Macon County Department of Solid Waste Management

109 Sierra Drive, Franklin, North Carolina 28734
Phone: (828) 349-2100; Fax: (828) 349-2185
Email: cstahl@maconnc.org

RECEIVED
SEP 10 2015
SOLID WASTE SECTION

September 8, 2015

Mr. Ervin Lane
Hydrogeologist
NC-DENR SWS
Field Operations Branch
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Mr. Lane;

Please accept the attached landfill gas monitoring form as a supplemental submittal to the Request for Cessation of Post-Closure Care at the Highlands C&D Landfill. Per your request via Mark Cathey of McGill Associates, the attached information is submitted in support of compliance with 15A NCAC 13B .0503(2)(a) at the closed C&D landfill.

On Tuesday, August 25, 2015, Lead Operator, Tommy Keener and I surveyed the temporary gas probe locations as submitted by McGill Associates on August 13, 2013. At that time, the probes were inspected, excavated to depth (if needed) with a hand auger, and capped with a one liter bottle to seal the hole. I returned to the site on Friday, August 28, 2015 to perform a landfill gas sampling survey of the seven temporary probes; two Highlands C&D Landfill groundwater monitoring wells (MW-A, MW-B); two Old Highlands groundwater monitoring wells (MW-3, MW-4); and the scalehouse.

The four groundwater monitoring wells were sampled by swapping the well caps with a 2" cap equipped with a quarter-turn valve in the closed position. The LandTec GEM 2000 was connected to the port on the valve, and the valve opened to allow flow to the meter. The meter drew from the well for two minutes, at which time the results were recorded. After sampling, the well caps were replaced and the well casings re-locked.

The seven temporary gas probes (TGPs) were sampled by removing the bottles plugging the borings and quickly replacing them with another bottle which had holes drilled through the top and bottom of the bottle to allow the meter hose to pass through the bottle. The holes were drilled to tightly seal the hose against the bottle to prevent infiltration, and to maintain the rigidity of the bottle so that it could seal the probe boring without collapsing. Again, the meter was allowed to sample for two minutes, and the readings recorded on the field worksheet.

For all samples, the meter was monitored continuously during sampling. At no time during the sampling process did any of the wells or probes register methane at any level. As mentioned earlier, the results of the monitoring event can be found on the attached field worksheet. As no well or probe registered methane above the LEL, these results support our contention that we are in compliance with

15A NCAC 13B .0503(2)(a). Should you have any questions regarding this supplementary submittal to the Request for Cessation of Post-Closure Care at the Highlands C&D Landfill, please contact me at your convenience.

Thank you

M. Chris Stahl
Director of Solid Waste Management

Cc: Highlands C&D Post-Closure Record
Mark Cathey, McGill Associates

Landfill Gas Measurements Field Worksheet

Highlands C&D Landfill Permit #57-04 - Macon County North Carolina

Name of Person Taking Readings: Chris Stahl **Date: August 28, 2015**

Weather Conditions: Partly Cloudy, 71% Humidity **Ambient Temp: 70 °F**

Atmospheric Pressure: 30.26 in Hg, Steady

Gas Monitoring Equipment: Land-Tec GEM 2000 **Serial #: GM05480**

Factory Calibration Date: March 2015 **Field Calibration 50% Methane: 8/28/2015**

Gas Readings Field Worksheet

Well or Probe ID	Pump Time	Depth	Time Sampled	%LEL	$\%CH_4$	$\%CO_2$	$\%O_2$
Scalehouse	120 sec	NA	14:07	0	0.0	0.0	20.2
MW-A	120 sec	19.54 ft.	13:15	0	0.0	0.0	19.5
MW-B	120 sec	20.15 ft.	13:06	0	0.0	0.0	19.4
MW-3	120 sec	57.07 ft.	13:51	0	0.0	0.1	19.9
MW-4	120 sec	25.00 ft.	13:40	0	0.0	2.8	16.4
TGP-1	120 sec	36 in.	13:57	0	0.0	0.5	19.5
TGP-2	120 sec	36 in.	13:48	0	0.0	0.2	19.6
TGP-3	120 sec	33 in.	13:34	0	0.0	1.8	17.5
TGP-4	120 sec	36 in.	13:12	0	0.0	2.2	17.6
TGP-5	120 sec	39 in.	13:03	0	0.0	1.8	18.5
TGP-6	120 sec	36 in.	13:29	0	0.0	0.8	19.0
TGP-7	120 sec	37 in.	13:24	0	0.0	0.5	19.1