

**Landfill Gas and Control System Monitoring  
Town of Huntington East Northport Landfill  
East Northport, New York  
January, 2009**

*Prepared for:*

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**Landfill Gas and Control System Monitoring  
Town of Huntington East Northport Landfill  
East Northport, New York  
January, 2009**

**Introduction**

This report presents the results of January, 2009 landfill gas and control system monitoring activities performed at the Town of Huntington East Northport Landfill, as stipulated by the New York State Department of Environmental Conservation.

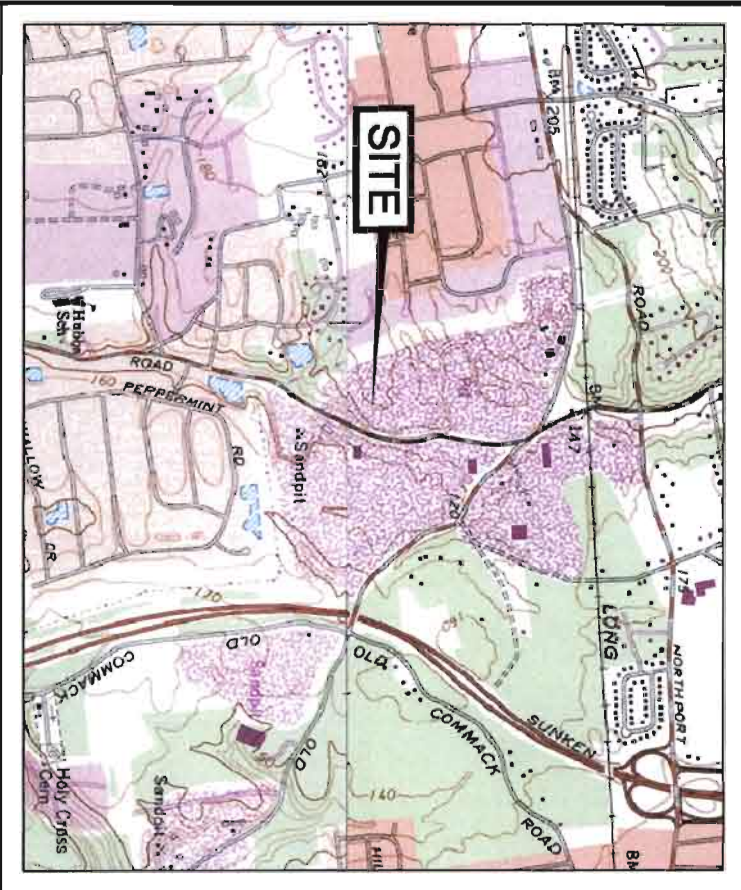
The primary landfill gas migration control system consists of thirty active landfill gas control wells connected - via a single header pipe forming a complete loop around the 44 acre East Northport Landfill - to one blower station. Landfill gas monitoring wells (consisting of 3-4 probes screened from approximately 5-70 feet below grade), situated outside of the aforementioned header pipe, provide a means to verify the control system's efficacy. Separate landfill gas control and monitoring systems are located at adjacent Animal Control and Resource Recovery Facilities.

The landfill area and pertinent components of the landfill gas monitoring and control system are illustrated in Figure 1. The scope-of-work completed (per our agreement with the Town of Huntington Department of Environmental Waste Management dated December 4, 2006) precedes a summary of results. A discussion of methane monitoring data - with an emphasis on trends and occurrence - and the system's physical and operating condition follows.

