



North Carolina Department of Environment and Natural Resources

Dexter Matthews, Director

Division of Waste Management

Beverly Eaves Perdue, Governor
Dee Freeman, Secretary

January 13, 2010

Sent Via U.S. Mail and Via Email – Tim.Rogers@waynegov.com

Mr. Tim Rogers
Wayne County Solid Waste Director
460 B South Landfill Road
Dudley, NC 28333

**Re: *Potentially Impacted Soil and Groundwater Assessment Report*
Wayne County C&D Over MSW Landfill, Permit #96-01**

Dear Mr. Rogers:

The Solid Waste Section has completed a review of the *Potentially Impacted Soil and Groundwater Assessment Report* dated October 11, 2010 (Doc ID 11921) and submitted on behalf of Wayne County by Municipal Engineering Services Company, P.A. The *Potentially Impacted Soil and Groundwater Assessment Report* was submitted pursuant to a Compliance Order With Administrative Penalty issued by the Division of Waste Management, Solid Waste Section on July 16, 2010.

The *Potentially Impacted Soil and Groundwater Assessment Report* evaluated the extent of the environmental impacts from the leachate release. Field activities included soil, groundwater, and surface water sampling that were conducted on September 17, 2010.

The soil sampling results indicated one exceedance of the NCDENR's Inactive Hazardous Sites Branch Health Based Soil Remediation Goals Updated October 2009. Phosphorus exceeded the Soil Remediation Goal of 32 mg/kg in all of the soil samples collected including the background sample.

In addition, two volatile organic compounds were detected within the soil samples collected at the facility, however, they were detected below the Soil Remediation Goals. 2-butanone (MEK) was detected in soil sample HA15 (near MW-7) at 0.006 mg/kg with a Soil Remediation Goal of 5,600 mg/kg and 16 mg/kg for the Protection of Groundwater, and acetone was detected in soil samples HA15 (near MW-7 on the southern slope) and HA20 (between MW-2 and MW-7 on the southern slope) at 0.74 mg/kg and 0.55 mg/kg respectively with a Soil Remediation Goal of 12,000 mg/kg and 24 mg/kg for the Protection of Groundwater. For the HA15 and HA20 soils samples, acetone was analyzed at a dilution factor of 100. No volatile organic compounds were detected within the background soil sample collected at the facility.

The groundwater sampling results indicated that the inorganics arsenic, chromium and lead were detected above their respective Groundwater Standards. These metals were also included as naturally occurring metals within the *Assessment of Corrective Measures* Report dated September 4, 2007. The groundwater sampling results also indicated that benzene was detected above the Groundwater Standard in groundwater monitoring well MW-2 at 1.8 ug/L. Benzene was also listed as a constituent of concern within the County's approved *Corrective Action Plan* dated June 30, 2008. Other volatile organic

compounds detected within the MW-2 groundwater sample, but below the Groundwater Standards include 1,2-dichlorobenzene detected at 0.52 ug/L, acetone detected at 4.0 ug/L, 1,4-dichlorobenzene detected at 4.0 ug/L, and chlorobenzene detected at 17 ug/L. No volatile organic compounds were detected within the other groundwater monitoring wells sampled for this specific event. In addition, the total suspended solids for the groundwater monitoring wells MW-2, MW-3, MW-5, and MW-7 were elevated ranging from 130,000 ug/L to 630,000 ug/L. There is not a Groundwater Standard (2L, GWPS, or MCL) designated for total suspended solids, however, the values appear to depict extremely cloudy and dirty conditions. Typically, less than 20,000 ug/L are considered clear conditions, 40,000 ug/L to 80,000 ug/L are considered cloudy conditions, and 150,000 ug/L or greater are considered dirty conditions.

The surface water sampling results indicated no exceedances of the Surface Water Standards within SW-1. However, acetone was detected within SW-1 at 8.4 ug/L. Also, the total suspended solids for SW-1 were elevated at 220,000 ug/L which appears to depict extremely cloudy and dirty conditions. During the February 16, 2010 water quality monitoring event, acetone was not detected within SW-1, and during the August 12, 2010 water quality monitoring event, SW-1 was not sampled. No explanation was provided within the *Semi-Annual Water Quality Monitoring and Statistical Analysis Report* dated December 3, 2010 or within the August 12, 2010 Chain of Custody form to the reason why SW-1 was not sampled.

Per the *Potentially Impacted Soil and Groundwater Assessment Report*, the detections cannot be specifically attributed to the leachate breakout, and no additional actions are necessary. The Solid Waste Section concurs that it is difficult to ascertain if the contamination within groundwater monitoring MW-2 is from the recent leachate release or from the ongoing groundwater contamination derived from the landfill or a contribution from both sources.

As a result, based upon the sampling results from the environmental assessment for the 2010 leachate release, there appears to be no residual contamination from the 2010 leachate release that occurred at the facility at this time. However, in the future, the Solid Waste Section may require additional environmental sampling, the installation of additional groundwater monitoring wells, the excavation of soils, and/or additional corrective action measures in response to this leachate release. Please also continue to follow the County's approved *Corrective Action Plan*, and continue to monitor SW-1 on a semiannual basis. If you have any questions or concerns regarding this letter, please contact me at 919-508-8500 or at jaclynne.drummond@ncdenr.gov.

Sincerely,



Jaclynne Drummond
Compliance Hydrogeologist
Solid Waste Section

cc via email: William "Lee" Smith, III, Wayne County Manager (County.Manager@waynegov.com)
Mark Poindexter, Solid Waste Field Operations Supervisor
Dennis Shackelford, Solid Waste Eastern District Supervisor
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Zinith Barbee, Solid Waste Permitting Hydrogeologist