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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

March 13, 1997

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Katherine Landman
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1823
Norfolk, Virginia 23511-6287

SUBJ: MCB Camp Lejeune
Draft Feasibility Study Report
Operable Unit 10 - Site 35

Dear Ms. Landman:

The Environmental Protection Agency (EPA) has completed its review of the above subject document. Comments are enclosed.

If you have any questions or comments, please call me at (404) 562-8538.

Sincerely,

Gena D. Townsend
Senior Project Manager

Enclosure

cc: Dave Lown, NCDEHNR
Neal Paul, MCB Camp Lejeune

1.0 GENERAL COMMENTS

1. Section 2.1, Page 2-1, Paragraph 4, Bullet 4, states that lead was detected at a maximum concentration of 15.4 μg/L in samples collected for the SGI. However, because the average lead concentration of 6.1 μg/L was less than the action level of 15 μg/L, it was not retained as a COPC in the SGI. The decision to compare the average lead concentration to its action level is questionable. The maximum lead concentration should be compared to its action level which would result in lead being retained as a COPC in the SGI.

2. Section 4.1.5 states that groundwater at the site generally flows in a northeasterly and a southeasterly direction toward Brinson Creek. A slurry wall has been proposed to intersect these two directions of groundwater flow. Prior investigations and Figure 4-5 show three directions of discharge to Brinson Creek: southeast, lower northeast, and upper northeast. However, only two slurry walls were proposed. The text should explain why a slurry wall was not proposed for the upper northeast.

3. Section 4.1.4, Page 4-6, Paragraph 3, Sentence 1, states that RAA4 includes the installation of seven, six-inch diameter walls and a 40 gallon per minute (gpm) groundwater treatment facility. However, if all seven wells operate simultaneously at maximum capacity, the 40 gpm capacity of the groundwater treatment plant is inadequate. This potential problem should be carefully studied and resolved.

4. Figure 4-7 shows in-well aeration with off-gas carbon adsorption. The wells are placed at approximately 200 feet intervals. However, there is a 900 feet interval between the in-wells adjacent to wells 35-MW41B and 35MW-32A. This interval seems to be too large, taking into consideration that water does flow in the subject interval's direction. An explanation should be given for not having in-wells at this interval.

5. Section 5.2.2, Page 5-6, Paragraph 4, Sentence 1, states that replacement of PVC monitoring wells will be done every five to ten years. However, the EPA SOPQAM states that PVC should not be used for monitoring wells where VOCs in the groundwater are a concern. Stainless steel should be used in well construction for groundwater monitoring of VOCs.

2.0 SPECIFIC COMMENTS

1. **Executive Summary, Page ES-5, Paragraph 2.**
The text indicates that technical literature strongly supports the natural attenuation of fuel contaminants in a variety of subsurface conditions. However, the text does not give any reference about the technical literature. This technical literature should be provided in the reference list so it can be verified.

2. **Section 1.3.1, Page 1-3, Paragraph 1, Sentence 1.**
The text discusses the boundaries of the groundwater contamination. However, the text does not reference a figure where the boundaries are clearly identified. A reference should be made to a figure where the boundaries are depicted.

3. **Figure 1-7**
Figure 1-7 shows the hydrogeologic cross section c-c' at Site 35. However, wells 35MW-37B and 35MW-33B are incorrectly screened. Figure 1-7 shows almost 50% of the screens in the Castle Hayne Confining Unit. The figure should add an explanatory note regarding the reason for screening the wells in the confining unit.

4. **Figure 1-10**.
Figure 1-10 shows the limits of combined fuel-related contamination in the upper portion of the surficial aquifer detected during the RI. However, a few of the isoconcentration lines on the figure are disjointed. The isoconcentration lines should be completed.

This comment also applies to Figures 1-11 through 1-14.

5. **Figure 1-14**.
Figure 1-14 shows the limits of combined solvent-related contamination in the lower portion of the surficial aquifer. However, the green isoconcentration lines are not appropriately labeled or included in the legend. The legend should be revised accordingly.

6. **Section 2.0**.
Section 2.0 discusses remediation goal options, remediation levels, and remedial action objectives. However, pages 2-3 and 2-4 are missing from the document. Pages 2-3 and 2-4 should be included in the document.

7. **Table 2-1**.
Table 2-1 shows the contaminant of concern for the Feasibility Study. However, the table notes allude to the list that includes contaminants of potential concern. The discrepancy between the usage of contaminants of concern and contaminants of potential concern on this table should be resolved.

8. **Table 2-7**.
The table shows Target Hazard Quotients (HQ) of 1.0, 0.1, and 0.01 for the non-carcinogenic risk-based RGOs. However, normally these HQ values are 0.1, 1.0, and 3 according to EPA guidance. The target HQ values in this table should be corrected.

9. **Table 3-1**.
Table 3-1 lists the potential set of remedial action technologies and process options at OU No. 10. However, the table incorrectly lists Carbon Absorption as a process option. The correct process option should be Carbon Adsorption. The table should be corrected accordingly.

This comment also applies to other parts of the document where carbon absorption is incorrectly used.

10. **Section 4.1.3.1, Page 4-4, Paragraph 2, Bullet 2**.
The text states that Table 4-1 lists the analytical parameters that will provide the appropriate data. However, Table 4-1 is missing and should be added to the document.

11. **Table 5-1.**
Table 5-1 shows a summary of detailed analysis for the remedial action alternatives. However, the seventh column on the table is incorrectly labeled RAA5 In-Well Aeration. The column should be labeled RAA6 In-Well Aeration instead. The table should be corrected accordingly.

12. **Table 5-2.**
Table 5-2 refers to Table 5-2C as the source for the sample shipping cost component. However, Table 5-2C does not have sample shipping data. The discrepancy should be resolved.

13. **Table 5-3.**
Table 5-3 shows the estimated costs for groundwater RAA No. 3. However, this table contains numerous errors:

- The Highway Construction cost component references Table 5-3A, instead of Table 5-3C.
- The labor, travel and per diem cost component reference Table 5-3C, instead of Table 5-3D.
- The well replacement references Table 5-3E, instead of Table 5-3F.
- The $32,853 in the Annual O&M cost section is not in Table 5-3D as referenced.

The table should be corrected accordingly.

14. **Table 5-6.**
Table 5-6 shows estimated costs for groundwater RAA No. 6. However, the total cost of $12,163 for site work is incorrect. The correct amount should be $24,163. This change will increase the cost of RAA No. 6 by $12,000. The table should be corrected accordingly with the revised amount reflected in the cost of RAA No. 6.