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DEPARTMENT OF THE NAVY

NAVY ENVIRONMENTAL HEALTH CENTER  
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07 APR 1995

From: Commanding Officer, Navy Environmental Health Center  
To: Commanding Officer, Atlantic Division, Naval Facilities  
Engineering Command, ATTN: Katherine Landman, 1510 Gilbert  
Street, Norfolk, VA 23511-2699

Subj: MEDICAL REVIEW OF INSTALLATION RESTORATION PROGRAM  
DOCUMENTS FOR MARINE CORPS BASE, CAMP LEJEUNE, NC

Ref: (a) Baker Environmental transmittal ltr of 10 Mar 95

Encl: (1) Medical Review of Preliminary Draft Final Remedial  
Investigation Report for Operable Unit Number 10,  
(Site 35, Camp Geiger Area Fuel Farm), Marine Corps  
Base, Camp Lejeune, North Carolina  
(2) Medical/Health Comments Survey

1. As you requested in reference (a), we completed a medical review of the "Preliminary Draft Final Remedial Investigation Report for Operable Unit Number 10, (Site 35, Camp Geiger Area Fuel Farm), Marine Corps Base, Camp Lejeune, North Carolina."

2. Please complete and return enclosure (2). Your comments are needed to continually improve our services to you.

3. The points of contact for this review are Ms. Wendy Bridges or Mr. David McConaughy, Head, Health Risk Assessment Department. If you would like to discuss this medical review or if you desire further technical assistance, please call them at (804) 444-7575 or DSN 564-7575, extensions 428 and 434, respectively.

*Y. P. Walker*  
Y. P. WALKER  
By direction

MEDICAL REVIEW OF  
DRAFT FINAL REMEDIAL INVESTIGATION REPORT  
FOR OPERABLE UNIT NUMBER 10  
(SITE 35, CAMP GEIGER AREA FUEL FARM)  
MARINE CORPS BASE, CAMP LEJEUNE,  
NORTH CAROLINA

General Comments:

1. The "Draft Final Remedial Investigation Report for Operable Unit Number 10, (Site 35, Camp Geiger Area Fuel Farm), Marine Corps Base, Camp Lejeune, North Carolina," dated 10 March 1995 was provided to the Navy Environmental Health Center (NAVENVIRHLTHCEN) for review on 13 March 1995. The report was prepared for the Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia by Baker Environmental, Inc.

2. The technical points of contact for this review are Wendy Bridges and David McConaughy, Head, Health Risk Assessment Department, Environmental Programs Directorate, NAVENVIRHLTHCEN. If you have any questions or need additional assistance please call them at (804) 444-7575 extensions 428 and 434, respectively.

Review Comments and Recommendations:

1. Page 1-7, Section 1.2.5, "Interim Remedial Action RI/FS"

**Comment:** In the third paragraph, "shallow surface soil samples" are discussed but not defined. This is the first mention of "shallow surface soil samples."

**Recommendation:** The Agency for Toxic Substances and Disease Registry (ATSDR) *Public Health Assessment Guidance Manual* (1994) defines surface soil samples as soil samples collected from depths of 0 to 3 inches below ground surface (bgs). The guidance reflects ATSDR's position that depths greater than three inches do not accurately reflect surface soil conditions. We encourage the adoption of "0 to 3 inches" as the norm for surface soil sample collection. Adoption of this sampling protocol will not be in controversy with current Environmental Protection Agency guidance of "0 to 6 inches bgs", since the Risk Assessment Guidance for Superfund, Volume 1, *Human Health Evaluation Manual*, Part A, December 1989 directs that surface soil samples be collected at the "shallowest depth practical" in order to accurately reflect the potential surface soil exposure pathway.

2. Page 1-8, Section 1.2.6, "Other Investigations"

**Comment:** A No. 2 fuel oil Underground Storage Tank (UST) situated adjacent to Building G480 is discussed. This UST was removed in January 1994 along with some soil. No soil samples were taken after the removal of the UST to fully characterize the possible contamination due to this UST.

**Recommendation:** Although some soil was removed when the UST was removed, surface soil and subsurface soil samples should be taken at the site of the No. 2 fuel oil UST to adequately assess the possibility of the presence for any chemicals of potential concern (COPCs).

