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Admin Rec

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

TELEPHONE NO:
(804) 322-4818

IN REPLY REFER TO:
5090
18232:KHL:cag

29 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 Meeting Minutes
August 11 Meeting with NC DEHNR ROD for
OU Number 4 (Sites 41 & 74)
Treatability Study for OU Number 14 (Site 69)
Interim ROD for OU Number 10 (Site 35)

Dear Mr. Watters:

Enclosed please find minutes of the August 11, 1995 meeting at the NC DEHNR Wilmington Regional offices. The topics of this meeting were RODs for OUs 4 and 10 and the Treatability Study at Site 69.

Please direct any questions or comments 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

Enclosure

Re: MCB Camp Lejeune Meeting Minutes
August 11 Meeting with NC DEHNR ROD for
OU Number 4 (Sites 41 & 74)
Treatability Study for OU Number 14 (Site 69)
Interim ROD for OU Number 10 (Site 35)

Copy to:
NCDEHNR, Wilmington Regional Office (Messrs. Rick Shiver, Charles Stehman, Bruce Reed)
NCDEHNR, Superfund Section (Mr. Jack Butler)
EPA Region IV (Ms. Gena Townsend)
MCB Camp Lejeune (Mr. Neal Paul)
Baker Environmental, Inc. (Messrs. Ray Wattras, Matt Bartman, Dan Bonk, Gordon Ruggaber)
Activity Admin Record File

MEETING MINUTES, AUGUST 11, 1995
ROD FOR OPERABLE UNIT NO. 4
TREATABILITY STUDY FOR OPERABLE UNIT NO. 14
INTERIM ROD FOR OPERABLE UNIT NO. 10
MCB, CAMP LEJEUNE, NORTH CAROLINA

A meeting was conducted on August 11, 1995 at the NC DEHNR Regional Office in Wilmington, North Carolina. The purpose of the meeting was: (1) to discuss the need for a groundwater and surface water variance for Operable Unit No. 4 (Site 41), (2) determine the applicability of a treatability study for Operable Unit No. 14 (Site 69) and discuss NC DEHNRs groundwater section's concerns with the UVB/KGB technology,(3)discuss the alternatives for remediation and the status of the ROD for Operable Unit No. 10 (Site 35).

The following personnel attend this meeting:

Ms. Katherine Landman, NTR, LANTDIV
Mr. Neal Paul, IR Program Director, MCB, Camp Lejeune
Mr. Patrick Watters, Environmental Engineer, NC DEHNR Superfund
Mr. Jack Butler, Regional Supervisor, NC DEHNR Superfund
Mr. Charles Stehman, NC DEHNR Groundwater
Mr. Bruce Reed, NC DEHNR Groundwater
Mr. Rick Shiver, Regional Supervisor, NC DEHNR Groundwater
Ms. Gena Townsend, Remedial Project Manager, USEPA Region IV
Mr. Matthew Bartman, Activity Coordinator, Baker
Mr. Daniel Bonk, Project Manager, Baker
Mr. Gordon Ruggaber, Project Manager, Baker

The meeting commenced at approximately 9:00 AM and concluded at approximately 1:30 PM.

After the introductions the meeting proceeded in accordance with the items listed in the agenda provided as Attachment A. The following details the discussion, concerns, action items, and conclusions that were reached concerning each of the agenda topics.

Operable Unit No. 4 (Site 41)

Mr. Matt Bartman discussed the groundwater and surface water findings that had been presented in the RI. Mr. Bartman explained that two rounds of groundwater samples had been collected, and a third round was collected for metals only using a low-flow purge sampling technique. Mr. Bartman explained that iron and lead concentrations in well 41-GW11 were elevated in the initial rounds of sampling, but were significantly reduced when the low-flow purge technique was employed. Mr. Stehman expressed a concern as to whether the deep portion of the aquifer had been investigated in the area of 41-GW11 in light of the elevated metals. Mr. Bartman informed him that a deeper well had been installed and sampled and that analytical findings did not indicate a contaminant problem.

