



North Carolina Department of Environment and Natural Resources  
Division of Waste Management

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Secretary

April 13, 2010

NAVFAC Mid-Atlantic  
Attn: Dave Cleland Code: OPQE  
USMC NC IPT, EV Business Line  
6506 Hampton Blvd  
Norfolk, VA 23508

RE: Comments on the Draft 2010 Five-Year-Review Report  
MCB Camp Lejeune, NC  
CERCLA Site NC6170022580  
Jacksonville, Onslow County, North Carolina

Dear Mr. Cleland:

The NC Superfund Section has received and reviewed the 2010 Five-Year-Review Report for the Camp Lejeune, MCB Superfund Site. The following comments are included for your consideration.

**Specific Comments:**

1. The Evaluation of Site 78 north and south pump and treat system, as discussed at the bottom of page 3-6, should be completed and implemented as soon as reasonably possible, at least before the next Five-Year-Review.
2. Section 3.5 discusses the Technical Assessment of the remedy including whether it is functioning as designed. The conclusion at the top of page 3-7 is that the remedy is functioning as designed. However, this may or may not be true, depending on the results of the system evaluation of the pump and treat system. As has been discussed the plume at Site 78 needs to be better delineated and much of the system needs to be replaced. As noted on the third paragraph on page 3-8 the system efficiency should be improved.
3. Have the trees been removed from the fence at Sites 41 and 74? See the statement at the bottom of page 5-4.
4. Groundwater cleanup levels have changed since many of the RODs were written. Table 6-1 lists the cleanup levels for OU#5, Site 2. The groundwater standard for Arsenic is now 10, Barium is 700, Ethylbenzene is 600, and Trichloroethene is 3.0. We need to discuss how we want to deal with this issue, especially where groundwater standards have decreased. See the Tables at the end of each section of the Five-Year-Review, including sections 7 through 18.
5. If wells need to be abandoned as discussed on page 7-6 all the data, trend analysis, MAROS, and location maps with groundwater flow direction needs to be provided for State and EPA Review.

6. Record of Decision (ROD) cleanup levels for OU#7 sites has been achieved. See Table 8-1 at the end of section 8. However, as stated in the comment above, the NCAC 2L Groundwater standards have not been achieved. See Table 12-1 and 18-1 also.
7. As noted above, please provide data trends to evaluate the well removal discussed on page 16-8. See additional comments on Appendix D regarding this issue.
8. Figure 16-1 for OU#16 shows only an aquifer use control boundary for Site 93. An estimated aquifer control boundary for Site 89 should also be shown on Figure 16-1. The plume was delineated and the Remedial Investigation completed in 2008 or early 2009.
9. Regarding Site 78 North, Appendix D recommends removing five wells from the Long Term Monitoring (LTM) program being done for Natural Attenuation (NA). Two groundwater samples taken over the past 4 events exceed the NCAC 2L Groundwater Standards at monitoring well GW01. Removing GW09 and GW78 are also questionable due to similar reasons.
10. Regarding the optimization discussed in appendix D, are additional optimizations being recommended in the Five-Year Review Report that were not discussed in the fall of 2009? All data trends and analysis of monitoring well optimization should be provided for review or further discussed in partnering with appropriate data trends and analysis, if optimization decisions are to be made for any site based on this Five-Year-Review.
11. MAROS Statistical analysis results and optimization are referenced to Appendix A, B, and C throughout Appendix D. If this is referring to an earlier report, please state this throughout Appendix D where optimization and MAROS are referenced to Appendix A, B, and C. Appendix D is referred to as an update and is dated December 17, 2009, even though it refers to a 2005 LTM optimization. Please clarify throughout this Report what appendices it is referring to and its date or make other appropriate corrections since Appendix A, B, and C do not refer to optimization or MAROS analysis.
12. If MAROS recommends Sampling frequency reduction, that is fine and replacing low flow sampling with Permeable Diffusion Bag samplers is generally acceptable, however, if the Five year review is recommending the removal of additional monitoring wells from the LTM program or to abandon monitoring wells, all site related data, data trends, and location maps with flow directions should be provided, evaluated, and discussed at the partnering meetings. Many of the data trends are not provided in this report and some of the trends seem to be incomplete. If chemicals are not detected they should be replaced with half the detection limit and included in the data trend for clarification. This should be noted in the legend of each Figure and in the discussion sections of the Review Report.
13. Primary source area monitoring wells should not be removed even if they are redundant without four consecutive quarterly sampling events. This is especially true where Pump and Treat systems are operational. Pump and treat sites must be allowed to stabilize or equilibrate and then be sampled for four quarters following the shut down of the pump and treat system prior to making a decision to remove the wells from LTM or to abandon the wells.
14. Page 10 of Appendix D recommends the removal of Monitoring wells MW02DW, MW03IW, MW04, and MW04IW. The trend analysis is not provided or it is unclear. Four quarters of groundwater data is required before removal from the monitoring program. We can review the reasons for the recommendation to remove these wells from during partnering. In many cases such as for MW03 and MW04, four quarters of sampling are required to assure that seasonal fluctuation is not occurring.
15. Please provide real dates on all data trends. See Tables B-1 and B-3 in Appendix D.

Mr. Dave Cleland

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If you have any questions or comments, please contact me, at (919) 508 8467 or email [randy.mcelveen@ncdenr.gov](mailto:randy.mcelveen@ncdenr.gov)

Sincerely,

Randy McElveen  
Environmental Engineer  
NC Superfund Section

Cc: Dave Lown, NC Superfund Section  
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