site conducted in the past? If any such information exists, it should be included in this section to support and supplement the findings of the current investigation. All available information should be used to assess site conditions and evaluate their potential effect on contaminant release and migration. This comment applies equally to all types of field investigations conducted at the site.

35) Page 3-24, Section 3.8.2, Paragraph 2:
Because the water levels measured for the 28 temporary wells were collected over a five day period, their validity is questionable.

36) Pages 3-29 to 3-30, Figures 3-7 & 3-8:
The legends in these figures should indicate that water level elevation isopleths are for the surficial zone only.

37) Page 3-32, Section 3.9.1, Paragraph 1:
What parameters were analyzed for? This section should reference Table 2-2.

38) Page 3-36, Section 3.9.1.1, Paragraph 3:
Could the high concentrations of iron and manganese mask other potential metal contaminations?

39) Page 3-37, Section 3.9.2, Paragraph 2:
If the VOC samples were composited, this improper collection method could explain why only one VOC was detected in the sample.

40) Page 3-37, Section 3.9.2, Paragraph 2:
The methylene chloride is being written off as a laboratory-derived contaminant. What future lab QA/QC will be proposed to prevent this problem?

41) Page 3-43: Sections 3.9.2.3 & 3.9.2.4:
If there are other PAHs besides benzo-a-pyrene in the sample, how will they be differentiated in future samples? Also, if phenols are reported as trichlorophenol, how will they be differentiated in future samples?

42) Page 3-43, Section 3.9.3, Paragraph 2:
See comment 39 above - VOC samples should not be compoeited.

43) Page 3-46, Figure 3-12:
A separate figure should be prepared to illustrate the analytical results for each metal. The "Total Metals" plot combines too much information in one figure. Also, effort should be made to contour the data whenever useful or practicable.

44) Page **3-47,** Figure **3-13:**
The numeric results of analyses should be included in all such figures to facilitate visualization of the extent and magnitude **of** contamination. Also, effort should be made to contour the data whenever useful or practicable.

45) Page **3-48,** Section **3.9.3.3,** Paragraph **2:**
Having a laboratory-derived contaminant of 19,000 ug/kg methylene chloride indicates that the lab **is** using improper or inadequate QA/QC methods - or that methylene chloride **is** present at the site.

46) Page **3-49,** Section **3.9.4.1,** Paragraph 1:
What **is** the reason for the pH of **1.86** in temporary well **TW014** and the pH of **3.9** in well **TW026?**

47) Page **3-52,** Section **3.9.4.2,** Paragraph **2:**
Specifically, which of these metals listed in Table 9-4 **of** the QAPP might be observed at elevated concentrations due to dissolution **of** aquifer matrix sediments?

48) Page **3-60,** Section **3.9.4.2,** Paragraph **3:**
"...these results...suggest that the detected elevated total metals concentrations in the temporary well groundwater samples probably reflect acid preservative leaching or diesolution of aquifer matrix sediments entrained in these unfiltered samples rather than actual ground water contamination". Will this be the reasoning used whenever metals are detected in a total metals groundwater sample? If the constituent **is** in the aquifer (matrix or otherwise), the purpose of collecting a sample **is** to determine the concentration (MCLs are based on unfiltered Samples). Also, why are matrix dissolution effects believed to be greater in temporary than in permanent welle?

49) Page **3-62,** Table **3-9:**
Please note the number of qualifiers used in this table and how many results have a qualifier after them:

- * = duplicate analysis not within control limits
- + = correlation coefficient for the MSA **is** less than 0.995.
- E = reported value **is** estimated because of the presence of interference.
- M = duplicate injection precision not met.
- W = post digestion spike for furnace AA analysis **is** out of control limits **(85-115%),** while absorbance is less than **50%** of spike absorbance.

The large number of results with a qualifier indicates that improper or inadequate **QA/QC** procedures are being used in the lab.

50) Page **3-67,** Table **3-10:**
According to the analytical results for samples GM43, **GM** 44 and GM45, fifteen instances of compound detection in the method blank were reported for these samples. **As** before, this indicates improper or inadequate lab QA/QC procedures.

51) Page 3-77, Section 3.9.4.3, Paragraph 2:
The results of G & M's 1986 study should be tabulated or presented in a figure in the present report for comparison purposes.

52) Page 3-77, Section 3.9.4.3, Paragraph 2:
The final sentence of this paragraph requires further explanation. How do the analytical results euggeet potential groundwater contamination below the surficial zone of the sand and gravel aquifer?

53) Page 3-79, section 3.9.4.3, Paragraph 8:
See comment 51.

