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CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Peter Burger
North Carolina Department of Environment,
Health, and Natural Resources
Post Office Box 27687
401 Oberlin Road
Raleigh, North Carolina 27611

Re: MCB Camp Lejeune; Responses to North Carolina DEHNR Comments on the Draft RI/FS Project Plans for Operable Unit 1, Sites 21, 24, and 78

Dear Mr. Burger:

We have received the North Carolina Department of Environment, Health, and Natural Resources comments (letter dated November 18, 1992) to the subject draft documents. The Navy/Marine Corps responses to these comments are enclosed.

Any questions concerning these responses should be directed to Ms. Linda Berry, P.E., at (804) 445-8637.

Sincerely,

L. A. BOUCHER, P.E.
Head
Installation Restoration Section
(South)
Environmental Programs Branch
Environmental Quality Division
By direction of the Commander

Encl:
Response to NC DEHNR Comments on Draft RI/FS Project Plans for Operable Unit #1 via letter dated 11/17/92

Copy to:
EPA Region IV (Ms. Michelle Glenn)
MCB Camp Lejeune (Mr. George Radford)
Blind copy to:
182
1823 (LGB) (2 copies w/encls)
1812
18S, LGBDoc: RIFNC

Response to Comments Submitted by the North Carolina DEHNR on the Draft RI/FS Work Plan, Sampling and Analysis Plan, and Health and Safety Plan for Operable Unit No. 1 MCB Camp Lejeune, North Carolina Comment Letter Dated 11/24/92

Response to General Comments - Operable Unit #1

The water supply well number has been included on appropriate figures.

With respect to 14-day quick turnaround, the purpose is to determine whether additional samples are required to delineate an area of concern. With respect to the comment, the answer is no. Regular (28 to 40 days) laboratory turnaround is recommended for those sampling locations that will not have an impact on extending the study area.

With respect to the reference to poor drainage areas, wetland maps have been obtained and wetlands have been identified only near Cogdells Creek.

Figure 6-1 has been revised to show the relationship between all parties.

Response to General Comments - Site 78

The Work Plan has been revised to delete statements which suggest that there are separate shallow, intermediate, and deep aquifers. Based on the site geology/hydrogeology, there is only one aquifer with the possibility that flow and characteristics (e.g., hydraulic conductivity, gradients, etc.) differ at various depths. Although it is possible that contaminants may migrate downward along water supply well boreholes, contaminants will also migrate downward under natural conditions since there are no continuous, impermeable geologic formations across the HPIA and much of Camp Lejeune.

With respect to closure of the supply wells, this will be considered in the feasibility study.

Please note that recent sampling of water supply wells have indicated only low levels of contamination in the supply wells. This decrease may be associated with the shut down of these wells several years ago. After the wells were shut down, contaminant levels have significantly decreased. The operation (and pumping) of these wells may have resulted in downward migration of contaminants from the shallow groundwater zone to deeper groundwater zones.

Response to Specific Comments - Site 78

Section 5.3.1.3.

The correction (TAL inorganics) in Section 5.3.1.3 has been made.

Section 2.0

A sentence has been added to Section 2.2.5.2 (under Records Search) referencing the ESE report which details the records search.

A map or figure detailing the soil gas results can be found in the document Final Remedial Investigation Report for the Hadnot Point Industrial Area Operable Unit, Shallow Soils and Castle Hayne Aquifer (ESE, 1991). The North Carolina DEHNR has a copy of this document. The Work Plan summarizes these results. Figures were not included to reduce bulk, especially since various background investigative reports are available to the State.

With respect to groundwater analytical results, all groundwater data from the various rounds of sampling are included in the appendices. Summary tables and isopleth maps, taken from the Final Interim Remedial Investigation of the Shallow Aquifer at the Hadnot Point Industrial Area (Baker, 1992), have been incorporated in an appendix to the Work Plan. The North Carolina DEHNR should also have a copy of this report for additional information.

Figures showing previous soil investigations can be found in the ESE document referenced above. Baker has summarized these results in Section 2.2. Some of the figures in the Work Plan identify those borings where soil contamination was previously detected (see Section 5.0).

Section 3.0 - RI/FS Evaluation

TSCA regulations have been included as ARARs per the recommendation. When the State develops soil standards for PCBs (for protection of groundwater), please inform LANTDIV of the criteria.

The Work Plan now includes Title 15 of the North Carolina Administrative Code as an ARAR.

RCRA Land Disposal Restrictions (40 CFR 268) have been included as a potential ARAR.

