04.01-08/08/95-01927

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1510 GILBERT ST
NORFOLK VA 23511-2699

TELEPHONE NO:
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08 AUG 1995

CERTIFIED MAIL RETURN RECEIPT REQUESTED

North Carolina Department of Environment,
Health, and Natural Resources
Attn: Mr. Patrick Watters
P. O. Box 27687
401 Oberlin Road
Raleigh, North Carolina 27611

Re: MCB Camp Lejeune Draft Treatability Study Work Plan, OU Number 14, Site 69 Response to Comments

Dear Mr. Watters:

Navy/Marine Corps responses to your comments on the subject document are attached. These comments are being incorporated into the Final version of the documents which are to be issued following final resolution of all comments with both EPA Region IV and the State of North Carolina.

A meeting to discuss these responses and other outstanding issues has been scheduled for 9:00a.m. on Friday, August 11, 1995, at the Wilmington Regional Office of NCDEHNR. Your attendance at this meeting is requested. The topics for discussion will be the proposed Plan at OU Number 4, Site 41, the Treatability Study at OU Number 14, Site 69, and the Proposed Plan OU Number 10, Site 35. An agenda for the meeting is attached.

Please direct any questions to Ms. Katherine Landman at (804) 322-4818.

Sincerely,

for L. G. SAKSVIG, P.E.
Head
Installation Restoration Section
(South)
Environmental Programs Branch
Environmental Quality Division
By direction of the Commander

Re: MCB Camp Lejeune Draft Treatability Study
Work Plan, OU Number 14, Site 69 Response
to Comments

Attachments

Copy to:
EPA REGION IV (Ms. Gena Townsend)
MCB Camp Lejeune (Mr. Neal Paul)
Baker Environmental, Inc. (Mr. Matt Bartman, Mr. Ray Wattras,
Mr. Gordon Ruggaber)
Activity Admin Record File

Response to North Carolina DEHNR Comments
Draft Treatability Study Work Plan
Marine Corps Base (MCB) Camp Lejeune, North Carolina
Site 69 (Operable Unit No. 14)

Superfund Section Comments

1. The perched water zone where the KGB will be installed (4-12 feet below grade) and the lower Castle Hayne Aquifer where the UVB will be installed (approximately 35-80 feet below grade) are separated by a confining layer and are not hydraulically connected. Consequently, the UVB and KGB systems should not affect one another and can be independently evaluated at the same time.

2. The upper and lower screens of the UVB should not be separated by a confining layer. The primary purpose of the pilot hole is to ascertain whether confining layers exist at that location. If they do exist, the secondary purpose is to determine their vertical extent. This information will help in proper placement of the screens such that a vertical circulation cell can be established.

3. Since MCB Camp Lejeune is a CERCLA site, an injection well permit is not required. The information provided in the Work Plan is intended to comply with the substantive requirements of 15A NCAC 2C.0200.

4. A high background concentration of the dyes to be used in the study, which is not anticipated, would be considered a major problem for the study.

5. Baker will forward a copy of the weekly progress report to NC DEHNR.

6. The PID is calibrated to read in ppm units.

Groundwater Section Comments

1. Contaminant concentrations shown in Figure 1-5 in the Draft Treatability Study Work Plan represent Round 2 (February 1995) sampling results. Contaminant concentrations detected in previous rounds were significantly higher in wells GW02, GW03, and GW02DW. Round 1 sampling results are shown in the attached Figure 1. The most recent sampling results (March 1995 shown in attached Figure 4) indicate significant levels of chlorinated VOCs in wells GW15 and GW15IW. For example, 1,1,2,2-tetrachloroethane was detected in well GW15 at 3,000 μg/L, and TCE was detected in well GW15IW at 6,200 μg/L. Therefore, there appears to be sufficient groundwater contamination at Site 69 to warrant performance of the treatability study.

