



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
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OCTOBER 17, 1996

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**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Commanding Officer,  
Southern Division, NAVFACENGCOM  
Attn: Mr. Bill Hill (code 1851)  
P.O. Box 190010  
North Charleston, South Carolina 29419-9010

SUBJ: NAS Pensacola  
Draft Remedial Investigation Report  
Operable Unit 2, Sites 11, 12, 25, 26, 27, 30 & 36

~~Dear~~ Mr. Hill:

The U.S. Environmental Protection Agency (EPA) **has** partially completed its review of the above subject document. Comments are enclosed. Comments addressing the risk assessment will be forwarded as soon **as** possible.

If you have any questions or comments, please call me at (404) 562-8538.

Sincerely,

Gena D. Townsend  
**Senior Project Manager**  
Federal Facilities Branch

cc: Ron Joyner, NAS Pensacola  
Henry Beiro/Brian Caldwell, Ensafe, Pensacola  
Allison Dennon, Ensafe, Memphis  
John Mitchell, FDEP

## SUMMARY OF KEY COMMENTS

### INVESTIGATION PROCEDURES

Sediment and surface water sampling and locations **are not discussed**. The sampling pattern depicted in Figure 1 does not account for the shifting of soil that happens during construction which may increase the **area** of contamination.

EPA MCLs are not totally risk-based **values** for groundwater, but **are used** in the COPC screening process which may be inappropriate.

### DATA PRESENTATION

There are no tables summarizing the nature and extent of contamination. It should be noted that the section of "nature and the extent of contamination" should mainly address an analysis of data collected which describes contaminant concentration levels found in the media in the study area. The comparisons of the contaminant concentrations with the PRGs should be considered **as a COPC** screening process in the risk assessment section (Section 10). When risk-based criteria are used in comparisons, the comparisons should be addressed in the risk assessment section.

There are no figures or maps to identify wetland 5A, 5B, 6 **and 7** (near Site 30) where sediment samples were collected. **This** section does not provide a **summary** of the sediment results for review. Therefore, concluding that the sediments in these wetlands are contaminated by either a groundwater source or a surface water discharge source does not have adequate support.

The boundary for each site is not identified on the maps presented in Appendix G. Also, in Figures 1 through 23 in Appendix G it is **difficult** to **see** the migration of the plume is difficult to **see**. Isoconcentration maps contouring the horizontal distribution of contamination and the most widely distributed contaminant should **be** included for clarity. These maps should be developed for groundwater.

Section 10 (**Risk** Assessment) indicates that a FI/FC term of **0.4** based on frequency of detection (7 of 19) was used to adjust the exposure estimates. However, the **use** of frequency of detection to derive a fractional exposure point factor is not appropriate. Also, application of FI/FC **has** resulted in lower risk estimates. Therefore, **all** risk estimates that use this FI/FC factor should be recalculated.

### RISK ASSESSMENT GENERAL

The conclusions regarding risk in the risk assessment are not valid because of multiple procedure errors. It is not clear that all COPCs were **selected** appropriately. There are deviations from guidance in calculation of the groundwater exposure point concentrations. The use of the FI/FC term to calculate fractional soil exposure **is inappropriate**. Surface water exposures were not **considered**. Also, **some** potential receptors and exposure pathways were not considered. In addition, determination of the EPC is **confusing**.

The risk assessment does not explain why surface water is not considered **as** a **medium** of exposure. Subsurface soils were **included** in the **risk** assessment without explanation. Subsurface soils are analyzed for the protectiveness of groundwater.

Usually, the selection of COPCs is performed in Section 10 of the **Risk** Assessment section, not in the Nature and Extent of Contamination section (Section **7**). Tables which contain all detected compounds for each **media**, the **frequency** of detection, the **maximum** concentration, the screening value (and source of the screening value), the background concentrations are not provided in the text. The COPC selection which uses more than one **screening** value for each contaminant does not follow EPA procedures.

In the risk assessment, there is no mention of potential trespassers or recreational receptor exposure to surface water and/or sediments for either current land use or future land use.

