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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

May 19, 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-FFB

Ms. Katherine Landman
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1823
Norfolk, Virginia 23511-6287

SUBJECT: Draft RI/FS Project Plans
Operable Units #8, 11, & 12
MCB Camp Lejeune, North Carolina

Dear Ms. Landman:

The Environmental Protection Agency (EPA) has completed its review of the above subject document. Comments are enclosed from the Office of Health Assessment.

If there are any questions or comments, please call me at (404) 347-3016 or voice mail (404) 347-3555 x-6459.

Sincerely,

Gena D. Townsend
Senior Project Manager

Enclosures (3)
1. Comments
2. Draft Exposure Factors
3. CRQLs for CLP Organics

cc: Mr. Neal Paul, MCB Camp Lejeune
Mr. Patrick Watters, NCDEHNR

**Comments**

1) On Pages 2-18, 2-25, and 2-32, soil sampling from previous investigations is discussed. The surface soil depths used for the previous investigations are either 0-2' or 0-6". The proposed sampling follows the accepted guideline of 0-1' for direct contact risk assessment purposes. The data for surface soils at the 0-2' depth from the previous investigations should not be combined with the data from the proposed sampling, when calculating exposure point concentrations for the risk assessment.

2) In Table 4-1, beginning on Page 4-2, the analysis types and Data Quality Levels are proposed. Full TCL/TAL analyses should be performed on twenty percent of the data for each of the media sampled. This will require the addition of TAL Cyanide for Sites #16, 7, and 80 and the addition of TCL Volatiles, TCL Pesticides/PCBs, TAL Metals, and TAL Cyanide for Site #3.

3) Section 4.3 discusses the field investigations. Background locations are not clearly marked on maps. There should be at least two background locations for each medium in each Operable Unit. OU #8 needs background locations for groundwater, surface water, and sediment. OU #11 needs background locations for groundwater, surface water, and sediment. One background well is later discussed in the Sampling/Analysis Plan for OU #11 (Page 3-8), but two are needed to establish an average background concentration. All background sampling should be discussed in the Work Plan. OU #12 needs background locations for groundwater.

4) On Page 4-12, screening with ENSYS test kits is discussed. The approximate detection range of the screening analyses should be noted here.

5) On Page 4-15, it is stated that non-detects will be incorporated into the mean. The non-detects should not be incorporated into the means in the data summary table, according to Supplemental Region IV Risk Assessment Guidance. When calculating the exposure point concentration, the non-detects are included in determining the 95 percent upper confidence limit on the mean.

6) On Page 4-15, specify the statistical methods to be used in determining whether the distribution is normal or lognormal.

7) On Page 4-17, the means should not be carried through the risk assessment. The 95 percent upper confidence limit of the means should be used for all calculations.

8) On Page 4-17, no basis for setting exposure factors is presented. The most recent guidance in this area is the attached Draft Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure- 11/4/93.) Note that since the National Contingency Plan (NCP) states that RME values will form the basis of remedial decisions, the Region IV EPA Office of Health Assessment requires that Central Tendency considerations appear in an appendix. The Region IV health assessment staff should be contacted for further guidance in this area.

9) On Page 4-18, the dates for IRIS and HEAST versions to be used should be provided.

10) In Table 4-4 on Page 4-23, the PRG level for Chrysene is not achievable by CLP methods.

11) On Page 4-20, Remedial Goal Options must be calculated in the risk characterization for HIs of 0.1, 1, and 10 and for excess cancer risks of $10^{-4}$, $10^{-5}$, and $10^{-6}$.

Sampling/ Analysis Plan:

1) For sites #16 and 7, why were no intermediate depth monitoring wells proposed? Supply wells within a half-mile radius (as reported on Pages 2-13 to 2-14 of the Work Plan) should be tested to assess possible contamination of the water in use and/or monitoring wells should be deep enough to reach the Castle Hayne aquifer, not just the surficial aquifer. Some potable water locations are needed for all OUs.

2) On Page 3-6, the acronym TOC is associated with Total Oxygen Content. Region IV generally associates TOC with Total Organic Carbon. Later, in Table 6-2 of the Quality Assurance Project Plan, TOC is used for Total Organic Carbon. Please check the Page 3-6 usage.

3) On Page 3-8 (Site #7) and Page 3-14 (Site #80), the term "contaminants of concern (COC)" should be changed to "chemicals of potential concern". The contaminants of concern would be determined after the calculations done during risk characterization show which chemicals contribute significantly to an exposure pathway with a Hazard Index of greater than 1 or an excess cancer risk of greater than $10^{-4}$ or any other trigger level selected by the RPM, based on site-specific exposure assumptions.

4) See Comment 3 on the Work Plan for discussion of background sampling. This same discussion applies again in the Sampling/Analysis Plan.

5) On page 3-11, paragraph seven of 3.2.4.1, a gill net will be used for sampling to determine whether the tributary is a significant ecological area. This statement should be corrected. The fish or other types of biota would not have to be present to have a viable system.

6) On Page 3-14, paragraph one of 3.3.3, the intermediate well is near existing well 80MW03, not 80MW02 (see Figure 3-8).

7) On Figures 3-3, 3-5, and 3-11 in the Sampling/Analysis Plan, show locations of supply wells listed on Pages 2-13 to 2-14 of the Work Plan.

8) Following Table 6-1 on Page 6-7, where are the reference numbers in the Table to Footnotes 9 & 10? Which samples are for Full TCLP/RCRA?

Quality Assurance Project Plan:

1) On Page 2-1, the August 1991 version of the "Statement of Work for Organic Analysis" is OLM01.8, not OLM01.9. The CRQLs from this document are not the same as those cited in Table 8-1. See attached CRQLs from OLM01.8. Any potable water samples should be analyzed by a low concentration method for organics. This would not be recommended for all groundwater as the method would not be appropriate for contaminated samples.

2) TCLP Methods are listed among the parameters in Table 8-1, referenced on Page 8-1. TCLP analyses are not listed in Table 4-1 of the Work Plan. On which samples are the TCLP analyses to be performed? (See Comment 7 on the Sampling/Analysis Plan.)

3) In the TCLP-Herbicides section of Table 8-1, the correct method for Herbicides is 8150, not 8080. The Solid PQLs should be revised from ~~800~~ to 240 and from ~~110~~ to 34, based on a factor for soil of 200 times the Method Detection Limit.