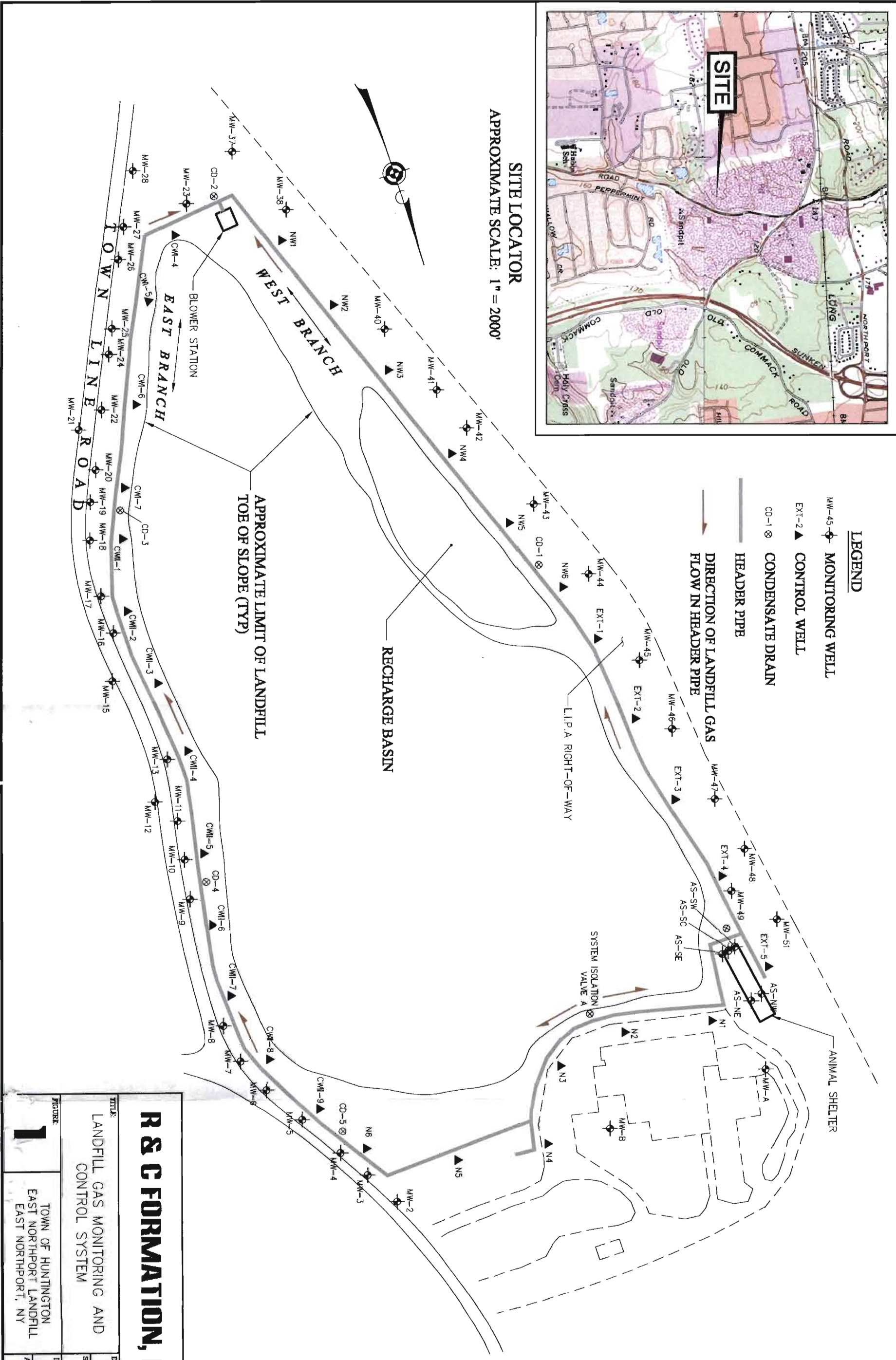
**Scope-of-Work**

The scope-of-work includes performance of the following on a monthly basis:

- 1) Monitoring of all probes in 41 landfill monitoring wells and up to 5 probes around the Town Animal Control Facility for methane gas and gas pressure.
- 2) Monitoring of 30 methane control wells and blower station for temperature, flow rate, vacuum, methane and oxygen (balance of the control system to be checked and adjustment to wells and to blower intake made, if necessary).



**SITE LOCATOR**  
 APPROXIMATE SCALE: 1" = 2000'



**LEGEND**

- MW-45 MONITORING WELL
- EXT-2 CONTROL WELL
- CD-1 CONDENSATE DRAIN
- HEADER PIPE
- DIRECTION OF LANDFILL GAS FLOW IN HEADER PIPE

<p><b>R &amp; C FORMATION, LTD.</b></p> <p>LANDFILL GAS MONITORING AND CONTROL SYSTEM</p>		<p>DATE: 9/22/03</p> <p>SCALE: AS SHOWN</p>
		<p>DRAWING NO.: 01006-1A</p> <p>APPR. BY: B.C.</p>
<p>FIGURE: 1</p>	<p>TOWN OF HUNTINGTON          EAST NORTHPORT LANDFILL          EAST NORTHPORT, NY</p>	

- 3) Examination of 5 condensate traps in the control system for proper operation and water accumulation.
- 4) Noting of any problems, damage, missing parts etc. at each monitoring well, methane control well, condensate trap, Animal Control Facility probes and blower station.

