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April 22, 1994

**Commander
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street (Building N-26)
Norfolk, Virginia 23511-2699**

**Attn: Ms. Katherine Landman, P.E.
Code 1823**

**Re: Contract N62470-89-D-4814
Navy CLEAN, District III
CTO-0193, SI Project Plans
MCB, Camp Lejeune, North Carolina**

Dear Ms. Landman:

Enclosed are three copies of the Draft Final Site Inspection Project Plans for Sites A, 12, 68, 75, 76, 84, and 85, MCB, Camp Lejeune, North Carolina. Per our discussion, only replacement pages and figures have been provided. Copies of the replacement pages and figures have been forwarded to EPA Region IV, the North Carolina DEHNR, the Activity, and to the members of the TRC in accordance with the distribution identified in the scope of work.

Also attached are responses to comments which were submitted by Mr. Patrick Watters (DEHNR) and Ms. Mary Ann Simmons (NEHC). Responses to Mr. Watter's comments are included on the enclosed disc under the file name "C193RESP." Comments submitted by the Activity (Mr. Walt Haven) and LANTDIV (Mr. Mullen and Ms. Landman) have been incorporated, when appropriate, into the Draft Final Project Plans. Comments related to making changes to certain figures that were extracted from previous reports (e.g., geologic cross sections developed by ESE, Inc.) were not revised due to costs and the relative importance of the figures. Most of the other comments were minor in nature and therefore, no formal response has been prepared. Comments submitted by NEHC have been reviewed. Some changes to the Health and Safety Plan were made based on these comments. However, many of the comments requested information which we feel would be of no benefit to the user of the HASP. These comments appeared to be related to clarifying issues with NEHC. Therefore, as we discussed, not every comment resulted in changes to the HASP.

With respect to the comments received, the following changes have been made to the SI scope of work:

Site A

- An optional well will be installed in the event that subsurface debris or waste is encountered during the test pit investigation.



A Total Quality Corporation

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- Two additional test pits will be excavated as close as possible to the bank of the New River. These test pits were added following an internal project review meeting. The purpose of these test pits will be to investigate subsurface conditions near the bank.
- Hand excavations have been deleted due to potential health and safety concerns (i.e., hospital wastes, etc.). In place of hand excavations, two hand augers will be obtained along the side of the bank.

Site 68

- Monitoring well cluster 68GW6 was moved further north per Mr. Mullen's recommendation.

Site 75

- The number of soil borings (16 borings on 100 foot centers) to be drilled over the study area has been identified in the Project Plans. These borings will be considered as "optional" borings, in the event that geophysical techniques are not successful in identifying the drum disposal area.
- Samples at Site 75 (and Site 76) will not be analyzed for the full scan of CSM since only tear gas is reported to have been buried at these sites. The compounds acetophenone, hydroxyacetophenone, and chloropicrin will be analyzed for; these compounds are constituents of tear gas/riot gas.
- The investigations at Site 75 and 76 will not require the assistance of the U.S. Army TEU. I spoke to Mr. Goforth who indicated that tear gas is not classified as a chemical surety agent.

Site 76

- The size of the study area has been revised (smaller) based on review of historical aerial photographs. Two areas of concern were noted on the photographs.
- The number of soil borings (5 borings at each of the two areas of concern) to be drilled over the study area has been identified in the Project Plans. These borings will be considered as "optional" borings, in the event that geophysical techniques are not successful in identifying the drum disposal area.

Site 85

- No changes were required based on evaluation of the comments.

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Site 84

- Samples collected from two soil borings will be analyzed for full TCL organics and TAL inorganics in order to determine whether other disposal activities occurred at the area of concern.
- One surface water and sediment sample from the pond will be analyzed for full TCL organics and TAL inorganics.
- One groundwater sample will be analyzed for full TCL organics and TAL inorganics.

In accordance with the FFA schedule, comments on the Draft Final SI Plans are due within 30 days (i.e., May 25, 1994).

If you have any questions, please do not hesitate to contact me at (412) 269-2016. I will be at LANTDIV on Tuesday, April 26 and Thursday, April 28. I will stop by your office to discuss this CTO as well as other projects at MCB Camp Lejeune.

Sincerely,

BAKER ENVIRONMENTAL, INC.



Raymond P. Watras
Project Manager

RPW/jc

Enclosure

cc: Ms. Lee Anne Rapp (w/o enclosure)
Ms. Beth Hacic (w/o enclosure)
Mr. Neal Paul (w/enclosure)

**Response to Comments Submitted by the
North Carolina DEHNR on the Draft Site Inspection Project Plans
Letter Dated March 17, 1994**

Response to Work Plan Comments

1. The capacity of the treatment plant has been changed to "approximately 15" million gallons per day.
2. The size of the sites on Table 2-2 has been revised and concur with the appropriate figures. The title of the column has been changed to "Study Area" since the actual site boundary is unknown in many cases.
3. In the event that no subsurface anomalies are detected via the geophysical investigation, 16 borings will be drilled to assess surface and subsurface soil conditions. This number of sampling locations is sufficient to assess the study area, based on the reported size of the burial pit (90 feet by 70 feet), and a 50 percent probability of encountering the disposal area. A 50 percent probability was determined to be appropriate considering that a geophysical investigation will be initially conducted to determine the location of buried drums. If buried drums are not detected via the geophysical investigation, it is unlikely that the reported disposal of drums occurred at the site. Therefore, a sampling grid based on a probability of 50 percent was determined to be sufficient.
4. The reason that the deeper aquifer is being investigated as part of the SI is that a supply well in the area (Supply Well RR-227) was shut down due to TCE contamination. Therefore, deep monitoring wells are being installed to evaluate whether this TCE contamination is emanating from Site 68. For purposes of an SI, only shallow groundwater is being investigated at the other sites to determine whether the reported disposal activities have resulted in a release to the environment.

