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July 15, 1993

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To	Linda Berry	From	Peter Burger
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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, NC 28542-5001

RE: Draft RI/FS for Operable Unit #2, Site 48
MCB Camp Lejeune, Jacksonville, Onslow County, NC

Dear Ms. Berry:

The NC Superfund Section is still in the process of reviewing the referenced document. We are providing you with our preliminary comments at this time. These comments pertain to the Baseline Risk Assessment. We should have our complete comments to the Draft Document available next week.

Sincerely,

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

Attachment

PRELIMINARY COMMENTS
Draft RI/FS, Operable Unit #2, Site 48
MCB Camp Lejeune
Prepared by: NC Superfund Section
July 1993

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1. The problems with the Section 6.2.2 "Selection of Potential Contaminants of Concern" are too numerous to list. General comments are listed below:
 - a. ~~A chemical not being historically associated with the site is not a valid reason to drop it from the list of chemicals of concern.~~
 - b. For organic chemicals that are believed to be laboratory related, the concentration in the lab blank, the concentration in the sample, and the parameters used to determine a significant difference between the two must be given.
 - c. For inorganics chemicals that are believed to be attributable to background concentrations, the background concentration, the concentration in the sample, and the parameters used to determine a significant difference between the two must be given.
 - d. If chemicals are excluded from the list of chemicals of concern because their concentrations do not warrant they be included, the levels detected and quantitative parameters by which they are excluded must be given.
 - e. When excluding chemicals because of infrequent detection, "infrequent" needs to be defined and used consistently throughout the selection procedure. If it is not, a justification must be included with the exceptions.
2. Page 6-7, second paragraph under "Site 9": 1,1,1-trichloroethene does not exist. In the first sentence, it is mentioned that tetrachloroethane was detected, but in the second sentence this is changed to tetrachloroethene. Is this a typo or are you referring to two different chemicals?
3. Bottom of page 6-17, top of page 6-18: It is stated off-site receptors would not be exposed to concentrations much lower than those detected in on-site air samples. Why are individuals living off-site not listed as receptors on Table 6-17?
4. Page 6-20: The heading reads "Incidental Ingestion of Surface Soil", but the first line mentions subsurface soil. Is this a typo?
5. Page 6-22: C = Contaminant concentration in subsurface soil?

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6. Page 6-22: It is stated that during construction activities, there is a potential for base personnel to absorb COCs by dermal contact. This route of exposure was not retained in Table 6-17.
7. Page 6-25: The next to last sentence makes no sense.
8. Page 6-30: A summary of exposure factors for on-site residents' exposure to sediments is presented in Table 6-25, not Table 6-28 as stated.
9. Page 6-33: The first sentence makes no sense.
10. Page 6-37: The $i-1$ term under the summation sign at the top of the page should be $i=1$.
11. Page 6-38: The risk accepted in the state of North Carolina is $1.0E-06$.
12. Page 6-39: It is claimed the HI values for all potential human groundwater receptors did not exceed unity. According to the referenced table (Table 6-36), the HIs for child and adult resident exposure via the ingestion route does exceed unity.
13. Page 6-43, third paragraph: It is stated that groundwater sampled from monitoring wells cannot be considered representative of potable groundwater. Please explain. It is also stated that the use of total inorganic analytical results overestimates the potential human health risks. Please explain.
15. Page 6-44: The toxicological values for pyrene should be used for phenanthrene.
14. Table 6-17: The exposure of construction workers to subsurface soil needs to be accounted for.
15. Table 6-17: The potential ingestion of biota by children needs to be accounted for.
16. Page 6-41: It is claimed contract lab program methods have a precision of plus or minus 50%. Please cite a reference for this information.
17. Page 6-69: The PEF listed in the Risk Assessment Guidance for Superfund, Volume I - Human Health Evaluation Manual Part B, 1991 of $4.6E+09$ m^3/kg should be used instead of the $5.0E-08$ m^3/kg listed on this page.
18. "Input Parameter" Tables: It is recommended the page number be given with the references cited.
19. Page 6-69: The reader could not find the inhalation rate for a child of 0.43 m^3/hr in the cited reference.

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20. Page 6-74: The reader could not find the sediment ingestion rate of 50 mg/day in the cited reference.
21. Page 6-75: For exposure to sediment while swimming, a whole body exposure of 23,000 cm³ is recommended.
22. Page 6-76: The reader could not find the fish ingestion rate of 0.284 kg/day over 48 days/year in the cited reference. According to the cited reference, 6.5 grams/day as a fish consumption rate should be used with an exposure frequency of 365 days/year.
23. Throughout the document: Adult exposure, not that of a child or adolescent, needs to be used to determine the risk posed by carcinogens.
24. Pages 6-77 and 6-78: A spot check revealed the following problems:
 - a. The following toxicity values are not available on IRIS as claimed: Oral dose for toluene. Oral slope factor for arsenic.
 - b. According to the cited document, the oral slope factor for dieldrin is 1.6E+01, not 1.6E-01.
 - c. According to the cited document, the oral reference dose for manganese is 1 E-01, not 5.0E-03.
 - d. The term AI in the WOE column needs to be defined.
 - e. It is unclear to the reader what the difference is between ND and -- for chemicals that have missing data.

Based on the above information, it is recommended all the data in Table 6-28 (pages 6-77 and 6-78) be double checked and corrected.