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April 8, 2011

Mr. J. V. Potter  
Watauga County Solid Waste Director  
336 Landfill Road  
Boone, NC 28607

RE: Watauga County Landfill  
Second Quarter Gas Monitoring Results, April 5, 2011  
DAA JN: 6520-27

Dear Mr. Potter:

Draper Aden Associates performed the quarterly gas monitoring event on April 5, 2011. We monitored for methane in the Gas Probes and onsite buildings. We found steady methane readings exceeding regulatory limits in the deepest tube of Probe 2.

We recorded the following steady state methane levels in Probe 2. Tube 2R (0 to 5 feet) read 0% methane by volume; tube 2Y (5 to 10 feet) read 0% methane by volume; tube 2B (10 to 20 feet) read 0% methane by volume; and tube 2G (20 to 40 feet) read 6.5% methane by volume. Probes exceed the regulatory limit when they exceed 5% methane by volume. Probe 2, tube G, is the only tube out of compliance. The flare stations blower was inoperable for a period of time prior to the sampling event, but the system is fully operational now.

Attached is the following information summarizing our data:

1. Table 1 – Quarterly Gas Monitoring Results.
2. Table 2 - Historical table presenting the steady state methane concentrations for the gas probes and the buildings.

Please contact either Don Marickovich or myself with any questions concerning the gas monitoring event.

Sincerely,  
DRAPER ADEN ASSOCIATES  
  
Chris Branscome  
Senior Technician

Mr. J. V. Potter  
April 8, 2011  
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Attachments

CJB/cjb

cc: Mr. Don Marickovich, Project Engineer, DAA

Table 1

WATAUGA COUNTY LANDFILL

GAS MONITORING RESULTS

Second Quarter Event, April 5, 2011

Probe	Depth (ft.)	Methane (% vol.)	Carbon Dioxide (% vol.)	Oxygen (% vol.)	Static Pressure (in. of Water)	Comments
1R	0 - 5	0.0	1.8	20.6	0.01	
1Y	5 - 10	0.0	1.8	20.5	0.00	
1B	10 - 20	0.0	2.1	20.4	0.00	
1G	20 - 40	0.0	2.3	20.2	0.91	
2R	0 - 5	0.0	2.5	16.9	0.00	
2Y	5 - 10	0.0	4.9	10.6	1.03	
2B	10 - 20	0.0	11.1	0.0	-2.49	
2G	20 - 40	<b>6.5</b>	15.6	0.0	0.01	Methane peaked at 6.5% at 40 seconds.
<b>Transfer Station</b>		0.0	0.0	20.7		
<b>Scale House</b>		0.0	0.0	20.7		
<b>Old Maintenance Building</b>		0.0	0.0	20.8		
<b>New Maint. Bldg Office Outlet</b>		0.0	0.0	20.8		
<b>Maintenance Building</b>		0.0	0.0	20.8		
<b>Animal Shelter</b>		0.0	0.0	20.8		
<b>Swap Shop</b>		0.0	0.0	20.7		
<b>Forest Service Building</b>		0.0	0.0	20.8		
<b>Bailing Facility</b>		0.0	0.0	20.8		

Methane Levels Above the 5% by Volume Limit are Bold and Shaded.

R = Red

Y = Yellow

B = Blue

G = Green

NR - Not recorded or sampled.

Barometric Pres.

Air Temperature

Meter

30.14 in. of Hg

55 °F

Landtec Gem 2000 Plus

Table 2  
WATAUGA COUNTY LANDFILL  
Steady State Methane Concentrations (%vol) Page 1 of 2

Probe	Depth (ft.)	Methane Concentrations (in % by Volume)																					
		1/3/2007	5/14/2007	7/12/2007	11/20/2007	2/1/2008	5/1/2008	7/16/2008	10/27/2008	1/29/2009	4/14/2009	7/7/2009	10/8/2009	1/28/2010	3/17/2010	4/16/2010	5/14/2010	6/15/2010	7/22/2010	8/4/2010	9/14/2010	10/1/2010	11/10/2010
1R	0 - 5	0	0	0	0	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	NR	NR	0	NR
1Y	5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	NR	NR	0	NR	
1B	10 - 20	0	0	0	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	NR	NR	0	NR	
1G	20 - 40	0	0	0	0	0	0	0	0	0	0	0	0	NR	0	NR	NR	0	NR	NR	0	NR	
2R	0 - 5	0	0	0	0	0	0	0	0	0	0	0	15.2	0	0	0	0	0	0	0	0	0	0
2Y	5 - 10	4.4	0	0	0	0	5.8	0	1.4	0	0	0	31.9	3.8	11.5	8.1	0	0	0	0	0	0	
2B	10 - 20	10.5	0	0	0	0	24.8	2.9	10.6	0	0	0	46.6	12.9	41.3	38.5	6.7	0	0	0	0	0	
2G	20 - 40	22	3.6	0	0	0	39.6	15.5	0.2	22.1	0.9	1.7	50.7	31.0	52.9	43.6	25.6	7.8	5.1	0	0	0	
New Maint Bldg Office Outlet	1.8 to 2.4	0.1	7.9 to 8.4	2.4	0.3 to 2.5	0.2 to 0.8	0	2.9	0.1	1.1	1.0	0	0	NR	0	NR	0	0	NR	0	1.0	0**	

Table 2  
WATAUGA COUNTY LANDFILL  
Steady State Methane Concentrations (%vol) Page 2 of 2

Probe	Depth (ft.)	Methane Concentrations (in % by Volume)																					
		1/17/2011	4/5/2011																				
1R	0 - 5	0	0																				
1Y	5 - 10	0	0																				
1B	10 - 20	0	0																				
1G	20 - 40	0	0																				
2R	0 - 5	0	0																				
2Y	5 - 10	0	0																				
2B	10 - 20	0	0																				
2G	20 - 40	0	6.5																				
New Maint Bldg Office Outlet	0	0																					

Note - Methane was not detected in the outlet until January 3, 2007  
NR = Not recorded or sampled.  
\*\*\*Note - The County connected their new blower to the foundations ventilation system, prior to sampling this month.