



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WASTE MANAGEMENT



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December 9, 1998

Mr. Eric Burke  
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P.O. Box 98  
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Roaring River, N.C. 28669

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97-03	10/06/2011	DIN 15316

RE: Groundwater Monitoring at the Industrial Landfill -- Permit # 97-03.

Dear Mr. Burke,

A preliminary review has been completed for the existing monitoring system to ensure groundwater standards established under 15A NCAC 2L will not be exceeded in the uppermost aquifer at the compliance boundary. It is important to have a good understanding of the groundwater regime in order to demonstrate compliance. The submitted plan is a good first step in assessing the existing monitoring system, however, the information provided indicates this monitoring system needs to be updated.

As previously noted, the upgradient well FA-1 is located too close to the waste to be a true background well. The historical summary of sampling at this location appears to affirm the location is too close to the waste. This monitoring well was installed November 22, 1989. The well construction record states samples were scheduled to be taken on April 2, 1990. What were the results of this sampling event?

A suitable upgradient monitoring well needs to be installed to aid in the compliance demonstration at the landfill. The sampling results indicate the landfill has influenced groundwater. A greater distance from the waste boundary will resolve any halo effect from the landfill and provide better information on the condition of upgradient groundwater before reaching FA-1.

Downgradient monitoring well FA-2 is in an excellent location for monitoring the eastern portion of the landfill. The western portion of the landfill has groundwater inferred to be in a southerly direction. Monitoring well FA-2 is not located to monitor any potential release from the western portion of the landfill. Since this area is active and will remain so through 1999, a downgradient monitoring well needs to be installed to demonstrate compliance.

Please submit a plan for approval to the Solid Waste Section for the two new monitoring wells that includes the location and construction design.

Information needed to help define the aquifer characteristics should be completed in conjunction with the installation of the additional monitoring wells. Aquifer characteristics are required to develop a meaningful model. A minimum of the following needs to be included; hydraulic conductivities from all four wells, hydraulic gradients, volume percent water, effective porosity, particle size analysis, and bulk density.

After the new monitoring wells have been installed a new baseline sampling event for all four wells must be completed. Include the following analysis: Field measurements -- pH, temperature, turbidity, and specific conductivity, and total dissolved solids; The Appendix 1 list for volatile organic compounds, and metals using EPA method 8260; And a semi-volatile scan using EPA method 8270 that includes naphthalenes and phenols. A determination of future sampling parameters will be based on the results of the lab analysis.

This information will be crucial for a final determination of compliance with Rule .0503(2)(d)(ii)(A) to demonstrate compliance. It will also aid in providing additional information that may be required for groundwater modeling. Since this information is time sensitive the updated system and lab results should be completed in four to six months.

Please contact me to arrange a meeting with me to further discuss and define the intent of this letter. I can be reached at (919) 733-0692, extension 346.

Sincerely,

Cheryl Marks  
Hydrogeologist  
Solid Waste Section

cc: James Coffey, Supervisor  
Sherri Coghil, Engineer