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(804) 445-8637

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JUL 15 1993

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Waste Management Division
United States Environmental Protection Agency,
Region IV
Attn: Ms. Michelle Glenn
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Re: MCB Camp Lejeune; Hadnot Point Industrial Area-Response to EPA Region IV Comments on the 90 Percent Design Submittal

Dear Ms. Glenn:

This letter addresses comments from EPA Region IV on the 90 percent design submittal for the shallow aquifer at the Hadnot Point Industrial Area. The comments were contained in a letter from Ms. Michelle Glenn, dated May 26, 1993.

Our responses to these comments have been incorporated into the June 18, 1993 Final Design Submittal and the June 14, 1993 Draft Final Remedial Action Work Plan for the project.

If you have any further questions or comments, please contact Ms. L. G. Berry, at (804) 445-8637.

Sincerely,

L. A. BOUCHER, P.E.
Head
Installation Restoration Section
South
Environmental Quality Division
By direction of the Commander

Encl:
Response to EPA Region IV Comments on the 90 Percent Design Submittal for the Hadnot Point Industrial Area Shallow Aquifer Marine Corps Base Camp Lejuene (EPA letter dated May 26, 1993)

Copy to:
NC DEHNR (Mr. Peter Burger)
MCB Camp Lejeune (Mr. Neal Paul)

Blind copy to:
18231 (2 copies w/encls)
18S
LGBDOC: 90resp

ATTACHMENT A

RESPONSE TO EPA REGION IV'S COMMENTS ON THE
90 PERCENT DESIGN SUBMITTAL
FOR THE HADNOT POINT INDUSTRIAL AREA
SHALLOW AQUIFER
MARINE CORPS BASE CAMP LEJEUNE

GENERAL COMMENTS:

1. **Demonstrate that the January, 1991 sampling data conservatively represents the current level of contamination in the shallow groundwater aquifer.**

   Response to Comment:
   As requested by N. C. DEHNR at the design review meeting on May 19, 1993, Baker has reviewed preliminary VOC data from groundwater samples taken in May, 1993. A summary of this data is included in the Final Basis of Design Report. In general, this preliminary data shows no significant change in the VOC contamination at the site. A 1,2-dichloroethene concentration of 14,000 ug/l was detected at HPGW 23, which is higher than the previous maximum concentration of 8,900 ug/l, but less than the maximum concentration of 42,000 ug/l used for design purposes. No new maximum benzene or TCE concentrations were detected. Therefore, it appears that the VOC data used in the design represents maximum concentrations detected.

2. **Baker did not include operation and maintenance plans and a quality assurance plan in the Prefinal Design.**

   Response to Comment:
   These plans are addressed in the Draft Final Remedial Action Work Plan, dated June 14, 1993.

3. **The Prefinal Design did not include essential background data to support the design criteria selected.**

   Response to Comment:
   The Final Basis of Design Report includes backup calculations and assumptions.

4. **No significant modification to the recovery well spacing design approach had been made in the Prefinal Design.**

   Response to Comment:
   This item was discussed at length during the May 19, 1993 meeting. It was agreed that because this project is an interim remedial action with tight time constraints, the recovery well layout could be installed as proposed.

5. **The proposed groundwater treatment system does not demonstrate that the North Carolina water quality standard (0.015 ug/l) will be met for vinyl chloride.**

Response to Comment:
This item was discussed during the May 19, 1993 meeting. It was noted that the detection limit for vinyl chloride, 1 ug/l, is greater than the groundwater quality standard. Mr. Peter Burger stated that North Carolina will not require testing to verify treatment below 1 ug/l. The air stripper is designed to remove vinyl chloride to less than 1 ug/l.

6. **Include a drawing of the proposed recovery well in the design drawings.**

Response to Comment:
A detail of the recovery well is shown on sheet c-8 of the design drawings.

7. **Additional aquifer testing should be conducted to determine hydraulic properties of the aquifer.**

Response to Comment:
As discussed during the May 19, 1993 meeting, aquifer tests will be conducted to determine if modifications are necessary to the recovery well configuration. This requirement is addressed in the Draft Final Remedial Action Work Plan.

8. **Determine grain size of the soils prior to installation of the recovery wells so that an appropriate screen size can be selected.**

Response to Comment:
This requirement will be incorporated into the project.

9. **Place a recovery well near HPGW 6.**

Response to Comment:
The well configuration on Drawing C-3 has not been modified to place a recovery well near HPGW 6. If groundwater sampling from this well during the first year of system operation indicates that it should be considered within the plume, an addional recovery well can be installed in this area.

SPECIFIC COMMENTS:

1. **Page 3-1, Paragraph 3, Section 3.0 should be revised to explain how the treatability study results have impacted the design process.**

Response to Comment:
This section has been revised as requested.

2. **Page 3-1, Paragraph 6, Section 3.1 should be revised to explain the rational for selecting samples from HPGW 24-1.**

Response to Comment:
This section has been revised as requested.

3. **Page 3-3, Paragraph 1, Section 3.1.1 should include the results of the oil and grease removal tests.**

Response to Comment:
Table 3-2 has been added to the report to summarize oil and grease removal test results.

4. **Page 3-3, Paragraph 2, Section 3.1.2** should include data to support the conclusion that the metals are in a suspended solid form.

Response to Comment:
The text has been revised and Table 3-3 has been added to the report to present total and dissolved metals data.

5. **Page 3-3, Paragraph 5, Section 3.1.2 presents conflicting statements regarding the use of appropriate sampling data.**

Response to Comment:
Section 3.1.2 has been revised to note that the raw sample concentrations for the metals from the bench-scale tests compare favorably with the concentrations of the raw groundwater collected during the pilot-scale test.

6. **Page 3-6, Paragraph 1, Section 3.1.2, See Comment 5 above.**

Response to Comment:
See Comment 5 above.

7. **Page 3-7, Paragraphs 1 and 2, Section 3.2.1** should be revised to include the equations and rationale used to determine aquifer characteristics.

Response to Comment:
Calculations and assumptions used in determining aquifer characteristics have been included in an appendix to the report.

8. **Page 4-1, Paragraph 2, Section 4.0 should be revised to include the equation for computing the 95th percentile.**

Response to Comment:
Section 4.0 has been revised as requested.

9. **Page 4-2, Figure 4-1 should be revised to include backwash piping from the sand filters and carbon absorbers.**

Response to Comment:
Figure 4-1 has been revised as requested.

10. **Page 4-6, Paragraph 1, Section 4.1 should be revised to** describe how the screen depth for the recovery wells was determined.

Response to Comment:
Based on a review of pump test data from nearby sites, and after considering the results of the pilot test, Baker believes that increasing the screen depth of the recovery wells may improve the groundwater recovery rate. During recovery well installation, the final depth will be adjusted based on the subsurface conditions at each recovery well site.

11. **Page 4-7, Paragraph 2, Section 4.2 should be revised to indicate how the capacity of the sludge dewatering press was determined.**

Response to Comment:
Calculations and assumptions used in determining aquifer characteristics have been included in an appendix to the report.

Monitoring requirements for VOCs are included in the Draft Final Remedial Action Work Plan.

12. **Revise Drawing C-2 to show how carbon backwash liquid will be handled.**

Response to Comment:
Drawing C-2 has been revised to show that the carbon backwash will be sent to the head of the treatment plant.