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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

February 18, 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

4WD-FFB

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

SUBJ: MCB Camp Lejeune - OU5
Draft Remedial Investigation
Ecological Risk Comments

Dear Ms. Berry:

The Environmental Protection Agency (EPA) has completed its review of the "Draft Remedial Investigation, Operable Unit 5, Site 2. The comments from Risk Assessment on the ecological aspects are enclosed.

If there are any questions or comments, please call me at (404) 347-3016.

Sincerely,

Gena D. Townsend
Senior Project Manager

Enclosure

cc: Mr. Neal Paul, MCB Camp Lejeune
Mr. Patrick Watters, NCDEHNR

Comments to be Conveyed to the Responsible Party

1. On page 7-6 under 7.2.1.2., first sentence: site 7 should read site 2.

2. On page 7-15 the plants named "rush" and "burred" should be called by their scientific names.

3. The statement "base specific reference sample ranges for surface soils at MCB Camp Lejeune" on page 4-13 needs to be explained and defined. A map showing these stations would be very helpful. This information is critical for comparisons to various contaminant concentrations found throughout the base, especially when doing a base-wide cumulative impact evaluation.

4. Due to the widespread contamination at Camp Lejeune and the large number of sites under study it is appropriate for a cumulative ecological impact evaluation to be developed.

5. The toxicity of cadmium, copper, lead, and zinc to aquatic organisms increases or decreases based on water hardness. Because water hardness data was not available, a default value of 100 mg/L of calcium carbonate was used. This value may either over or underestimate the potential risks to aquatic organisms from COPCs in the surface water. Criteria values should be adjusted using site-specific information.

6. Section 7.4.4 should include a discussion of pesticides at the mixing pad area. Also a comparison of pesticide concentrations in this area with pesticides found throughout Camp Lejeune is needed.

7. In order to develop a ecological risk assessment after the TCRA at the mixing pad area a discussion of pesticide concentrations that would create residual risks should be developed. The data needed for this understanding is scattered and very difficult to decipher in this document.

8. To better understand ecological impacts that may occur due to elevated contaminants, it is appropriate to use a model that increases in tropic level, i.e. soil - earthworms - small mammals - raptors. This gives a greater understanding of bioconcentration in the food web.

9. Concentrations of pesticides found in the former storage area in soils need to be included in the text and discussed.

10. This reviewer is in agreement with the conclusions and recommendations presented in the document which includes removing soil and sediment at the Mixing Pad Area.

Office of Health Assessment Information

OVERS CREEK - In surface water copper exceeded the acute and chronic WQSVs at the two stations sampled and five pesticides had Quotient Indexs (QI) greater than unity in sediment samples. Several pesticides exceeded the ARAR values, therefore there is potential for a decreased viability of aquatic life in Overs Creek from the sediment contaminants. However, the contaminant levels in the creek sediments are similar to concentrations found throughout MCB Camp Lejeune and could be caused by the widespread pesticide spraying that has occurred (which would exempt the contaminants from CERCLA action).

RAILROAD DRAINAGE AREA - Contaminant samples in sediments and surface water yielded seven metals and five pesticides that exceeded the NCWQS, Region IV Screening Values, or the NOAA Sediment Screening Values for sediments and surface water. This area seems scheduled for TCRA which would eliminate most ecological impacts from these contaminants. If the TCRA does not occur as proposed the five pesticides would probably continue to decrease viability of biota. However the drainage ditches experience intermittent flows and exists with puddles a portion of the time, therefore, that may cause a stressed biological system.

HOLCOMB BOULEVARD DRAINAGE AREA - Absence of water in the ditches at the time of sampling precluded surface water data. Five pesticides exceeded the NOAA Screening Values for sediments. These pesticide concentrations are similar to those throughout MCB Camp Lejeune presumably caused by a spraying program. The intermittent flow in the drainage ditches could cause a stressed biological system in these ditches.

MIXING PAD AREA - Of the ten metals found in this area only lead and chromium at concentrations of 5.7J to 225 mg/kg and 3 to 12.7 mg/kg respectively could potentially decrease viability of the biota. Seven pesticides at extremely high concentrations are in this area since it was used for mixing pesticides for many years. The ecological integrity of this area is compromised if the proposed TCRA is not implemented.

In this area before the TCRA of the soils, the QI of the Chronic Daily Intake to the Terrestrial Reference Value for each of the COPCs were greater than unity for the quail and the rabbit. The QI was less than unity for the deer. Therefore, there is a high likelihood that the COPCs in the surface soils in this area are decreasing the viability of terrestrial species. After the proposed TCRA the QI for all three species was less than unity, therefore, there is a low likelihood of decreased viability of the terrestrial species.

FORMER STORAGE AREA - In this area the QI of the Chronic Daily Intake to the Terrestrial Reference Value for each of the COPCs were less than unity for the quail, rabbit, and deer. Based on this evaluation there is a low likelihood that the COPCs are decreasing the viability of the terrestrial species. It would be appropriate to include sampling that would validate this possible decrease in viability.