## GENERAL COMMENTS

1. Page 1-2, First sentence: Remove "To Make it easier"
2. Page 5-2, Section 5.2.2: Remove the sentence "Therefore, it was presumed that the radiation ."
3. Page 7-13, First sentence: Remove "appears to have formed **an** immobile slug", unless there is sufficient justification for this statement.
4. Page 7-28, Section 7.3.1: Reword the last sentence. If the **VOCs** were detected in groundwater at concentrations above the **MCLs** and in **the soils** above **the leachability** values additional information will be needed to support a no action (i.e., leachability modeling. ..).
5. Page 7-28, Section 7.3.2, first paragraph: Remove the last, "No relationship can be ...". This is an invalid point, if there is soil contamination this area must be addressed. However, if the discussion is to justify that the soils are not leaching into the groundwater based on actual data, then the sentence should **be** rewritten.
6. Page 9-17 , Second paragraph: the Site **41** investigation will assess the Ecological impacts. What about human health effects.
7. Page 9-17, Fourth paragraph: The last sentence leaves a question. "Direct evidence is not presently available", will it become available? Please explain.

8. Page 11-3, Section 11.2, Second paragraph: Remove the last sentence, "The feasibility study should always. . ." .

## 1.0 GENERAL COMMENTS

1. Section 1.0, Pages 1-1 and 1-2, states that the objectives of the RI are "to characterize the surface soil and groundwater at various **points** within the site", and "to determine source, nature, and, to the 'degree practicable for an acceptable FS', the extent of **soil** and groundwater contamination, **as** well as to 'make it easier to evaluate **risk**' to human health and the environment from onsite contaminated **media**." However, this statement is unclear and confusing **because** phrases such **as**, "the degree practicable for an acceptable FS" and "easier to evaluate risk" **is** not appropriate for a presentation of RI objectives. EPA guidance **clearly** states the objectives of an RI, so **this** section of the report should be revised accordingly.
2. Section 2.2.2, Page 2-13, Paragraph 2, Sentence 9, states that the Radiological **Affairs** Support **Office** (RASO) recommended that the drain pipe **outfall** from Building 709 (Site 27) **be** located and checked for radiation contamination. However, the building and the **outfall** **are** not shown on Figure 2-2 (site map). The outfall and Building 709 should be identified on the site map.
3. Section 2.2.2, Page 2-14, Paragraph 3, Sentence 3, discusses Phase I inspections performed on the sites. However, the text does not indicate that a Phase I inspection was performed on Site 11. The text should indicate why a Phase I inspection was not done on Site 11.
4. Section 5.0 discusses the field investigation methods at OU2. However, the text does not discuss why background samples were not collected for OU2. The text should explain why no background samples were collected at **this** site. "Background" should be discussed. Also, a discussion should be included explaining where the reference values in the **COPC** Table of the risk assessment.
5. Section 5.0 discusses the investigation of OU2 but does not indicate that **surface** water and sediment samples were collected. However, the site history and description **state** that a wetland is present at the site along with water bodies. The EPA SOPQAM recommends that when there is a wetland and surface water as receptors, surface water and sediment should be sampled at OU2. The text should be revised accordingly.
6. Section 5.2.1, Page 5-2, Paragraph 1, states that due to the potential presence of heterogeneous wastes at Site 11, and lack of knowledge regarding their distribution, trenching was performed instead of soil borings. However, there are no analytical results regarding the trenching in the following sections. There is no explanation why the trenching samples are not presented. The text should give the explanation regarding the results **from** trenching on Site 11.

