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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IV
345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUN 09 1992

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RETURN RECEIPT REQUESTED

Mr. Byron Brant
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virginia 23511-6287

RE: Marine Corps Base Camp Lejuene NPL Site
Jacksonville, North Carolina

Dear Mr. Brant:

EPA has reviewed the document titled "Draft Supplemental Document to the Interim Remedial Action Focused Feasibility Study for the Shallow Aquifer at the Hadnot Point Industrial Area Operable Unit" dated April 16, 1992. As was agreed to in our earlier meeting, the document should be retitled to better reflect its purpose. In addition, I have enclosed comments on the draft document.

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

Sincerely,

Michelle M. Glenn

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Jack Butler, NCDEHNR
George Radford, MCB Camp Lejeune

Comments on MCB Camp Lejeune NPL Site

- Capacity of Existing Sanitary Sewer Lines: § 2.4.1 evaluated the capacity of the existing collection system and determined that there is sufficient capacity. However, actual flows were not measured and it was assumed that the sewer lines are at 70 percent capacity. The proposed groundwater discharge into these lines will comprise a significant percentage of the available capacity (about 15 percent).

  Recommendation: Flow studies should be performed on both of the collection sewers to determine actual dry and wet weather flows. This should be done before groundwater flows are pumped into the sewer system.

- Aerated Equalization Lagoon Efficiency: § 4.1 states "In addition to dilution, the removal of VOC's is due totally to air striping...." The analysis uses the EPA FATE model which assumes that there are no mass transfer effects, and then, by using Henry's Law, estimates of the VOC's removed by air striping are obtained for the aerated equalization lagoon.

  In an aerated equalization lagoon, mass transfer effects may be very significant. These lagoons are generally not designed as complete mix secondary treatment systems. The surface aeration is usually designed to prevent anoxic conditions in the lagoon, but not for complete mixing and aeration. Short circuiting frequently occurs. From the data submitted for the lagoon, the suspended solids decrease from 145 mg/L in the influent to 99 mg/L in the effluent (32 percent removal) which indicates quiescent conditions prevail over much of the lagoon area. The influent BOD_5 is 137.3 mg/L and the effluent BOD_5 is 61.7 mg/L; the BOD_5 removed is 75 mg/L of which at least half is due to the suspended solids removed. A BOD_5 removal of 30-40 mg/L indicates that very little aerobic activity is taking place in the lagoon.

  Recommendation: The expected removals of VOC's by air stripping in the lagoon may be overestimated. A reassessment of VOC removals should be made.

- Trickling Filter Efficiency: In § 4.3 the efficiency of removal for the Trickling Filters is estimated to be 10 percent. Very little data is available for VOC removal in a trickling filter. The two VOC's of primary concern (because of high concentrations) are TCE and 1,2-DCE both of which are multiple substituted halogen compounds which are the most refractory to biodegradation.

Recommendation:
A) The removal efficiency of the Trickling Filters should be assumed to be zero unless demonstrated to be otherwise.
B) Because the VOC's entering the Trickling Filter may be higher than previously estimated, additional toxicity studies may be warranted.

- Overall Removal Efficiency: The overall removal of VOC's is expected to be lower than estimated in the report because of lower expected air stripping rates and no removal in the trickling filters.

Recommendation: Because of the significant dilution of the groundwater stream by the sanitary waste stream, the final plant effluent should be within the NC State effluent limits for the VOC's in question

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Byron Grant GLNN0001
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87