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NAS WHITING FIELD
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LETTER AND U S EPA REGION IV COMMENTS TO REMEDIAL INVESTIGATION REPORT
SITE 9 WASTE FUEL DISPOSAL PIT AND SITE 10 SOUTHEAST OPEN DISPOSAL AREA
NAS WHITING FIELD FL
6/30/1998
U S EPA REGION IV

June 30, 1998

4WD-FFB

Ms. Linda Martin
Southern Division
Naval Facilities Engineering Command
P.O. Box 190010
2155 Eagle Drive
North Charleston, South Carolina 29419-9010

SUBJ: RI Report for Sites 9 and 10

Dear Ms. Martin:

The United States Environmental Protection Agency (EPA) has received and reviewed the Remedial Investigation Report for Site 9, the Waste Fuel Disposal Pit, and Site 10, the Southeast Open Disposal Area, at NAS Whiting Field, dated March 1998. Enclosed are EPA's comments based on this review.

If you should have any questions or comments, please feel free to contact me at (404) 562-8555.

Sincerely,

Craig A. Benedikt
Remedial Project Manager
Federal Facilities Branch

Enclosure

cc: Jim Cason, FDEP

**EPA Review Comments Report for
Remedial Investigation Report
Site 9, Waste Fuel Disposal Pit
Site 10, Southeast Open Disposal Area**

The review of this RI determined that the document is clear, concise and well-written. Furthermore, the RI contains appropriate documentation to support a recommendation of no further action (NFA) at this site. However, several deficiencies and discrepancies were identified in the document.

TECHNICAL REVIEW SPECIFIC COMMENTS

The following specific comments were generated during the review of the RI.

1. **Executive Summary, Page v.** The recommendation in the last paragraph of this page should clearly state that no further action only applies to surface soil, subsurface soil, surface water and sediment. It should also be stated that the evaluation of groundwater will take place in the context of the groundwater operable unit.
2. **Glossary, Page xiv.** The definition for DDE and DDD appear to be the same in the Glossary. Please revise accordingly.
3. **Section 3.5, Page 3-4.** Section 3.5 discusses the surface soil assessment conducted for Sites 9 and 10. It does not mention which standards the sample concentrations were compared to. For example in Section 3.6, which discusses the assessment of the subsurface soil, the text states that the, "Subsurface soil samples were compared to USEPA Region III Risk-Based Concentrations (RBCs), Florida Soil Cleanup Goals (FSCGs), and background subsurface soil data." Section 3.5 should be modified to include a similar statement.
4. **Section 4.1, Page 4-1, 4th Paragraph.** In the second paragraph on this page, it states that analysis was performed according to CLP protocol; however, in this paragraph, a reference is made to SW-846 analytical methods.
5. **Section 4.2.1, Page 4-2, 4th Paragraph.** This paragraph states that the relative percent difference (RPD) criteria for mercury in soil sample 09S00301 failed to meet the 50 percent control limit. However, according to Table 4-1, the RPD for mercury in sample 09S00301 was zero, indicating that it did meet the 50 percent control limit. This discrepancy should be addressed.

6. **Section 4.2.1, Page 4-2, 4th Paragraph.** This paragraph states that the RPD for only one inorganic analyte (chromium) in groundwater sample 09G00301 failed to meet the 30 percent control limit. However, the information contained in Table 4-1 indicates that concentrations of zinc also failed to meet the 30 percent control level. This discrepancy should be addressed.
7. **Section 5.5, Page 5-28, 1st Paragraph.** The text should state how the levels of detected TCL SVOCs compared to federal standards.
8. **Section 5.5, Page 5-28, 3rd Paragraph.** The text should state more clearly which RBC or FSCG category was exceeded for each particular metal. (i.e. residential or industrial standards)
9. **Section 9.2, Page 9-2.** The text should state that the no further action recommendation only applies to surface and subsurface soil, surface water and sediment. Groundwater will be addressed under the groundwater operable unit.