Section 4.0 - RI/FS Objectives

In order to meet objectives 1a and 1f, full TCL organics and TAL inorganics would not be necessary since these tanks were used to store either petroleum products, pure solvents, or waste solvents. However, a scope change has been made: soil samples will be analyzed for TCL volatile organics since it is possible that TCE and other solvents will be present in the

soil.

Tank testing may be performed, but not as part of this RI/FS. This would be conducted under the UST program. At present, it is believed that these tanks are not in use and are either filled with sand, or empty.

There are no known drains or sumps that were specifically designed to handle wastes. The sanitary sewers at the HPIA are shallow and the buildings do not have basements. Dry wells or sumps are not present in these buildings.

Section 5.0 - RI/FS Study Tasks

Water supply wells have been highlighted on the appropriate figures.

Aquifer tests on the shallow aquifer are being conducted under another contract task order (associated with the interim remedial design). Aquifer tests on the deep aquifer will probably not be required since adequate hydrogeologic information already exists (USGS report: Assessment of Hydrologic and Hydrogeologic Data at Camp Lejeune Marine Corps Base). This report contains information on the transmissivity, velocity, and other factors (cone of influence) that are derived by pump testing. The information in the report was obtained from existing potable water supply wells. Data from supply wells in the HPIA are included in this report.

Specific Comments - Site 21

Well 21GW1 has been added. Soil sampling locations from previous investigations are unknown. There are no supply wells in the immediate area of this site.

Section 4 - RI/FS Objectives

"Delineation" would actually be part of the objective, which it is (the objective is to determine the extent of contamination, which is the same as saying delineate contamination). The criteria for meeting the objective is to determine contaminant levels in soil. You cannot delineate soil contamination without determining soil contaminant levels.

There is a cross-over of objectives. For soil, we want to determine whether soil contaminants are migrating/leaching into groundwater in order to determine whether soil needs to be addressed in the FS. We have added another objective to the groundwater: Determine groundwater quality at the site. The criterion for meeting this objective is: Characterize groundwater quality at the site. The study would be the groundwater investigation.

Chemical-specific cleanup goals for soil will be determined based on risk-based calculations that set concentration limits using carcinogenic and/or noncarcinogenic toxicity values under specific exposure scenarios.

Calculating exposure levels and deriving cleanup goals requires information on many parameters. Various standard values, which are needed as input parameters, will be used. Acceptable intake levels, which are used to estimate permissible contaminant cleanup levels, will be derived from the exposure estimates. These levels will be based on 10-4 for carcinogenic contaminants or a Hazard Index (HI) of 1.0. The chronic daily intake (CDI) to these levels (i.e., 10-4 or 1.0), the cleanup goal will be obtained by back calculating the corresponding contaminant level in the environment.

The methods and sources used to determine cleanup goals with respect to groundwater include:

- Environmental Protection Agency (EPA). 1991. Risk Assessment Guidance for Superfund: Volume I Human Health Evaluation Manual (Part B, Development of Risk Based Preliminary Remediation Goals). Office of Emergency and Remedial Response. Publication 9285.7-01B.

- Lyman, W.J., Reehl, W.F., and Rosenblah, D.H., 1982. Handbook of Chemical Property Estimation Methods. New York.

Section 5 - RI/FS Study Tasks

The Work Plan has been revised to ensure the reviewer that activities have been conducted outside of the fenced storage area.

The North Carolina DEHNR has been included as a party to study-related scope changes.

With respect to sediment/surface water analysis, a limited number of samples will be analyzed for full TCL organics/TAL inorganics. The majority of samples will be analyzed for TCL pesticides and PCBs. This correction has been made.

Figure 5-10 has been revised to indicate the full analysis (i.e., TCL organics/TAL inorganics).

Specific Comments - Site 24

The typo has been corrected.

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

November 24, 1992

Return Receipt Requested

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1822
Attention: MCB Camp Lejeune, RPM
Ms. Linda Berry
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 #1, MCB Camp Lejeune
Jacksonville. Onslow County, North Carolina

Dear Ms. Berry:

Attached please find comments provided by the Superfund Section for the referenced document. 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

E. Peter Burger, P.E.
Superfund Section

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

Attachment

Comments Operable Unit #1

The comments will be provided in the following format:

A. General Comments Operable Unit #1.

B. General Comments pertaining to Site 78.
   a. Specific comments.

C. General Comments pertaining to Site 24.
   a. Specific comments.

D. General Comments pertaining to Site 21
   a. Specific comments.

E. Comments on Fields Sampling and Analysis Plan.

F. Comments on Health and Safety Plan.

A. General Comments Operable Unit #1

Please provide water supply well ID# and location on all Figures when applicable.