3. Page 3-9, Section 3.8, "Regional Ecology"

**Comment:** This section discusses "wild turkey, white-tailed deer, black bear, grey and fox squirrels, bobwhite quail, eastern cottontail, marsh rabbits, raccoons, and wood ducks" being managed for hunting at Camp Lejeune. Hunting activities at Site 35 are not specifically mentioned in this report. If hunting activities are performed at this site, human health exposures resulting from the consumption of wildlife and fowl should be included in the human health risk assessment.

**Recommendation:** Include a discussion of the hunting activities on or around this site. If appropriate, assess the human health risks related to the consumption of wildlife or fowl.

4. Page 3-15, Section 3.11, "Identification of Water Supply Wells"

**Comment:** Seventeen (17) water supply wells are located within one mile of Site 35. The hazard index for ground water indicates that there is the possibility of adverse health effects throughout the site. Possible contamination from Site 35 could enter the drinking wells for Camp Lejeune and surrounding residents.

**Recommendation:** Potential impact of Site 35 drinking water wells should be specifically addressed.

5. Page 6-14, Section 6.3.2.6, "Biota"

**Comment:** Recreational fishing is discussed as occurring at Site 35. The report does not state whether crabs or any other shellfish are recreationally harvested. However, Table 6-8 indicates that both fish and crab/shellfish tissue samples are combined to evaluate the human health risks to biota at this site. Individual risks from the consumption of fish, crab or other shellfish should be calculated as some populations may only consume one or another.

**Recommendation:** Crabs and other shellfish should be included in the current recreational adult ingestion pathway if they are included in the fish tissue samples. Individual risks from the consumption of fish, crab or other shellfish should be calculated. The text should specifically state that crabs are also caught and consumed from this site.

6. Page 6-34, Section 6.7, "Conclusion of the BRA for OU No. 10":

**Comment:** In the "Future Construction Worker" section, inhalation of airborne COPCs is not listed as a potential risk. However, during construction the surface/subsurface soil may be stirred up causing a higher chance for inhalation of airborne COPCs.

**Recommendation:** Inhalation of airborne COPCs to future construction workers should be listed as a potentially complete pathway or sufficient justification should be provided as to why it is not included.

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| <b>FROM:</b> _____<br>(YOUR NAME/COMMAND)<br><b>TO:</b> NAVENVIRHLTHCEN, ENVIRONMENTAL PROGRAMS<br><b>FAX:</b> COM: (804) 444-7261/DSN: 564-7261 |
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**MEDICAL/HEALTH COMMENTS - YOUR VIEW**

Please help us improve our review process by indicating the extent to which you agree or disagree about the comments we provided for to your activity.

|   | Strongly<br>Disagree | Disagree | Neutral | Strongly<br>Agree | Agree |
|---|----------------------|----------|---------|-------------------|-------|
| 1. "Value added" to IR/BRAC process?  | 1                    | 2        | 3       | 4                 | 5     |
| 2. Received in a timely manner?   | 1                    | 2        | 3       | 4                 | 5     |
| 3. High level of technical expertise?   | 1                    | 2        | 3       | 4                 | 5     |
| 4. Very useful to the RPM?  | 1                    | 2        | 3       | 4                 | 5     |
| 5. Contractor incorporated comments?  | 1                    | 2        | 3       | 4                 | 5     |
| 6. Easily readable/useful format?   | 1                    | 2        | 3       | 4                 | 5     |
| 7. Overall review was of high quality?  | 1                    | 2        | 3       | 4                 | 5     |
| 8. NAVENVIRHLTHCEN was easily accessible?   | 1                    | 2        | 3       | 4                 | 5     |
| 9. NAVENVIRHLTHCEN input during scoping or workplan development would be "value added"? | 1                    | 2        | 3       | 4                 | 5     |
| 10. Added involvement in IR/BRAC document needed?                                       | 1                    | 2        | 3       | 4                 | 5     |

*Please return by fax using the box provided at the top of this page. If you have any other comments, please list them below or call Mr. David McConaughy, Head, Health/Risk Assessment Department, at (804) 444-7575, or DSN 564, extension 434, at any time to discuss your viewpoint. As our customer, your comments and suggestions of how we can improve our services to you are important!*