

03.01-03/01/94-01080

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director

March 1, 1994

Commander, Atlantic Division
Naval Facilities Command
Code 1823-1
Attention:

MCB Camp Lejeune, RPM
Ms. Linda Berry, P. E.
Norfolk, Virginia 23511-6287

Commanding General

Attention: AC/S, EMD/IRD
Marine Corps Base
PSC Box 20004
Camp Lejeune, NC 28542-0004

RE: Draft Baseline Human Health Risk Assessment from
the Remedial Investigation Report for Operable Unit
5, Site 2, MCB Camp Lejeune, Jacksonville, NC

Dear Ms. Berry:

The risk assessment portion of the referenced Remedial Investigation Report has been reviewed by the NC Superfund Section. These comments are attached to this letter as a memorandum from David Lilley, our Industrial Hygienist, to myself. Please call me if you have any questions about this.

Sincerely,

Patrick Watters
Environmental Engineer
NC Superfund Section

Attachment

cc: Neal Paul, MCB Camp Lejeune
Gena Townsend, US EPA Region IV

February 24, 1994

TO: Patrick Watters

FROM: David Lilley

DBL

RE: Comments prepared on the Draft Baseline Human Health Risk Assessment for Camp Lejeune, Site 2, Operable Unit 5, Jacksonville, NC

After reviewing the above mentioned document, I offer the following comments:

1. Page 6-7: If it is to be claimed the toluene detected on-site is naturally occurring, the conditions in which naturally occurring toluene in soil is found must be described and matched to conditions on this site. Also, background sampling must be used to confirm this claim.
2. Page 6-7 and throughout the document: A chemical not being historically associated with the site is not a reason to drop it from the list of chemicals of concern.
3. Page 6-8: The frequency of detection of 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT do not match the frequency of detection numbers on Table 6-1 as cited. It is claimed dieldrin was retained as a COPC, but it does not appear on Table 6-1.
4. Page 6-8 and throughout the document: The Two-Times Rule cannot determine whether the presence of an inorganic could be site related, it can suggest whether an inorganic is present in concentrations "significantly" above background soil concentrations. Also, see comment # 2.
5. Page 6-9: The rationale for excluding 4-methyl-2-pentanone based on low frequency of detection and low concentrations seems adequate, the rest of the sentence is very confusing and contradicts itself, it should be dropped.
6. Page 6-10, last paragraph: The frequency of detection for heptachlor is given as 1/46, Table 6-5 says 1/11.
7. Page 6-17: It is claimed toluene is retained as a COPC, but it does not appear on Table 6-22.
8. Page 6-18, second paragraph: The last sentence makes no sense.
9. Page 6-19: It is claimed phenol is retained as a COPC, but it does not appear on Table 6-22.
10. Page 6-19, last sentence: According to Table 6-14, the concentration of aluminum did exceed the MCL.

11. Page 6-22: The frequency of detection numbers for the pesticides do not match the numbers given in Table 6-15.
12. Page 6-26: The number 0.01 is defined as a "ratio limit". It is claimed chromium, selenium, and thallium exceed this limit. Table 6-21 provides contradictory information. Copper exceeds this limit but is not listed on page 6-26.
13. Page 6-27: Current trespassers to Overs Creek (older child and adult) are not included in Figure 6-1.
14. Page 6-29: It is claimed future construction workers could be exposed by dermal contact and incidental ingestion to COPCs in on-site surface water and sediment, but the information on page 6-90 contradicts this.
15. Page 6-32: The conversion factor should be $1.0E-06$ kg/mg.
16. Page 6-35: The units for $1/PEF$ are Kg/m^3 .
17. Page 6-40: C should be Contaminant concentration in water (mg/l).
18. Page 6-41, second line: Exposure time should be 0.25 hours per day.
19. Page 6-41: EF needs to be defined.
20. Page 6-43: In the CDI equation, CD needs to be changed to ED.
21. Page 6-52: The risk accepted in the state of North Carolina is $1.0E-06$.
22. Page 6-53, Section 6.5.1.1, Civilian Base Personnel-Current Scenarios: It is stated that a value that falls above the USEPA's target risk range of $1.0E-04$ to $1.0E-06$ suggests carcinogenic effects are possible. Any number suggests carcinogenic effects are possible, the larger the number, the higher the risk. EPA has judged the above range as acceptable.
23. Page 6-54 and throughout the document: Using the equations outlined in this document, the highest risk that can be calculated is $1.0E-02$. Any risk number that comes out higher than this must be reported as exceeding the limits of the model or recalculated using a different equation, such as the one-hit equation for high carcinogenic risk levels described in the RAGS manual.
24. Page 6-56, Residential Child and Adult-Future Scenarios: An ICR of $2.0E-04$ is described as falling below the acceptable risk range, when, in fact, it falls above the acceptable risk range.

25. Page 6-57, Residential Child and Adult-Future Scenarios: An ICR of $5.0E-04$ is described as falling below the acceptable risk range, when, in fact, it falls above the acceptable risk range.
26. Page 6-97: It is unclear why there is a difference in the SA value for residential adults and base personnel.
27. Throughout the document: Adult exposure, not that of a child, needs to be used to determine the risk posed by carcinogens.