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UNITED STATES ENVIRONMENTAL PROTECTION AGE
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

December 4,1996

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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
Site 38

Dear Mr. Hill:

The U.S. Environmental Protection Agency (EPA) has partially completed its review of the above subject document. The risk assessment comments will be submitted by December 13. Comments are enclosed.

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

Sincerely,

Gena D. Townsend
Senior Project Manager
Federal Facilities Branch

Enclosure

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

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1.0 GENERAL COMMENTS

1. Section 1.0, Page 1-1, Paragraph 4, Bullet 1, states that the objectives of the RI are to "determine the source, nature and to the degree practical for an acceptable FS, the extent of soil and groundwater contamination." However, this statement is unclear and does not adhere to EPA guidance. EPA guidance clearly describes the objectives of an RI report, and the text should be revised accordingly.

2. Section 7.0, Page 7-1, Paragraph 3, indicates that the State of Florida and/or USEPA risk-based concentrations, general guidance concentrations, and promulgated standards have been defined as PRGs for this investigation. According to this statement, PRGs appear to be a screening value for COPC because the risk-based concentrations are used. Therefore, the COPC selection should be presented in the Section on the nature and extent of contamination. In addition, the PRG, as the screening criteria, should also include the background concentrations (reference concentrations). The report should be reorganized accordingly, and the background concentration should be included in the PRGs for inorganics in soil and groundwater.

3. Section 7.0, Page 7-9, Paragraph 2, states that a detected inorganic will be discussed in the following sections relative to reference concentrations only when a specific inorganic exceeds PRG or when no PRG is available for it. However, this approach does not appear to be logical. The detected inorganic should be compared to the reference concentration first, and then to the PRG only when it exceeds the reference concentration. It has been noted that the values of the PRGs for a number of inorganics, such as As, are lower than the reference concentrations. Normally, the reference concentrations should be used as the first screening criteria unless the difference between the PRGs and the reference concentration is significant (the value of the reference concentration is unusually high). The approach regarding the use of reference concentration and the PRGs for the inorganic screening process may need to be reconsidered.

4. Section 7.0, Figures 7-5 through 7-42, show Buildings 71 and 604 study area soil and groundwater sample parameters exceeding PRGs. However, the figures do not clearly depict the migration of the plume. Isoconcentration lines contouring the horizontal distribution of contamination and the most widely distributed contaminant should be developed for groundwater.

5. Section 7.0, Page 7-75, Figure 7-29, shows Building 71 study area total VOC concentrations in shallow groundwater samples with the shaded areas indicating the approximate extent of groundwater contamination based on PRG exceedances. However, it is difficult to determine the extent of groundwater contamination with inadequate wells around areas with PRG exceedances. There should be more wells placed around areas with PRG exceedances to delineate the plume.

   This comment also applies to Figure 7-40. In addition, the term "total VOC" in this figure is inappropriate. Only specific VOCs should be referenced.

6. Section 7.2.3, Page 7-110, Paragraph 2, Sentence 1, states that the investigation at Site 38 has adequately assessed the nature and extent of contamination for use in developing the FS and for preliminary remedial design alternatives. In assessing the nature and extent of contamination for the soil and groundwater, soil and groundwater samples were taken. The sampling results are supposed to be used to clearly delineate the extent of contamination for the development of the FS. However, the extent of contamination has not been clearly delineated because an inadequate amount of soil and groundwater samples were collected. The decision to do a FS can only be made after completion of a risk assessment. Therefore, a conclusion regarding the FS can not be made. Any discussion regarding the FS should be presented in the final section of this report.

7. Section 12, Page 12-1, Paragraph 1, states that if groundwater remediation is determined necessary, more quantifiable hydrologic testing should be performed as part of a predesign phase. However, Section 7.2.3 states that the investigation of soil and groundwater at Site 38 has adequately assessed the nature and extent of contamination at Site 38 for use in developing the FS. The statement in Section 7.2.3 contradicts the statement in the conclusion of the RI report. If the nature and extent of contamination in groundwater has been adequately assessed, then there would be no need for hydrologic testing. The purpose of the RI is to delineate the extent of contamination so that the boundaries can be determined for calculating the feasibility of a clean-up; however, this RI has not clearly delineated the boundaries as implied in the text conclusions.