7. Section 5.2.3, Page 5-2, Paragraph 3, refers to Appendix G, Figure 1, for **soil borings** and monitoring well locations. Section 2 states that there has been a large amount of construction, and as such, surface soil has been **shifted** around. However, the sampling pattern depicted in Figure 1 does not account for the **shifting** of soil that happens during construction. The sampling pattern depicted in Figure 1, Appendix G, is more of a random pattern. Add an explanation that the sampling pattern addresses surface soil distribution.
8. Section 7.0 addresses the nature and the extent of contamination. In addition, the text **only** indicates the number of contaminants above the **PRGs** but does not mention the detected concentrations which are above the **PRGs**. Although the tables showing the investigation results are presented in appendices, they are not well organized for review. **The** appendices should be revised accordingly.
9. Section 7.0 discusses the comparisons of contaminant concentrations with **PRGs**. However, this section should mainly address an analysis of data collected which describes contaminant concentration levels found in the media in the study area. The comparisons of the contaminant concentrations with the PRGs should be considered **as a COPC screening process in** Section 10, the risk assessment. It should be noted that when **risk-based** criteria are used in comparisons, the comparisons should **be** addressed in the risk assessment section, but not in the nature and extent of contamination section. The report should **be** revised accordingly.
10. Section 7.0, Page 7-1, Paragraph 1, Sentence **4**, states that analytical results were compared to general and site-specific PRGs. However, it is unclear what distinguishes the general from the site-specific PRGs. According to this section, **PRGs** are the screening criteria set by EPA and the State of Florida, but there is no mention of which one should be general or specific. The text should present clear definitions of the general and site-specific **PRGs**.
11. Section 7.1.1.2, Page 7-3, Paragraph **2**, Sentences **4** and **5**, indicate that methylene chloride and a number of compounds are likely false positive and are difficult to assess because they are so common in the laboratory. However, this statement is inappropriate because EPA guidance specifically states that the 10x rule should be **used to determine** positive detections when common laboratory contaminants are found in samples. Using such a rule with the results of blanks makes it possible to determine positive detections. The text should be revised accordingly.
12. Section 7.4, Pages 7-31 and 7-32, address the sediment study which assesses impact to wetlands adjacent to OU2. However, there are no figures or maps to identify wetlands **SA, 5B, 6 and 7** (near Site 30) where sediment samples were collected. This section does not provide a summary of the sediment results for review. Therefore, it cannot be concluded that the sediments in these wetlands are contaminated by either a groundwater source or a surface water discharge source due to lack of reference data. This section should be revised to provide all required references and the results in order to draw a conclusion about sediments.

13. Appendix D presents groundwater contamination PRGs which include EPA MCLs, FPDWS, etc. However, normally risk-based concentrations should be used as screening criteria to screen COPCs for further risk assessment. Since EPA MCLs are not totally risk-based values for groundwater, use of EPA MCLs in this screening process may be inappropriate. For further risk assessment, the Region 3 RBC tap water values should be used because they are the risk-based values. For example, Appendix D shows EPA MCL and FPDWS for vinyl chloride as 2 µg/L and 1 µg/L, respectively. If the Region 3 RBC tap water value is used, the screening value for vinyl chloride should be 0.019 µg/L. For vinyl chloride, the difference between the PRG values in Appendix D and the Region 3 RBC tap water value is significant. Therefore, the most conservative value for screening vinyl chloride is the Region 3 RBC tap water value, and the risk-based value instead of the MCL value should be used. The report should be revised to use the risk-based values for screening purposes because the screening process is for further risk assessment. Review this information. If the review comment is correct, the calculations should be revised.
14. Appendix G presents OU2 figures. However, the boundary for each site is not identified on these maps. Because the operable unit contains multiple sites and different work is performed at each site, the site boundaries should be clearly marked,
15. Appendix G, Figures 1 through 23, show positive detections of constituents of concern at OU2. However, the migration of the plume is not shown clearly on the figures. Isoconcentration maps contouring the horizontal distribution of contamination and the most widely distributed contaminant should be included for clarity. Maps should be developed for groundwater.
16. Appendix G, Figure 5, identifies 14 VOCs that exceeded PRGs at Sites 11, 12, 27, and 30. However, Section 11 does not discuss these VOC exceedences in the subsurface soil at these sites. Section 11 should reference Figure 5 and discuss the origin and the dispersion of these constituents within the media.
17. Appendix G, Figure 6, identifies seven SVOCs that exceeded PRGs at Sites 11, 12, 25, 26, 27 and 30. Section 11 lists conclusions based on the results of the RI, but it does not address the seven SVOC exceedences in the surface and subsurface soil at these sites. Section 11 should present a conclusion that references Figure 6 and the origin and dispersion of the constituents within the media.
18. Appendix G, Figures 13 and 14, show VOCs exceeding FSDWS. However, the text does not explain how these VOCs migrated to the intermediate groundwater. The text should explain how the VOCs migrated to the intermediate wells in the fate and transport section or the conclusion.