In a number of cases where 14 day quick turnaround samples are required, is the 28-40 day sample analysis be eliminated if quick turnaround does not indicate degradation of soils or groundwater?

Section 2.1.3

This section refers to areas of poor drainage as not being wetland areas. Any areas of work that are suspected of being wetlands should be investigated by a professional in order to properly identify them. Wetland areas, of course, are regulated and will require special consideration prior to work within them. Location specific ARARs may also apply.

Table 6-2

Please provide an additional flow chart that shows structure between all parties of the FFA agreement and Baker Engineering.

B. General Comments, Site 78

Methods should be undertaken to establish if the supply wells in the deep aquifer have been contaminated by contaminants in the shallow aquifer that have been transported along the outside of the well casing.

a. Specific Comments, Site 78

Section 5.3.1.3 Groundwater Sampling and Analysis

Please correct 1st paragraph. 2nd sentence to read "TAL inorganics", I believe this is what was intended.

Section 2.0 Back Ground and Setting.

Records Search

Provide reference for Records Search (ESE Characterization Step, May 1988)

Soil Gas Survey

Provide Figure or Map of HPIA area showing location of soil gas vapor monitoring and contaminant level. Potential source areas of contaminants should also be provided on this Figure.

Monitoring Well Installation and Sampling

Provide figure showing location of Monitoring Wells, Water Supply Wells, Contaminated Plume Isopleths and tables summarizing monitoring well and water supply well sampling events, i.e. well ID, Sampling date, Contaminant levels, and analysis performed.

Shallow Soil Sample Results

Provide Figure showing shallow soil boring locations and provide table indicating date of sample, depth, contaminants along with analysis performed.

Section 3.0 RI/FS Evaluation

Section 3.1.4.1 - Chemical Specific ARARs

Please include TOSCA Standards as a possible ARAR for areas where PCB contaminated soils may be encountered. Soils and sediments do not have levels established by the state of North Carolina. Contaminant levels will be established to assure that groundwater and surface water will not be degraded.

Section 3.1.4.2 - Location Specific ARARs

All applicable regulations as promulgated in the North Carolina Administrative Code, Title 15, pertaining to Coastal Areas and Wetlands should be included as ARARs.

As a possible ARAR, please consider regulations for disposal of contaminated soils at NC Landfills, hazardous waste landfills or out of state landfills.

These comments apply to all sites in Operable Unit #1.

Section 4.0 RI/FS Objectives

Section 1A, Table 4-1

Should criteria for meeting objective (1a) and (1f) include characterization for TCL organics and TAL inorganics.

Would the following objectives not listed be of benefit in the RI/FS phase.

- UST testing to determine leaks in tank/piping.
- Re-evaluation of building records and re-inspection of buildings and site area in suspected source areas of contaminated shallow aquifer (if this work hasn't been verified), to rule out drains below sewer inverts connected to drywell, cracked or broken drains, etc.

Section 3.1.6.5 Aquatic Life

Correct sentence to read "..should be evaluated first"....

Section 5.0 RI/FS Study Tasks

Provide figure showing location and ID# of active and inactive Water Supply Wells.

Section 5.3.1.4

Please indicate which aquifer pump tests will be performed on. I believe this refers to the intermediate/deep aquifer, please clarify and assure that this task is reflected in the RI/FS Objectives.

Question 1.) If this work pertains to the intermediate/deep aquifer, is it necessary prior to establishing if treatment of the deep aquifer is required?

Question 2.) If this work pertains to the shallow aquifer, is it a duplication of work being performed in the Interim Remedial Design phase for the shallow aquifer at HPIA.

C. General Comments Site 21

None

a. Specific Comments, Site 21

Section 2.3.5.2

Please locate soil borings and monitoring well 21GW1 on Figure 2-4. Please show location of water supply wells or other wells if in the area depicted by Figure 2-4.

Section 3.0 Evaluation of Existing Information

Section 3.2.4.1 Chemical-Specific ARARs

See Site 78.

Section 3.2.4.2

See Site 78.

Section 4.0 RI/FS Objectives

Table 4-2

Concerning RI/FS Criteria (1a) and (1b), please include contamination delineation along with contaminant levels.

Table 4-2

Should (1d) be included in Section 2. Groundwater?

Table 4-2

Concerning (3c) Criteria, please indicate how "risk based action levels" will be established and provide additional information on EPA Region IV TBCs for sediment. The state of North Carolina will require contaminant levels for soil and sediment that is protective of surface and groundwaters.

