



# Draper Aden Associates

Engineering • Surveying • Environmental Services

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March 21, 2010

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

RE: Watauga County Landfill  
March 2010 Monthly Gas Monitoring Results, March 17, 2010  
DAA JN: 6520-27

Dear Mr. Potter:

Draper Aden Associates performed the March 2010 monthly gas monitoring event on March 17, 2010. The purpose of this event was to perform a follow up monitoring event of probe 2 which was found to be above the limit during the first quarter monitoring event conducted on January 28, 2010. We monitored for methane in probe 2 and found two of the tubes out of regulatory compliance. However, the probe did show a significant reduction in methane concentrations since the flare station returned to service last month.

Prior to January's quarterly gas monitoring event the flare station had been inoperable since December 2009 due to the blower failing. The landfill ordered a new blower which was installed in early February.

During this event, we recorded the following methane levels from probe 2. Tube 2R (0 to 5 feet) read 0% methane by volume, tube 2Y (5 to 10 feet) read 3.8% methane by volume, tube 2B (10 to 20 feet) read 12.9% methane by volume, and tube 2G (20 to 40 feet) read 31.0% methane by volume. Probes exceed the regulatory limits when they exceed 5% methane by volume.

Attached is the following information summarizing our data:

1. Table 1 – Monthly Gas Monitoring Results.
2. Table 2 - Historical table illustrating “Steady State Methane” concentrations for the gas probes.

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As can be seen from table 2, the methane levels in probe 2 have decreased significantly from those found during the quarterly event in January, 2010.

Please contact either Chris Branscome or myself with any questions concerning the gas event.

Sincerely,  
DRAPER ADEN ASSOCIATES



Don Marickovich  
Project Engineer

CJB/cjb

cc: Mr. Chris Branscome, Senior Technician, DAA  
Donna Watson, Watauga County Landfill, via email

Table 1

WATAUGA COUNTY LANDFILL

GAS MONITORING RESULTS

March Monthly Event, March 17, 2010

Probe	Depth (ft.)	Methane (% vol.)	Carbon Dioxide (% vol.)	Oxygen (% vol.)	Static Pressure (in. of Water)	Comments
1R	0 - 5	NR				
1Y	5 - 10	NR				
1B	10 - 20	NR				
1G	20 - 40	NR				
2R	0 - 5	0.0	9.5	6.4	0.00	No methane read.
2Y	5 - 10	3.8	13.4	0.0	0.50	Peak methane @ 30 sec = 3.8%
2B	10 - 20	<b>12.9</b>	16.2	0.0	0.00	Peak methane @ 40 sec = 14.7%
2G	20 - 40	<b>31.0</b>	21.1	0.0	0.00	Peak methane @ 35 sec = 39.7%
<b>Transfer Station</b>		NR				
<b>New Scale House</b>		NR				
<b>Old Maintenance Building</b>		NR				
<b>New Maint. Bldg Office Outlet</b>		NR				
<b>New Maint Bldg Caulked Crnr</b>		NR				
<b>New Maintenance Building Rmdr</b>		NR				
<b>Animal Shelter</b>		NR				
<b>Swap Shop</b>		NR				
<b>Forest Service Building</b>		NR				
<b>Bailing Facility</b>		NR				

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

30.05 in. of Hg

48 °F

Landtec Gem 500

Table 2

WATAUGA COUNTY LANDFILL  
Steady State Methane Concentrations (%vol)

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
1R	0 - 5	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
1Y	5 - 10	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
1B	10 - 20	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
1G	20 - 40	0	0	0	0	0	0	0	0	0	0	0	0	0	NR
2R	0 - 5	0	0	0	0	0	0	0	0	0	0	0	0	15.2	0
2Y	5 - 10	4.4	0	0	0	0	8.8	0	0	1.4	0	0	0	31.9	3.8
2B	10 - 20	10.5	0	0	0	0	24.8	2.9	0	10.6	0	0	0	46.6	12.9
2G	20 - 40	22	3.6	0	0	0	39.6	15.5	0.2	22.1	0.9	0	1.7	50.7	31.0
<b>New Maint Bldg Office Outlet</b>		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

Note - Methane was not detected in the outlet until January 3, 2007

NR = Not recorded or sampled.