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State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Division of Solid Waste Management
Telephone (919) 733-4996

Jonathan B. Howes, Secretary

April 7, 1993

Commander, Atlantic Division
Naval Facilities Engineering Command
Code 1822
Attention: MCB Camp Lejeune, RPM
Ms. Linda Berry, P.E.
Norfolk, Virginia 23511-6287

Commanding General
Attention: AC/S, Environmental Management
Building 1, Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

RE: Draft Remedial Action Work Plan for the Hadnot Point Industrial Area Shallow Aquifer

Draft 30 Percent Design Submittal Basis of Design Report for the Hadnot Point Industrial Area Shallow Aquifer Ground Water Treatment System

MCB Camp Lejeune, Jacksonville, Onslow County, NC

Dear Linda:

The NC Superfund Section has completed our review of the referenced primary documents, our comments are attached.

These comments are based on our review of the documents and discussions that occurred at the March 23, 1993 meeting in Raleigh, NC. These comments should be incorporated directly into the 90% Design Submittal and Draft Final Remedial Action Plan.

The major emphasis of these comments include the following:

- The inclusion of a carbon absorption unit with a bypass. This unit will be operated as needed based on monitoring. This unit is required because the results of the Treatability Study (due to the low level of contaminants), did not substantiate that an air stripper alone would remove the VOC's to acceptable levels.

- The incorporation of a metals removal unit. This is required to assure efficient operation of the treatment system that otherwise could be adversely effected over time by metals. This is also required in the ROD for this work.

If you have any questions, please contact me at (919) 733-2801.

Sincerely,

E. Peter Burger

E. Peter Burger, P.E.
Environmental Engineer
Superfund Section

PB/dk/51

Attachment

cc: Michelle Glenn, US EPA Region IV
Neil Paul, MCB Camp Lejeune

Review Comments
Draft Remedial Action Work Plan
for the Hadnot Point Industrial Area Shallow Aquifer
Marine Corps Base Camp Lejeune
Jacksonville, Onslow County, NC
Prepared By:
NC Superfund Section
April 1, 1993

Comments

Page 2-5

Please include in the last paragraph Vinyl Chloride as an identified contaminant in the shallow aquifer.

Page 2-6, Section 2.5 Nature and Extent of Contamination

Please include in this section that Vinyl Chloride is present.

Page 3-1, Section 3.1.2

Please update this section to include metals removal and a bypass carbon absorption unit.

Page 3-2, Section 3.2

- 1st Paragraph, please add Vinyl Chloride as a contaminant of concern.
- 2nd Paragraph, 2nd sentence, please include permit requirements of the NPDES permit administered by the NC Department of Environmental Management.

Page 3-3, Table 3-1

Please include Vinyl Chloride, NC Groundwater .015 ppb, Federal Drinking Water MCL 2 ppb, no standard has been established for Class C or Class SC waters.

Page 4-1, Section 4.1

Please include the following as a contractor responsibility; establish reporting procedures with the NC Superfund Section and US EPA.

Page 4-2, Section 4.3

Please update this section to include Metals Removal and a bypass carbon absorption unit.

Page 4-3, Section 4.5 Preconstruction Meeting

Please provide US EPA and NC Superfund Section notice of meetings and invitation to attend. This comment applies to Section 4.7.1 and 4.7.3.

Page 4-5, Section 4.8 System Startup

2nd Paragraph. Please indicate that system performance will be based on the results of the, "30 days of Operational Test Data", discussed in the sampling and analysis plan.

Page 7-1, Section 7.1 and 7.2

Please contact the NC Superfund Section to discuss frequency of sampling events for the short term sampling and long term sampling.

Page 7-3, Figure 7-1

Please include metals removal unit and a bypass carbon absorption unit. Sampling ports at a minimum shall be provided at the influent to the system, after the oil/water and metals removal components and after both the air stripper and the bypass carbon absorption unit.

REVIEW COMMENTS
30 Percent Design Submittal
Basis of Design Report for the Hadnot Point Industrial Area
Shallow Aquifer Ground Water Treatment System
MCB Camp Lejeune
Jacksonville, Onslow County, North Carolina
Prepared By:
NC Superfund Section
March 29, 1993

General

1. The 30% Design submittal is based largely on the results of the treatability study. Although the treatability study demonstrated effective removal of VOC's, it is noted that the levels of VOC contamination in the recovered groundwater are not representative of the contaminated plumes. Because of this, the treatment system must be designed for assumed contaminant levels. These design levels should be approved by the NC Superfund Section and US EPA Region 4.

