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ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

Jim

Fac/Perm/Co ID # 23-02 Date 2/2/12 Doc ID# DIN

Carmencita Johnson

December 22, 1998

Mr. William F. Hodges, P.E.
Hodges, Harbin, Newberry & Tribble, Inc.
P.O. Box 974
Macon, GA 31201

Re: Compliance Demonstration
JMN / Cleveland Container Service Industrial Landfill
Permit Number 23-02

Dear Mr. Hodges:

This letter is to inform you that the Division of Waste Management (Division) has made a preliminary determination regarding compliance demonstration at the above referenced facility. After reviewing reports and correspondence submitted since 1996, the Division finds that compliance with 15A NCAC 2L Groundwater Quality Standards has not been established. The facility has not demonstrated compliance because the monitoring system does not sample potentially important portions of the aquifer, there are unknown wastes at the facility, the current design allows continued percolation of water through waste into the groundwater. Please consider the following.

The conclusion that available analytical data prove the adequacy of the cap does not follow from the information submitted. The hydrogeology of the site has not been fully evaluated. The relative importance of vertical flow and fracture flow have not been considered. There is ample evidence to suggest that these uncharacterized features are significant at this site. A cursory review of the Geologic Map of North Carolina (1985) suggests that Buffalo Creek flows along the contact between the Cherryville Granite and a biotite gniess. The landfill appears to be located west of the contact on the biotite gniess. The Well Abandonment Record for the former on site water well states that the well was completed in granite at 305 feet below ground surface. There is no estimation about where the contact lies. Monitoring wells MW2 and MW3 installed by Law Engineering in 1988 encountered auger refusal at 19 feet below ground surface. Both of the wells are located in the flood plane of Buffalo Creek. One typically expects the depth to rock to be greatest in the flood planes. Auger refusal there may mean that the lithologic contact is quite close to the surface and therefore could play a major role in the movement of water within the shallow aquifer. If the well record and map are accurate, the contact lies close to the surface beneath the landfill.

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The types of waste and its location relative to the water table is not well understood. From 1992 to 1995 waste acceptance practices were evidently relaxed. Little information has been submitted about the types of waste accepted during that period but it included sewage sludge from the towns of Shelby, NC and Kings Mountain, NC. The Future Facility Development Plan June 1996 includes estimates of base grade elevations from conversations with the original owner of the site. It is unclear precisely how the grades are distributed but assuming the maximum cut came from the highest ground, then areas in the southern and eastern portions of the cell could lie close to the water table. Mounding of the water beneath the unlined cell may aggravate this situation, further reducing what if any separation exists between the water table and waste. A comparison of the base elevation estimates and the January 1998 potentiometric map suggests that waste along the southwest and east boundaries may be saturated for all or part of the year.

The current facility design and proposed closure cap system predict 13 inches of water percolating through the landfill each year. Thus it appears that there are sources of contamination and ample opportunity for leaching with the current soil cap design. All of these factors are significant because area residents may be using groundwater for there potable water. There are some fifteen buildings shown on the USGS topographic quadrangle along SR2212 north of the site. Several of these buildings are less than 500 feet from the waste. Presumably those are residences on the map and they are on well water. If so, their water supply may be vulnerable to leachate in the bedrock.

If you have any questions please feel free to contact me by phone at (919)733-0692 ext. 344. or by mail at the letterhead address.

Sincerely,

James M. Gamble

James M. Gamble, P.G.
Hydrogeologist

cc: Jim Coffey, Permitting Branch Head
Ed Mussler, Permitting Engineer
Kenn Cassell