2.0 SPECIFIC COMMENTS

1. **Section 1.0, Page 1-1, Paragraph 2, Sentence 3.**
The text states that contamination in the soil is underlain by concrete. However, the concrete is not below but above the soil. Consequently, the soil can not be underlain by the concrete. The text should be revised accordingly.

2. **Section 2.1.1, Page 2-5, Figure 2-2.**
Figure 2-2 shows the study areas on Site 38. Although there are sewer lines depicted on the figure, these lines are not pronounced. The sewer lines should be more prominently reflected on the figure.

3. **Section 2.1.2, Page 2-9, Figure 2-3.**
Figure 2-3 shows the drainage trench system, Building 71, and surrounding areas. However, the figure does not have a legend. A legend should be added to the figure.

4. **Section 2.1.2, Page 2-13. Paragraph 3, Sentence 4.**
The text states that silver, cadmium, mercury, and lead were detected in background samples. However, Table 2-1 shows additional contaminants found in the background. The text should explain why the additional contaminants were not mentioned.

5. **Section 2.1.2, Page 2-15, Table 2-2.**

Table 2-2 makes reference to background soil versus detected concentrations far Building 71 and tabulates the concentrations for Bays 3,4 and 6 and the Apron. However, Figure 2-4 does not identify the apron where these areas are depicted. Figure 2-4 should be revised to identify the Apron that is referred to in Table 2-2.

6. **Section 2.2.1, Page 2-21, Paragraph 1, Sentence 2**
The text states that the construction of a fuel line along Radford Boulevard will be discussed in the RI report. However, there is no discussion on the construction of the fuel line. This discrepancy should be corrected, and the text should be revised accordingly.

7. **Section 2.3.1, Table 2-3.**
Table 2-3, "Ecology and Environment, Inc. Screening Results for Soil, Site 38 Associated Sewer Line", shows different sampling locations at the site; however, the locations are not identified on a map. The sampling locations should be identified on a map.

a. **Section 2.3.1, Page 2-33, Figure 2-7.**
Figure 2-7 identifies Building 604 operations, but the boundaries are not defined on the figure. The boundaries of Building 604 should be clearly outlined on the figure to distinguish this building from the others.

9. **Section 2.3.1, Page 2-37. Table 2-7.**
Table 2-7 identifies hazardous materials stored in Building 609. However, the title of the table is incorrect. The title of the table should be corrected to reflect Building 604 instead' of Building 609 (see page 2-31, paragraph 0, sentence 3).

10. **Section 2.3.2, Page 2-39, Paragraph 1.**
The text states that twelve soil borings were advanced and completed as monitoring wells and that the analytical results are provided in Appendix C. However, the figure in Appendix C shows 11 wells instead of 12. Therefore, the discrepancy between the text and figure in Appendix C should be resolved.

11. **Section 2.3.2, Page 2-39, Paragraph 1, Sentence 1**
The text states that an underground storage tank (UST) next to Building 604 and in Figure 2-2 was investigated. However, Figure 2-2 does not outline the location of the UST. The figure should be revised to depict the UST.

12. **Section 2.4.3, Page 2-41, Figure 2-8.**
The figure shows the existing storm drainage system at the site. However, the figure does not distinguish the storm sewer line from the sanitary sewer line. The figure should be revised to show a distinction between the storm sewer line and the sanitary sewer line.

13. **Section 4.5.2, Page 4-15, Paragraph 1, Sentence 2.**
The text states that volatile emissions above reference concentrations were not measured at any sampling locations. However, the text does not specify the reference concentrations. The text should be revised accordingly.