Due to the potential presence of Chemical Warfare Material (CWM) removal of the landfill contents, or source, from this site is not a feasible alternative for remediation. Therefore the issue of applying for a groundwater variance was posed to Mr. Stehman. It is Mr. Stehman's opinion that a variance is not what is required for the groundwater at this site. What can be requested is a reclassification of the groundwater to a restricted classification "RS" as explained in the North Carolina 2L Standard part 0104. As for the ROD, which has been submitted as a final document, text can be added as documentation that a reclassification of the groundwater to "RS" will be applied for with the intent that the groundwater will remain "RS" until such time that the technology is developed for removal of the CWM, or this priority of this site warrants removal of the CWM.

An action item for Baker is to resubmit the ROD as a Revised Final version with text for the RS classification, and the low-flow sampling data.

Mr. Bartman continued with a discussion regarding surface water and seeps at Site 41. Mr. Bartman explained that there are two main surface water bodies (unnamed tributary and Tank Creek) and two seeps (north and eastern portion of the site). Mr. Bartman explained that two rounds of surface water and sediment samples had been collected from the surface water bodies. The levels of manganese, above the North Carolina Surface Water Criteria, in the seeps was the concern that the North Carolina Surface Water Section felt needed to be addressed. The levels of manganese in surface water immediately adjacent to the seeps as compared to levels downstream indicate that the manganese is not migrating away from the site. Additionally, the human health and ecological impacts estimated for the surface water indicate that no adverse current or future risks are likely. Mr. Rick Shiver expressed that regardless of these findings he was not convinced that the selected remedial alternative, institutional controls with monitoring, was sufficient. He stated that if there is an exceedence of the surface water criteria and there is no option for source removal than a variance must be applied for. It is unclear whether the seeps are classified as a surface water body, and if they are not, does a variance need to be applied for the exceedence the NC surface water standard for manganese.

As an action item Mr. Patrick Watters is going to contact Mr. Dave Atkins, North Carolina Surface Water Section, to find out the states position on this matter.

If a variance is to be applied for the ROD must reflect this, and Baker will need to add text to the ROD indicating that a variance will be applied for. Baker will await notification from Mr. Watters regarding Mr. Atkins position on the variance.

Mr. Shiver stated that even if the variance is applied for it may not be granted at which time another alternative other than institutional controls with monitoring may be required.

Operable Unit No. 14 (Site 69)

Mr. Gordon Ruggaber began the discussion with a recap of the groundwater analytical findings from the multiple rounds of sampling. Mr. Ruggaber informed Mr. Stehman and Mr. Bruce Reed that groundwater contours maps for the site have been provided in the draft final RI report.

Mr. Ruggaber continued the discussion with the FS approach and explained how the determination to implement UVB/KGB technology to treat the groundwater at the site was selected.

Mr. Ruggaber explained that this was only a treatability study and the information obtained in this study would be used to estimate cost and determine the effectiveness of the technology. Mr. Ruggaber emphasized that this technology is not being viewed as the only remedial alternative to be implemented for all sites at the base with groundwater problems.

Mr Ruggaber explained the goals for the study were: 1) to determine if this technology can be implemented at Site 69, 2) to determine the effectiveness of UVB/KGB in removing volatile contamination in the shallow and deep portions of the aquifer, and 3) to determine the cost effectiveness of UVB/KGB remediation technologies.

Mr. Ruggaber explained that the UVB/KGB wells will be located to the north of the original proposed location, inside the dump area, in light of volatile contamination in a well 69-GW15. Mr. Stehman concurred the reposition of the wells. Mr. Ruggaber explained the depth of 69-GW15 would be determined by using hydropunch to determine vertical extent of the VOC contamination. Mr. Stehman is concerned about the depth of the contamination. If the contamination is greater than 80 feet, the direction of the flow in the UVB well (standard) must be reversed. Mr. Stehman is also concerned that the measurement of the systems effectiveness will rely on dyes and not actually on contamination being detected to determine the radius of influence.

