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(804) 445-2931

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24 MAR 1992

CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

Re: MCB Camp Lejeune; Responses to EPA Region IV Comments on the Draft Interim Remedial Action RI, Focused FS, and Proposed Plan for the Shallow Aquifer at the Hadnot Point Industrial Area

Dear Ms. Glenn:

We have received the Environmental Protection Agency, Region IV comments (letter dated January 27, 1992 received in our office January 27, 1992) to the subject draft documents. The Navy/Marine Corps responses to these comments are enclosed.

Any questions concerning these responses should be directed to Mr. Byron Brant at (804)-445-2931.

Sincerely,

P. A. RAKOWSKI, P.E.
Head
Environmental Programs Branch
Environmental Quality Division
By direction of the Commander

Enclosure

Copy to:
NCDEHNR (Mr. Jack Butler)
MCB Camp Lejeune (Mr. George Radford)

Blind copy to:
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US Environmental Protection Agcy
Ms. Michelle Glenn
345 Courtland St NE
Atlanta, GA 30365

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3/24/92

ATTACHMENT A

RESPONSE TO COMMENTS ON THE INTERIM ACTION PROPOSED PLAN FOR THE SHALLOW AQUIFER, HPIA, MCB CAMP LEJEUNE EPA REGION IV LETTER DATED JANUARY 27, 1992

Response to General Comments

1. The PRAP has been revised and has incorporated EPA's proposed revisions as appropriate.

2. Expected air emissions have been evaluated using EPA's SCREEN model. No State air standards are anticipated to be exceeded. Section 4 of the Draft Final FS addresses this issue.

3. Soils at the Hadnot Point Industrial Area Operable Unit will be addressed in an upcoming RI/FS. This Interim Remedial Action FS only addresses known groundwater contamination in the shallow aquifer.

4. Pre-treatment standards and other substantive requirements involving permits are discussed in Section 4.

Response to Specific Comments

1. A scale has been added to Figure 2.

2. The sentence has been revised as noted in the comment.

3. This section now includes a primary contact for MCB Camp Lejeune (Mr. George Radford) and for the Navy (Mr. Byron Brant).

4. The mailing list will be maintained by MCB Camp Lejeune.

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ATTACHMENT B

RESPONSE TO COMMENTS ON THE INTERIM ACTION REMEDIAL INVESTIGATION FOR THE SHALLOW AQUIFER, HPIA, MCB CAMP LEJEUNE EPA REGION IV LETTER DATED JANUARY 27, 1992

Response to General Comments

1. With respect to studies on surface water and sediment associated with the HPIA operable unit, the Navy/Marine Corps will investigate all applicable surface water bodies under a new RI/FS. This RI/FS will focus on two new sites within the HPIA operable unit: Sites 21 (Transformer Storage Lot) and 24 (Industrial Area Fly Ash Dump). In addition to these sites, the RI/FS will address shallow soils, surface water/sediment, and groundwater (shallow and deep aquifer) at the HPIA operable unit.

With respect to the need to perform detailed hydrologic or hydraulic tests on the deep aquifer, a short-term pump test was conducted on the deeper aquifer a few years ago by ES&E. It is possible that an addition aquifer tests will be conducted under the upcoming RI/FS for the HPIA operable unit. The results of this pumping test will be provided and discussed in the Interim Remedial Action RI in order to illustrate the relationship between the shallow and deep aquifers.

With respect to data gaps regarding background groundwater quality, a background well will be installed under the upcoming RI/FS.

With respect to collecting more data to determine the final remedy for the shallow aquifer, the upcoming RI will focus on data collection for supporting a final remedial action. A final remedial action for the shallow aquifer will be identified under the upcoming RI/FS.

With respect to "cleanup criteria", soil and groundwater action levels will be identified in the upcoming RI/FS. For the interim remedial action of the shallow aquifer, the only goal is to contain the migration of the shallow aquifer while additional information is collected to determine a final remedy. No groundwater cleanup criteria have been identified as part of the Interim Remedial Action FS. This is consistent with OSWER Directive 9355.4-03 (Considerations in Ground Water Remediation at Superfund Sites).