14. **Section 4.5.4, Page 4-19, Paragraph 1, Sentence 1.**
The text references Figure 4-1 regarding mil-gas samples. However, mil-gas samples are found in Figure 4-2. The text should be revised accordingly.

15. **Section 4.5.4, Page 4-21, Figure 4-3.**
The figure shows the preliminary survey total VOCs for Site 38. However, there are no units for the concentration of VOCs. The figure should add a note *specifying* the units of concentration. In addition, giving avalue for *total* VOCs is inappropriate.

16. **Section 4.5.4, Page 4-23, Paragraphs 3 through 5.**
The text discusses the groundwater results in the Soil-Gas Survey (Section 4.5.4, page 4-15). However, a separate section for groundwater results should be added.

17. **Section 4, Page 4-25, Table 4-3.**
Table 4-3 presents groundwater screening results by showing highest/lowest detection, mean value, and frequency of detection. However, for benzene, C-1, 2-DCE, $CHCl_3$, TCE, and PCE, it is unclear how their mean values are *calculated.* For example, in the table, the highest detection of benzene is 593 μg/L with a frequency *of* 1/11. Based on these data, the mean value should be 593 μg/L. However, the mean value shown in the table is 53.9 μg/L. The text should explain how the mean values for the above compounds are calculated.

18. **Section 4.5.4, Page 4-26, Paragraph 1, Sentence 1**
The text states that groundwater collected at Location 638 had the greatest frequency of chlorinated compound detections. However, according to the results in Table 4-3, the term "greatest frequency" implies a comparison. For example, PCE and $CHCl_3$ detected at Location 638 have a frequency of detection as 1/11 which is only *greater* than the nondetection. The text should be revised to use appropriate words to replace the word "greatest".

19. **Section 5.7.1, Page 5-42, Paragraph 2, Sentence 2**
The text states: "All level IV groundwater samples were analyzed for pesticides, but only 21 of the 73 soil samples because pesticides were anticipated to be present only from application, not disposal, mixing, etc." However, this statement is unclear and grammatically incorrect. The sentence needs to be re-written.

20. **Section 6.1.3, Page 6-10, Table 6-1.**
Table 6-1 tabulates soil physical properties. However, for sample boring Number 38343, the superscript "b" is missing. The superscript "b" should be added to the sample boring number.

21. **Section 6.3, Figures 6-9 through 6-11.**
The figures show the total cyclic potentiometric surface *at 9* a.m., noon, and 3:00 p.m. Although there is a legend for this figure, the legend is missing the symbol for the shoreline for Pensacola Bay. The symbol for the shoreline *for* Pensacola Bay should be added.

22. **Section 7.0, Page 7-5, Paragraph 2, Sentence 1.**
The text states that analytical results for background soil and groundwater samples are in Appendix G. However, Appendix G does not present these background analytical results. The text should be revised accordingly.

23. **Section 7.1.1.1, Page 7-15, Figure 7-5.**
This figure shows Building 71 study area inorganic parameters exceeding PRGs m surface soil. The figure has a table showing the parameters, concentration and PRGs. However, it is not clear what the table is intended to show. The table should be revised far clarity. In addition, the symbols for the elements are incorrect.

24. **Section 7.1.1.1, Page 7-17, Paragraph 0, Sentence 9.**
The text states that three borings: 38338,38339. and 38340 were analyzed for hexavalent chromium (Figure 7 4). However, these borings are not shown on Figure 7-4. The figure should be revised to show the missing borings.

25. **Section 7.2.2.2, Page 7-103, Paragraph 2, Sentence 2**
The text states that exceedances are coincident with halogenated aliphatics in the shallow groundwater. However, aliphatics is misspelled. The misspelling should be corrected.

26. **Section 9.2.1.1, Page 9-3, Table 9-2.**
The table shows the constituent characteristics based on chemical and physical properties. However, in the table notes, 'g/cm' is incorrectly written. The notes should reflect 'g/cm^3'.