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North Carolina
Department of Environment and Natural Resources

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary
Dexter R. Matthews, Director

March 17, 2003

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

Attention: Mr. Kirk Stevens, PE
Navy Technical Representative
Code EV23KS

RE: Comments on the Site 88 Operable Unit # 15 Remedial Investigation Work Plan, Soil and Groundwater, MCB Camp Lejeune, NC
NC6170022580
Jacksonville, Onslow County, North Carolina

Dear Mr. Stevens:

I reviewed the Remedial Investigation/Work Plan (RI/WP) for Site 88 of Operable Unit #15 at the Camp Lejeune, MCB Superfund Site. The following comments are included for your consideration.

Specific Comments

1. In previous reports municipal wells were shown in a side gradient or northerly direction from the site. As you know heavy pumping of municipal wells can change the natural groundwater flow gradient in the area. Groundwater from the nearest drinking water wells to Site 88 (1500 feet) should be tested for chlorinated compounds if this is not already being done.

2. The last bullet on page 1-2 states that "A total of 26 wells will be installed at locations surrounding Site 88." It appears based on my review of previous investigation work and analytical data that the boundary of the solvent plume and the plume flow direction is not yet known. It is recommended that Direct Push Technology (DPT) be used to locate the boundary and flow directions of the plume prior to committing to a specific number of permanent monitoring wells. There appears to be a groundwater elevation anomaly between monitoring wells MW-04 and MW-09. DPT can be used in this area to investigate this anomaly and complete the southern boundary delineation at the same time.

Initially DPT could be used to evaluate the underground utility trenches for source or plume progression as proposed in Section 4.3.1.4 on page 4-3 (Figure 4-3). The natural progression would be to develop transects starting at the source and progressing to the boundary of the plume. Side gradient and up-gradient plumes could be located in a similar but less aggressive and less comprehensive manner. Once plume delineation is quickly determined using DPT, then specific monitoring locations could be evaluated more effectively. This appears to be the approach that was used very effectively at Site 86. I would be interested in discussing this approach more thoroughly with the QM Steering team.

3. All groundwater analytical data from previous investigations at Site 88 should be included in a time series summary table in Section 3 of the Work plan. The summary table should be referenced in the text of Section 3.

4. Metals in unfiltered samples are discussed in the last paragraph on page 3-5. Proving that metals are not mobile by using filters is not a preferred method. First we need to attempt to lower the turbidity of samples using low flow sampling techniques. The EPA's Ada Oklahoma web site guidance on low flow sampling can be located at www.epa.gov/ada/pubs/issue.html (EPA/540/S-95/504 April 1996). If low flow sampling is still too turbid, the EPA recommends a 5-micron filter to limit suspended particles within groundwater samples (EPA/600/R-94/119 October 1994). It is believed that particles up to 1-2 microns move through an aquifer in the undesolved state. To be conservative this guidance recommends that 5-micron filters be used to filter out suspended sediment.

5. The first box under Potentially Exposed Population from Figure 3-3 should read "Groundwater User-Base Personnel."

6. There are no field sampling procedures in the Field Sampling and Analysis Plan (FSAP) of Appendix A. Please provide plans for field sampling procedures.

7. Specific people are not named in the Project Organization and Responsibilities Section B.3. It is critical that most of these positions be filled by individuals who are trained in specific areas rather than having one person fulfill multiple positions that they are not trained or certified to do. Lets be careful not to overload a few people with several jobs and thus delay or hinder the project effectiveness.

8. A field change document is provided as attachment 1 in Appendix B. I don't know how field change orders are done but I think it would be appropriate to have a representative of Camp Lejeune, the State, and the EPA sign off or agree to changes before they are implemented. This is primarily for changes that are considered significant.

9. Dave Lilley with the NC Superfund Section will also be providing comments on Appendix C, Site 88 Health and Safety Plan at a later date. I will send his comments as soon as possible.

A copy of Diane Rossi's comments with the Wilmington Regional Office are attached to this comment letter for your records.

If you have any questions or comments, please contact me, at (919) 733-2801, extension 341 or email randy.mcelveen@ncmail.net

Sincerely,

Randy McElveen
Environmental Engineer
NC Superfund Section

Attachment
Cc: Dave Lown, NC Superfund Section

February 26, 2003

Memorandum

To: Randy Mc Elveen, Environmental Engineer

From: Diane Rossi, Hydrogeological Tech II

Through: Charles Stehman, Ph.D., P.G., Environmental Supervisor I

RE: Comment on the Draft Supplemental Site Investigation Report
Operable Unit No. 15, Site 88
Building 25, Base Dry Cleaners
and
Draft Site 88 Remedial Investigation Work Plan
Operable Unit No. 15, Site 88

The Division of Water Quality, Groundwater Section has reviewed the subject documents for Operable Unit No. 15, Site 88, at the Camp Lejeune MCB in Jacksonville, NC. The Groundwater Section concurrs with the findings and conclusions (section 6), of the Site Investigation Report. Additional monitoring wells will be required to adequately delineate the plume at this site. Investigative methods for soils, (direct push technology along buried utility lines), should be used to identify any secondary source material.

Should you have questions, please contact Diane Rossi at (910) 395-3900.

CDR

cc: WiRO-GWS

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