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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

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

August 20, 1996

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

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

SUBJ: MCB Camp Lejeune
Draft Site Evaluation Work Plan
Operable Unit No. 15 - Site 88

Dear Ms. Landman:

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

If you have 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

Enclosure

cc: Patrick Waters, NCDEHNR
Neal Paul, MCB Camp Lejeune

Comment

1. Work Plan, Section 3.1.2.2 - The document characterizes Level III data as field screening data that is suitable for risk assessment, among other uses. However, USEPA guidance characterized Level III data as analyses performed in off-site laboratories, not field screening data. Field screening data has a wide range in quality and is not generally considered to be suitable for risk assessment.

2. Work Plan, Section 4.3.2.1, Second paragraph - If the sub-surface soil samples are to be analyzed at a fixed based analytical laboratory, why are ten percent of the samples going to be analyzed at a fixed base laboratory to confirm the results of the mobile laboratory? This discrepancy should be resolved.

3. Work Plan, Section 4.4

a. The document should specify the amount and nature of the deliverables provided by the laboratories.

b. If CLP-type data will be validated, the guidelines in the "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", February 1994, should be used.

4. Appendix I, Sample preservation and Handling, Attachment A - The bottle volume of the soil containers should specify 2 oz. VOA vial with a Teflon lined septum seal for VOA samples and 8 oz. wide mouth glass with Teflon lined closure for SVOA samples.

5. Quality Assurance Project Plan, Section 5.2 - This section states that Level II and IV data will be generated and used to assess site conditions. However, Section 3.1.2.2 of the Work Plan states Level III and IV will be generated. This discrepancy should be resolved.

6. QAPjP, Table 6-2 - This table should specify 2 oz. VOA vial with a Teflon lined septum seal for VOA soil samples.

7. QAPjP, Table 8-1 - This table states CLP methodology will be used to analyze water VOA samples. According to Section 4.3.1 of the Work Plan, a mobile laboratory will be used to analyze the Phase I soil and water samples. Will the mobile laboratory be using CLP methodology to analyze the Phase I samples? The document should provide this information and should explicitly state the level of data that will be provided by the mobile laboratory, as well as the type of deliverables that will be provided.

## 1.0 General Comments

1. The Work Plan, Section 2.1.11, Page 2-9, Paragraph 3, states that a Draft Report Wellhead Monitoring Study for MCB Camp Lejeune (Grenhorne, 1992) was reviewed to locate water supply wells within a one-mile radius of Site 88. The text indicates that there is only one supply well within a one-mile radius of Site 88 and that the nearest water supply well (well HP603) has been temporarily taken out of service. However, the text does not identify wells within a three-mile radius or explain why water supply well HP603 was temporarily taken out of service. According to EPA guidance, the Work Plan should identify wells within a three-mile radius (EPA, 1990). Also, the text should explain why these wells will not be affected by past site activities and why water supply well HP603 was temporarily taken out of service.

2. The Work Plan, Section 4.3.1, Page 4-1, Paragraph 6, introduces the Phase I soil sampling plan. However, the logic for the soil sampling locations shown in Figure 4-1 is not explained. It appears that a circle of samples will be collected around the site, but the logical areas for soil contamination are around the former USTs. Also, collecting samples in a circle does not constitute a grid sampling pattern. The logic for the proposed sampling pattern should be presented. It is recommended that the revised pattern better reflect the expected leak distribution or that a grid pattern be used.

3. The Work Plan, Section 4.3.1.2, Page 4-2, Paragraph 3, states: "A minimum of twelve shallow temporary monitoring wells will [be] installed to determine groundwater flow and the extent of horizontal contamination migration." However, the text does not provide the rationale used to locate these twelve shallow monitoring wells, identify background locations for the monitoring well, or explain why only shallow monitoring wells will be installed. Monitoring well locations should be based on soil contamination. The EPA SOPQAM recommends that a grid pattern be established to define the extent of known soil contamination. The sampling plan used for establishing monitoring well locations should be re-evaluated. The background location should also be identified. In addition, the text should explain why only shallow monitoring wells will be installed.

4. The Work Plan, Section 4.3.1.2, Page 4-2, Paragraph 4, describes the analyses to be performed for groundwater samples. However, analyses for nickel and iron are not included even though they exceeded MCLs and North Carolina

criteria. The report indicates that these metals will not be analyzed because they are not site contaminants. At a minimum, one sample (from the most contaminated well) should be analyzed for iron and nickel and compared to base background values. If site and background levels are comparable, then the metals are not site related.

5. The FSAP, Section 6.5, Page 6-10, Paragraph 1, Sentence 3, indicates that a second round of groundwater samples will be collected four months after the first round. However, the two groundwater sampling rounds are not mentioned in the Work Plan. Thus, the Work Plan and text in this paragraph should be revised for consistency.

6. The FSAP, Section 6.8.9, Page 6-13, Paragraphs 6 and 7, describes disposal methods for contaminated materials. However, the 90-day storage rule is not referenced. Therefore, the duration of storage should be stated in the text.

## 2.0 Specific Comments

1. **Work Plan, Section 2.2.1, Page 2-9, Paragraph 5.**

The text identifies buildings surrounding Building 25; however, the text does not list Building 25-A which is shown in Figure 2-4.

2. **Work Plan, Section 4.3.2.2, Page 4-3, Paragraph 3, Sentence 2.**

The text describes the analysis of one groundwater sample for standard water quality parameters. However, common ions, iron, manganese, and alkalinity are not included. These analyses should be included for evaluation of remedial alternatives.