RISK REVIEW GENERAL COMMENTS

10. The RI Report recommends that Sites 9 and 10 should be considered for no further action (NFA). However, there appear to be data gaps that may need to be resolved before a NFA recommendation could be accepted from a risk assessment perspective. Specifically, groundwater sampling at Sites 9 and 10 may be inadequate to characterize potential contamination at these sites, and no subsurface soil data was collected at Site 9. These potential data gaps are discussed in greater detail in the Section 3.0, Specific Comments.
11. In the HHRA, total risks to receptors have not been summed across media. For example, the text states that risks to the future resident from exposure to air, surface soil, groundwater and surface water will be determined, as shown in Figure 6-1. Therefore, to determine the total risks to this receptor, the risks from exposure to surface soil, surface water, groundwater and air should be summed to obtain total excess lifetime cancer risks and a cumulative hazard index (HI). This should be done for each current and future receptor for all media to which each receptor is exposed. This information is needed to help determine if a no further action designation is warranted for these sites.
12. This document recommends no further action (NFA) for Sites 9 and 10, as stated in Section 9.2. Total HIs for the child resident at Sites 9 and 10 and for the adult resident at Site 10 are in excess of 1, when considering risks from all media evaluated for those pathways. Also, HIs for some ecological receptors at both sites are well in excess of 1. Therefore, a NFA recommendation appears to be premature based on these results. Further groundwater evaluation including additional rounds of sampling may be warranted to help address risk issues. Also, a more thorough background soil

- investigation may help address the issue of COPCs which may not be site-related.
13. The risks to herbivorous birds are not addressed in the ERA. A representative herbivorous bird species should be included as a receptor in the ERA.
 14. Inhalation and dermal exposure pathways are considered to be insignificant exposure routes and are not evaluated in the ecological risk assessment (ERA). However, inhalation and dermal absorption may be important exposure routes when assessing the total risk from certain chemicals to ground-dwelling species. A brief discussion of the uncertainties that result from not including these exposure pathways in the quantitative assessment of risk should be included in the Uncertainty Analysis (Section 7.7).

RISK REVIEW SPECIFIC COMMENTS

15. **Section 1.2, Page 1-5.** The text states that standing water (ponding) has been observed in a surface depression at Site 9. However, the next paragraph states, "because the soil at Site 9 is predominantly silty sand, stormwater infiltrates directly into the soil." The apparent discrepancy in these statement should be resolved
16. **Section 6.2.3.1, Page 6-4.** The text states that three groundwater samples were collected from Site 9 and references Figure 3-3 and Table 3-3. According to the List of Tables, Chapter 3 does not contain a Table 3-3, and it appears that Table 3-1 was intended. Appropriate changes should be made to the text.

In addition, it appears from Figure 3-3 that only monitoring well WHF-9-3 is located within the Site 9 boundaries. According to Figures 5-1 and 5-2, monitoring well WHF-9-1 may be located cross gradient from Site 9, and monitoring well WHF-9-2 is located upgradient. The sampling conducted may be inadequate to characterize the Site 9 groundwater for risk assessment purposes. The adequacy of these wells to characterize potential site contamination at Site 9 should be presented in the text, and additional sample collection may be necessary.

17. **Section 6.2.3.2, Page 6-4.** The text states that two groundwater samples were collected from Site 10 and references Figure 3-4. According to the List of Figures, Chapter 3 does not contain a Figure 3-4. It appears that Figure 3-3 was intended. Appropriate changes should be made to the text.

In addition, it appears from Figure 3-3 that only monitoring well WHF-10-2 is located within the Site 10 boundaries. According to Figures 5-1 and 5-2, monitoring well WHF-10-1 may be located cross gradient from Site 10. The sampling conducted may be inadequate to characterize the Site 10 groundwater for risk assessment purposes. The adequacy of these wells to characterize potential site contamination at Site 10 should be presented in the text, and additional sample collection may be necessary.

