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State of North Carolina
Department of Environment, Health, and Natural Resources
Division of Solid Waste Management
P.O. Box 27687 · Raleigh, North Carolina 27611-7687

James G. Martin, Governor
William W. Cobey, Jr., Secretary

William L. Meyer
Director

December 1, 1992

Return Receipt Requested

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1822
Attention: MCB Camp Lejeune, RPM
Ms. Byron Brant, P.E.
Norfolk, Virginia 23511-6287

Commanding General
Attention: AC/S, Environmental Management
Building 1, Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

RE: Draft RI/FS Work Plan for Operable Unit #5, MCB Camp Lejeune
Jacksonville, Onslow County, North Carolina

Dear Mr. Brant:

Attached please find comments provided by the Superfund Section for the referenced document. Specific comments pertaining to site 74 have not been included; as I understand planned work at this site may be delayed and altered. I look forward to discussing these comments with you and with other members of the state including our toxicologist in regards to ARAR's. If you have any questions, please contact me at (919) 733-2801.

Very Truly Yours,

E. Peter Burger, P.E.
Superfund Section

cc: Michelle Glenn, US EPA Region IV
George Radford, MCB Camp Lejeune

Attachment

Comments Operable Unit #5

The comments will be provided in the following format:

A. General Comments Operable Unit 5.

B. General Comments pertaining to Site 2.

C. Specific Comments pertaining to Site 2.

D. Comments on Fields Sampling and Analysis Plan.

E. Comments on Health and Safety Plan.

A. General Comments Operable Unit #5

None

B. General Comments, Site 2

Please define, for the reader, the compounds to be analyzed for under TAL analytes and TCL organics, pesticides and herbicides.

Please indicate approximate sequence of RI/FS Tasks to the extent possible.

C. Specific Comments, Site 2

Figure 2-4 correct scale 120' should be 160'.

Section 2.2 5.1 Soil Investigation

Provide full name of common chemical abbreviations to avoid confusion on Tables and Figures when used.

Table 2-1

NC Soil Standards as well as sediment standards are based on risk assessment and levels that are protective of the surface and groundwater.

In the future could Baker supply one extra loose copy of Figures and Tables.

Table 2-4

Please make the following corrections to NC DEHNR MCLs and Federal MCLs. All concentrations in ug/l.

Arsenic	Fed 50	NC 50
Barium	Fed 2000, this is not proposed	
Iron		NC 300
Lead	Fed 15	NC 50
Zinc		NC 5000

Section 2.3.6

Please correct NCWQS of 30 ug/l. The actual concentration NC MCL is 300 ug/l.

Section 3.2.2, 5th Paragraph

Include the area around building 712 as an integral study area with the mixing pad areas as was done in the first paragraph of this section. The reader gets the feeling the area around building 712 is left out of any further investigation.

Section 3.1.2, Transport Pathways

Please incorporate the "area around building 712" with the "mixing pad areas" in the first bullet of this section.

Table 2-4

Total/Dissolved Metal Concentrations are confusing in that in some cases the "Dissolved Concentration exceeds the Total Concentration. Please review and check this.

Section 2.2.4 Site Geology and Hydrogeology

This section does not provide sufficient background on hydrogeology, other than approximate direction of groundwater flow and hydraulic gradient. Please provide supporting data and more specific information, if available.

Section 3.1.4.1 Chemical-Specific ARAR

In regards to soil and sediments, the state of North Carolina will establish standards for soil and sediment based on a "one in a million" health risk for substances in the soil and sediment. In addition, levels will be established for the concentration of substances in soil and sediment that are protective of the groundwater and surface water.

Section 3.1.4.2 Location-Specific ARARs.

Please include all applicable regulations as promulgated in the North Carolina Administrative Code, Title 15, pertaining to Coastal Areas and Wetlands as ARAR's.

As a possible ARAR please include, in-state and out-of-state regulations for disposal of contaminated soil.

Table 3-2, pages 3-6

Why indicate in the "Note" section that "No surface water samples were collected at site 74", this is confusing on a table referring to Site 2.

Section 3.1.6.2 Groundwater

This section does not indicate that "inorganics" have been detected. Inorganics have been detected.

Section 3.1.6 Database Limitation

Additional Data Limitations include data necessary to determine site specific hydraulic gradients and subsurface soil geology.

Section 4.0 RI/FS Objectives Site 2

Section 4.0 opening sentence does not read properly. Please review and correct.

Table 4-1

Please indicate that "Building 712 Area" includes the "Mixing and Wash Pad Areas".

Table 4-1, page 4-3

Part 1a. Please add, "and possible releases to soil".