3. **Work Plan, Section 4.3.4, Page 4-3, Paragraph 5, Sentence 2.**

This sentence states that if visual contamination or elevated HNu readings are not exhibited, then the drill cuttings will be spread on the ground. However, the HNu reading to be used to determine an "elevated reading" is not defined. This level is not presented in the Field Sampling and Analysis Plan either. The HNu reading value (in ppm) used to determine if a cutting is to be containerized or spread back on the ground should be presented.

4. **Work Plan, Section 4.6.6, Page 4-8, Paragraph 0.**

The text shows a definition of CDI as chronic daily intake. However, the definition of CDI lacks some pertinent information. The definition of CDI should be chronic daily intake averaged over 70 years (mg/kg-day).

5. **Work Plan, Section 2, Tables 2-3 and 2-4.**

Tables 2-3 and 2-4 present analytical results for soils and groundwater. However, the tables do not indicate the date of the analyses. The date of the analyses should be given.

6. **Work Plan, Section 4, Table 4-2.**

Table 4-2 presents preliminary remediation goals (PRGs) for soil and groundwater. However, it is unclear why vinyl chloride and tetrachloroethane are listed in Table 4-2 but not in Tables 2-3 and 2-4. Thus, Table 4-2 should present an explanation regarding the list of contaminants of concern.

7. **Work Plan, Table 6-1.**

Table 6-1 presents the Site Evaluation Schedule. However, an item for RAC implementation is presented, but RAC is not defined. The term RAC should be defined.

8. **Work Plan, Figure 4-1.**

This figure shows the proposed temporary monitoring well locations at Site 88. However, the estimated flow direction is not shown. The flow direction should be presented in the figure.

9. **FSAP, Section 4.2.1, Page 4-1, Paragraph 6, Sentence 1.**

The text states that 12 soil borings/monitoring wells will be installed in the vicinity of Building 25. However, Figure 4-1 from the Site Evaluation Plan is not referenced. This figure should be referenced in the text.

10. **FSAP, Section 4.3.1.2, Page 4-2, Paragraph 6, Sentence 1.**

This sentence describes collection of groundwater samples during Phase 1. However, the word "temporary" is missing before "monitoring wells". The text should be changed accordingly.

11. **FSAP, Section 5.0, Page 5-1, Paragraph 3.**

This paragraph presents examples of sample designations. However, the example format shown does not match the format given at the top of the page. Specifically, the example shows the QA/QC designation at the end of the sample designation. However, the QA/QC designation is the third item in the designation presented at the top of the page. This inconsistency should be corrected.

12. **FSAP, Section 6.2, Page 6-3, Paragraph 1, Bullet 3.**

The text refers to a macro-core sampler that will be used continuously during borehole advancement. However, in Section 6.1.1 the text states that split spoon samples will be the technique used for collecting samples. Thus, the text should provide a definition and other pertinent information on using the macro-core sampler.

13. **FSAP, Section 6.3.1, Page 6-4, Paragraph 2, Bullet 6, Sentence 6.**

The text states that installation of four-inch wells may be required during Phase II. However, on page 4-3 in Section 4.3.2.2 of the Work Plan, it is stated that a four-inch diameter well will be installed in the most contaminated zone. Thus, the SOP should include details for installation of the four-inch diameter well.

14. **FSAP, Section 6.3.1, Page 6-5, Paragraph 0, Bullet 5, Sentence 1.**

The text states that all shallow monitoring wells at Site 88 will be flush mounted. However, Bullet 3 on this page indicates one shallow well will be completed above ground. The text in Bullet 5 should be revised accordingly.

15. **FSAP, Section 6.5, Page 6-9, Number 7.**

The text states that well purging will be complete when three successive water quality parameter readings have stabilized within 10 percent, or when there is no discernible upward or downward trend. The following sentence states that for low value reading, a stable plateau can be reached even if variations are greater than 10 percent. However, these sentences appear contradictory. The "low" values should be specified, or the following sentence should be omitted.

16. **FSAP, Section 6.6, Page 6-10, Paragraph 3, Sentence 1.**

The text references Appendices D and E for decontamination procedures. However, Appendix D lists several possible decontamination procedures to use, depending on the EPA Region in which the work is performed. Therefore, the EPA Region should be specified in this sentence.

17. **FSAP, Section 6.8.5, Page 6-12, Paragraph 6, Sentence 1.**

The text states that if DOT-approved containers are used to containerize soil cuttings, then the drums will be numbered and labeled. However, procedures for other types of drums (if used) are not stated. The sentence should be modified to indicate that any drum used to containerize soil will be numbered and labeled.

18. **FSAP, Appendix B, Page B-1, Paragraph 3.**

The text presents a list of anticipated organic compounds in groundwater at Site 88 and their maximum concentrations. However, some contaminants of concern listed in Table 4-2 are missing. The missing constituents are vinyl chloride and tetrachlorethane (see Table 4-2). It is unclear why the contaminants of concern mentioned earlier are not shown here as the anticipated organic compounds in the groundwater. The text should give an explanation accordingly.

19. **FSAP, Appendix J.**

According to the text, Attachments A through C are supposed to provide several example forms; however, they are not provided. These example forms should be added to the text accordingly.

20. **Quality Assurance Project Plan (QAPP), Section 10, Table 10-1.**

Table 10-1 presents the QA/QC sample frequency for metals and organics. However, according to the Work Plan, FSAP, and Sections 7 and 8 in this plan, metals are neither identified as the contaminants of concern nor analyzed. Therefore, it is unclear why metals are listed in QA/QC samples. The text should give an explanation accordingly.