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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

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

July 5, 1995

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 RI/FS
Operable Unit No. 13 - Site 63

Dear Ms. Landman:

The Environmental Protection Agency (EPA) has completed its review of the above subject documents. 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

Gena D. Townsend
Senior Project Manager

Enclosure

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

1.0 GENERAL COMMENTS

The Draft RI/FS Work Plan, consisting of a Work Plan, Field Sampling and Analysis Plan and Quality Assurance Project Plan, is a well-written document which outlines the tasks required to implement an RI/FS for Site 63 (Verona Loop Dump) at MCB Camp Lejeune. Except for the following noted comments, the Draft RI/FS Work Plan has adequately described the scope and objective of each individual RI/FS activity to be conducted at Site 63.

1. The Draft RI/FS Work Plan states that all the proposed monitoring wells are to be constructed of polyvinyl chloride (PVC) material. The economical concern for selecting PVC over stainless steel as a well construction material is understandable and valid. However, EPA Region IV discourages the use of PVC and recommends the use of stainless steel for the following two reasons: (1) Organic contaminants can leach from the PVC into the groundwater, resulting in nonrepresentative samples, and (2) It is possible for organic contaminants in the groundwater to adsorb to the PVC material, again resulting in nonrepresentative samples. Therefore, if PVC is to be used, specific analytical data should be provided indicating that neither the leaching nor the sorption of organic compounds from the PVC well materials will interfere with the data quality of the groundwater samples.

2. The Draft RI/FS Work Plan proposes to use as background, a well which is to be installed west of the unpaved road at Site 63. However, designation of a background well location at this stage may be premature, as groundwater flow direction at Site 63 has yet to be determined.

3. The Draft RI/FS Work Plan states that investigation-derived wastes (IDWs), such as drill cuttings and excavated soils, will be contained in drums and analyzed for the Toxicity Characteristic Leaching Procedure (TCLP) constituents, polychlorinated biphenyls (PCBs) and RCRA hazardous waste characteristics (i.e., corrosivity, reactivity and ignitability) only if they are determined to be potentially contaminated based on visual observations and HNu photoionization (PID) screening in the field. Otherwise, the soil cuttings will be used to backfill the boreholes. This approach is unacceptable since the PID screening is applicable to volatile organic compounds only and the nature and extent of soil contamination at Site 63 are still unknown. Proper disposal methods of IDWs should be determined only after the aforementioned chemical analyses (e.g., TCLP) have been conducted.

4. Section 2.1.6 of the Work Plan states that the surficial aquifer, in the area of Camp Lejeune, supplies primary recharge to the Castle Hayne Aquifer. However, Section 4.1.3.1 of the FSAP indicates that the proposed monitoring

wells will only sample from the shallow aquifer. The WP should extend the hydrogeological investigation for the vertical migration of DNAP constituents.

5. Section 4.3.1, Subsection Groundwater Investigation, Bullet 1, identifies the proposed monitoring wells (depicted on Figure 4-2) to be installed at Site 63. However, the locations for the monitoring wells do not cover the southwest component of the approximate site boundary identified on Figure 4-2. The monitoring well locations should cover all components at the site boundary. Either the monitoring well that is supposed to be located along the site's south boundary should be relocated in the southwest component of the site, or another well in close proximity to Verona Road should be added.

6. Section 4.3.1, Page 4-2, states that the existing wells will be developed, but temporary wells will not. However, the text does not provide an explanation why the temporary wells will not be developed. The text should state that the temporary wells will be installed by a Geoprobe and if this method of well installation is approved by EPA, Region IV.

7. Figure 4-3 shows the location for surface water/sediment samples. However, the figure neither depicts the Verona Road drainage ditch nor the necessary surface water or sediment sample plan. The text should explain why there are no sampling activities planned for the ditch along Verona Road.

8. Appendix E of the Field Sampling and Analysis Plan presents sampling and monitoring equipment decontamination procedures. The text discusses standard operating procedures (SOPs) of several EPA regions (including regions I, II and III) while omitting the most relevant information, the SOP used in Region IV, on the basis that the Region IV SOP is similar to that of regions II and III. However, unlike regions II and III, where methanol, hexane and acetone are approved rinsing solvents, Region IV specifies that pesticide-grade isopropanol be used as the standard rinsing solvent. Therefore, the use of any solvent other than pesticide-grade isopropanol for equipment cleaning purposes in Region IV must be justified.