54) Page 3-79, Section 3.9.4.3, Paragraph 8:
According to Table 3-10, Trichloroethene was detected in samples W004, W033 and W038. Care should be taken to make sure that all text and-tables. accurately present the raw data. Also, figures illustrating the detected concentrations of the more frequently detected compounds would greatly facilitate visualization of the extent and magnitude of contamination.

55) Page 3-81, Section 3.9.4.3, Paragraph 14:
As before, why were only the permanent monitoring well samples analyzed for gross alpha?

56) Page 3-81, Section 3.9.4.3, Paragraph 15:
A discuseion of regional groundwater alkalinity, hardness, and total organic carbon, should be included for comparison with the present results.

57) Page 3-85, Section 3.10.4, Paragraph 2:
The fact that the temporary wells are more turbid than the permanent wells could be explained by inadequate well development or that the wells do not have a filter pack around the screen as do the permanent wells.

58) Page 3-86, Section 3.10.4, Paragraph 6:
All available information on the existing deep G & M wells, including construction details, sampling results, etc. should be included in the preeent report.

59) Page 3-95, Section 3.11.2:
The results of matrix spikes and duplicates should have been discussed in this section.

Attachment A

60) Page 1, Paragraph 1:
Please clarify what is meant by: "to the greatest extent practicable". The purpose of the RI is to adequately characterize the nature and extent of contamination so that a Baeeline Risk Assessment can be performed (i.e. exposure potential identified) and a sufficient means for remediating the site determined.

61) Page 1, Paragraph 2:
The proposal to analyze for a very limited number of contaminants for this eite is not acceptable for several reasons: 1) if the VOC samples or any other samples that readily volatilize were composited in the Phaee I round of

sampling, there is a distinct possibility that this fraction of the sample was lost due to volatilization/aeration; 2) the large number of constituents detected in the method blank caused several of the analytical results to be written off as laboratory-derived contamination. There is always the possibility that some of these constituents were actually in the sample; 3) samples were only collected once - not on a monthly or quarterly basis. Some constituents may not have yet migrated to the sampling point, have been attenuated in the finer sediments, been diluted by precipitation, etc. With time, more constituents may be moving through the soil, ground water, etc.

62) Page 2, Paragraph 1:
The discussion of where to install additional monitor wells is too general. The purpose, or rationale, for installing each well must be specified. The rationale should be based on existing data. What is presently known about the nature and extent (both lateral and vertical) of the plume? What "gaps" still exist in the data? What can and cannot be predicted/anticipated about contaminant migration from available data? Will the proposed locations adequately address each of the remaining data gaps?

63) Page 2, Paragraph 4:
What data gaps remain with regard to delineation of surface water contamination? How will these samples fill these data gaps?

64) Page 2, Paragraph 5:
What data gaps remain with regard to delineation of sediment contamination? How will these samples fill these data gaps?

65) Page 4, Table 1:
Why aren't all samples within the same media to be analyzed for the same constituents? Why will the only media to be analyzed for gross alpha be the soil samples? Why is this the only radiological parameter to be analyzed for?

66) Page 5, Paragraph 1:
What data gaps remain with regard to delineation of soil contamination? How will these samples fill these data gaps? Also, as stated before, no VOC samples should be composited.

67) Page 5, Paragraph 4:
The monitoring well installation procedures must be more detailed. The Region IV Environmental Services Division guidance for well installation requires installation of stainless steel wells. A variance may be requested for the use of alternative well materials, such as PVC. Attachment A is a listing of the minimum information to be supplied for conaideration and the risks retained by the Navy if the variance is granted.

68) Page 7, Paragraph 3:
Justify the decision not to perform more extensive hydrologic asaessment tests (e.g. step drawdown tests, pumping tests) at this phase of the investigation.

69) Page 7, Paragraph 4:
Is the GQAPP referenced here the 1989 or 1990 version?

70) Page 7, Paragraph 5:
The goal of the RI is to gather enough information to do a full Baseline Risk Aesesement (BRA) and Feasiblity Study (FS). The BRA should not be a preliminary evaluation and its purpose is not to determine the need for further investigations or characterization as stated in the Recommendation Letter. The investigation and characterization of all media should be complete before the BRA is completed.

Appendices

71) Appendix B:
Please note that the radiation readings for Site 1 ranged from NA to 11 uR/h and that OVA readings ranged from NA to 20 ppm (NA = Not Accessible).

72) Appendix D:
Please note that the highest open-borehole OVA/HNu readings for the temporary wells ranged from 0 to 400 ppm and the pH ranged from 1.86 to 7.44 units.

