

03.01-12/18/95-01613

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

December 18, 1995

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1823-2
Attention: MCB Camp Lejeune, RPM
Ms. Katherine Landman
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 11 (Site 80), MCB Camp Lejeune.

Dear Ms. Landman:

The referenced documents have been received and reviewed by the North Carolina Superfund Section. Our comments are attached. Comments on the risk assessment portion of the RI Report are attached as a memo from Mr. David Lilley, our Industrial Hygienist to myself. Please call me at (919) 733-2801 if you have any questions about this.

Sincerely,

Patrick Watters
Environmental Engineer
Superfund Section

Attachment

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

North Carolina Superfund Comments
Draft Remedial Investigation Report
Operable Unit 11 (Site 80) MCB Camp Lejeune

General Comments

1. Base Background

Two concerns were identified regarding the use of base background values.

- It has been requested in past RI reviews that more information (maps and diagrams, etc.) be provided to show where the background samples were taken and the proximity of these sample locations to other contaminated sites at the base. This information has not yet been provided. It is important that the State review this information to verify that these background sample locations cannot be considered as "control" samples as described in Section 4.2.2.2 of the RI.
- The RI Report uses background data three different ways to determine if an inorganic analytical result is significant.

(1) - Only those inorganic concentrations that exceed the base background concentration ranges (maximum) are noted in the Section 4.0 figures and tables.

(2) - Appendix F states that twice the average background is used as the point of comparison for the inorganic analytical results.

(3) - Conclusion number 5 (Section 8.0) uses "an order of magnitude" above base background as an apparent measure of significance.

The State feels that criteria 1 or 3 are very non-conservative and are not appropriate measures of whether or not contamination levels are significant. Criteria 2 is based on EPA established guidance and should be applied consistently throughout all of the tables, figure, text and conclusions of the RI report. The State feels that the true measure of contamination significance is made by using regulatory established standards or by using risk based calculated cleanup levels.

2. Calculated Risk Levels

Since a Time Critical Removal Action (TCRA) is to be performed on this site, the RI Report should include risk calculations for both with and without the TCRA. We acknowledge that this was discussed during our tele-conference however this information should be incorporated in the text of the RI Report.

3. Dieldrin Contamination

As we discussed during our tele-conference it appears appropriate to remove the dieldrin contaminated soil (presumably as part of the planned TCRA) in the southern portion of the site due to the contamination levels observed in the soil samples.

4. Arsenic Levels in the Groundwater

As we have discussed, the Federal and State groundwater standard for arsenic (50 ug/L) produces an unacceptable calculated risk (4E-04) and is therefore not sufficiently protective. Based on the requirements in the National Contingency Plan, it appears that a risk based cleanup standard (based on a 1E-06 risk level) for arsenic contaminated groundwater will need to be established for this site.

Specific Comments

5. Table 1-4

Item 2d in the table references a UST which is not described in the text or shown in any of the figures. Please explain.

6. Figure 4-2

Figure 4-2 does not include the surface soil pesticide analytical results for 80-MW04. These are shown on Figure 4-1 but these values are rather elevated and should be included in this figure as part of the "Detected Pesticide Area" assessment.

7. Page 6-7, Section 6.2.2.2

This section states that certain inorganics were detected at concentrations above industrial RBC values. Other sections in the risk assessment indicate that residential RBCs are used as the point of comparison. The residential RBCs should be used instead of the industrial values.

December 15, 1995

TO: Patrick Watters
FROM: David Lilley *DBL*
RE: Comments prepared on the Baseline Human Health Risk
Assessment, OU 11 (Site 80), MCB Camp Lejeune, NC

After reviewing the above mentioned document, I offer the following comments:

1. Page 6-4, section 6.2.1.5, second sentence: It is unclear to the reader what this sentence means. Please explain.
2. Page 6-6, section 6.2.2.1, third paragraph: According to the information provided in Appendix H, 34 (not 55) samples were analyzed for pesticides/PCBs. If additional samples were analyzed for pesticides/PCBs, the results need to be presented in Appendix H. A thorough review of the selection of COPCs cannot be completed until this information is provided.
3. Page 6-6, section 6.2.2.1, fourth paragraph, second sentence: The chemicals listed in the first sentence and referred to in the second sentence are organic pesticides, not inorganics as stated.
4. Page 6-6, section 6.2.2.1, fifth paragraph, second sentence: Lead is not listed in the Region III RBCs. Fourth sentence: Do you mean these inorganics were found in concentrations less than respective levels found in background samples (not blanks)?
5. Table 6-7, surface soil, metals: Beryllium (not barium) should be retained as a COPC.
6. Page 6-7, section 6.2.2.2, third paragraph: According to the information provided in Appendix H, 32 (not 45) samples were analyzed for pesticides/PCBs. If additional samples were analyzed for pesticides/PCBs, the results need to be presented in Appendix H. A thorough review of the selection of COPCs cannot be completed until this information is provided.
7. Page 6-8, section 6.3.1: It is unclear to the reader why the current and future adolescent trespasser scenario was not considered.
8. Page 6-9, section 6.3.2.1: It is unclear to the reader how the future construction worker will be exposed to the subsurface soil without being exposed to the surface soil. Please explain.
9. Page 6-10, fifth paragraph: The statistical summaries are presented in Appendix L, not Appendix M as claimed.

10. Page 6-10, last paragraph: The exposure duration of 4 years for military residential exposure duration appears to be inconsistent with the exposure durations given in Tables 6-9 to 6-13. Please explain.
11. Table 6-11 and other applicable places in this document: The inhalation rate of 10 m³/day could not be found in the cited reference. A value of 15 m³/day should be used for children (USEPA: Supplemental Guidance to RAGS, Human Health Risk Assessment Bulletin No. 3, November, 1995, p. 3-4).
12. Page 6-17, second paragraph: The CDI calculation spreadsheets are presented in Appendix M, not Appendix N as claimed.
13. Table 6-14: The CSF for aldrin is 1.6E+01, not 1.7E+04 as cited.
14. Table 6-14: The CSF for inorganic arsenic is 1.5E+00, not 1.75E+00 as cited.
15. Table 6-14: The CSF for manganese is 1.4E-01, not 5.00E-03 and 1.0E-03 as cited.
16. Appendix M (CDI Calculations and Spreadsheets): None of the concentrations of pesticides in surface soil match the concentration numbers provided in Appendix L (Statistical Summaries). Please explain.
17. Appendix M, dermal CDI calculations for soil and groundwater: It appears as though oral CSFs and RfDs were used instead of dermal CSFs and RfDs. To convert an oral RfD to a dermal RfD:

$$\begin{aligned} \text{Dermal RfD} = \text{Oral RfD} \times & 0.8 \text{ (for VOCs)} \\ & 0.5 \text{ (for SVOCs)} \\ & 0.2 \text{ (for Inorganics)} \end{aligned}$$

To convert an oral CSF to a dermal CSF:

$$\begin{aligned} \text{Dermal CSF} = \text{Oral CSF} / & 0.8 \text{ (for VOCs)} \\ & 0.5 \text{ (for SVOCs)} \\ & 0.2 \text{ (for Inorganics)} \end{aligned}$$

Please recalculate the dermal risks using the above methodology.

18. Page 6-20, last sentence: This sentence should read: "In other words, carcinogens in Site 80 soil generate no risks beyond acceptable levels for these three receptors".
19. Page 6-21, second paragraph, second sentence: see comment 18.