Test pitting is the preferred method to investigate subsurface conditions at Site A in order to verify whether anything is actually buried at the site. Based on existing information, chemical surety agents are not believed to have been buried at this location.

The US Army TEU will not be required to assist in the investigations at Sites 75 or 76. These sites reportedly contain drums with "tear gas" and not chemical surety agents. Tear gas is not a surety agent. Note that the analytical program has been revised to analyze for constituents of tear gas as opposed to surety agents.

The depth of the test pits at Site A will be terminated when the water table is encountered, which is expected to be at a depth of approximately 4 to 5 feet below ground surface. Based on past experiences at MCB Camp Lejeune, debris (if present) would be present within 2 feet of the ground surface.

With respect to the different sampling depths, the work plan provides the rationale for each site. For Site 12 (see page 4-5 in the Work Plan), only one subsurface soil sample will be taken just above the water table in order to determine whether the source of the petroleum is related to site activities or whether the petroleum is related to offsite activities. If the petroleum is related to onsite activities, contaminants may be present in subsurface soils. If the petroleum is related to offsite sources (e.g., USTs), petroleum would not be expected to be present in subsurface soils.

For sites 75 and 76, a surface and subsurface soil sample is being collected to assess potential human health exposure (surface soil data) and to assess whether buried drums are leaking (subsurface soil data). Surface soil data is important since both Sites 75 and 76 are in a residential area.

For Sites 84 and 85, surface (0 to 12 inches) and near surface (12 to 24 inches) soil data are being collected to assess whether PCB constituents have been released into the environment. PCBs do not normally migrate in soil due to their nature. The soil data will meet the objective of determining whether a release has occurred, and the degree of soil contamination in the event that a removal action is necessary.

5. Surface water and sediment samples will be collected at Site A.
6. A second onsite monitoring well will be installed as an optional well, pending the results of the test pit investigation. If debris or wastes are observed during the test pit investigation, a second monitoring well will be installed in the area of concern.
7. An ordnance survey has been included in Section 4.3.2 of the Work Plan as opposed to the Sampling and Analysis Plan. The ordnance survey will be conducted by a subcontractor, who will provide site-specific procedures for both surficial clearance as well as borehole clearance.
8. The purpose of the SI at Site 12 is to investigate petroleum product and odors which were encountered during the detonation operations. The site is still used to detonate UXO. Ordnance constituents are undoubtedly present throughout the area.
9. A geophysical investigation may be considered if an RI/FS is warranted at the site. Aerial photographs have been reviewed to determine the boundary of the former disposal area. A UXO survey is not warranted since no ordnance has been reported to have been disposed of at this site.
10. Both monitoring wells will be placed in an area where batteries are present on the surface (and possibly subsurface). The objective of the SI at Site 85 will be to determine whether groundwater has been impacted by past disposal activities. Two monitoring wells, each located at a potential source area, should be sufficient to evaluate potential release of contaminants. If the groundwater is determined to be impacted by the batteries, the Site will likely be investigated under an RI/FS, and additional wells will be warranted.
11. The criteria stated in Section 6 of Appendix J for handling IDW is acceptable. The guidance document referenced in the comment is for the remediation of PCB-contaminated soil or liquids. This document will be applicable in the event that soil or water requires remediation due to PCB contamination.

IDW contaminated with PCBs will be handled as noted in Appendix J. This procedure (see Section 6) is consistent with EPA guidance on the handling of IDW (see Pg. 4 of OSWER Directive 9345.3-03FS for a discussion of PCB wastes).
12. Attachment A of Appendix K has been revised. The Contract Laboratory Protocol holding times have been revised.

**Response to Comments Submitted by Mr. W. P. Thomas/Ms. Mary Ann Simmons of the
Naval Environmental Health Center
Letter Dated March 11, 1994**

1. Many of the comments received on the Draft Final HASP were "new" comments which were not received on the Draft Health and Safety Plan. In addition, some of the comments were the same comments which were received on the Draft HASP. Ms. Barbara Cummings (Baker) discussed these comments with Ms. Mary Ann Simmons. Due to labor costs and the appropriateness of the comments, only those comments which resulted in changes that Baker felt were applicable to the usefulness of the HASP were addressed in the Draft Final HASP. Other comments which appeared to only request additional information to clarify issues were not incorporated into the HASP. However, these comments will be considered when developing future HASPs.

NEHC comments resolved via phone conf.
No written response requested by NEHC.