10/1/03-03819

Baker

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October 1, 2003

Commander
Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Attn: Mr. Daniel Hood
Navy Technical Representative
Code EV23

Re: Final Removal Action Work Plan
Operable Unit No. 19, Site 84
Marine Corps Base, Camp Lejeune, North Carolina

Dear Mr. Hood:

Michael Baker Jr., Inc. (Baker) is pleased to submit one bound and one unbound copy of the Final Site 84 Removal Action Work Plan, Marine Corps Base (MCB), Camp Lejeune, North Carolina. Copies of the Work Plan have also been forwarded to members of the Partnering Team as listed below.

Attached to this letter are the Response to Comments from the Draft Removal Action Work Plan. Copies of the Response to Comments document were forwarded to the members of the Partnering Team, via e-mail on September 26, 2003, as listed below.

Baker appreciates the opportunity to serve LANTDIV on this important project. Should you have any questions regarding this submittal, please contact me at 412-269-2033.

Sincerely,

MICHAEL BAKER JR., INC.

Richard E. Bonelli, P.G.
Activity Manager

KU/pcl
Attachments
cc: Ms. Ollie Glodis, LANTDIV, Code AQ116 (w/o attachments)
Mr. Kirk Stevens, Code EV23 (one copy)
Mr. Rick Raines, MCB, Camp Lejeune (one copy)
Mr. Thomas Burton, MCB Camp Lejeune (letter only)
Ms. Gena Townsend, EPA (one copy)
Mr. Randy McElveen, NC DENR/Superfund (one copy)
Dr. Charlie Stehman, NC DENR/WRO (one copy)
Ms. Diane Rossi, NC DENR/WRO (letter only)
Mr. James Mabry, TMS Envirocon (two copies)
Mr. David Mc Conaughy, NEHC (one copy)
Mr. Ron Kenyon, Shaw (one copy)

Response to Comments
DRAFT Removal Action Work Plan
Operable Unit No. 19
Site 84 – Building 45 Area
Camp Lejeune, North Carolina

The Draft Removal Action Work Plan Report for Site 84 – Building 45 Area was submitted to the Partnering Team for review on August 7, 2003. Written comments were received from USEPA, LANTDIV, TMS Envirocon, NC DENR, and Shaw Environmental. Verbal comments were received from the Base's EQB. Review comments are provided below in **bold** font, followed by the Michael Baker Jr., Inc. responses in *italics.* Please note that the page numbers referenced in the comments refer to the Draft Removal Action Work Plan Report.

USEPA Comments
Received from Gena D. Townsend by email on August 13, 2003

No comments

LANTDIV Comments
Received from Daniel Hood by email on August 15, 2003

No comments

TMS Envirocon Comments
Received from James Mabry by email on August 15, 2003

1. **Section 3.3, paragraph 3, stormwater runon (runoff)**

   Sentence modified as suggested.

2. **Section 3.4, change to - A small tractor mounted drill rig or geoprobe may be required etc.**

   Sentence modified as suggested.

3. **Section 4.3.3, Can we collect one sample per 1000 CY of backfill?**

   See response to Shaw comments #9.

4. **Section 4.3.4, What if the Samples are over 10 ppm?**

   If the soil holding cell is within a known contaminated area (i.e., within the limits of excavation as defined on Figure 2-1), then there really is no need to sample and the contaminated soil/sediment may be placed in the holding cells, as described in Section 3.3, paragraph #3. If the soil holding cell is outside of the known contaminated area, and samples are greater than 10 ppm for PCBs or TPH, then it is assumed that additional delineation and excavation in the area of the holding cell will be conducted, which will be outside of the current scope of work. This will be clarified in the Work Plan.

5. **Section 6.1 Change to - 30-mil PVC liner or 30-mil poly sheeting.**

   Sentence modified as suggested.

6. **Section 7.4, change to - pending quantities of waste will be stored in soil holding cells.**

   Sentence modified as suggested.

7. **Section 8.2, TMS will prepare and submit daily Contractor's Production Reports etc.**

   Section modified as suggested.

