



North Carolina Department of Environment and Natural Resources

Division of Waste Management

Dexter R. Matthews

Director

August 22, 2013

Pat McCrory
Governor

John E. Skvarla, III
Secretary

Sent Via Email – jerry.mears@buncombecounty.org

Mr. Jerry Mears
Buncombe County Landfill Manager
81 Panther Branch Road
Alexander, NC 28701

Re: *Buncombe County Landfill – Permit #11-07 MW-3 Gas Issue*
Buncombe County MSW Landfill
Solid Waste Permit Number 11-07
DIN 19587

Dear Mr. Mears:

The Solid Waste Section has completed a review of the *Buncombe County Landfill – Permit #11-07 MW-3 Gas Issue* report dated August 9, 2013 (DIN 19560) and submitted on behalf of Buncombe County by SCS Engineers, PC for the Buncombe County MSW Landfill, Permit Number 11-07. The report was submitted in response to the confirmation of vinyl chloride and the presence of methane gas within groundwater monitoring well MW-3.

The County initiated assessment monitoring in accordance with 15A NCAC 13B .1634. Appendix II monitoring was conducted during the Spring 2013 monitoring event at 19 groundwater monitoring wells associated with the MSW Landfill. The monitoring results indicated that cyanide was present in seven groundwater monitoring wells including the background groundwater monitoring well. Vinyl chloride was still being detected within groundwater monitoring well MW-3, and the constituents 1,1-Dichloroethane and 2,4 D were also detected within groundwater monitoring well MW-7. Based on the monitoring results, Appendix II monitoring will continue to be conducted within groundwater monitoring wells MW-1, MW-1D, MW-3, and MW-7 to develop the baseline for those locations. The baseline samples will be collected during the routine semiannual monitoring events.

In addition, the County conducted a landfill gas delineation study on April 2 and 3, 2013 to determine the migration of methane gas at the facility associated with groundwater monitoring wells MW-3 and MW-7. A total of 14 temporary landfill gas monitoring wells were installed in and around the areas of these two groundwater monitoring wells. Methane gas results were also collected within groundwater monitoring wells MW-3, MW-5, MW-5D, and MW-7, and within landfill gas monitoring wells M-3 and M-2. On May 14, 2013 and June 7, 2013, methane gas results were collected again within all temporary, groundwater monitoring, and landfill gas monitoring wells. The results indicate that the methane gas is continuing to migrate on both sides of the landfill.

Based upon the water quality and methane monitoring results, the County is proposing the following actions:

- Work with the existing gas collection system to attempt to increase gas extraction without drawing ambient air into the waste and monitor for the effect on the migrating methane gas

- plume. If this does not resolve the issue, create a trench along the liner limits within the vicinity of the areas where the methane gas appears to be migrating from to allow venting of the gases as opposed to migration within the soil. Finally, if both efforts do not resolve the issue, then install additional gas collection wells in the landfill within the vicinity of the methane gas migration.
- To determine groundwater quality impacts from non-methane gas sources (leachate), the groundwater monitoring wells that are currently impacted may need to be relocated beyond the limit of the methane gas plume. If the methane gas cannot be controlled by the measures proposed, the two existing impacted groundwater monitoring wells would be relocated.

As a result, the items proposed within the *Buncombe County Landfill – Permit #11-07 MW-3 Gas Issue* are approved as described. Please implement the proposed actions immediately, and please provide the Solid Waste Section with a timeline/schedule for these actions within 10 days of receipt of this letter. Buncombe County is required to take all necessary steps to ensure the protection of public health and to stop the migration of methane gas.

If you have any questions or concerns regarding this letter, please contact me at 919-707-8294 or by email at jaclynne.drummond@ncdenr.gov. Thank you for your continued cooperation with these matters.

Sincerely,



Jaclynne Drummond
Compliance Hydrogeologist
Solid Waste Section

cc sent via email: Kristy Smith, Buncombe County Bioreactor Manager
Jason Watkins, Western District Supervisor
Andrea Keller, Environmental Senior Specialist
Allen Gaither, Permitting Engineer
Ed Hilton, SCS Engineers