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State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

DEHNR

June 10, 1994

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1823-1
Attention: MCB Camp Lejeune, RPM
Ms. Linda Berry P. E.
Norfolk, Virginia 23511-6287

Commanding General
Attention: AC/S, EMD/IRD
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

RE: Draft Final Remedial Investigation Report for Operable Unit No. 1 (Sites 21, 24, and 78), MCB Camp Lejeune.

Dear Ms. Berry:

The referenced document has been received and reviewed by the North Carolina Superfund Section. Our comments are attached. Please call me at (919) 733-2801 if you have any questions about this.

Sincerely,

Patrick Watters

Patrick Watters
Environmental Engineer
Superfund Section

Attachment

cc: Gena Townsend, US EPA Region IV
Neal Paul, MCB Camp Lejeune
Bruce Reed, DEHNR - Wilmington Regional Office

North Carolina Superfund Comments
Draft Final Remedial Investigation Report
Camp Lejeune Operable Unit 1 (Sites 21, 24, and 78)

General

1. The RI report uses "base-specific background" concentrations to help determine if the levels of contaminants seen on site are significant. The RI report does not provide any data or information to support the background concentration ranges given in Tables 6-6, 6-8, and 6-10.

2. Site 21 groundwater data shows BTEX and TCE contamination above groundwater standards for the shallow wells and Table 1-4 shows equally significant levels of organic compounds at supply wells 601 and 602 at the western boundary of OU 1. While these contaminants are probably the result of horizontal migration from Site 78 and not related to Site 21 activities, it still appears that there may be a need for further investigation of the deeper groundwater at OU 1.

   Also, please provide appropriate rationale in the RI report to show that the intermediate and deep groundwater at Site 24 has not been impacted by metals or pesticide contamination.

Specific Comments

3. Figure 1-6
   This figure shows buildings 1102 and 1115 as previously identified areas of concern yet these are not listed in Table 1-1 on Page 1-23.

4. Page 1-23, Section 1.3.2.2
   This section indicates that copies of the aerial photographs used for the EPIC study are provided in Appendix A of the RI report. Our copy of the RI report does not include copies of these photographs. This was noted in our comments on the draft version of the RI report.

5. Page 1-30, Section 1.3.3.1
   The first paragraph indicates that 33 monitoring wells (27 shallow, 3 intermediate, and 3 deep) were installed on site 78. Figure 1-5 shows 29 shallow wells, 7 intermediate and 6 deep wells.

6. Page 2-10, Section 2.2.1.1
   Since the vegetation and understory restricted the geophysical coverage for Site 24, it may be appropriate to survey these areas during the winter months when the vegetation is less dense.

   The areas with a conductivity greater than 10 mmhos/m are not clearly evident on our copies of the figures in Appendix A.

7. Page 2-38, Section 2.3.3.3
The paragraph on soil sample locations states that there are five main areas of concern associated with Site 78. Page 2-37 lists only three areas of concern.

8. Pages 4-45 and 4-46, Section 4.2.3.2
The section titled Summary of Site 78 Groundwater Results has two separate paragraphs with different conclusions about the source of metals in the groundwater. The second paragraph of this section indicates that the source of the metals is unknown except for areas in site 24. The last paragraph on page 4-46 provides some potential sources for the metals contamination (natural lithology, lead from gasoline).

9. Page 4-47, Section 4.2.3.2
The last sentence of this section speculates that the source of the beryllium and chromium contamination at site 78 is most likely related to industrial processes or buried metal debris. If there are known or likely sources (especially areas with buried metal debris) then these should be specifically investigated and described in the RI report. Statements such as this should be supported with appropriate data and rationale. This comment was also noted on the draft version of the RI report.

10. Page 4-53, Section 4.2.3.3
The draft RI report stated in this section that the contamination seen at sample location 78-BD-SW07 may be due to activities along an access road near Beaver Dam Creek. A comment was made about the nature of the activities along this access road. The draft final RI report now indicates that stormwater runoff from Site 78 or Holcomb Blvd. may be the cause for the contamination. Please provide some insights as to why the explanation changed. The concern here is if there was inadequate basis for stating the first reason then it should not have been included in the RI report to begin with.

Note also that Page 8-8, Section 8.1.1.4 of the draft final RI report still uses the original explanation for the contamination.

11. Page 4-72, Section 4.3.3.1
The last sentence under Building 903 reads "Accordingly, only the extent of these contaminants will be at this site." Please restructure this sentence for clarity.

12. Page 4-85, Section 4.3.3.1
The paragraph on inorganics indicates that the source of some of the metals in the soils at site 78 may be related to battery disposal in the area. This is an isolated reference to battery disposal that is not discussed anywhere else in the RI report. If there are suspicions of battery disposal activities then it should be appropriately investigated and clearly discussed in the RI report.

13. Page 4-86, Section 4.3.3.2
The second paragraph under Shallow Groundwater describes the BTEX plume in site 78 as being centered at well 78GW22-1 with the Hadnot Point Fuel Farm as the likely source. This paragraph also indicates that the BTEX concentration levels decrease in a direction upgradient from the center of the plume. If the Hadnot Point Fuel Farm is the likely source, please explain how this BTEX plume can be oriented completely opposite of the indicated groundwater flow direction.

14. Page 6-9, Section 6.2.2.1
This section indicates that the level of acetone (300 µg/L) was associated with that seen in the QA/QC blanks. Page 6-7 states that the maximum level of acetone detected in the blanks was 23 µg/L. Based on the maximum blank concentration and the "five times" rule, acetone should not be eliminated as a COPC.

15. Page 6-13, Section 6.2.2.3
The second sentence in the last paragraph on this page states that, except for vinyl chloride, VOCs were not retained as COPCs. This statement is contradicted three sentences later in the same paragraph where several VOCs are listed as COPCs.

16. Page 6-49, Section 6.7
There is no mention of Site 78 in the discussion of the conclusions of the baseline risk assessment for OU 1.

17. Table 6-11
The last page of this table shows the groundwater standard for lead as 50 µg/L. This should be 15 µg/L.

18. Table 6-16
Our copy of the RI report included two copies of Table 6-16. The listed contaminants appear to be the same however the order is different for each table.

19. Page 8-4, Section 8.1.1.3
The first paragraph on this page states that contaminants on Site 78 have migrated vertically. Page 8-2 notes that the groundwater contamination seen at Site 21 is most likely related to site 78 which means the contamination is migrating horizontally as well.

20. Page 8-7, Section 8.1.1.3
The very last sentence of this section states that "No off-site migrating [of groundwater contaminants] has occurred to date." This conflicts with earlier statements in Sections 8.1.1.1 and 8.1.1.3 as well as the data from wells 601 and 602.