With respect to the disposition of the benzene plume in the shallow aquifer (we assume that EPA is referring to the Fuel Tank Farm), remedial action has already been implemented on the benzene plume as part of an Underground Storage Tank investigation to be coordinated with the State of North Carolina UST program. Soil remediation at the fuel farm will be addressed separately since the source of the problem are leaking petroleum storage tanks.

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2. Areas of concern and building numbers are now shown on Figure 2-2. In addition, scales have been added to all figures.

Response to Specific Comments

1. This paragraph has been revised to discuss the need to assess the shallow aquifer due to its designation as a Class IIB aquifer. In addition, a quantitative risk assessment will be conducted as opposed to a qualitative risk assessment (originally, a qualitative risk assessment was performed in accordance with EPA's earlier direction per letter from Mr. Carl Froede, EPA Remedial Project Manager).

2. A quantitative risk assessment will be performed. Unfiltered metal analyses will be utilized in the calculation of risks.

3. The "guidance" stated in this sentence (Page 1-1, third paragraph) was outlined in a letter from Mr. Froede to Ms. Laurie Boucher (attached). The letter provided direction for conducting an Interim RI/FS. Attached to Mr. Froede's letter was EPA Publication 9355.3-02FS-3, which focused on preparation of RODs. The reason that Mr. Froede's letter (or guidance) was included in the RI Report Introduction was because it provided the basis for conducting the RI/FS in the manner that it was conducted. That is: a qualitative risk assessment; use of existing information to conduct a "focused" RI and FS; and the selection and evaluation of only a "few" alternatives. This sentence has been replaced since EPA has given new guidance and direction on how to proceed with this Interim Remedial Action RI/FS.

4. This section describes the "newly defined" HPIA operable unit (i.e., inclusion of Sites 21 and 24 along with other areas of concern) and explains how this Interim Remedial Action RI only focuses on currently known groundwater contamination in the shallow aquifer at the HPIA. Following the investigation of Sites 21 and 24 and further investigation of the HPIA deep aquifer and shallow soils, a final RI/FS for the HPIA operable unit will be prepared and a final remedy for the shallow aquifer will be identified.

5. This figure has been replaced by newly-acquired CADD drawings.
6.This sentence states that the Navy's Installation Restoration Program (IRP) conforms to the Program used by the EPA. The sentence does not state that the EPA developed the terminology or structure of the Program. Nevertheless, this sentence has been revised to avoid any misinterpretation.

7. MCLs are now defined in the text.

8. The rationale for not performing these tests during the Step IB Characterization is unknown. This investigation was performed by ES&E during the mid 1980s. An aquifer test was performed under another investigation following the Step IB characterization.

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The scope and results of this test are now discussed in Section 2.2 and 3.7.

9. The rationale for not collecting subsurface soil samples during the augering of boreholes for monitoring wells is unknown. These investigations were performed by ES&E during the 1980s through 1990.

10. There is a lack of documentation with respect to why only certain parameters were analyzed for during previous investigations. The RI will address this lack of information.

11. No effort has been made to locate these wells at this time. An effort will be made in the near future since the shallow aquifer will be investigated as part of the upcoming investigation for Sites 21 and 24.

12. The benzene plume will be addressed separately and will no longer be studied as part of this RI/FS. The benzene plume is associated with Site 22, which is no longer applicable to CERCLA since the problem is related to leaking underground petroleum tanks. This section has been revised to clarify this recent change in strategy by LANTDIV and the EPA.

13. The characterization step did not focus on the Fuel Tank Farm, which appears to be the source of the benzene plume. The characterization step focused on the various areas of concern that are associated with the 900 Building Area, the 1200 Building Area, and the 1600 Building Area.

It should be noted that the horizontal and vertical extent of contamination of this plume is rather well defined at present (see Figure 4-1 in the RI Report). Wells outside of the plume area do not exhibit the presence of BTEX constituents. Deeper wells indicate a limited extent of contamination.

14. The intent of this section (3.2, Surface Water) is to describe the physical characteristics of surface waters.

15. Wetlands are located within the boundary of Camp Lejeune, but none are present within the HPIA operable unit. A sentence has been added to state this.

