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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

April 7, 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 Feasibility Study and Proposed Remedial  
Action Plan for Operable Unit No. 1 (Sites 21, 24,  
and 78), MCB Camp Lejeune.

Dear Ms. Berry:

The referenced documents have been received and reviewed by the North Carolina Superfund Section. Our comments are attached. Also note that in light of the comments on the RI report and FS/PRAP made by North Carolina and EPA we have decided to delay our review of the ROD until the draft final versions are received. 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 Feasibility Study and  
Proposed Remedial Action Plan for  
Camp Lejeune Operable Unit 1 (Sites 21, 24, and 78)

Feasibility Study

1. Page ES-11, Table ES-1  
Several of contaminants (mostly metals) identified for OU 1 that exceed the North Carolina groundwater standards are not included in this table.
2. Page ES-13, Table ES-2  
It is not clear why this list of contaminants of concern and associated remediation levels is different from that given in Table ES-1. Also, several contaminants that were found above the NC Groundwater standards are not included in this table.
3. Page ES-18, RAA No. 3 and RAA No. 4  
The discussion of these alternatives indicates that (for RAA No. 3) extraction wells will not be placed in the deeper portions of the aquifer and that the contaminant levels in the deeper aquifer will be reduced in time (both RAA Nos. 3 and 4). Please provide adequate basis and rationale for making this claim.
4. Page 1-29, Section 1.2.5.1  
Even though the risk assessment calculations yielded acceptable results for the surface water contaminants, some of these contaminants are above the NC Surface Water standards and therefore should be addressed from a chemical specific state ARAR perspective.
5. Page 2-1, Section 2.1  
This section indicates that the surface water and sediment contaminant levels will be reduced over time after the groundwater and soils are remediated. Please provide more information to explain how the contaminant levels will be reduced and how much time would be required.
6. Page 2-8, Table 2-2  
It is not clear why this list of contaminants of concern and associated remediation levels is different from that given in Table 2-1. Also, several contaminants that were found above the NC Groundwater standards are not included in this table.
7. Page 2-16, Section 2.3.1.3  
This section should include the North Carolina Solid and Hazardous Waste regulations as part of the action specific ARAR list.

8. Page 2-32, Table 2-14  
This table does not highlight chlordane even though the estimated groundwater contamination is above North Carolina State Groundwater standards.
9. Page 2-40, Table 2-19  
The same comment made on Tables ES-1, ES-2 and 2-2 apply to this table as well.
10. Section 4.0 and 5.0  
There are several contaminants (i.e. metals, benzene, TCE, PCE, and heptachlor epoxide) that are above NC Groundwater standards that are not adequately addressed by the proposed groundwater RAAs.

The basis for not remediating the intermediate and deep aquifers should include a more detailed explanation of how the contaminant levels in the Castle Hayne Aquifer will be reduced and the length of time necessary.

The five groundwater RAAs given for Areas of Concern (AOC) 2, 4, 6, 7, and 8 are all based on limited action with no active remedial action alternatives presented. As a result, there is no point of comparison for these 5 RAAs for these areas of concern. These AOCs have contaminants above Federal or State action levels therefore it is inappropriate to not consider active remedial actions as viable alternatives.

11. Page 4-9, Section 4.2.1.3  
This section indicates that there will be no intermediate or deep extraction wells used for RAA No. 3 and that the contaminant levels in the Castle Hayne Aquifer should be reduced in time. As noted previously, the basis and rationale for this claim should be presented.
12. Page 4-19, Section 4.2.1.4  
This is the same comment as number 11 except as applied to proposed RAA No. 4.
13. Page 5-15, Section 5.1.1.5  
This section indicates that for RAA no. 5, "The timeframe to reach the remediation goals cannot be determined at this time. This alternative will meet the remediation goals earlier than RAA Nos 1, 2, and 3." Please clarify or restructure these two sentences to make them less contradictory.

#### Proposed Remedial Action Plan

14. Page 17  
The last paragraph indicates that the proposed remedial action will remediate the groundwater and soils contamination and reduce the potential for migration of contamination. Based on the RAAs presented (which are predominately limited action alternatives), these claims are somewhat misleading.

15. Page 31

This section indicates that groundwater AOC 3 is being handled via the UST program (Site 22, Hadnot Point Fuel Farm). It would be helpful to either provide more detail on what is being done or a specific reference that describes the actions to be conducted at this site.

16. Page 39

The preferred alternative for soils is RAA No. 4, which is excavation with off-site treatment and disposal. It has been North Carolina policy to consider on-site treatment as the most desired alternative before off-site treatment options are used.