



North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary

April 10, 2008

Mr. Don Adams
Alleghany County Manager
P.O. Box 366
Sparta, NC 28675

Re: *Semi-Annual Monitoring Well and Stream Sampling Data Summary*
Alleghany County Landfill, Permit #03-02

Dear Mr. Adams,

The Solid Waste Section has reviewed the *January 17, 2008 Semi-Annual Monitoring Well and Stream Sampling Data Summary* submitted on behalf of Alleghany County by Applied Resource Management, P.C. for the closed Alleghany County Landfill. Volatile organic compounds (VOCs) exceeding the North Carolina 2L Groundwater Standards are being detected at the closed unlined landfill. As a result, Alleghany County is currently in violation of North Carolina Solid Waste Rules and 2L Rules. Pursuant to North Carolina Code 13B and 15A 2L, assessment and/or corrective measures are required. At sites where groundwater contamination is found to migrate to adjacent properties, the landfill owner is liable for any assessment and corrective action that may be required. Per 15A NCAC 2L .0107, a compliance boundary shall be established 250 feet from the waste boundary, or 50 feet within the property boundary, whichever point is closer to the source. Addressing groundwater contamination at or beyond the compliance boundaries may include one or several engineered and/or hydraulic controls along compliance boundaries or a combination of corrective measures and the acquisition of additional buffer.

Based upon the consistent exceedances of VOCs, the following recommendations have been made by Applied Resource Management, P.C.: (1) install one Type II monitoring well in the downgradient direction of MW-1 to the south toward Vile Creek (on the Poole property) and (2) obtain TOC elevations from all groundwater monitoring wells for determining groundwater elevations and potential contamination flow direction. The Alleghany County deed records indicate that Alleghany County does not own any property downgradient from MW-1 to Vile Creek. These properties are shared by Dale and Fannon Poole and NCDOT. In order to install the new proposed downgradient groundwater monitoring well, an access agreement will need to be completed and signed by Dale and/or Fannon Poole or the property will need to be acquired as buffer. As a result, the recommendations are approved as described. Please complete the monitoring well installation and obtain TOC elevations from all groundwater monitoring wells within 90 days of receipt of this letter.

Also, the groundwater contamination at the landfill has never been horizontally or vertically delineated, and therefore a groundwater assessment has never been completed in accordance with 15A NCAC 2L .0106(d). It is imperative from a human health, environmental, and public perception standpoint that an extensive groundwater assessment be completed as soon as possible, otherwise enforcement action will be initiated.

Two additional environmental monitoring issues for the landfill that need to be addressed are methane monitoring and the sampling of potable wells within 500 feet of the landfill's edge of waste. Pursuant to Solid Waste Management Rules 15A NCAC 13B .0503 (2)(a) - the concentration of explosive gases generated by the site shall not exceed:

- (i) twenty-five percent of the limit for the gases in site structures (excluding gas control or recovery system components); and
- (ii) the lower explosive limit for the gases at the property boundary.

Because of the private residences and businesses adjacent to the landfill there should be documentation that there is no threat to human health from the off-site migration of methane. The only reliable way to ensure the detection of methane is to install a permanent methane monitoring system. Therefore the Solid Waste Section is requiring Alleghany County to submit quarterly methane monitoring records to the Solid Waste Section. Please conduct methane monitoring within 60 days of receipt of this letter and submit the results to the Solid Waste Section. If additional methane probes need to be installed, please submit a methane monitoring plan to be approved by the Solid Waste Section. There are approximately 25 residences located less than 1,500 feet from the landfill that are using groundwater as their source of drinking water. Since groundwater monitoring results confirm groundwater contamination in the upgradient well at the landfill and groundwater flow has not been determined, in addition to your semiannual groundwater monitoring events, please sample all potable wells within the immediate 500 feet of the edge of waste and submit the potable well sampling results along with your groundwater monitoring reports beginning with your next semiannual event scheduled for June 2008. The potable wells within 500 feet of the edge of waste should be analyzed for Appendix I constituents consisting of both metals and volatile organic compounds.

The Solid Waste Section solicits your cooperation and would like to remind you that it is your responsibility to comply with the requirements of the rules and statutes since the rules are self-implementing. Please call me at (919) 508-8500 if you have any questions or concerns regarding this letter.

Sincerely,



Jaclynne Drummond
Hydrogeologist
Environmental Compliance
Solid Waste Section

cc: Joe Zuncich, Applied Resource Management
Mark Poindexter, Field Operations Supervisor
Jason Watkins, Central District Supervisor
Solid Waste Central Files