16. The intent of this RI was to use only available information, per EPA's direction (letter from Mr. Carl Froede). Therefore, the project was not scoped or budgeted to re create figures that were already available. New figures pertaining to the geologic stratification of the study area will be included in the upcoming RI/FS for the HPIA operable unit (this RI/FS will include Sites 21 and 24) due to EPA September 24, 1992.

17. New figures have been developed and are included in the report.

18. Surface water/sediment data will be collected as part of the upcoming RI/FS for the HPIA operable unit.

19. This sentence has been revised since it does not reflect EPA Region IV protocol.

20. This sentence has been removed.

21. No raw data tables are available to check the accuracy of the data tables in the ES&E reports. This problem was noted in the report (see Section 6.0). Upcoming investigative reports will include raw laboratory data sheets in the Appendices.

22. Available information did not lead the Navy/Marine Corps to collect samples at that time.

23. Future sampling activities will employ EPA protocols for field sample collection, handling, and decontamination activities (use of EPA Region IV guidelines), along with laboratory sample handling and analysis procedures (EPA/CLP methods, when applicable). Field and laboratory QA/QC samples also will be used to assess false positives or negatives.

24. See Response No. 23.

25. We agree with this statement. Future well construction specifications will take into account soil characteristics at the HPIA in order to determine slot sizes or filter pack materials.

26. See Response No. 23.

27. See Response No. 23.

28. This sentence has been modified since all discussions pertaining to unfiltered samples (with respect to high inorganic values) have been eliminated or modified.

29. Future RI field investigations at this operable unit will obtain soil samples for physical analysis from known source areas and from areas requiring soil removal, treatment, or containment.

30. This sentence has been modified to indicate that the source of elevated metals in the groundwater is not known in all cases due to a lack of soil data or to a lack of a known spill/discharge event in that area of the operable unit.

31. See Response No. 30.

32. This conclusion has been modified to incorporate the comment.

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33. All available boring logs are now included. Missing logs have been noted and an attempt to obtain them has been made.

34. A date has been included for the Supplemental Characterization Data and a summary of laboratory qualifiers has been included in Appendix B.

35. See Response No. 23.

- 3/24/92

ATTACHMENT C

RESPONSE TO COMMENTS TO THE INTERIM REMEDIAL ACTION FOCUSED FEASIBILITY STUDY EPA REGION IV LETTER DATED JANUARY 27, 1992

Response to General Comments

1. With respect to the portion of this comment, the FS was not conducted to evaluate all possible technologies or alternatives at the direction of EPA Region IV (see Page 2 of the attached letter from Mr. Carl Froede, EPA Remedial Project Manager). Mr. Froede's directions are supported by OSWER Directive No. 9355.4-03 (attached) where it states that the "Record of Decision (ROD) for an interim remedy may be prepared with a limited evaluation of alternatives...".

With respect to the comment which takes exception to the discussions referring to "Interim remedial action alternatives are not required to meet ARARs", these discussions have been modified to reflect Section 121(a)(4) of CERCLA. Section 121(a)(4) of CERCLA as amended by SARA indicates that if the remedial action is an interim remedy, ARARs may be waived. However, the final remedy must attain ARARs upon its completion. The discussions pertaining to meeting ARARs in the FS were referring to the cleanup levels. This has been clarified throughout the FS.

2. We agree. This has been clarified in the FS.

3. The FS has been revised to include a more complete evaluation of technologies and alternatives in accordance with EPA guidelines. The Draft FS was prepared in accordance with Mr. Froede's directions were only a limited number of alternatives were considered (see Attached letter from Mr. Carl Froede to Ms. Laurie Boucher). The intent of the way that the FS was conducted was to identify an interim remedy in a shorter timeframe so that remediation of the shallow aquifer could be initiated as soon as possible. Only few alternatives would be considered at this time. The permanent remedy for the shallow aquifer would take into account a more thorough FS.

4. See Response No. 3.

5. See Response No. 3.

6. These sections have been revised.

7. The 30 year period was based on the maximum time period suggested by EPA guidance. This has been clarified in the FS.

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8. Pretreatment standards are addressed in the Draft Final FS. The need to obtain a permit for discharge to onsite surface water bodies could be waived. We recognize that the substantive requirements of the permit need to be met.