73) Appendix It
Please note the case narrative explaining the problems with the QA/QC for the permanent monitoring well samples.

SITE 2 - WATERFRONT SEDIMENTS

Interim Data Report

1) General Comment:
Throughout the report, the field logbook was referenced as a source for field and sampling documentation and site observations and measurements. This important information source should have been included in the report as an attachment or Appendix.

2) General Comment:
There is no discussion regarding the depth of water, water condition (i.e. turbidity), tide, or sediment description (sand, mud, etc.) or similar factors relative to this sampling investigation. Contaminant deposition at the two "subsites" of this site (i.e. to the east and south) may be influenced differently by wind, tide and other such factors. Without a description of these factors, it is difficult to assess the impact of contaminants migrating offshore and the appropriateness of Phase II recommendations.

3) Page 1-1, Section 1., Paragraph 1:
see comment 1 for Site 1.

4) Page 1-3, Figure 1-2:
The letter quality of this figure, particularly building numbers, must be improved.

5) Page 1-3, Figure 1-2:
The northeasterly portion of this site contains only one "outfall". What is the reason for the relatively large areal extent of this portion of the site?

6) Page 2-1, Section 2.1, Paragraph 2:
What was the rationale for using the 1982 FLDER data for sites PNB-5 and PNB-6 as being indicative of ambient bay conditions? This data should have been included in the report.

7) Page 2-3, Section 2.4, Paragraph 1:
See comment 4 for Site 1.

8) Page 2-4, Section 2.4, Paragraph 1:
See comment 5 for Site 1.

9) Page 2-4, Section 2.5, Paragraph 1:
See comment 6 for Site 1.

10) Page 2-4, Section 2.7, Paragraph 1:
As before, VOC samples should not be composited.

11) Page 2-4, Section 2.7, Paragraph 1:
The vessel dockage area situated between the east and south portions of the site was not sampled. This area is highly suspect of sediment contamination due to release of metals from vessel bottoms and deck paint, oily bilge discharges and releases (accidental or otherwise) of hazardous materials over the years. Tidal influence (flushing), wind dispersion and storm surges can be a factor of contaminant migration. Sampling of this area must be performed.

12) Page 2-4, Section 2.7, Paragraph 1:
Surface water samples should have been collected from randomly selected areas where sediment samples were collected. This would have helped to further assess contaminant migration and define pollution sources. Contaminants are transported through this media and surface water contamination may have revealed a need to expand this investigation.

13) Page 2-5, Figure 2-1:
The designation of "outfall versus atormwater outfall" discussed throughout the report and identified on numerous figures is confusing and misleading. The term "outfall" should have been used exclusively and defined in applicable portions of the text as storm water drainage from culverts, drain pipes or sewer systems, and/or point sources (i.e. elevated structures, production and maintenance areas, product or waste storage units).

Furthermore, the figures identify "outfalls" from buildings that are not adequately characterized. Based on the sampling results, several of these "outfalls" could be from structures that have stored or retained hazardous materials. A listing of building structures and types, by number as they appear on the figure, would render a better and more realistic picture of potential pollution sources.

14) Page 2-6, Section 2.8.2, Paragraph 1:
See comment 10 for Site 1.

15) Page 2-6, Section 2.9, Paragraph 1:
"Wastes generated during decontamination activities were allowed to evaporate to the maximum extent possible, and the residue was disposed of on site". What exactly does this mean - were solvents, contaminated wash water, etc. poured into the bay? Define "properly disposed of" as it is used in this paragraph.

16) Page 3-5, Section 3.4, Paragraph 2:
See comment 4 for site 1.

17) Page 3-5, Section 3.5, Paragraph 2:
The radiation levels of 12 and 35 uR/h were not given in Appendix B.

18) Page 3-5, Section 3.5, Paragraph 2:
"The high background level is assumed to be due to the natural radiation of the granite wall". Were other measurements taken along the wall to verify this assumption?

19) Page 3-11, Section **3.6.3,** Paragraph **1:**
See comment 40 for Site 1.

20) Page 3-13, Section 3.6.4, Paragraph 1:
See comment 41 for Site 1.

21) Page 3-13, Section 3.6.5, Paragraph 1:
Assuming all stormwater run-off from the base is directed to the south and east, it is somewhat suprising that pesticides were not detected in any samples. If the samples were collected at depths requiring "diver's gear", then perhaps wind and total dispersion were factors in transporting contaminants downstream and away from the assessment area.

22) Page 3-14, Section 3.8.2, Paragraph 1:
See comment 40 for Site 1.