### Summary of Results

#### *General*

Reported monthly monitoring activities were performed January 29, 2009. Climatic conditions for the monitoring period are as follows:

Temperature: 31 (°F); Barometric Pressure: 29.88 (in. Hg); Relative Humidity: 56.0%; Precipitation: 0.00 inches; Wind Speed & Direction: 15.0 mph, west-northwesterly.

#### *Monitoring Wells*

Table 1 presents a summary of measured and recorded landfill gas monitoring well data. As shown, methane was not detected throughout the entire monitoring well network.

#### *LFG Control Wells*

Table 2 presents a summary of measured and recorded landfill gas control well data; including the system's blower station where 2 "inlet" measuring points (Blower Station 1 & 2) and 1 "outlet" measuring point (Blower Station 3) are located. As shown on Table 2, control well vacuum values (i.e., negative pressure), a direct indicator of the system's balance, range from 0.0 - -3.6 (in. H<sub>2</sub>O). "Extracted" methane values range from 0.0 - 2.5%.

#### *Condensate Traps*

Standing water measured within condensate traps CD-1 (4.5 feet), CD-2 (4.2 feet), CD-3 (8.2 feet), CD-4 (8.4 feet) and CD-5 (3.9 feet) was evacuated, as per usual, upon the completion of monitoring activities.

## Discussion

### *Methane Monitoring Data*

A summary of measured and recorded methane concentrations, detected at landfill gas monitoring wells throughout the period-of-record from January, 2006 through January, 2009, is presented on Table 3. As shown, methane has been detected sporadically and at low levels at 14 monitoring wells. The highest concentration detected throughout the entire landfill gas monitoring well network continues to be 5.0 %; as measured at Animal Control Facility monitoring well AS-NE during March, 2001 monitoring activities (see October, 2007 report).

Methane has not been detected at primary landfill gas migration control system monitoring wells since a nominal concentration of 0.1% was recorded at MW-49 during June, 2002 monitoring activities. The sporadic nature of low-level methane detections indicates that landfill gas control systems in relation to both the Animal Control Facility and East Northport Landfill continue to perform effectively.

Table 4 presents a summary of methane concentrations detected at landfill gas control wells during the period-of-record from January, 2006 through January, 2009. As shown on Table 4, reported values are generally consistent throughout the 37 month period.

### *Physical and Operating Condition*

As indicated by current and historic landfill gas monitoring data summarized above, the East Northport Landfill's primary landfill gas control system continues to effectively negate the off-site migration of methane. Vacuum values remain comparatively low at the northern-most portion of the system; as they have throughout the monitoring period-of-record (see Appendix 1). However, more of a site-wide balance has developed in recent monitoring events.

The physical condition of system monitoring wells and control wells is noted on Table 1 and Table 2, respectively. As shown, with the exception of control well N-1 (frozen cover), all monitoring wells and control wells were accessible and in good condition. Blower station pump # 1 was in operation during January monitoring activities and all control wells continue to be set in the full-open-position. This full-open -position will be maintained for an evaluation period and modified if/as necessary.

### Recommendations

- \* In the event that methane is detected at any monitoring well associated with the primary landfill gas migration control system, recommence the monitoring of off and on-site structures.
- \* Assess occurrence of methane versus landfill area (i.e., identify dominant landfill gas production zones).
- \* Continue assessment of potential impact of all control valves at full-open-position on system-wide vacuum/methane levels.
- \* Maintain the inspection and, when necessary, pumpage periodicity of standing water within condensate traps CD-1 through CD-5 (e.g., semi-weekly).

**Table 1**  
**Landfill Gas Monitoring Well Data**  
**Town of Huntington East Northport Landfill, East Northport, New York**  
**Measured January 29, 2009**

