



**DEPARTMENT OF THE NAVY**  
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From: Commanding Officer, Navy Environmental Health Center  
To: Commanding Officer, Atlantic Division, Naval Facilities Engineering Command  
(Kirk Stevens), 1510 Gilbert Street, Norfolk, VA 23511-2699

Subj: MEDICAL REVIEW OF PRE-FINAL RECORD OF DECISION, OPERABLE  
UNIT NO. 19, SITE 84/BUILDING 45 AREA, MARINE CORPS BASE CAMP  
LEJEUNE, CAMP LEJEUNE, NC

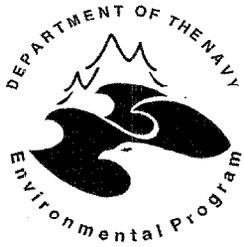
Ref: (a) Baker Environmental, Inc. Letter of Transmittal S. O. No 26007-139/219-  
0000-SRN of 22 Oct 02

Encl: (1) Subject Medical Review  
(2) Medical/Health Comments Survey

1. Per reference (a), we have completed a review of the subject document and forward our comments to you as enclosure (1).
2. Please complete and return enclosure (2) as your comments are needed to continually improve our services to you.
3. We are available to discuss the enclosed information by telephone with you and, if you desire, with you and your contractor. If you require additional assistance, please call Mr. Kenneth Gene Astley at (757) 953-0937 or Mr. David McConaughy at (757) 953-0942. The DSN prefix is 253. The e-mail addresses are: [astleyg@nehc.med.navy.mil](mailto:astleyg@nehc.med.navy.mil) and [mcconaughyd@nehc.med.navy.mil](mailto:mcconaughyd@nehc.med.navy.mil).

C. P. RENNIX  
By direction

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## NAVY ENVIRONMENTAL HEALTH CENTER ENVIRONMENTAL PROGRAMS DIRECTORATE

### Record of Decision Review

**Location:** Jacksonville, North Carolina

**Command:** Marine Corp Base Camp Lejeune

**Work Description:** Record of Decision

**Document Date:** October 2002

**Contract No/Delivery Order No:** N62470-89-D-6007/0139

**EP Document No:** 4402

**Prepared for:** LANTNAVFACENGCOM

**Prepared by:** CHM2 Hill, Inc. and Baker Environmental, Inc.

**Date Received:** 25 October 2002

**Reviewed by:**

Kenneth Gene Astley, (757) 953-0937, [astleyg@nehc.med.navy.mil](mailto:astleyg@nehc.med.navy.mil), DSN 377

**MEDICAL REVIEW OF  
PRE-FINAL RECORD OF DECISION  
OPERABLE UNIT NO. 19 SITE 84 / BUILDING 45 AREA  
MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA**

Ref: (a) Navy Interim Final Policy on the Use of Background Chemical Levels,  
Ser N453E/OU59690, 18 Sep 2000

**General Comment:** The document entitled "Pre-Final Record of Decision Operable Unit No. 19 Site 84/Building 45 Area Marine Corps Base Camp Lejeune, North Carolina," was provided to the Navy Environmental Health Center for review on 25 October 2002. CHM2 Hill, Inc. and Baker Environmental, Inc. prepared the report for the Atlantic Division, Naval Facilities Engineering Command.

**Review Comments and Recommendations:**

1. Page 2-15, Section 2.5.1, "Future adult and Child Residents"  
Page 3-1, Section 3.1, "The Preferred Alternative for Soil and Sediment "

**Comments:**

a. The text states on Page 2-15, "Potentially unacceptable total site risk estimates included an Incremental Lifetime Cancer Risk (ILCR) value of  $6.2 \times 6.2 \times 10^{-4}$  and a HI [Hazard Index] value of 16 derived for **future adult residents**, and a ILCR value of  $6.4 \times 10^{-4}$  and a HI value of 36 derived for **future child residents**. Potential exposure to shallow groundwater and surface soil comprised the elevated risk and hazard values. The ILCR value for the surface soil (future young child only) and groundwater exposure pathways were calculated that exceeded USEPA's acceptable criteria under the central tendency (CT) exposure scenario." The human health risk assessment was based on a future high-occupancy land use scenario and exposure to groundwater and surface soil.

b. The text states on Page 3-1, "The preferred alternative to address soil contamination at Site 84 is RAA [Remedial Action Alternative] 4 Excavation and Landfill Disposal for **Low-Occupancy Use**."

c. The text states on Page 2-15, "Ingestion of arsenic was the main contributor to the elevated groundwater ILCR of  $4.3 \times 10^{-4}$  for the adult resident and  $2.5 \times 10^{-4}$  for the child resident." There is no discussion as to whether a background investigation was conducted. Reference (a) states that a background investigation shall be conducted when chemicals are detected above their respective screening value. Naturally occurring and anthropogenic chemicals that are present at levels below background should be eliminated from consideration in the risk assessment.

**Recommendations:**

- a. Ensure the remediation goals are representative of anticipated future land use.

b. If the background investigation for this site found that metals (e. g., arsenic) are present at levels below background, then they should be eliminated from consideration in the risk assessment. The Navy policy for conducting a background evaluation is located on the Navy Risk Assessment Web Site. You may access the web site by going to <http://www.nehc.med.navy.mil/ep/index.htm> and clicking on “Navy Guidance for Conducting Human Health Risk Assessment” located at the bottom of the page. The Navy Policy link is located on the left side of the guidance home page.