Attachment A

23) Page 1, Paragraph 1:
See comment 60 for Site 1.

24) Page 1, Paragraph 2:
Aren't the proposed samples sediment and not soil samples?

25) Page 1, Paragraph 4:
See comment 69 for Site 1.

26) Page 2, Paragraph 1:
The purpose for collection of each proposed sampling location should be clearly stated. How will the information gained help assess the magnitude or extent of contamination at Site 2?

Identify on-base tank farms, hazardous waste and product storage areas, manufacturing, fabrication, machining, painting, maintenance facilities, and correlate their locations with "outfall" connections, waste migration patterns and site topographic features. This will be necessary to focus sampling locations.

27) Page 2, Paragraph 1:
Surface water eamples should be collected at several randomly selected sediment sampling locations to assess contaminant migration and further define pollution sources.

28) Page 2, Paragraph 1:
Several sediment (surface and subsurface) and surface water samples should be collected from the vessel dockage area to determine if this part of the facility is contaminated and impacting Pensecola Bay.

29) Page 2, Paragraph 3:
See comment 70 for Site 1.

30) Page 5, Table 1:
Why aren't all samples within the same media to be analyzed for the same constituents?

Appendices

31) Appendix B:
See comment 17 for Site 2.

SITE 11 - NORTH CHEVALIER DISPOSAL AREA

Interim Data Report

1) Page 1-1, Section 1., Paragraph 1:
See comment 1 for Site 1.

2) Page 1-3, Figure 1-2:
The believed boundaries of the site should be indicated on this figure.

3) Page 2-3, Section 2.4, Paragraph 1:
See comment 3 for Site 1.

4) Page 2-3, Section 2.5, Paragraph 1:
See comments 4 and 5 for Site 1.

5) Page 2-4, Section 2.6, Paragraph 1:
See comment 6 for Site 1.

6) Page 2-7, Section 2.10, Paragraph 1:
Wae the VOC soil samples also composited?

7) Page 2-9, Section 2.10, Paragraph 2:
Why were all wells installed to bracket the water table? Was there no evidence or records to indicate potential Dense, Non-aqueous Phase Liquid (DNAPL) contamination?

8) Page 2-9, Section 2.10, Paragraph 2:
See comment 10 for Site 1.

9) Page 2-10, Table 2-2:
See comments 14, 15 and 16 for Site 1.

10) Page 2-11, Section 2.13, Paragraph 3:
Wells at Site 1 were tied into the well GM39 e-mat-on; here, the wells are referenced to well GM47. What USGS Benchmark was the previously established elevation at permanent monitoring well GM47 referenced to?

11) Page 2-13, Section 2.15, Paragraph 3:
See comment 21 for Site 1.

12) Page 2-13, Section 2.15, Paragraph 4:
See comment 22 for Site 1.

13) Page 3-1, Section 3.1:
See comment 23 for Site 1.

14) Page 3-7, Section 3.4, Paragraph 1:
See comment 3 for Site 1.

15) Page 3-7, Section 3.5, Paragraph 1:
see comment 4 for site 1.

16) Page 3-78 Section 3.6, Paragraph 1:
Was the background radiation data collected for alpha, beta or gamma radionuclide87

17) Page 3-9, Section 3.6, Paragraph 1:
Appendix B has a radiation reading of 45 uR/h for grid coordinate N2+00E1+50 - grid B. This was not noted in the text. What are the road materials at this site that are contributing 6 to 8 uR/h radiation?

18) Page 3-15, Section 3.8.1:
See comment 34 for Site 1.

19) Page 3-16, Table 3.1:
According to this table, water levels for the 11 temporary wells were collected over the period 1/17/91 to 1/22/91 - 6 days. Why did it take 6 days to collect 11 water level measurements? Water level measurements for the eleven permanent wells were all collected within a 2-hour period on 2/26/91. As stated for the temporary wells at Site 1, water levels should be measured as closely as possible to each other and during the same tidal phase.

20) Page 3-18, Figure 3-7:
See comment 36 for Site 1.

21) Page 3-19, Section 3.9.1, Paragraph 2:
The meaning of "A" and "B" intervals should be defined in the text.

22) Page 3-27, Figure 3-9:
See comment 43 for Site 1.

23) Page 3-30, Section 3.9.1, Paragraph 10:
See comment 40 for Site 1,

24) Page 3-30, Section 3.9.1, Paragraphs 11 & 12:
See comment 41 for Site 1.

25) Page 3-31, Section 3.9.2, Paragraph 2:
EPA concur8 with FDER's comment 1 for this site.