Well No.	Probe Pressure (in. H <sub>2</sub> O)				Methane 0-100% (Volume)				Condition
	A	B	C	D	A	B	C	D	
MW-A	-0.1	-0.1			0.0	0.0			
MW-B	-0.2	-0.3			0.0	0.0			
MW-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-6	0.0	0.0	-0.1		0.0	0.0	0.0	0.0	
MW-7	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
MW-8	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
MW-9	0.0	0.0	0.0		0.0	0.0	0.0	0.0	
MW-10	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	
MW-11	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	
MW-12	0.0	0.0	0.0		0.0	0.0	0.0		
MW-13	0.0	0.0	-0.3		0.0	0.0	0.0		
MW-15	0.0	-0.1	0.0		0.0	0.0	0.0		
MW-16	-0.2	-0.2	-0.1		0.0	0.0	0.0		
MW-17	-0.3	-0.3	-0.2		0.0	0.0	0.0		
MW-18	0.0	0.0	-0.3		0.0	0.0	0.0		
MW-19	-0.2	-0.3	0.0	0.2	0.0	0.0	0.0	0.0	
MW-20	0.0	-0.2	-0.2		0.0	0.0	0.0		
MW-21	0.0	-0.1	-0.2	-0.2	0.0	0.0	0.0	0.0	
MW-22	-0.3	0.0	-0.3		0.0	0.0	0.0	0.0	



Table 1 (continued)

Well No.	Probe Pressure (in. H <sub>2</sub> O)				Methane 0-100% (Volume)				Condition
	A	B	C	D	A	B	C	D	
MW-23	-0.1	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.0	
MW-24	-0.3	-0.3	0.0		0.0	0.0	0.0		
MW-25	-0.4	-0.4	0.0		0.0	0.0	0.0		
MW-26	-0.2	-0.2	-0.2	-0.2	0.0	0.0	0.0	0.0	
MW-27	-0.1	-0.2	0.0		0.0	0.0	0.0		
MW-28	-0.1	0.0	0.0		0.0	0.0	0.0		
MW-37	0.0	-0.1	-0.1		0.0	0.0	0.0		
MW-38	-0.1	-0.1	-0.1		0.0	0.0	0.0		
MW-40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-41	0.0	0.0	0.0		0.0	0.0	0.0		
MW-42	0.0	0.0	0.0		0.0	0.0	0.0		
MW-43	0.0	0.0	0.0		0.0	0.0	0.0		
MW-44	0.0	0.0	0.0		0.0	0.0	0.0		
MW-45	0.0	0.0	0.0		0.0	0.0	0.0		
MW-46	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
MW-47	0.0	-0.1	-0.1		0.0	0.0	0.0		
MW-48	0.0	-0.1	-0.1		0.0	0.0	0.0		
MW-49	-0.1	0.0	0.0		0.0	0.0	0.0		
MW-51	0.0	-0.1	0.0		0.0	0.0	0.0		
AS-NW	0.0				0.0				
AS-NE	0.0				0.0				
AS-SW	0.0				0.0				
AS-SC	0.0				0.0				
AS-SE	0.0				0.0				

A - Shallow Probe      B - Middle Probe      C - Deep Probe      D - Deepest Probe

Shading indicates the well is not equipped with that particular probe.

NA - Not Available

**Table 2**  
**Landfill Gas Control Well Data**  
**Town of Huntington East Northport Landfill, East Northport, New York**  
**Measured January 29, 2009**

Well No.	Temp (°F)	Flow Rate (ft <sup>3</sup> /min)	Vacuum (in. H <sub>2</sub> O)	Methane 0-100 % (Volume)	Oxygen % in Air	Condition
CWI-4	65.8	219.00	-3.0	0.0	19.1	
CWI-5	73.1	124.00	-3.4	0.3	19.2	
CWI-6	70.9	50.50	-3.6	0.5	19.1	
CWI-7	77.1	40.10	-3.6	0.6	18.3	
CWII-1	81.5	19.80	-3.5	2.2	15.8	
CWII-2	83.9	76.50	-3.0	0.5	17.6	
CWII-3	78.4	26.70	-3.6	0.5	17.6	
CWII-4	72.5	64.00	-3.4	0.1	17.5	
CWII-5	61.6	14.50	-3.5	0.1	17.9	
CWII-6	45.9	0.00	0.0	0.0	18.7	
CWII-7	46.3	0.00	0.0	0.0	18.5	
CWII-8	44.7	0.00	0.0	0.0	19.7	
CWII-9	47.0	0.00	0.0	0.0	18.0	
NW-1	55.6	101.00	-2.9	0.0	20.7	
NW-2	54.6	32.60	-3.1	0.0	20.7	
NW-3	55.2	28.00	-2.7	0.0	20.4	
NW-4	54.7	42.20	-2.3	0.0	20.3	
NW-5	55.3	91.00	-2.1	0.0	20.2	
NW-6	55.2	76.00	-2.3	0.0	20.0	
Ext-1	47.1	4.76	0.0	0.0	20.9	
Ext-2	54.5	28.00	-0.9	0.0	20.9	
Ext-3	59.2	34.70	-2.1	0.0	20.4	
Ext-4	64.0	44.10	-2.0	0.1	20.1	
Ext-5	54.7	55.00	-1.8	0.0	20.9	
N-1	NA	NA	NA	NA	NA	Frozen Cover
N-2	72.3	10.10	-0.7	2.5	10.1	
N-3	38.2	6.25	-0.2	0.0	20.9	
N-4	44.5	1.72	-0.2	0.0	20.9	
N-5	44.1	0.74	-0.2	0.0	20.8	
N-6	43.9	0.05	-0.1	0.0	20.9	
Blower Station - 1	66.1	1,470.00	-4.1	0.2	20.6	
Blower Station - 2	46.0	1,852.00	-18.7	0.2	20.6	
Blower Station - 3	51.9	1,170.00	0.5	0.2	20.6	