Response to General Comments on the Proposed Extraction and Treatment System

1. The installation of numerous recovery wells may be an overkill and may not be cost effective, even though the number of wells proposed by EPA was based on modelling. The accuracy of the model is arguable, especially with the limited amount and quality of information on the characteristics of the aquifer. Perhaps modelling would be more beneficial after long-term pumping data are obtained following the first year of operating the interim remedy. Modelling may be performed at a later time to evaluate the permanent remedy for the shallow aquifer. At this time, the phasing of extraction wells is cost effective and in accordance with OSWER Directive 9355.4-03 (see Page 4, last paragraph under Recommendation No. 1).

With respect to remediating the Castle Hayne aquifer simultaneously with the shallow aquifer, it should be noted that pumping actions in the Castle Hayne may cause contaminants to migrate vertically from the shallow aquifer. Therefore, more harm to this aquifer could be the result. This possibility will be evaluated in the upcoming RI/FS for the entire HPIA operable unit.

In summary, no modelling will be performed at this time. The placement of wells are based on where the highest levels of contamination are found in addition to what is believed to be the outer reaches of the contaminant plumes.

2. A treatment component has been added to remove other elevated metals.

Response to Specific Comments

1. The objectives have been redefined in this section. Additional data will be collected in the upcoming RI/FS for the HPIA operable unit.

2. This section has been revised to reflect the comment.

3. This alternative has been revised. There is now a No Action alternative along with a No Action with Institutional Controls alternative.

4. This section has been deleted.

5. Similar tables have been used in other EPA documents. It has been retained since the intent of the Executive Summary is to summarize the important findings and details of the FS for those users who do not have the time to read the entire document. The table has been modified to include more information.

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6. This paragraph has been revised to reflect the most recent reports.

7. This section has been revised to eliminate the discussion of phases and the numerical identification of FS activities. However, the activities listed are identified in the EPA RI/FS guidance document.

8. This has been clarified.

9. The depth to the water table has fluctuated based on previous reports. This section has been revised and a range of the depths to the water table has been given.

10. This section has been retained to document that another plume does exist in the shallow aquifer. However, this section has been revised to note that it is being addressed by the UST group and will not be included in the FS. This "BTEX" plume, however, can not be ignored when addressing the remediation of other plumes within the HPIA operable unit. The placement of extraction wells throughout the HPIA operable unit must consider whether the pumping action will influence the migration of BTEX constituents from this plume.

11. This section has been revised to reflect the comment. The alternative of sending the groundwater to the HPIA STP for treatment/discharge is feasible and was retained in the Interim Remedial Action FS.

12. This section has been revised to reflect that no the baseline risk assessment performed by ES&E was for the shallow soil and deep groundwater, and that no risk assessment for the shallow groundwater has been previously performed.

13. This section has been revised.

14. Discussions pertaining to unfiltered samples/elevated metals have been modified or eliminated throughout the RI Report.

15. No raw data tables are available to check the accuracy of the data tables in either the ES&E reports or the Baker report, which obtained information directly from the ES&E reports. Navy/Marine Corps has noted this problem in the report (see Section 6.0). Upcoming investigative reports will include raw laboratory data sheets in the Appendices.

16. See Response No. 14.

17. With respect to the RA objectives, new objectives have been identified in accordance with EPA guidelines. This section has been revised.

18. No. Because this was an interim remedy, only conventional cleanup technologies were identified and evaluated in the FS. It was Navy/Marine Corps's/LANTDIV's understanding that the need to evaluate innovated technologies was not warranted (see attached letter from Mr. Carl Froede, EPA Remedial Project Manager). Innovative technologies will be considered in the next version of this FS per EPA's direction.

19. A statement has been added to reflect the comment.

20. This section has been revised and a less-detailed description is given in this section. Section 4.0 contains a more-detailed description of the alternative.

21. This technology was retained initially, but was eliminated after the technologies were further evaluated. The text now reflects this.

22. Surface water-related ARARs are discussed in Section 4.0 for the alternatives. The intent of this section (Section 2.3.2.6) was to only identify potential discharge options and not to discuss applicable ARARs. The discussion pertaining to permitting has been deleted and is now discussed in Section 4.0.