26) Page 3-35, Section 3.9.2, Paragraph 4:
See comment 48 for Site 1.

27) Page 3-39, Section 3.9.2, Paragraph 12:
See comments 51 and 58 for Site 1.

28) Page 3-40, Table 3-6:
Please note the qualifiers in this table and the number of samples they apply to; this indicates inadequate or improper lab QA/QC procedures.

29) Page 3-43, Table 3-71
Please note the number of constituents that were present in the method blank. This again indicates inadequate or improper lab QA/QC.

30) Page 3-50 to 51, Sections 3.10.1 & 3.10.2:
The results presented in these sections suggest that Site 30 should be included as a part of Operable Unit 2 (Group B). Also, submittal of a single

report for this Operable Unit (rather than site-specific reports) would facilitate preparation of a more complete, meaningful discussion of these surface water and sediment results.

31) Page 3-56, Section 3.10.4, Paragraph 8:
The upward gradient at GM51 appears relatively small. Inclusion of the results of any earlier sampling events in this discussion may be useful.

32) Page 3-61, Table 3-9:
See comment 29 for this site.

Attachment A

33) Page 1, Paragraph 1:
See comment 60 for Site 1.

34) Page 1, Paragraph 2:
See comment 61 for Site 1.

35) Page 1, Paragraph 3:
See comment 62 for Site 1.

36) Page 2, Paragraph 4:
Samples for VOCs should not be composited.

37) Page 2, Paragraph 4:
The rationale behind the proposed sampling scheme for each individual boring ahould be more clearly stated. For example, composited soil samples will be collected at the specified intervals from surface to 10' below'the water table for five borings where high levels of contamination were detected in Phase I. Why is boring B12 included in this group when more extensive contamination was observed in the adjacent boring B13?

38) Page 2, Paragraph 4:
The stated goal for collection of two samples below the water table is to assess the vertical extent of soil contamination. What assurance exists that this approach will define the vertical extent of contamination?

39) Page 3, Figure 1:
It is ueeful to have all existing and proposed samples for each locality on the same figure. However, the crowded nature of this figure makes it difficult to locate the specific locations being proposed for a given sample type. A series of clear plastic overlays would help to clarify the proposed sampling plan.

40) Page 4, Table lr
Why aren't all samples within the same media to be analyzed for the same constituents? Why will the only media to be analyzed for radionuclides be the soil samples? Why are no samples to be analyzed for gross alpha?

41) Page 6, Paragraph 1:
See comment 67 for Site 1.

42) Page 7, Paragraph 1:
See comment 68 for Site 1.

43) Page 7, Paragraph 2:
See comment 69 for Site 1.

44) Page 7, Paragraph 3:
What eampling or other types of field investigation will be performed to locate and further delineate these potential sources of contamination?

45) Page 7, Paragraph 4:
See comment 70 for Site 1.

Appendices

46) Appendix B:
Please note that the radiation readings ranged from 4 to 45 uR/h.

47) Appendix E:
Please note that the highest open-borehole OVA/HNu readings ranged from 0 to 1000 ppm. The fact that 12 of the borings had high readings of 1000 ppm should have been noted in the text.

SITE 15 - PESTICIDE RINSATE DISPOSAL AREA

Interim Data Report

1) Page 2, Executive Summary, Paragraph 3:
Was a survey of all past uses of the surrounding property performed for this site as part of the screening phase? This would have provided potentially useful information on these "additional sources of contamination".

2) Page 1-1, Section 1, Paragraph 1:
See comment 1 for Site 1.

3) Page 2-3, Section 2.4, Paragraph 1:
See comments 4 and 5 for Site 1. Also, why was no radiation monitoring performed for this site?

4) Page 2-6, Section 2.8, Paragraph 1:
See comment 13 for site 1.

5) Page 2-6, Section 2.8, Paragraph 3:
see comment 10 for Site 1.

6) Page 2-8, Section 2.10.1, Paragraph 1:
See comment 17 for Site 1.

7) Page 2-9, Table 2-2:
See comments 14 and 15 for Site 1.

8) Page 2-10, Section 2.11, Paragraph 3:
As before, water levels should be measured as closely as possible to each other and within the same tidal phase. Why were the temporary wells surveyed in to well elevations GM59 and GM60? Wells at site 1 were surveyed in relative to well GM39, at site 11 to well GM47, at site 12 to well GM15 and at sites 13 and 14 to USGS Benchmark No. A161.

9) Page 2-11, Section 2.13, Paragraph 2:
See comment 21 for Site 1.