NCDENR Comments

Received from Randy McElveen by email on September 15, 2003

1. **The 4th paragraph on page 3-3 states that "wipe samples of drainage structures will be conducted, if required, by the Base Landfill." It seems more appropriate to wipe test drainage structures, if required, in the presence of oversight contractors on site prior to shipping to the landfill.**

Agreed. The intent is to have the Contractor perform the wipe sampling on site prior to shipment to the Base Landfill. The sentence will be edited for clarification.

2. **The last part of the 4th paragraph on page 3-3 states that "drainage pipe that originates at the former building 45 and discharged into the lagoon will be left in place." If the pipe is to be left in place it would be appropriate to sample along the side of the pipe just below the estimated depth of the bottom of the drainage pipe as a part of the delineation sampling to confirm that the soil along the length of the pipe is not contaminated above the appropriate 50 ppm and 10 ppm standards. If sampling at depth along the drainage pipe was completed in previous investigations please document this work in Section 3.5 of this RA/WP and provide the reference to the Superfund Section and the Agency for review.**

Test pit sampling was conducted along the pipe during the 2001 Remedial Investigation. Three test trenches were excavated and two soil samples were collected from each of the three test pits along the drainage pipe leading from Building 45 to the lagoon. The results indicate ***that the soil along the length of the pipe is not contaminated above the site cleanup goals.*** *Aroclor-1260 was the only detected PCB isomer and was detected in all six samples, at concentration ranging from 56 ug/mg to 990 ug/kg. None of these concentrations are greater than the remediation goal of 10 ppm for PCBs.*

Nonetheless, this issue was discussed during a September 24, 2003 conference call. The preference of the Base and LANTDIV is to totally remove the pipe such that it no longer presents an issue for future development of this property. Therefore, the Work Plan will be modified accordingly.

3. **The last paragraph on page 4-3 and at the top of page 4-4 states that "If the sidewall is less than 2 feet in depth, no confirmation sample will be collected on the sidewall. Please clarify the reason for this exclusion. It seems that it would be more appropriate to exclude sampling in areas that have PCBs or TPHs greater less than a certain minimum contaminant concentration rather than in all shallow areas. The shallow areas are the most critical for human and ecological exposure concerns.**

Agreed. The exclusion for shallow sidewalls will be deleted.

4. **It is recommended that soil around utilities be sampled to confirm that PCBs or TPH did not impact utility lines outside of the excavation. The entrance and exit of each utility from an excavation should be sampled at a minimum. It is preferable that all utilities be excavated and removed for future development purposes. Un-sampled utilities and the presence of utilities in the area will be a cause for concern and delay to future development in this area.**

TMS Envirocon/Baker will identify and mark utilities in the field prior to excavation. At this time, there are no known underground utilities that pass through the planned excavation. In the event that utilities are identified during the utility marking process or during the excavation, the utility will be evaluated during excavation to assess whether it could act as a conduit for soil contaminants. Confirmation sampling around the utility

will be conducted as appropriate. Section 3.5 of the Work Plan will be edited to account for this contingency.

5. **The confirmatory sampling process and details are described in Table 4-2. The sampling point for sidewall samples is one per 50 linear feet on excavation sidewall. More frequent sampling is appropriate for the more highly contaminated areas. One sample every 25 feet of highly contaminated sidewalls is appropriate. Visually stained soil or unusual odors should also be a common sense approach to requiring additional samples on the excavation floors and along the sidewalls of the excavations. Please include this instruction within Table 4-2 and as a footnote to the Table or as determined appropriate.**

Agreed. Section 4.2.2 and Table 4-2 of the Work Plan will be revised to include more frequent confirmatory sampling in highly contaminated areas of the excavation and where visual staining and /or oily sheens are noted in the soil.

6. **Table 9-1 provides a rough schedule for the proposed removal action. Please provide a schedule with real dates. This schedule can be updated and included in the monthly progress reports for the Site 84 RA as needed.**

A detailed schedule with dates is provided in place of the rough schedule for Table 9-1.

7. **Dave Lilley with the NC Superfund Section will also be providing comments on Appendix A, Site 84 Health and Safety Plan at a later date. I will send his comments as soon as possible. Please do not delay the work for Dave's comments. We can provide any changes to the plan as an addendum or insert pages as the work begins.**

Per Dave Lilley's 9-16-03 memo to Randy McElveen, he had no comments on the HASP.

Shaw Environmental, Inc. Comments

Received from Ron Kenyon by email on September 15, 2003

1. **Cover – Last digits of the contract number are missing**

The contract number will be included in the Final Work Plan.