9. The text contains separate contents pages for the WP, FSAP, and QAPP. However, a comprehensive table of contents is not provided. The text should present an initial table of contents that covers the entire document.

General Comments - FSAP

1. Section 6 of the Field Sampling and Analysis Plan discusses grab sampling of surface water and sediments. However, the location of these samples, within each media, is not indicated. In addition, the EPA SOPQAM states that in small streams, (less than 20 feet wide) a single grab sample should be collected from the center of the stream (at mid-depth for water). The text should indicate the approximate width of the stream, along with approximate sampling locations of surface water and sediments. For a larger stream, composite surface water and sediment samples should be collected.

2. Section 6.4.3, Page 6-4, states that one well volume will be removed before the well will be sampled, based on the purge volume on independent investigations and studies by Puls and Paul, 1995 and Barcelona, Wehrmann, and Varljen, 1994. However, EPA SOPQAM recommends that three well volumes be removed during purging. Furthermore, the aforementioned investigations are not approved and may not be sanctioned by ECB. Thus, the Work Plan should be revised to comply with the EPA SOPQAM, or ECB Athens should be contacted for approval of any variations in procedure.

General Comments - QAPP

1. Table 8-1 on Pages 8-2 through 8-10 presents compounds, quantitation, and detection limits (concentrations), as well as methods for analysis. However, the table is inconsistent in format. The table contains incorrect concentration units for soil/sediment samples. For some portions of the table, the analytical methods and type of sample are not identified, and some information notes have no in-text references. The text should present Table 8-1 in a uniform fashion and create several individual tables, based on the quantitation, detection, practical quantitation, and performance limits. In addition, all footnotes should be numbered consecutively throughout the contents of the table.

2. Section 10.1, Page 10-1, Paragraph 7, states that "Duplicates for soil samples are collected, homogenized, and split... The duplicate for water samples should be collected simultaneously.... The same samples used for field duplicates shall be split by the laboratory." However, according to sampling definitions by EPA SOPQAM, duplicate samples means two or more samples collected simultaneously into separate containers from the same source under identical conditions. Split samples are defined as samples which are portioned into two or more containers from a single sample container or sample mixing container. Therefore, the statements in Section 10.1 about the duplicates and split appear to be confusing. By definition, duplicates and splits are different, and the text should distinguish between the two items. Thus, if the samples are split, the text should address them separately.

Specific Comments - Work Plan

1. Section 2.1.1, Page 2-2, Paragraph 3, Sentence 3.
The text states that Hadnot Point comprises the most concentrated area of development. The text later identifies structures in the Hadnot Point area. However, the text does not give a direction or distance from the investigated area. The text should clearly define the direction and distances from the investigated area to populated areas, as well as provide a map to clearly define the area of investigation.

2. Section 2.1.2, Page 2-3.
The text states that construction of MCB Camp Lejeune began in 1941 with the objective of developing the world's most complete amphibious training base. The text follows with a description of the locale, instead of describing the history of Site 63 or explaining how the site became a dump. This section lacks sufficient information to identify past MCB practices at the site or define the type of history that is being presented. Thus, the section should be revised to present past site-specific MCB or the title should be changed.

3. Section 2.1.11, Page 2-9, Paragraph 7, Sentence 1.
The text states that there are no supply wells located within a one-half mile radius of Site 63. Camp Lejeune water is supplied entirely from groundwater, yet the text only identifies water supply wells within a half-mile of the investigated area. If there are water supply wells within three miles of the site, the text should identify these wells or explain why these water supply wells will not be affected from any contamination that may be identified at Site 63.

4. Section 2.2.3, Page 2-10, Paragraph 7, Sentence 3.
The text states that the type of materials disposed are described only as bivouac waste, a term which is not defined in the text. The text should be revised to include a definition of bivouac waste.

5. Section 2.2.5.1, Page 2-11, Paragraph 4.
The text describes six previous soil borings drilled on site, in order to determine soil contamination. However, the text neither adequately describes the locations of these borings nor mentions their depiction on Figure 4-1. For the purpose of clarity, the text should refer to Figure 4-1 when describing these soil borings.

Specific Comments-FSAP

1. Section 4, Figure 4-2.
Figure 4-2 presents the locations of proposed monitoring wells for the investigation at Verona Loop Dump. However, there are no identification numbers given to the seven proposed monitoring wells on the map. All seven proposed monitoring wells should be given identification numbers. In addition, the well at the upper left corner (northwest of the unpaved road) should be identified as a background well.