NA - Not Available

**Table 3**  
**Summary of Methane Detections**  
**Landfill Gas Monitoring Wells**  
**Town of Huntington East Northport Landfill, East Northport, New York**  
*for period of record between January, 2006 and January, 2009*

Well	1/06	2/06	3/06	4/06	5/06	6/06	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07
MW-7C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-8C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-11A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-12A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-12C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-18A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-19A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-24C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-38B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-39A	0.0	0.0	0.0	0.0	0.0	0.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-49A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-49B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-49C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-SC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-NE	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

NA - Not Available  
 Measured in % Volume

Table 3 (continued)

Well	5/07	6/07	7/07	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08
MW-7C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-8C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-11A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-12A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-12C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-18A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-19A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-24C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-38B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-39A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-49A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-49B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-49C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-SW	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-SC	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AS-NE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NA - Not Available  
 Measured in % Volume



**Table 4**  
**Landfill Gas Control Well Methane Data**  
**Town of Huntington East Northport Landfill, East Northport, New York**  
*for period of record between January, 2006 and January, 2009*

Well	1/06	2/06	3/06	4/06	5/06	6/06	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07
CWI-4	0.0	0.3	0.4	0.2	0.1	0.3	0.1	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.0	0.1
CWI-5	0.0	1.8	2.0	1.5	0.8	1.5	0.2	0.0	0.0	1.0	0.8	0.7	0.7	2.1	0.0	0.7
CWI-6	0.1	0.3	0.1	0.4	1.0	0.9	0.2	0.0	0.0	0.0	1.0	0.6	0.6	0.0	0.0	0.8
CWI-7	0.2	5.0	6.0	5.0	0.1	0.7	0.6	0.0	0.0	0.2	2.2	1.5	1.1	NA	0.1	2.0
CWII-1	0.4	5.0	6.0	2.7	1.6	2.4	2.6	7.0	0.0	0.3	4.0	4.0	3.8	5.0	5.0	3.8
CWII-2	0.2	4.5	4.2	3.4	2.7	1.9	1.0	2.2	0.0	3.0	1.6	1.6	1.6	1.2	1.7	1.7
CWII-3	0.2	2.3	2.1	0.9	1.8	1.5	1.5	1.7	0.0	0.2	0.0	0.7	1.1	1.1	1.3	NA
CWII-4	0.2	4.0	3.8	1.0	4.0	1.3	0.8	4.7	0.0	0.3	5.0	2.8	2.8	1.7	3.6	2.7
CWII-5	0.0	1.0	4.2	0.5	0.7	0.6	0.4	1.5	0.0	0.0	0.8	0.4	0.6	0.8	0.2	0.4
CWII-6	0.2	3.5	0.7	0.8	2.0	0.6	1.1	0.5	0.0	0.1	0.9	1.4	1.7	1.7	0.3	1.2
CWII-7	0.0	0.1	3.4	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
CWII-8	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CWII-9	0.0	1.1	0.0	0.7	0.6	0.2	0.5	0.4	0.0	0.0	0.4	0.4	0.7	0.6	0.4	0.3
NW-1	0.0	0.0	1.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-3	0.2	0.0	0.0	0.0	0.2	0.0	0.8	0.2	0.0	3.0	1.2	0.3	1.3	0.2	0.0	0.1
Ext-4	0.2	0.0	0.0	0.0	0.4	0.2	0.4	0.1	0.0	2.0	0.4	0.2	1.0	0.1	0.0	0.1
Ext-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-2	2.6	1.3	0.6	11.0	NA	0.0	4.8	0.0	0.8	4.4	3.0	0.5	0.2	0.0	3.1	4.0
N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-5	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-6	NA	0.0	0.0	0.1	NA	0.7	0.1	0.1	0.0	0.0	NA	NA	NA	NA	NA	0.0
BS-1	0.1	0.0	0.6	0.9	0.7	0.4	0.4	0.0	0.1	0.9	0.7	0.5	0.5	0.6	0.1	0.5