## 2.0 SPECIFIC COMMENTS

### 1. Table of Contents, Page v.

There are no appendices listed in the Table of Contents. All appendices should be added to the contents page.

### 2. Section 1.0, Page 1-1, Paragraph 2, Sentence 2.

The text gives the location of OU2 in relation to the **golf course and yacht basin**. However, the yacht basin and the golf **course** are not depicted on Figure 2-1, the site map. The site map should show the locations of the **golf course** and yacht basin.

### 3. Section 2.1, Page 2-1, Paragraph 2.

The text states that Building **3445** is at the southwestern corner of Site **11**. However, the text should indicate that Building **3445** is located at the southeastern corner of the site.

The text also refers to two prefabricated buildings (Buildings **3727** and **3628**) and Pat Bellinger Road. However, these buildings are not shown on the site area map. Buildings **3727** and **3628** as well as Pat Bellinger Road should be added to the site area map and the site map, respectively.

### 4. Figure 2-1.

Figure 2-1 is the site location map. However, there is no boundary line for Site **26**. Also, the legend does not show roads or highways. The map should be revised to show roads and highways on the legend as well as a boundary line for Site **26**.

### 5. Figure 2-2.

Figure 2-2 presents the site area map. However, **unlike** other sites, the boundary of Site **36** is not shown on this map. The boundary of Site **36** should be shown in Figure 2-2. In addition, the legend does not show roads. The site map should have roads included in the legend.

### 6. Section 2.1, Page 2-4, Paragraph 2, Sentence 2.

The text gives the location for Site **25** as north of Farrar Road. However, Farrar Road is not on the site map. Farrar Road should be identified on the site map.

### 7. Section 2.1, Page 2-5, Paragraph 2, Sentence 2.

The text refers to a wetland that **drains surface** runoff into the yacht basin. However, the wetland is not shown on the site map. These two areas should be identified on the site map.

### 8. Section 2.1, Page 2-5, Paragraph 3, Sentence 4.

The text discusses a segment of the sewer line joining the main line running to the IWTP. However, the IWTP is not identified on Figure 2-2, the site area map. The site map should identify the IWTP.

**9. Section 2.1, Page 2-7, Paragraph 1, Sentence 1.**

The text states: "Site 26 - From 1956 ~~until~~ 1964, supply department Site 26 to store incoming paint strippers and acids." However, the ~~meaning~~ of the text is not clear. The ~~text~~ should be clarified.

**10. Section 2.2, Page 2-9, Paragraph 3, Sentence 1.**

The text states that in 1973 minor painting operations *started* in Building 3450 "~~near~~ Sites 27 and 30)". However, the text should read: "near Sites **25** and 27". The text should be revised accordingly.

**11. Table 2-1.**

The table shows hazardous wastes generated, disposed of, or ~~spilled~~ near the study area. However, the table does not include Building 755 which was ~~used as a~~ plating shop at Site 30. Building 755 should be added to the table.

**12. Table 2-1.**

The title of Table 2-1 indicates that the table contains information on hazardous waste handled near the study area. However, according to the site map, Buildings 648 and 649 complex and Building 741 shown in the table are ~~actually~~ within the study area (Sites 30 and 27) instead of near the area. The title of the table should be revised accordingly.

**13. Section 2.2.2, Page 2-13, Paragraph 1, Sentence 1.**

The text ~~summarizes~~ work related to the different sites at OU2. However, Site 11 is omitted. This text should be revised accordingly.

**14. Section 2.2.2, Page 2-13, Paragraph 3, Sentence 5.**

The text indicates that both Sites 11 and 27 were recommended for confirmation studies of suspected contaminants. However, only Site 11 is addressed. Thus, the text should be revised to also address Site 27.

**15. Section 2.2.2, Page 2-17, Paragraph 3.**

The text indicates that an investigation ~~was~~ performed on the south side of Building 3450 (Site 30). However, the title refers to "Site 3450S". The title should be corrected.

**16. Figure 4-2.**

The legend of Figure 4-2 shows the Ra 226 level ~~as~~ pC/g. However, for consistency the radiation level should be written ~~as~~ pCi/g (picocuries per gram). The text should be revised accordingly.