   The contaminant plume is not well defined in the sense that there is not a sufficient

number of contaminated wells to develop contaminant isoconcentration contours. However, the horizontal and vertical extent of contamination are fairly well defined since the contaminated wells are generally surrounded by clean wells. Installation of a total of 10 new monitoring wells (six 30 ft. shallow and four 65 ft. deep) is planned for the treatability study, which will help to further define the extent of contamination. Site 69 is a good candidate for a treatability study in that the contamination does not appear to be migrating at fast rate, and there are no immediate downgradient receptors that would be affected should the technology prove ineffective in preventing the spreading of contamination.

For the contaminants of concern, quantification of the degree of natural attenuation is extremely difficult. The effects of treatment can be somewhat differentiated from natural attenuation mechanisms by evaluating the degree of contaminant removal in the off-gas. The effectiveness of the UVB system will be primarily evaluated based on the results of the tracer study and on the amount of contaminant removal in the immediate vicinity of the UVB well. A significant degree of contaminant removal in the monitoring wells located at the 25% ROI distance and beyond is not anticipated over the six month period. In fact, after six months, contaminant levels may actually increase in some wells due to an increase in the desorption/diffusion of contaminants from the soil matrix to groundwater caused by the increased groundwater flow rate in the circulation zone.

2. The UVB well has been repositioned to the north of well 69-GW15, as shown in Figure 4-2. Therefore, much or all of the circulation zone should be within the area of contamination. However, the UVB evaluation will be based mainly on the tracer test results rather than actual changes in contaminant concentrations.

3. The perched water zone where the KGB will be installed (4-12 feet below grade) and the lower Castle Hayne Aquifer where the UVB will be installed (approximately 35-80 feet below grade) are separated by a confining layer and are not hydraulically connected. Consequently, the UVB and KGB systems should not affect one another and can be independently evaluated at the same time.

4. Revised graphs have been included in Section 4.0. Appendix G has been included which contains referenced publications.

Air Quality Section Comments

1. As noted in the comment, an air quality permit is not required since MCB Camp Lejeune is a CERCLA site. The information provided in the Work Plan is intended to comply with the substantive requirements of the permit. For emissions of volatile organic compounds (VOCs), the maximum amount of VOCs that can be potentially released is based on the daily groundwater flow through each system multiplied by the total VOCs concentration. Assuming a 100% stripping efficiency, and 0% GAC

efficiency, all the VOCs from the aqueous phase could be transferred to the gaseous phase. The text in Section 4.3 has been revised to include worst-case contaminant emission estimates and a commitment to notify DEM in the event emissions increase above anticipated levels.

AGENDA
MCB Camp Lejeune/DEM Meeting **August 11, 1995**

Date: August 11, 1995

Time: 9:00am

Location: NCDEHNR Wilmington Regional Offices
127 Cardinal Drive
Wilmington, NC (910) 395-3900

Topics: **Proposed Plan at Site 41, Treatability Study at Site 69, and Proposed Plan at Site 35**

Host: Charles Stehman, NC DEHNR

Chair: Patrick Watters, NC DEHNR

Participants:

Charles Stehman	NC DEHNR	Groundwater Supervisor
Rick Shiver	NC DEHNR	Regional Supervisor, Env. Mgmt.
Bruce Reed	NC DEHNR	Hydrogeologist
Jack Butler	NC DEHNR	Remediation Branch Head
Patrick Watters	NC DEHNR	Environmental Engineer
Neal Paul	MCB Camp Lejeune	Director, Installation Restoration
Gena Townsend	EPA Region IV	Remedial Project Manager
Katherine Landman	LANTDIV	Remedial Project Manager
Matt Bartman	Baker Environmental	Activity Coordinator
Gordon Ruggaber	Baker Environmental	Project Manager, Site 69
Dan Bonk	Baker Environmental	Project Manager, Site 35

Meeting Goals:
Note that goals outlined here are interdependent. Some later goals may no longer apply following decisions made to reach earlier goals.