23. Figure 4-4 in the EPA guidance document (OSWER Directive 9355.3-01) identifies a POTW as a process option for offsite discharge. The POTW has been retained as a discharge option.

24. The North Carolina DEHNR (Mr. Jack Butler) has confirmed that the injection of hazardous waste via injection wells are prohibited under North Carolina General Statues, Chapter 143, Section 143-214.2(b). In addition, the physical characteristics of the aquifer would not be suitable for reinjection. This has been clarified in the FS.

25. The POTW referred to in Table 2-2 were other POTWs in the area, such as the City of Jacksonville and other treatment plants operated by MCB Camp Lejeune. This has been clarified in the text.

26. This technology has been retained.

27. Both No Action and No Action with Institutional Control alternatives have been developed in the Final Draft FS.

28. The sampling frequency has been changed to quarterly in order to assess seasonal effects.

29. Yes, the STP can easily handle the projected flows resulting from this alternative. The STP is discussed in detail in Section 4.0 of the FS. Flows are also discussed in this section.

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30. This figure has been revised. Monitoring wells to be used for long-term monitoring have been modified to take into account lead and other elevated metals.

31. The phased approach given in the FS may be more cost effective and technically correct than installing numerous monitoring wells as proposed by EPA (see previous comment/response concerning modelling). The phased approach to installing wells is recommended by EPA (see OSWER Directive 9355.4-03). Modelling may be performed after the first year of operation when better data are available to input into the model. Modelling may be more applicable when a final remedy is being evaluated. At this time, no modelling will be performed.

32. The holding tank would most likely be designed for extra capacity in the event of a system shutdown. This would be determined during the design phase.

33. This has been corrected to indicate that bench-scale studies may be more appropriate.

34. The sanitary sewers are not a part of a combined effort. The integrity of the sewer system was qualitatively assessed by Camp Lejeune public works personnel. The system should not require an upgrade based on their evaluation.

35. This ratio is based on the current flow to the STP and the projected flow of the alternative. Current and projected flows to the STP are discussed in Section 4 of the FS.

36. Codells Creek discharges to the New River. Based on the current flow and capacity of this creek, it should be able to handle the anticipated discharge rates.

The discussion/evaluation pertaining to carbon systems has been modified to address the comment. However, much of the information would be determined during the design of the alternative and not in the FS.

37. We agree with the comment. The FS reflects that substantive requirements would have to be met.

38. The alternative was developed because the capacity of the STP may be problematic in a few years due to other STPs at Camp Lejeune shutting down and their flows re-directed to the Hadnot Point STP. It has been eliminated.

39. This alternative has been removed.

40. This section has been revised to reflect EPA guidance.

41. No comment was provided.

42. The comparative analysis of alternative is now provided at the end of Section 4 in accordance with EPA guidance.

43. This has been corrected in accordance with the comment.

44. This section was originally prepared in accordance with EPA's direction (see attached letter from Mr. Carl Froede, EPA Remedial Project Manager). The section has been revised to provide more information with respect to evaluating the technologies/alternatives.

With respect to the comment concerning ARARs, Section 121(a)(4) of CERCLA as amended by SARA indicates that if the remedial action is an interim remedy, ARARs may be waived. However, the final remedy must attain ARARs upon its completion. The FS has been revised to indicate this.

The last sentence has been removed in accordance with the comment.

45. This paragraph has been deleted.

46. See Response No. 44.

47. Hourly costs include markups. A person making a wage of $16.00 per hour may actually cost his employer $34 per hour (including benefits, etc.). Nevertheless, the hourly rates may be excessive and have since been reduced. It will have little bearing on the present worth of the alternative.

48. This section has been revised and is now a part of Section 4, in accordance with a previous comment (see Response No. 42).

49. See Response No. 48.

50. This section has been deleted.

51. Future sampling activities will employ EPA protocols for field sample collection, handling, and decontamination activities (use of EPA Region IV guidelines), along with laboratory sample handling and analysis procedures (EPA/CLP methods, when applicable). Field and laboratory QA/QC samples also will be used to assess false positives or negatives.