10) Page 2-11, Section 2.13, Paragraph 3:
See comment 22 for Site 1.

11) Page 3-1, Section 3.2, Paragraph 1:
Regarding the description of Building 2692, what is meant by the term "unpaved"?

12) Page 3-2, Section 3.4, Paragraph 1:
Only the OVA readings are included in the appendix; where are the HNU readings?

13) Page 3-2, Section 3.4, Paragraph 2:
See comment 4 for Site 1.

14) Page 3-3, Section 3.6.1, Paragraph 1:
See comment 34 for Site 1.

15) Page **3-8,** Figure **3-2:**
See comment **36** for Site **1.**

16) Page **3-9,** Table **3-3:**
See comment **40.**

17) Page **3-19,** Section **3.7.1.1,** Paragraph **1:**
What exactly were G&M's results for Arsenic (as well as other parameters)? **Did** these results indicate the presence of contamination in any other areas? See comment **51** for Site **1.**

18) Page **3-19,** Section **3.7.1.3,** Paragraph **2:**
Please note the reference to a false analytical positive and more evidence **of** laboratory-derived contamination for methylene chloride. These problems indicate improper or inadequate lab QA/QC.

19) Page **3-22,** Section **3.7.1.3,** Paragraph **3:**
Were either of these TCL VOCs detected in earlier (i.e. G&M) sampling rounds?

20) Page **3-22,** Section **3.7.1.4,** Paragraph **1:**
See comment **41** for Site **1.**

21) Page **3-24,** Section **3.7.1.4,** Paragraph **3:**
"The absence **of** chlordane in **E** & **E** soil samples may be due to **E** & E's compositing soil over a *0-* to 4-foot interval **BLS.** This larger interval may have diluted any chlordane present at the surface". These samples should be re-collected to verify if sampling techniques caused questionable data.

22) Page **3-24,** Section **3.7.2.2,** Paragraph **2:**
See comment **48** for Site **1.**

23) Page **3-32,** Table **3-6:**
Please note the number of samples with qualifiers; this indicates improper or inadequate lab QA/QC.

24) Page **3-37,** Section **3.8.1,** Paragraph **2:**
Historical ambient source data should be investigated for VOC contamination and the information used to focus further sampling efforts.

<u>Attachment A</u>

25) Page **1,** Paragraph **1:**
See comment **60** for Site **1.**

26) Page **1,** Paragraph **2:**
See comment **61** for Site **1.**

27) Page **1,** Paragraph **3:**
See comment **62** for Site **1.**

28) Page **2,** Paragraph **2:**
What sampling measures will **be** taken to assure that the **vertical** extent **of,** soil contamination **is** determined? See comment **68** for Site **1.**

29) Page 4, Table 1:
Why aren't all samples within the same media to be analyzed for the same parameters? Why aren't radiological parameters proposed for this site?

30) Page 5, Paragraph 1:
See comment 67 for Site 1.

31) Page 5, Paragraph 3:
See comment 68 for Site 1.

32) Page 5, Paragraph 4:
See comment 69 for Site 1.

33) Page 6, Paragraph 1:
See comment 70 for Site 1.

Appendices

34) Appendix C:
Please note the highest open-borehole OVA/HNu readings for the temporary wells ranged from 0 to 780 ppm. This fact should have been noted in the text.

SITE 26 - SUPPLY DEPARTMENT OUTSIDE STORAGE

Interim Data Report

1) Page 1-1, Section 1., Paragraph 1:
See comment 1 for Site 1.

2) Page 2-3, Section 2.4, Paragraph 1:
See comments 4 and 5 for Site 1.

3) Page 2-3, Section 2.5, Paragraph 1:
See comment 6 for Site 1.

4) Page 2-7, Section 2.9, Paragraph 1:
See comments 10 and 13 for Site 1.

5) Page 2-9, Section 2.11, Paragraph 1:
See comment 17 for Site 1.

6) Page 2-11, Section 2.12, Paragraph 2:
These temporary wells were surveyed in relative to well GM15. The temporary wells for site 24 were surveyed in relative to the well elevation for GM39. Welle at site 1 were surveyed in relative to well GM39, at site 11 to well GM47, at site 12 to well GM15, at sites 13 and 14 to USGS Benchmark No. A161 and eite 15 to well elevations for GM59 and GM60. Why does each site have a different reference point?

7) Page 2-12, Section 2.14, Paragraph 2:
See comment 21 for Site 1.

8) Page 2-12, Section 2.14, Paragraph 3:
See comment 22 for Site 1.