Site 41

- Identify and determine the effectiveness of remediation alternatives at Site 41.
- Determine the applicability of active remediation at Site 41.
- Determine the steps necessary to comply with State of NC ARARs as required by CERCLA at Site 41.
- Agree to a Final Remedy Selection that will lead to NCDEHNR concurrence with ROD.

Site 69

- Determine the applicability of remediation at Site 69.

Site 69 (cont'd)

- Determine the applicability of a treatability study at Site 69.
- Determine the applicability of UVB technology for a treatability study at Site 69.
- Identify and determine the applicability of alternatives to UVB technology at Site 69.
- Agree to an approach for the remaining phases of the Site 69 study leading to a ROD: Feasibility Study (including Treatability Study, as appropriate) through Final Remedy Selection).
- Determine the products of a Treatability Study that will be required to adequately determine the effectiveness of the demonstrated technology and applicability for full-scale implementation.

Site 35

- Determine the impact of decisions made for Site 69 on the Proposed Plan at Site 35.
- Agree to a Final Remedy Selection that will lead to NCDEHNR concurrence with ROD.

References:

The following documents will be used as references during the meeting. Participants should familiarize themselves with these documents prior to the meeting. Additional reference material may be provided at the meeting as needed.

Site 41

- Final RI Report, Operable Unit #4, Baker Environmental, May 8, 1995
- Final FS Report, Operable Unit #4, Baker Environmental, May 8,1995
- Final PRAP, Operable Unit #4, Baker Environmental, May 8, 1995
- Final ROD, Operable Unit #4, Baker Environmental, June 22, 1995

Site 69

- Draft Final RI Report, Operable Unit #14, Baker Environmental, June 23, 1995
- Draft FS Report, Operable Unit #4 (as part of Sites 69, 74, and 41), Baker Environmental,
- Draft Treatability Study Work Plan, Operable Unit #14, Baker Environmental, April 5, 1995
- Letter to C. Stehman, NC DEM, from L. Saksvig, LANTDIV, dtd: July 7, 1995, subj: Operable Unit 14 (Site 69), Draft Final Remedial Investigation.
- Letter to P. Watters, NC Superfund, from L. Saksvig, LANTDIV, dtd August 4, 1995, subj: Draft Treatability Study, Site 69, Response to Comments.

Site 35

- Final RI Report, Operable Unit #10, Baker Environmental, May 31, 1995

AGENDA
MCB Camp Lejeune/DEM Meeting **August 11, 1995**

Site 35 (cont'd)

- Final Interm FS for Surficial Groundwater, Operable Unit #10, Baker Environmental, May 31, 1995
- Final Interim PRAP for Surficial Groundwater, Operable Unit #10, Baker Environmental, May 9, 1995.
- Final Interim ROD for Surficial Groundwater, Operable Unit #10, Baker Environmental, June 28, 1995.

Meeting Format:

9:00am	*Meeting Start-Up*	P. Watters, NC Superfund
	- Introductions	
	- Meeting Format	
	- Meeting Goals	
	Site 41	
	Overview of RI/FS Results	M. Bartman, Baker
	- Remedial Alternatives & Risk Assesment	
	- Risk Implications of Alternatives	
	Discussion (Goals)	All
	Review of Decisions	P. Watters, NC Superfund
	Break (as needed - approx. 15 min)	
	Site 69	
	Overview of RI/FS Results	G. Ruggaber, Baker
	- Remedial Alternatives & Risk Assesment	
	- Remedial Alternative Selection Process	
	Response to DEM Comments	P. Watters, NC Superfund
	Discussion (Goals)	All
	Review of Decisions	P. Watters, NC Superfund
	Site 35	
	Review of Proposed Plan & ROD Status	D. Bonk, Baker
	Discussion (Goals)	All
	Review of Decisions	P. Watters, NC Superfund
	Meeting Wrap-up	P. Watters, NC Superfund
	Review of Action Items	
	Schedule of Follow-up Activities	
12:15pm	*Adjorn*	

1823 (KBL)

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