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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

December 8, 1994

Mr. Max M. Howie, Jr.  
Chief, Program Evaluation, Records,  
and Information Services Branch  
Agency for Toxic Substances and Disease Registry  
1600 Clifton Road (E-56)  
Atlanta, Georgia 30333

RE: Public Health Assessment for U.S. Marine Corps Base Camp  
Lejeune, Jacksonville, North Carolina, Dated September 8,  
1994.

Dear Mr. Howie:

The referenced report has been reviewed by the NC Superfund Section. Our comments are attached. We apologize for the late submittal of these comments, however we did not receive the document until November 14, 1994. Thank you for providing us an opportunity to review this assessment. If you have any questions about this, please call me at (919) 733-2801.

Sincerely,

*Patrick Watters*

Patrick Watters  
Environmental Engineer  
Superfund Section

Attachment

cc: Jack Butler  
Neal Paul - MCB Camp Lejeune  
Linda Saksvig, P.E. - LANTDIV  
Katherine Landman - LANTDIV

**Comments on the  
Public Health Assessment (PHA)  
for the  
U. S. Marine Corps Base Camp Lejeune  
Jacksonville, North Carolina**

1. General - Available Information

The intent of this report is to provide a comprehensive health assessment of the Camp Lejeune Marine Corps Base. Camp Lejeune has been on the National Priorities List since November 1989 and as a result, a wealth of data and information is available regarding the health and environmental impacts of the various sites. Because this document is to be used by the general public, it is imperative that appropriate, up to date resources be used to generate a technically accurate document that communicates the risks in a responsible manner.

A review of the References listed at the back of the document (pages 50-52), reveals that the vast majority of the NPL related documents were not used in the preparation of this report. There are only 5 references cited (3, 15, 25, 38, and 39) that are NPL documents related to Camp Lejeune. Three of these are summary type documents that do not include significant amounts of data (documents 3, 38, and 39). The other two documents are Remedial Investigation Documents specific only to Site 2 and Sites 6,9, and 82 (documents 15 and 25).

The concern here is that there is information essential to this health assessment that apparently was not considered. Several comments below regarding incorrect conclusions could have been avoided had these NPL documents been reviewed. These documents are in the public domain and are available from EPA, Camp Lejeune and the State of North Carolina.

2. Page 1, Summary

The second paragraph indicates that "previously accepted" hazardous material handling and disposal methods led to environmental contamination at several areas on base. This may be misleading to the general public in that it implies that there has always been some degree of State and/or Federal agency concurrence. Camp Lejeune was in existence long before there were any significant environmental regulations or standards to define "accepted" methods.

3. Page 1, Summary

The next to the last paragraph on this page states that there is a "...widespread problem with lead leaching from faucets or water pipes..." Page 12 of the PHA states that "They found no buildings with lead piping..." This report needs to be

changed to indicate that the source of the lead is from the solder used to connect the copper service lines and not from lead faucets or pipes. (see also comment 4)

4. Page 9, Table 1  
This comment is like # 3 in that the source of lead contamination is said to be from "lead plumbing" which is misleading if the source is actually the lead solder used for the copper pipes as stated on page 12.
5. Page 16, 4th Paragraph  
This paragraph should be changed to indicate that the pesticide contaminated soils at Site 2 have been removed.
6. Page 17, 1st Paragraph of Lawn-Care Workers  
The exposure scenario for lawn care workers at Site 2 assumes that the grass is cut three days per week. This is conservative by at least a factor of three and should be clearly indicated as such in the discussion.
7. Page 25, 1st Paragraph  
This paragraph states in part that "...cancerous health effects are unlikely; however, not enough scientific information is available to definitely rule out the possibility of cancerous health effects from low dose exposure to VOCs...". This is potentially misleading to the general public because it implies that the concept of zero risk is obtainable if enough scientific information is made available. Risk assessment is a mathematical operation that can be zero only if the contaminant levels are zero or the exposure time is zero. It is imperative that the health risks be communicated responsibly so that the affected public can make informed rational decisions.
8. Page 26, Table 3  
Please reference the source of the Drinking Water Standards shown in this table. Also note that there are drinking water and groundwater standards which may not be the same.
9. Page 28, 5th Paragraph  
Same as comment 7 regarding risk communication.
10. Page 30, Table 4  
The last column on the right hand side indicated that there is no increase in the cancer risk for the adult scenario for VOC exposures. This is inappropriate risk communication as well as being inconsistent with previous statements regarding cancer risks due to VOCs (see comments 7 and 9).
11. Page 32, Summary and Follow-up Paragraph  
This paragraph states that "existing" data for Site 48 has not been provided for review. The PHA does not elaborate on what this "existing data" is however there is considerable data on Site 48 in the Remedial Investigation Report which has been in

final form and in the public domain since June 1993. The other concern is why was this PHA issued for comment before all of the data was reviewed? See the general comment regarding document references.

12. Pages 33 and 34 (Sites 6, 9, and 82)  
This discussion needs to be revised to reflect the fact that Wallace and Bearhead creeks were resampled and the results are currently being reviewed by the State of North Carolina with regard to the need to issue a fish consumption advisory. See the general comment regarding document references.
13. Page 35, Section III - No Apparent Health Hazards  
The report concludes that Sites 43, 69 and 28 have no apparent health hazard. While there is some data on these sites, none of these are at the Final RI Report stage. None of the existing data reports on these sites were cited in the reference list therefore the basis for this conclusion is unclear. See also the general comment on document references.
14. Page 35, Section IIIB  
The description of Site 69 indicates that beta radiation sources were disposed of on this site. The Remedial Investigation Work Plan prepared for this site does not mention any radiation hazard on this site.
15. Page 36, Section IV - No Health Hazard  
See comment # 13 regarding the fish contamination at Site 28.
16. Page 44, Planned Action # 1  
The PHA should indicate that the pesticide contaminated soils at Site 2 have been removed.
17. Page 45, Planned Action # 1 for Groundwater Contamination  
This states that "No additional actions are being planned at this time." This statement is incorrect. There are many actions to address groundwater contamination that are at various levels of completion. See the general comment regarding document references.
18. Page 46, Planned Action # 1 for Fish Contamination  
Supplemental sampling has been performed for Wallace and Bearhead creeks. See comment # 10 and the general comment on document references.
19. Page 47, Planned Action # 1 for Soil Contamination at Site 69  
This section states that "No additional actions are planned at this time. This is incorrect. This area has been assessed and the data and proposed remedial actions are currently under review. See the general comment regarding document references.