2. Section 4, Figure 4-3.
Figure 4-3 depicts the location of sample stations for the investigation of Verona Loop Dump. However, there are no identification numbers given to seven proposed surface water/sediment sample stations on the map. All seven proposed surface water/sediment sample stations should be given identification numbers.

3. Section 6.11.4, Page 6-10, Paragraph 5, Sentence 2.
The text apparently intends to list corrosivity, reactivity, and ignitability as parenthetic matter. However, the right parenthesis is missing. The text should be revised accordingly.

4. Section 7, Table 7-1.
The second row of the Investigation column is entitled "Groundwater - One round of sampling", but this label is unclear. The text should clarify the meaning of "One Round of Sampling", especially since the other investigations on this table (surface water and soil) are listed differently.

   For the row, "Groundwater - One round of sampling", under the column of Baseline No. of Samples, the text lists 3 existing shallow monitoring wells and 7 new shallow temporary wells. However, the text does not indicate the number of samples that will be collected. The text should indicate the number of samples collected from each well.

5. Section 7, Table 7-1.
For the surface water and sediment investigation, under the column of Baseline No. of Samples, the text states 7 stations/1 sample per station. According to the location of sampling (Figure 4-3), there are two existing and seven proposed surface water/sediment sample stations in the area of investigations. The text should indicate that these 7 stations are proposed sample stations in order to avoid misunderstandings.

6. Appendix B, Section 5.3, Page 7, Paragraphs 1 through 3.
The text states that the pumped volume may be specified prior to sampling. The third paragraph states that the well is considered properly purged when the values of specific conductance, pH, and water temperature have stabilized.

However, according to EPA SOPQAM (EPA, 1991), the method of purging is to pump the well until three to five times the volume of standing water in the well has been removed and until the specific conductance, pH, and temperature of the groundwater stabilizes. The text should indicate the pumped volume recommended by the EPA SOPQAM.

Specific Comments - QAPP

1. Section 6, Page 6-4, Paragraph 1.
Appendix O of the FSAP lists all required information for sample labels. However, Section 6.2 of the QAPP omitted two required elements for sample labels: preservation and analysis to be performed. These two items should be added to the list of sample label information required in the QAPP.

2. Section 8, Pages 8-2 through 8-5, Table 8-1.
The text in Table 8-1 shows a concentration unit µg/L for soil/sediment samples (see Pages 8-2 through 8-5). However, this is incorrect for the soil/sediment samples; the concentration unit should be µg/kg.

   The text lists two notes below the table. However, the footnote numbers are not cited in the table. The table should be revised accordingly.

   The fourth column lists the CLP/SOW method but the numbers are not given. The text should be revised to provide the method numbers.

3. Section 8, Pages 8-6 and 8-7, Table 8-1.
The tables on Pages 8-6 and 8-7 are a part of Table 8-1 (continued). However, their formats are inconsistent. The continued table should follow the same format of the previous one.

   A total of four notes are listed below the table, but only two of them are referenced on the table. In order to be more effective, all notes should contain in-text citations.

   In addition, column labels are inconsistent. For example, the third column does not list the types of sample (water and soil) as previously indicated. The table should include two separate columns: one for water, and the other for soil and detection limits. The type of sample (water and soil) should also be indicated.

4. Section 8, Page 8-9, Table 8-1.
The second portion of Table 8-1 (continued) shows a concentration unit mg/kg for water samples. However, the concentration unit for the water samples should be mg/l. The text should be corrected and revised accordingly.

   Furthermore, this continued table should follow the same format of the previous ones. Since the concentration unit for TCLP Metals is different from the previous concentration unit, separate tables should be created.

   This comment also applies to the next portion (Table 8-1) on Page 8-10.

5. Section 10.1, Page 10-1, Paragraph 4.
The text states that a corresponding trip blank will be prepared for each set of samples to be analyzed for volatile organic compounds. According to the definition of trip blanks in the EPA SOPQAM, the trip blanks are prepared prior to the sampling event. However, this description is not mentioned in the text. In the beginning of this paragraph, the text should state that trip blanks are prepared prior to the sampling event.

6. Section 10.1, Page 10-1, Paragraph 7, Sentence 1.
The text states that duplicates for soil samples are collected, homogenized, and split. According to sampling definitions in the EPA SOPQAM, duplicate and split samples are different. However, the text appears to regard the two different types of samples as one, and their meanings are unclear. The should clearly define duplicates and splits in this investigation. If the split samples are applicable to the investigation, the text should address them separately and be revised accordingly.

See General Comment No. 2 in the QAPP.