9) Page 3-1, Section 3.1:
See comment 23 for Site 1.

10) Pages 3-2 to 3-3, Section 3.2, Paragraphs 2,3:
What is contained in the storage trailere? What was the condition of the olive green containers labeled DDT? What are the contents of the refuse bins and did there appear to be releases from the bine?

11) Page 3-5, Section 3.4:
See comment 4 for Site 1. Also, were any ENu readings recorded?

12) Page 3-5, Section 3.5:
Wae the background radiation data collected for alpha, beta or gamma radionuclides?

13) Page 3-7, Section 3.6, Paragraph 2:
What work will be performed to determine if the etrong localized magnetic anomaly in the south-central area and other areas of site 26 is actually buried metal?

14) Page 3-14, Figure 3-6:
See comment 36 for Site 1.

15) Page 3-21, Section 3.8.1, Paragraph 6:
See comment 40 for Site 1.

16) Page 3-26, Section 3.9.2, Paragraph 1:
See comment 48 for Site 1.

Attachment A

17) Page 1, Paragraph 1:
See comment 60 for Site 1.

18) Page 1, Paragraph 2:
See comment 61 for Site 1.

19) Page 1, Paragraph 3:
See comment 62 for Site 1.

20) Page 2, Paragraph 2:
See comment 66 for Site 1

21) Page 4, Table 1:
Why aren't all samples within the same media to be analyzed for the same parametere? Why aren't radiological parameters proposed for this site?

22) Page 5, Paragraph 1:
See comment 67 for Site 1.

23) Page 5, Paragraph 3:
See comment 60 for Site 1.

24) Page 5, Paragraph 4:
See comment 69 for Site 1.

25) Page 5, Paragraph 6:
See comment 70 for Site 1.

Appendices

26) Appendix B:
Please note that radiation readinga ranged from ND to 16 uR/h.

SITE 30 - BUILDINGS 649 AND 755

Interim Data Report

1) Page 1-1, Section 1., Paragraph 1:
See comment 1 for Site 1.

2) Page 2-3, Section 2.4, Paragraph 1:
See comments 4 and 5 for Site 1.

3) Page 2-3, Section 2.5, Paragraph 1:
See comment 6 for Site 1.

4) Page 2-6, Section 2.9, Paragraph 1:
See comment 10 for Site 1.

5) Page 2-8, Section 2.11, Paragraph 1:
See comment 13 for Site 1.

6) Page 2-11, Section 2.13, Paragraph 2:
Why did it take two days to measure water levels in 5 temporary wells?

7) Page 2-12, Section 2.13, Paragraph 1:
The site 30 temporary wells were surveyed in relative to USGS Benchmark No. N26. At site 26 the wells were surveyed in relative to well GM15. The temporary wells for site 24 were surveyed in relative to the well elevation for GM39. wells at site 1 were surveyed in relative to well GM39, at site 11 to well GM47, at site 12 to well GM15, at Sites 13 and 14 to USGS Benchmark No. A161 and eite 15 to well elevations for GM59 and GM60. Why so many different survey references?

8) Page 2-13, Section 2.15, Paragraphs 2 & 3:
See comments 21 and 22 for Site 1.

9) Page 3-3, Section 3.2, Paragraph 5:
Provide additional information (e.g. usage/purpose) on the "industrial waste manholes".

10) Page 3-3, Section 3.2, Paragraph 9:
Only the OVA readings are given in Appendix B - not the HNu readings.

11) Page 3-10, Section 3.4, Paragraph 7:
See comment 4 for site 1.

12) Page 3-10, Section 3.5, Paragraph 1:
No radiation readings are given in Appendix B.

13) Page 3-14, Table 3-1:
Again, why did it take 2 days to measure 5 water levels; water levels should be measured as closely as possible together and within the same tidal phase.

14) Page 3-18, Section 3.8, Paragraph 1:
What type of future work will be performed to verify the assumption that site 11 is the potential source of contamination for site 30? The contents of this section suggest that Sites 30 and 11 should be included in the same operable

Unit. Submittal of a single report for this Operable Unit (as opposed to PSC-specific reports) would facilitate presentation of a more complete, meaningful discussion of these sites.

15) Page 3-22, Table 3-4:
See comment 41 for Site 1.

16) Page 3-26, Figure 3-6:
SD013 had a somewhat higher total metals and TRPH than surrounding sediments. Could this sample point be adjacent to a point source, or was the sample collected in an area of accumulation of silt or sediment? Also, see comment 43 for Site 1.

17) Page 3-27, section 3.8.2, Paragraph 6:
See comment 40 for Site 1.