2. **Sec. 1.0 – Is TMS required to submit a CQC Plan as contract required submittals?**

TMS has already submitted the CQC Plan to the Base ROICC Office.

3. **Pg. 2-3, 2nd para. – The statement on TPHC contamination distribution is incorrect. Shaw/TMS removed over 3,200 tons of POL soils from around well MW-2 and exceeding soils still remain. Elevated TPH soils exist beneath the**

basement floor also. TMS has copies of the PCB and POL removal reports.

The POL soils in the vicinity of MW-2 and beneath the basement floor are outside of the scope of this removal action. The focus of this removal action is removal of the PCB and co-mingled contamination west of Building 45. The area east of Building 45 is being addressed as a separate issue under the UST Program.

4. **Sec. 3.2, pg. 3-1 – The current NCDENR criteria used at Lejeune (and the criteria for the previous Shaw/TMS removal) is 10 ppm for GRO and DRO.**

Previous documents had specified 40 ppm for TPH GRO and 10 ppm for TPH DRO. However, this issue was discussed during a September 24, 2003 conference call and the preference of the Base and LANTDIV is to use 10 ppm for both GRO and DRO to be consistent with the Building 45 non-TCRA and other previous removal actions on the Base. The Work Plan will be modified accordingly.

5. **Sec. 3.3, 2nd para. – Shaw would like to see a PCB analysis on lagoon or dewatering liquids, as carbon is the only mechanism we have in the plants for PCBs, and it's not that effective for PCBs anyways.**

During the RI, one surface water sample was analyzed from the lagoon. No PCBs were detected in this sample. However, there is a concern that the lagoon water may become turbid during the removal action as sediment may become re-suspended. It is anticipated that on-site filtering of the water to remove suspended solids may be required prior to disposal at the on-Base treatment plant. TMS will coordinate with Shaw at the appropriate time to determine whether filtering and or sampling/analysis of the lagoon water and dewatering liquids will be required prior to disposal at the Base water treatment facility. This will be noted in Section 3.3 of the Work Plan.

6. **Sec. 3.3, 3rd para. – It is a high probability the lagoon sediments will need at least gravity dewatering, if not stabilization, both requiring a cell. There is plenty of room out there to construct a cell and it could be shown on an appropriate figure. Suggest handling the lagoon sediments first in an area that will later undergo soil removal. Why take the risk of cross-contamination.**

Agreed. The site conditions are likely to be very saturated due to the recent hurricane. Location of the holding cell within an already contaminated area was the recommendation that was presented the Work Plan. The exact size, configuration, and location will be determined in the field by TMS based on site conditions.

7. **Sec. 3.5, 3rd para. – What is the diameter of the drainage pipe? Is it practical or feasible to grout a large diameter pipe for that length of run effectively, without voids? Does the pipe require pigging to assure its devoid of contaminants?**

The drainage pipe is 24 inches in diameter. Based on the September 24, 2003 conference call discussion, it was decided to remove the entire length of drainage pipe from Building 45 to the lagoon to ensure that it does not become an issue in the future. Also, please see response to NCDENR Comment #2.

8. **Sec. 4.1. 2nd para. – Discuss the frequencies of sampling? Wasn't sure until I looked back into the Tables, or reference section 4.2.2?**

A reference to Section 4.2.2 has been included in during the discussion of confirmatory sampling.

9. **Sec. 4.2.4/ Tables - Note that Shaw has typically been successful using one sample to document the backfill source as clean. How much backfill is expected? There is a disconnect between Table 4-2 which calcs to 4500 CY and Table 7-1 which presents 6000 CY to be excavated. We generally figure 1.2 CY of backfill for every 1 CY excavated.**

Based on a September 24, 2003 conference call, one sample per source area is deemed sufficient to characterize the backfill. The Work Plan will be changed accordingly.

Approximately 4,500 CY of soil/sediment will be excavated. The estimated soil volume going to the Base Landfill has been changed to 4,000 CY on Table 7-1 for consistency.