Section 5.0 RI/FS Study Tasks

Section 5.3.2.2

Soils Investigation

Historical information indicates soil contamination outside of fenced in area. Please indicate this as one of the areas to be investigated, in opening summary.

Former Transformer Oil Disposal Pit

Please include NC DEHNR in consultation regarding further investigation, 4th paragraph.

Section 5.3.2.4

Former Pesticide Mixing Area.
3rd paragraph, should TCL Organics be replaced by TCL Pesticides/Herbicides.

Figure 5-10

Please elaborate on Chemical Analysis, i.e. TCL Organics/TAL inorganics.

D. General Comments, Site 24

a. Specific Comments, Site 24

Section 3.18

Correct typo "approximately"

Section 3.3.4.1 Chemical Specific ARARs.

See Site 78.

Section 3.3.4.2 Location Specific ARARs.

See Site 78.

Section 4.0 RI/FS Study Objectives

Table 4.3

Section 2. Groundwater

Groundwater contamination at this site has not been determined. The initial "Objective" should be to assess contamination of the groundwater.

Section 3c RIFS Objective

Change to read, "Determine the extent and nature of sediment contamination..."

Section 3c, Criteria for Meeting Objectives

Please add, "NC standards that are protective of groundwater and surface water.

Section 5.3.3.2

Borrow and Debris Disposal Area. Please include NC DEHNR in discussions concerning field investigation.

Page 5.40 Typo, Section Monitoring Well Construction.
Change area to are.

Section 5.3.3.3 Groundwater Investigations/Monitoring Wells/Ground Water Sampling

Please provide reasoning for location and number of additional wells. One well at the source of the sludge disposal area and a background well would seem to be sufficient based on previous information and existing wells at this site.

E. Field Sampling and Analysis Plant

General

Please incorporate comments from Work Plan in Sampling and Analysis Plan where applicable. (i.e. requested figures, or for instance, locating water supply wells on figures, etc.).

Specific

Section 2.2, pg. 2-21

Provide criteria to meet each Data Level.

Section 3.1.1 Surveying

Please indicate datum to be used.

Section 3.1.3.1 UST Locations

Page 3-14, please indicate that soil samples will be taken at the water table in addition to a surface sample and a sample at 5 foot intervals. Figures 3-1, 3-2, and 3-3 call for "Continuous Sampling to 10 feet". Please eliminate any contradictions.

Section 3.1.3.1

Page 3-14, 3rd paragraph. Please check proposed analysis. Do you intend to use analysis for TCL volatiles or TCL Organics?

Figure 3-7

Please indicate location and ID# of Water Supply Wells.

Section 3-2, Site 21 Transformer Storage Lot

Please indicate the possible contaminated area outside the fenced area as a "area of concern". (This area is discussed in Section 2.3.5.2 RI/FS Work Plan).

Section 3.3.2 Surveying

Please provide survey data on geographical features such as drainage ditches and swales at this site.

Section 5.1.3 Test Pits

6 Bullet, 2nd sentence; typo, change form to from. Care must be exercised in obtaining samples from bucket without possibility of cross contamination. Please emphasize this point.

Section 5.2 Monitoring Well Installation

Please provide monitoring well schematic. Figure 5.1 is missing.

Page 5-7 Bullet 2, Please state that the installation of "Flush" manhole cover must provide positive drainage away from cover.

Section 5.9.3.1

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 TCLP 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 5.9.6 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.

F. Comments, Health and Safety Plan

Page 34: It is unrealistic to assume PID/FID reading will remain in such a narrow range as 5 to 7 ppm.

Page 34: Due to interferences, it is not possible to use Drager tubes to identify many airborne contaminants. Detector tubes take time to use and integrate the sample over the time the air was actually pulled through the tube, so peak concentration will be masked. For these reasons, the use of detector tubes on this site is not recommended.

Page 35: It is unclear to the reader what information is presented in the last paragraph.

Page 40: It is unclear to the reader why a hard hat is part of every listed level of protection except D+.

Page 42: The statement that cartridge changeover will occur when PID/FID concentrations are greater than or equal to 100 ppm is inconsistent with the guidance listed on page 34.

Page 48 and 49: The names of the roads should be marked on the map.

Page 52: Do field personnel know how to treat for shock?

Page 53: It is unclear to the reader what information is presented in the last paragraph of the section titled "decontamination".

CERTIFIED

P 681 351 927

MAIL

DEPARTMENT OF THE NAVY

COMMANDER, ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

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Penalty for Private Use, $300

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