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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

March 23, 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 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 Remedial Investigation Report for
Camp Lejeune Operable Unit 1 (Sites 21, 24, and 78)

1. Page ES-24
The recommendations do not include any discussion on the deep aquifer which was noted on pages ES-16 and ES-17 to have contaminants above the NC Groundwater standards.

2. Figure 1-4
Wells 24GW05 and 24GW07 described in Section 1.3.2.1 are not shown on Figure 1-4.

3. Table 1-1
The list of potential areas of concern within Site 78 do not match those identified in Figure 1-6.

4. Table 1-3
The column for NC Groundwater standards should be updated for the following metals.

Lead	= 15 µg/l
Nickel	= 100 µg/l
Selenium	= 50 µg/l
Zinc	= 2100 µg/l

5. Page 1-24, Section 1.3.3.1
Even though Site 22 is being remediated under the NC State UST program, it appears to be connected to the contamination present at OU 1 and therefore might be relevant to the RI at least in terms of the data and information that has been gathered.

6. Page 1-25, Section 1.3.3.1
The supply wells indicated in the text should be shown on one of the Figures that show the monitoring wells discussed in the RI Report. It is acknowledged that these supply wells are shown on Figure 3-10 however, this figure does not show the supply wells in relation to the monitoring wells associated with OU No. 1

7. Page 1-27, Section 1.3.3.1
This section only briefly mentions that the physical facilities of the buildings such as floor drains, sumps, pipelines, etc were inspected and documented in the ESE Characterization Step Report, May 1988. The ESE report identifies potential source areas but does not provide any information on whether or not the drainage system is a significant concern with regard to the contamination on site. As a result, it may be beneficial to conduct further investigations on the HPIA drainage system (including storm drains) to establish where these lines are and to determine if there is any significant leakage or infiltration. As a reference, the Marine Corps Base at Cherry Point conducted an

infiltration and leakage study (report date November 1993) on their industrial area drainage system as part of their RCRA 3008(h) Consent Order.

8. Page 1-38, Section 1.3.3.7
The NC groundwater standard for lead has been lowered from 50μg/l to 15 μg/l.

9. Page 2-2, Table 2-1
The RI objectives in Table 2-1 for Site 21 do not address the same areas of potential concern indicated in Figure 1-3.

Table 2-1 also does not include provisions for investigating the intermediate and deep aquifers for Site 21.

10. Page 2-4, Table 2-2
Table 2-2 does not include provisions for investigating the intermediate and deep aquifers for Site 24.

11. Page 2-6, Table 2-3
This table indicates specific buildings or areas in Site 78 that are targeted as part of the RI Objectives. Some of the buildings identified in Figure 1-6 as "potential areas of concern" are not included with the Table 2-3 RI objectives.

Also, the intermediate and deep aquifers are not included as part of the RI objectives for Site 78.

12. Page 2-12, Section 2.3.1
This section indicates that buildings 1106, 1205, 1604, 1765, and 1480 were included as part of the soil gas investigation. Figure 2-1 does not show any soil gas sample locations near these buildings.

13. Figure 2-3
Figure 2-3 does not show any soil samples for the area identified as "probable refuse (1944)" on Figure 1-3 which was noted in the text as being one of the suspected areas of concern.

14. Page 2-37, Section 2.3.3.3
This section on Site 78 soil investigation identifies the areas of concern as buildings 903, 1103, 1300, 1502, 1601, 1608 which are different than those listed in Table 2-3.

15. Page 4-6, Section 4.1.2.2
The last paragraph on this page states that elevated levels (above the NC Groundwater Standards) of manganese was detected in several wells at OU 1. It was noted in the report that manganese was a naturally occurring element in groundwater unrelated to site operations. The discussion on surface soil samples on Page 4-9, Section 4.2.1.1 indicates however, that manganese was detected on Site 21 at concentrations one order of magnitude or higher above base specific background levels.

16. Page 4-16, Section 4.2.1.3
The general conclusions for the sediment samples do not mention PCBs for Site 21, however page 4-15 states that PCBs were detected in 4 samples above the National Oceanic and Atmospheric Administration (NOAA) Effects Range-Low (ER-L) and Effects Range-Median (ER-M) values.

17. Page 4-39, Section 4.2.3.2
The last paragraph indicates that "many" of the facilities handling potentially hazardous substances are identified in Section 1.0. The use of the word "many" could imply that there are other facilities using such substances that are not being considered in the investigation. Please clarify and indicate (possibly in Section 1.0) which if any facilities were not considered in the RI that would be possible sources of contamination.

18. Page 4-46, Section 4.2.3.2
Regarding the decrease in contaminant levels seen in the shallow groundwater, it would seem that the most probable explanation is the vertical migration scenario. The previous data may be suspect, however the current data clearly shows higher contaminant levels in the deep aquifer.

19. Page 4-47, Section 4.2.3.2
The second paragraph states that the specific source for beryllium and chromium is most likely related to industrial processes or buried metal debris. Please clarify what these industrial processes would be and where they might be located.

20. Page 4-53, Section 4.2.3.3
The second paragraph under General Conclusions indicates that the contaminant levels detected at location 78-BD-SW07 may be due to "activities" along an access road near Beaver Dam Creek. Please provide more information regarding the types of activities that occurred on this road.

21. Page 4-72, Section 4.3.3.1
The last sentence in the "Building 903" paragraph needs to be revised for clarity.

22. Appendix A
Our copy of the RI Report did not include the EPIC photographs in Appendix A.