18) Page 3-28, Figure 3-7:
Can phenol detection in SD020 be attributed to a point source near its sampling point?

19) Page 3-41, Section 3.8.4.2, Paragraph 1:
See comment 48 for Site 1.

20) Page 3-47, Section , Paragraph :
A discussion of activities and any associated waste disposal practices of the buildings and grounds in the vicinity of boring B001 should have been included in this report (probably in Section 3.1). For example, in the past chlorinated hydrocarbons have apparently been detected in the groundwater near PSC 31 (Building 648) located just north of this site. Examination of all existing data and information may have facilitated the selection of sampling localitiee and interpretation of sampling results in addition to helping focus further investigative efforts.

Attachment A

21) Page 1, Paragraph 1:
See comment 60 for Site 1.

22) Page 1, Paragraph 2:
See comment 61 for Site 1.

23) Page 1, Paragraph 3:
See comment 62 for Site 1.

24) Page 2, Paragraph 3:
See coment 63 for Site 1.

25) Page 2, Paragraph 4:
See comment 64 for Site 1.

26) Page 2, Paragraph 5:
See comment 66 for Site 1.

27) Page 5, Table 1:
See comment 65 for Site 1.

28) Page 6, Paragraph 3:
See comment 67 for Site 1.

29) Page 7, Paragraph 1:
See comment 68 for Site 1.

30) Page 7, Paragraph 2:
See comment 69 for Site 1.

31) Page 7, Paragraph 3:
See comment 70 for Site 1.

Appendices

32) Appendix B:
Pleaee note that OVA readings ranged from 0 to 100 ppm; no radiation or HNu readings were given in this appendix.

33) Appendix E:
Please note that the highest open-borehole OVA/HNu readinge ranged from 0 to 40 ppm.

ATTACHMENT A

Information Requirements for Justification of Alternative Well Casina Materials for Groundwater Monitoring Well Construction

I. EPA Region IV requires that groundwater monitoring wells be constructed of stainless steel (304 or 316 - first choice) or rigid PVC meeting NSF Standard 14 ("NSF WC" - second choice), Which of these well casing materials to be used depends upon which would obtain the most representative groundwater sample. A justification must be submitted when monitoring wells constructed of PVC materials are proposed for use in collecting samples for organic analysis. Following are EPA's information requirements for justifying the use of PVC as the well casing material for groundwater monitoring wells.

1. The Data Quality Objectives (DQO) for the samples to be collected from wells with PVC casing per EPA/540/G-87/003, Data Quality Objectives for Remedial Response Activities.

2, The anticipated compounds and their concentration ranges.

3. The anticipated residence time of the sample in the well.

4. The aquifer's productivity.

5. The reasons for not using hybrid wells of PVC casings and stainless steel screens.

6. Brief discussion of adsorption/desorption characteristics of the compounds and elements of interest for the type of PVC to be used.

7. Whether an anticipated increase in thickness of the monitor well wall would require a larger annular space.

8. The type of PVC to be used and, if available, the manufacturer's specifications. Additionally, assurance that the PVC to be used does not leach, mask, react or otherwise interfere with the contaminants being monitored within the limits of the DQOs.

II. EPA acceptance of PVC well casing materials does not constitute approval of that casing material; therefore, if PVC is accepted for use, the following conditions shall apply:

1. The FACILITY accepts the risks that the use of alternate materials for groundwater monitoring may cause interferences or inaccuracies in the chemical analysis of samples from such wells. All compounds found in samples collected from the well will be considered to originate in the aquifer being monitored.

2. Any such acceptance applies to the implementation of the specified RFI Work Plan only, and any other use of alternate materials for groundwater monitoring must be granted by EPA separately.

3. Any major amendments or revisions to the referenced RFI Work Plan or the intended DQOs of the work plan may require reassessment of the acceptance for use of alternate materials by EPA.

4. EPA reserves the right to refuse groundwater monitoring data from groundwater wells constructed of alternate materials from those specified in the Region IV SOP whenever such construction materials could cause the ground water monitoring data to fail to meet the necessary DQOs.

III. The information to justify the use of PVC well casing could be incorporated into the work plan and be inclusive for all sites where PVC casing will be used.

IV. All field work and laboratory procedures must follow EPA Region IV Standard Operating Procedure Quality Assurance Manuals (SOPQAM). The SOPQAM for field procedures is dated February 1991, and the SOPQAM for laboratory procedures is dated September 1990. Any deviation from EPA Region IV SOPQAM must be justified in writing and be approved by EPA.

August 2, 1991