Table 4-1, page 4-4

If the presence of underground storage tanks is suspected please identify this possibility in "Site History" or "Site Location and Setting". Perhaps further investigation of UST should be considered in section 3.1.6, Present Database Limitations.

Section 5.0 RI/FS Tasks Site 2

Section 5.3.1.2

Please indicate datum to be used, USGS, MSL, or Assumed.

Section 5.3.1.2 Geophysical Investigation

Soil samples from at least one boring in each study area should be analyzed for full organic and inorganic parameters.

Section 5.3.1.3.1

It might be prudent, in addition to a surface sample, to obtain a soil sample at 6" to 18" in order to assure sampling is not obtained from the immediate surface when some resurfacing/grading activities may have occurred. (This is food for thought and not a review comment or recommendation.)

Section 5.3.1.4 Groundwater Investigation

This section calls for sampling only 2 existing wells for full TCL Organics/TAL Inorganics. The presence of these constituents will lead to analysis of all wells for these constituents in the study area. Would it be advisable to analyze all wells at the same time?

D. Sampling and Analysis Plan

Specific Section 3.1.1, Site 2, Geophysical Investigation

Is there any historical information to suggest an UST at the storage area?

Specific Table 3-1, Site 2

Refer to mixing pad areas in the plural, there are two areas.

Section 3.1.2.1, Site 2

As noted in the Work Plan, sampling below the surface of the north lawn area, 6" - 18" may be useful in evaluating the surficial soils just in case any surficial grading may have occurred.

Section 3.1.2.2 Site 2

Seven soil borings are reported in the text and nine borings are proposed in Work Plan and Figures. Please correct contradiction.

Section 3.1.4.1

Why not analyze all existing monitoring wells for TCL organics and TAL inorganics.

Figure 3-2, Site 2

Please correct scale and check all Figures for proper scale.

Section 5.2 Monitoring Well Installation

The NC DEHNR will accept monitoring well construction materials that are approved by US EPA Region IV.

If PVC is to be utilized, the NC DEHNR request that the Manufacturer's Specifications and assurances regarding leaching/sorption and masking, be made part of the Ground Water Section of this Work Plan and the RI. The discussion for utilizing PVC only considers sorption and leaching for a few organics. Please provide information on all organics and inorganics that may be present.

Section 5.10.3.1 Drill Cuttings

The North Carolina Superfund Section requires that drill cuttings and sample material, not retained for analysis, will be properly containerized, labeled, and stored. The disposition of the containerized soil will be determined after a TCL test is performed. Drill

cuttings from background wells may be disposed of without special handling. The use of a HNU or OVA is not acceptable for classifying waste as hazardous or not.

Section 5.10.6 Container Storage

State of North Carolina, Hazardous Waste Regulations must be considered in this section. Please discuss sampling and classification of contaminated material, estimated volume, and estimated duration of storage.

E. Comments on Health and Safety Plan, Site 2

Page 5: The wording of the information in the eight bullet needs to be changed for obvious reasons.

Page 27: It is unrealistic to assume PID/FID readings will remain in such a narrow range as 5 to 7 ppm. Chemicals cannot be identified with the proposed instrumentation, therefore, a concentration expressed as a volume to volume ratio such as ppm is meaningless. The recommended tern is "meter units" (mu). US EPA recommends the following levels of protection be used to protect against airborne exposure to unknowns:

Limits	**Action Recommended**
Organics vapors, as measured by OVA or HUN, at background	Level D
Background to 5 mu above background (if the requirements for using air purifying respirators can be met)	Level C

Limits	**Action Recommended**
5 mu above background to 500 mu above background	Level B
500 mu above background and higher	Level A

Page 28: It is stated in section 5.4 that Drager Tubes are required when air concentrations reach a certain level according to an HNU/OVA. What is that level? Due to interferences, it is not possible to use Drager tubes to identify many airborne contaminants. Detector tubes take time to use, and they integrate the sample over the time the air was actually pulled through the tube, so peak concentrations will be masked. For these reasons, the use of detector tubes on this site is not recommended.

Page 30: Why is air monitoring with a PID/FID done periodically while drum sampling, where contact with a pure product is likely, and continuously during monitoring wells installation and soil boring sampling, where contact with pure products are less likely?

Page 32: It is unclear to the reader why a hard hat is part of every listed level of protection except D+.

Page 34: The statement that cartridge changeover will occur when PID/FID concentrations are greater that or equal to 100 ppm is inconsistent with the guidance listed on page 27.

Page 41: The names of the roads should be marked on the map.

Page 44: Do field personnel know how to treat for shock?

Page 45: It is unclear to the reader what information is presented in the last paragraph of the section title "decontamination".