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DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1510 GILBERT ST
NORFOLK VA 23511-2699

TELEPHONE NO:
(804) 322-4818
IN REPLY REFER TO:
5090
18232:KHL:srw
02 NOV 1995

From: Commander, Atlantic Division, Naval Facilities Engineering Command
To: Commanding Officer, Navy Environmental Health Center (Attn: Mr. Kenneth Astley and Mr. David McConaughy, Health Risk Assessment Dept., Environmental Programs)

Subj: RESPONSE TO COMMENTS, DRAFT RI REPORT OPERABLE UNIT NO.8 (SITE 16), MARINE CORPS BASE, CAMP LEJEUNE, NC

Encl: (1) Response to Comments concerning the Draft RI Report for OU NO. 8 (Site 16), MCB Camp Lejeune, NC

1. Enclosure (1) is our response to your comments on the above-referenced document. The response to comments are being submitted in lieu of a Draft Final RI report for Site 16. Changes reflecting these comments will be included in the Final RI report.

2. In order to meet the submittal date of December 27, 1995 for the Final RI report, please provide any comments on the enclosed responses by November 27, 1995. Please direct your comments and any questions to Ms. Katherine Landman at (804) 322-4818.

L. G. SAKSVIG
By direction

Copy to:
= Activity Admin Record File

Responses to Comments Submitted by United States Department of the Navy
Navy Environmental Health Center
on the Draft Remedial Investigation Report for Operable Unit No. 8 (Site 16)
MCB, Camp Lejeune, North Carolina

Comment Letter by Mr. A. F. Jones (By Direction) dated September 5, 1995

Responses to Specific Comments

1. This comment will be taken under advisement. Prior to the implementation of this sampling depth concurrence from USEPA Region IV will need to be obtained.

2. This text in Section 4 is to identify and define the qualifiers used by the data validators and noted on summary and positive detections tables in relation to detected concentrations of constituents. The use of estimated values or one-half the sample quantitation limit (SQL), Contract Required Quantitation Limit (CRQL) maximum detection limits, or instrument detection limit is explained in the risk assessment section (Section 6) where the values are used in selecting contaminants of potential concern (COPCs), calculation of chronic daily intakes (CDI) and/or risk characterization.

3. The maximum concentration of bis(2-ethylhexyl)phthalate detected in surface soil will be revised to read 490 mg/kg for location 16-BD-SB16 in Table 4-5.

4. The maximum concentration of iron in Round One sampling of shallow groundwater presented in the text will be revised to read 712 mg/L, sample location 16-MW03, to agree with data presented in Table 4-5.

5. The following text will be added to section 6.2.1.4, "Risk-Based Concentrations":

"RBC values listed in the 1995 Region III Risk-Based Concentration table have been multiplied by a factor of 0.1, in order to generate more conservative values to be used in selecting noncarcinogenic COPCs for the risk assessment. This approach is explained in Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening (USEPA, 1993).

The methods outlined in the aforementioned reference will be incorporated in COPC selection for surface soil, subsurface soil and groundwater (i.e., noncarcinogenic contaminant concentrations will be compared to RBC values multiplied by 0.1).

6. The information given in the text on page 6-9 concerning 4-methyl-2-pentanone will be revised to concur with the information contained in Table 4-5. The correct 4-methyl-2-pentanone concentration is 7 ug/L.

7a. The information provided in section 6.2.2.2, stating that there are no COPCs in subsurface soil, will not change. Multiplying noncarcinogenic RBC values by a factor of 0.1 for COPC selection (see response to comment #5) adds no contaminants to the list of COPCs in subsurface soil.

Subsurface soil should not have been included as an exposure pathway in section 6.3.2 of the Draft Remedial Investigation (RI), as there are no COPCs retained in this environmental medium. Consequently, the text on page 6-11 addressing subsurface soil as an exposure pathway for evaluation will be eliminated in the Final RI.

Because "surface soil" represents only the top 0 to 6-inch depth interval, construction workers are more likely to be exposed to subsurface soils than to surface soil (i.e., soil excavation typically occurs to depth beyond 6 inches). Furthermore, surface soil exposure is already evaluated in a worst-case scenario for potential future residents. Exposure inputs used in a future residential soil exposure scenario are more conservative than those used in a construction worker soil exposure scenario, irrespective of which soils are being evaluated (i.e., surface or subsurface). Exposure frequency for construction workers exposed to soil (90 days/year) is less than the value used for residential adults (350 days/year). Similarly, exposure duration for construction workers (1 year) is less than the value used for residential adults (24 years). The remainder of exposure inputs are the same for these two receptors. It can then be concluded that

if at a given site, there is no surface soil risk to future adult residents, then there will not be a surface soil risk to construction workers. This is the case at Site 16; surface soil COPCs (revised after comparison to revised RBC values) generate no risks to future adult residents, in excess of acceptable levels.

7b. The aquatic organism ingestion hazard was not evaluated in the human health risk assessment, because the COPCs retained in surface water and sediment are not expected to bioaccumulate in aquatic organism tissues that may be ingested by recreational fishermen. Bioaccumulation factors for these COPCs are provided in the Superfund Public Health Evaluation Manual (EPA 540 1-86 060, October,1986).

It is noted that surface water recreational facilities may be expanded along the banks of Northeast Creek near Site 16, and that future recreational use of this area may create exposures to recreational fisherman. Fish sampling was not proposed at this site and contamination was not expected to have impacted the fish. The results of the RI verified this assumption, therefore, no additional aquatic sampling was recommended. The rationale for not collecting fish samples will be added to the text.

8. Future remedial investigations may consider providing quantitative risk estimates for the average as well as the upper bound estimate, using the 95% Upper Confidence Level of the arithmetic mean concentration for the RME case rather than that of the geometric mean for the data quantitation term. In addition, further justification for the use of the geometric mean data may be provided.

9. The oral cancer slope factor for arsenic will be corrected, to conform to the latest update to IRIS. This value will be changed in Table 6-21, from 1.7E+00 to 1.5E+00.