10. **Sec. 4.3.1/ Tables – TPH GRO cannot be composite generated. Must be a grab using Encore samplers. Table 4-2 is correctly referring the method for delineation but not confirmation samples.**

Section 4.3.1, Delineation Sampling, delineation samples will be grab samples and will be analyzed on site using immunoassay test kits. For the 10% of delineation samples sent to the laboratory, the TPH GRO sample will be collected using an Encore Sampler.

In Section 4.3.2, composite samples are planned for confirmation sampling (TPH and PCBs) using immunoassay field screening (Ensys) test kits. However, the laboratory confirmation samples for TPH GRO are specified to be 1-point grab samples collected using an Encore Sampler. Sampling methods will be clarified on Table 4-2.

11. **Sec 4.3.2 – This section again discusses composite sample generation prior to collecting the GRO sample fraction as discussed above.**

See response to Shaw Comment #10.

12. **Sec. 4.3.3 – See comment for section 4.2.4 on backfill frequencies.**

This section has been changed to one sample per backfill source, consistent with response to Shaw Comment #9.

13. Sec. 4.3.4 – Discusses composite samples for TPH as above.

The TPH GRO samples sent to the laboratory will be collected using Encore grab sampler. This will be clarified throughout the report as necessary.

14. Sec. 4.3.5 – NC requires sampling for TPH soils going off-site for disposal at a 200 CY frequency (GRO/DRO), with Encore grab sampling for GRO. TPH soils are sent to State permitted recycling facilities typically, not Subtitle D landfills. The Base landfill will not accept soils over 1ppm TPHC.

Agreed. The TPH soil samples will be analyzed at a frequency of 200 CY or as required by the selected disposal facility, with the Encore grab sampling for GRO.

15. Sec. 4.6, 2nd para. – This section contradicts 4.2.2 which references post-ex sampling at a 1000 square foot frequency.

Agreed. Confirmatory samples will be collected for every 1000 ft^2 of excavation floor. This will be corrected in Section 4.6.

16. Sec. 6.0 – The Base landfill will not accept soils with THP contamination over 1 ppm, they must go off site to a NC permitted recycling facility. If TPH is mixed with PCBs (<50) then we are looking at Subtitle D disposal.

Agreed. It is our understanding that the TPH limit for acceptance at the Base Landfill is 1.0 ppm and the PCB limit for acceptance is 50 ppm. The Contractor will evaluate options for disposal facilities for various waste streams and will select the most cost-effective option.

17. Sec. 6.3 – Again the remedial goals for both GRO and DRO should be 10 ppm

See response to Shaw Comment #4.

18. Sec. 7.3 – Use the EPA Region IV RCRA compliance contact to determine the status of your proposed facilities

Agreed. This resource will be used as required.

19. Sec. 7.4, pg. 7-3 – This text discusses roll-off containers for storing waste (excavated soils). Previously in the document stockpiles were discussed which is appropriate. Roll-off rental and transportation is not cost effective. The stockpiles should be direct loaded into tandem dump trailers, 18 tons to a trailer. Mention a proper labeling program for drummed wastes.

Agreed. The excavated soil will be stockpiled in soil holding cells prior to direct loading into trailers. Proper labeling for drummed wastes will also be included in this section.

20. Sec 7.0, General – I would add a traffic control discussion here, as transportation trucks into and out of the site will be impacting Route 24 traffic, especially during the morning and evening traffic loads into the Main gate. During the initial removal, a street sweeper was also needed to keep Route 24 free of site dirt. It's a perception issue, especially if the General or others are driving into Base.

Agreed. A discussion regarding traffic control will be included in Section 7.0. A street sweeper will also be recommended, as required, to keep Route 24 free of site dirt.

21. Where will the transport vehicles be weighed prior to driving public roads? Suggest portable scales be used at the site, and all transport trucks should be surveyed (working lights, proper placarding, etc) prior to allowing them to load or leave the site.

Agreed. The Base scale will be used to weigh the transportation vehicles, as was done for the Building 45 non-TCRA. The site contractor will inspect the vehicles prior to load and leaving the site.

22. Sec. 8.2 – Does the prime contract require a daily Contractors QC report also?

Yes, this section has been changed to daily QC reporting.

23. Sec. 8.4 – The final report should be prepared in the format presented in Close-out Procedures for National Priorities List Sites, EPA 540-R-98-016, January 2002 as with the first phase report and requested by Gena.

Agreed. This reference has been added to the Work Plan.