18. **Figure 6-1, Page 6-18.** The figure presents the conceptual site model for Sites 9 and 10. According to the text presented in Chapter 6.0, the Current Resident scenario included in this figure was not evaluated in the Human Health Risk Assessment (HHRA). Also, the figure does not indicate that Future Resident groundwater exposure was evaluated in the HHRA. The figure should be amended to be consistent with the text.
19. **Section 6.3.2, Page 6-19.** The text states that subsurface soil samples were not collected at Site 9 “based on previous surface soil sample results and the surface soil assessment.” However, COPCs were selected for surface soil and for groundwater at Site 9, indicating that potential COPCs may be present in subsurface soil. The conceptual site model and Table 6-7 indicates that an excavation worker scenario is evaluated for Site 9. Therefore, the lack of subsurface soil data is a potential data gap in the HHRA evaluation of Site 9. An absence of COPCs in subsurface soil can not be assumed. The potential data gap concerning subsurface soil data for Site 9 should be discussed in greater detail in the text, and additional sampling may be required.
20. **Section 6.6, Page 6-51, First Bullet.** The uncertainty section indicates that PAHs present in samples at Site 10 may be due to anthropogenic sources that are not site related. The potential sources referred to are described in the text of the HHRA. Because the RI Report recommends NFA, potential sources of PAHs that are related to human activity but are not related to site activities should be discussed in greater detail.
21. **Section 6.8.** The title of this section is “Summary of HHRA for Site 9 and 10.” However, only carcinogenic risks are summarized in this section. The noncarcinogenic hazards should also be discussed. It should be clearly noted that the total HIs for the future child receptors at both Sites 9 and 10 exceed 1.
22. **Section 7.3.2, Pages 7-17 to 7-19, Table 7-4.** 4,4-DDE is not included in Table 7-4, the Selection of Ecological Chemicals of Potential Concern for Surface Soil associated with Site 10. 4,4-DDE was detected in the surface soil at Site 10 and is listed as a contaminant in Tables 5-10 and 5-11. 4,4-DDE should be included in Table 7-4.
23. **Section 7.4.2, Page 7-21.** No herbivorous bird species was included as a receptor in the ERA. It is probable that herbivorous avian species are found at Sites 9 and 10 and that the calculated risks to these species are different than those to the Eastern Meadowlark, which consumes approximately 20% of its diet as plant materials. An herbivorous bird species should be included as a receptor in the ERA.

24. **Section 7.4.2, Page 7-29, Table 7-8.** Footnote 1 states that the bioaccumulation factors (BAFs) for plant material are based on the assumption that plants are 80% water. This assumption applies to berries and leafy vegetables, but does not apply to grains, which have a moisture content of only 10%. Since the diet of the cotton mouse may consist primarily of grains, the risks to the cotton mouse may be underestimated. This source of uncertainty should be discussed in the Uncertainty Analysis.
25. **Section 7.7, Page 7-39, Paragraph 2.** The text states that risks to adult amphibians and reptiles species were not estimated because bioaccumulation and toxicity data are lacking. Since quantitative exposure data are not available, a brief qualitative discussion of the anticipated risks to these groups should be included in the Uncertainty Analysis in addition to the current statement that quantitative risks were not estimated.
26. **Section 9.1.** This section provides a summary of the human health risk assessment. However, only carcinogenic risks are summarized in this section. The noncarcinogenic hazards should also be discussed. It should be clearly noted that the total HIs for the future child receptors at both Sites 9 and 10 exceed 1.

SPECIFIC COMMENTS REQUIRING ONLY ACTION TO CORRECT THE DOCUMENT

27. **Section 7.6.2.2, Page 7-36, Line 35.** The text refers to Appendix H as containing linear regressions analyses of the results of the surface soil bioassays. The correct reference is Appendix I.