2. The bench study notes significant removal of metals through the use of an anionic polymer; however, the use of metal removal is not included in the treatment system. The NC Superfund Section recommends that the groundwater be treated for metals in order to assure the proper operation of the treatment system. Please note that the requirement for metals removal is in the Record of Decision for this work.

3. The elimination of the carbon absorption/polishing unit can not be substantiated based on the results of the Treatability Study. Because of this we request that a Carbon Unit be incorporated into the design and operation of the treatment system. As discussed at the March 23, 1993 meeting in Raleigh, NC, the carbon unit can be installed with a bypass. If VOC concentrations exceed levels suitable for discharge to the Hadnot Point Sewers and sewage treatment plant, the unit can be put on line. This will be based on monthly monitoring of VOC's at the Air Stripper Effluent, and the carbon absorption unit when required.

4. As part of the planned work for the Remedial Investigation of Operable Unit #1 (Sites 21,24, and 78), all wells are to be resampled in the HPIA area for TCL organics and TAL inorganics. This work is scheduled to occur between June 21 and July 15, 1993, after the planned submission of the Final Design Report for this work.

It is appropriate that each aspect of the Remedial Action Design as proposed in the Final Design Reports, be reviewed in light of the new data that will be generated in the upcoming sampling event. The findings of this review should be submitted to the NC Superfund Section and EPA Region IV, documenting that the proposed Remedial Action that is planned is effective in containing the contaminant plume as designed. If this is not the case, an addendum should be submitted with recommended design changes. This may be limited to the size and design of treatment equipment or the number and location of recovery wells. This review should occur as soon as possible and certainly before mobilization.

In addition, some consideration should be given to the Final Remedial Action based on information obtained during the upcoming sampling event. Questions as to whether the treatment systems should be upgraded to handle future flows (that might be part of a final remediation effort) should be addressed.

5. The NC Superfund Section has concerns with the low pumping rate from the recovery well and the calculated radius of influence. We have discussed this with the US EPA Region IV and we look forward to reviewing their comments.

6. Sewer system Evaluation.
The sewer system, as noted in your report, is 50+- years old and constructed of vitrified clay pipe. The data collected indicates a high degree of inflow and infiltration. Based on the sewer age, materials of construction and possible high infiltration rates it must be assumed that periods of high exfiltration may also occur due to cracks, open joints, and the general loss of pipe integrity. Because of this, contaminant levels in waste water flows must not exceed NC Groundwater standards where sewer line integrity is of question. This can best be accomplished, with the greatest degree of certainty, by assuring that the effluent from the treatment system meets groundwater standards.

Specific Comments

Comments addressed in General Comments will not be addressed in this section.

Page 2-5, 2nd paragraph.

Please include in this discussion the presence of vinyl chloride which is discussed in the treatability study. The analysis during the treatability study indicated VC at concentrations greater then 300 ppb. NC Groundwater Standards is .015 ppb.

Page 3-5, Table 3-3.

This table shows an increase in lead levels when actually there should have been no change if not a slight decrease. This cannot be considered normal analytical variance because of the magnitude. Normal analytical variance should not exceed 25%.

Page 4.2, Table 4-1.

As noted in the General Comments, Table 4-1 should be amended to provide for Metals Removal and a standby carbon absorption polishing unit.

Page 4.4, Section 4.2

This section should be revised to include metals removal and a standby carbon absorption polishing unit.

Page 4.4, Section 4.3

Please revise this section to incorporate the following comments. Based on the data submitted, it must be assumed that the existing sewer system is in poor condition and a good deal of infiltration to the soils and groundwater could occur. The 8" sewer does not have sufficient capacity to handle the proposed flows. Because of this, 1.) discharge to the sewers must be limited to the 12" and 15" sewers, and 2.). Sewer flows must not exceed NC Groundwater Standards in any location where pipe integrity is of question. It is recommended that the effluent from the treatment system meet NC Groundwater Standards.