Mr. Ruggaber stated that the injection of these dyes will allow for the determination as to whether the circulating water flow is normal or in a reverse direction.

Mr. Dan Bonk asked Mr. Stehman what he would like to see from this study in order for him to have assurance that this technology is applicable at this site. Mr. Stehman stated that the setting must be highly contaminated. Although this wasn't evident in the findings presented in the draft RI he feels that it is now evident with the analytical findings from 69-GW15. There must be suitable contamination around 69-GW15. There needs to be a lot of definition and wells. There should be a lot of accumulators to determine the groundwater flow. A 3-D contour map in four directions, not just two, to better determine the extent of contamination and the groundwater flow. This could be completed with a number of monitoring wells in a very close nest. Mr. Stehman would like Baker to inquire about the possibility of obtaining a sample from within the UVB well.

As an action item Baker will modify the Treatability Study Work Plans to show the installation of wells in a radial direction around the UVB well. The placement of these wells will be used to confirm the radial flow of groundwater and the contaminant plume. The placement of these wells will determine if the contaminated water is being displaced because the site is not homogeneous.

Mr. Reed stated that Baker should consult with Mr. Bob Cheek in the NC-Raleigh office about the use of chemical dye tracers. There may be a permit that is required for the use of these dyes.

Mr. Stehman would also like to have dissolved oxygen monitored to determine what part of the process is not natural.

Mr. Stehman initially had a concern about the UVB and KGB systems being so close together. Now that they are separate, the two tests are independent and can be evaluated separately due to discontinuity of the hydrology.

Mr. Stehman expressed that KGB is nothing more than air sparging with the collection on the top and that he doesn't believe in the physics of the system. Mr. Stehman stated that there is no head difference in the surficial aquifer therefore there is no circulation. Mr. Ruggaber stated that the shallow zone may have to be reexamined to determine if another alternative should be chosen.

Operable Unit No. 10 (Site 35)

Mr. Bonk explained the groundwater findings that have been presented in the RI. He stated that the major problems are the petroleum contamination (BTEX) in the shallow aquifer and TCE in the deep aquifer. Mr. Bonk also detailed the difficulty in the alternative selection process due to the highway construction in the area. Mr. Bonk explained that whatever alternative is selected, it must be effective in preventing contamination from entering Brinson Creek as opposed to only source removal. Mr. Bonk stated that the final interim ROD had been published but has yet to be signed. The Interim ROD states that UVB/KGB technology is the selected alternative for remediation.

Mr. Stehman wnated to know why air sparging was not considered as an alterative for the shallow aquifer. Mr. Bonk informed him that it had been, however, due to the amount of VOCs that would enter the atmosphere he felt that it was an unlikely alternative and it was eliminated.

As an action item Mr. Patrick Watters will contact Mr. Kent Harrel from the NC Air Section to determine if this alternative would be permissible without the collection and treatment of VOC air emissions. If air sparging is feasible, remediation of the shallow groundwater could begin immediately as a removal action.
Because the ROD for Operable Unit No. 10 addresses an interim action, it can signed and implemented.

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* - Introductions - Meeting Format - Meeting Goals	P. Watters, NC Superfund
	Site 41	
	Overview of RI/FS Results - Remedial Alternatives & Risk Assesment - Risk Implications of Alternatives	M. Bartman, Baker
	Discussion (Goals)	All
	Review of Decisions	P. Watters, NC Superfund
	Break (as needed - approx. 15 min)	
	Site 69	
	Overview of RI/FS Results - Remedial Alternatives & Risk Assesment - Remedial Alternative Selection Process	G. Ruggaber, Baker
	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 Review of Action Items Schedule of Follow-up Activities	P. Watters, NC Superfund
12:15pm	*Adjorn*	

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