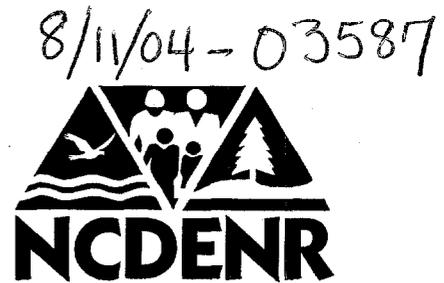


North Carolina
Department of Environment and Natural Resources

Division of Waste Management

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



August 11, 2004

Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Blvd.
Norfolk VA 23508-1278

Attention: Mr. Daniel Hood (NTR)
Navy Technical Representative
Code EV23-DH

RE: Comments on the Draft Site 86 Pilot Study Implementation Plan
Operable Unit (OU) # 20, Site 86 MCB Camp Lejeune, NC
Soil and Groundwater
Camp Lejeune, NC6170022580
Jacksonville, Onslow County, North Carolina

Dear Mr. Hood:

The NC Superfund Section has received and reviewed the OU #20 (Site 86) Pilot Study Work Implementation Plan, dated July 2004, for the Camp Lejeune, MCB Superfund Site located in Jacksonville, NC. The following comments are offered for the Partnering Teams consideration. If you have any questions or comments please contact me at (919) 733-2801 ext. 341.

General Comment

Two issues of concern to the base and workers during the implementation should include the issue of potentially higher oxygen content in trenches and near buildings during the sparging process that would increase the potential for fire hazards. The other is for worker safety involving the 460 volts of electricity used for the ozone generator. Other than these issues and proper monitoring of adjacent wells for organic vapors the work implementation plan appears to give appropriate details for the proposed ozone sparging process.

Could I get a response to my comment from the Pilot Study Work Plan about the use of pulsed sparging as opposed to continuous sparging. What are the pros and cons of this issue?

1646 Mail Service Center, Raleigh, North Carolina 27699-1646
Phone: 919-733-4996 \ FAX: 919-715-3605 \ Internet: www.enr.state.nc.us

Mr. Daniel Hood

8-11-2004

Page 2 of 3

Specific Comments

1. Page 2-5 discusses sealing of the annular space. I would recommend that all annular spaces under or near buildings be grouted to minimize leaking to utility trenches and building floor spaces or utility entrances. I think that like every site we have on base the most critical issue is delivery of the reagent to the contaminant plume. Therefore, the proper sealing of the horizontal well would be the most critical aspect of getting good delivery of the ozone to move out into the aquifer at the screened interval rather than moving back up the annular space of the horizontal well and away from the primary TCE plume. We should make every effort to assure that the best seal possible is provided.

Page 2-5 states that a polyurethane seal will be placed 40 feet below ground surface. Is that 40 feet horizontal, vertical, or both? If I understand the horizontal well information properly 40 feet from the entry and exit points is 310 feet from the edge of the screened interval. This does not in any way sound like an effective seal on the well that will provide the best delivery of oxidant to the aquifer around the screened interval. This should be discussed with the horizontal well driller to see how we can get a better seal closer to the screened interval. Spending \$500,000 to install a well and not providing a good annular seal seems almost negligent.

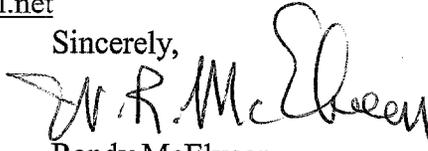
Is polyurethane an acceptable annular seal? I will discuss this with UIC.

2. Flushing of the horizontal well for development with large volumes of water is discussed at the top of page 2-6. The Air Station should be notified a few days prior to flushing so they will be aware of the large volumes of water at high flow rates and be prepared for any fluctuations in the water pressure that may occur. They may have equipment that is water pressure sensitive.
3. According to page 2-6 of this implementation plan 5000 gallons of sodium hypochlorite (enzyme) is to be injected into the horizontal well to breakdown drilling fluids. What is the concentration of the solution of Sodium hypochlorite that will be used to flush the well? UIC needs to know about this as well. Provide me with the concentration and other details of the solution and I will discuss it with them.
4. The third and fourth bullets on the system alarm conditions at the top of page 2-10 are the same. One should probably be **Low chiller temperature**.
5. The only monitoring of the system that is discussed is groundwater monitoring on page 2-12. We also need to provide some minimal air monitoring for the record to show that only low levels or non-detect levels of off gas concentrations of VOCs were detected in the wells. Screening of select groundwater monitoring wells and ambient concentrations of VOCs in the area of the horizontal well should be completed at least on a daily basis for the first week and then on a weekly basis for a few additional weeks including several weeks after ozone sparging begins. This is a minimal effort and cost and should be properly documented in the final report. Summa canisters should also be collected if significant levels of VOCs are detected using the OVA in any of the monitoring wells.
6. Figure 3 shows a 400-gallon Air Receiver Tank. The figure identifies this as a "**400 GEL Air Receiver**". I expect this should read 400 GAL. AIR RECEIVER.

Mr. Daniel Hood
8-11-2004
Page 3 of 3

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

Sincerely,

A handwritten signature in black ink, appearing to read "Randy McElveen". The signature is written in a cursive style with a large, looping initial "R".

Randy McElveen
Environmental Engineer
NC Superfund Section

Cc: Dave Lown, NC Superfund Section
Scott Williams, EMD/IR
Gena Townsend, USEPA