NA - Not Available  
 Measured in % Volume

Table 4 (continued)

Well	5/07	6/07	7/07	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08
CWI-4	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1
CWI-5	0.8	0.9	0.8	0.7	0.8	0.8	0.0	0.7	0.5	0.5	2.5	0.4	0.2	0.3	0.4	0.0
CWI-6	0.7	1.1	1.3	0.8	1.0	0.8	0.1	0.5	0.6	0.9	0.5	0.4	0.3	0.5	0.7	0.3
CWI-7	2.3	2.4	2.3	2.0	3.0	2.6	0.2	2.0	2.2	2.1	1.3	1.1	0.9	1.2	1.3	0.5
CWII-1	4.6	9.0	8.0	5.0	5.0	1.3	5.0	7.0	7.0	10.0	4.0	3.3	2.2	3.8	3.8	1.0
CWII-2	1.9	2.3	2.0	1.5	1.8	6.0	1.4	1.0	1.1	1.2	0.7	0.9	0.6	0.7	0.9	2.5
CWII-3	NA	3.8	2.7	4.0	3.5	1.8	2.8	0.3	1.5	2.2	1.4	1.0	0.5	1.0	1.4	0.7
CWII-4	2.6	3.5	3.3	3.1	3.5	2.6	3.5	2.5	2.1	2.7	2.0	1.5	1.1	1.5	1.5	1.0
CWII-5	0.9	1.7	1.3	1.7	1.8	0.9	1.0	0.2	0.3	0.4	2.5	0.3	0.3	0.5	0.8	1.2
CWII-6	1.7	2.5	2.0	2.0	2.9	1.7	2.1	0.3	1.0	0.7	0.7	0.7	0.6	0.8	0.0	0.5
CWII-7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
CWII-8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CWII-9	0.5	0.5	0.5	0.4	0.6	0.4	0.5	0.3	4.5	0.2	0.2	0.2	0.2	0.2	0.1	0.3
NW-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
NW-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-3	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NW-6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ext-3	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.5	1.5	0.2	0.0	0.0	0.0	0.0	0.0
Ext-4	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Ext-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-2	2.8	3.4	3.3	3.0	3.4	4.7	0.3	3.5	2.0	NA	1.5	2.8	2.2	2.4	2.3	2.2
N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
N-6	0.0	0.0	0.0	0.0	0.0	2.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BS-1	0.5	0.7	0.4	0.7	0.7	0.6	0.0	0.5	0.4	0.5	0.3	0.3	0.2	0.3	0.3	0.3

NA - Not Available  
Measured in % Volume





# APPENDIX 1

**Landfill Gas Control Well Vacuum Data**  
**East Northport Landfill, East Northport, New York**  
 for period of record between January, 2006 and January, 2009

Well	1/06	2/06	3/06	4/06	5/06	6/06	7/06	8/06	9/06	10/06	11/06	12/06	1/07	2/07	3/07	4/07	5/07	6/07	7/07
CWI-4	-2.9	-2.6	-2.6	-3.0	-2.6	-0.1	-3.3	-5.2	-1.2	-2.8	-3.9	-4.2	-3.0	-3.6	-3.0	-3.0	-2.8	-2.8	-2.6
CWI-5	-3.3	-3.1	-3.2	-2.6	-2.8	0.0	-2.8	-1.9	-3.4	-2.3	-4.4	-4.5	-3.4	-3.6	-3.2	-3.2	-2.9	-2.9	-2.7
CWI-6	-3.5	-3.1	-3.0	-3.0	-2.9	-0.3	-4.0	-6.4	-2.9	-2.9	-4.7	-4.3	-3.5	-3.7	-3.2	-3.2	-3.0	-2.9	-2.7
CWI-7	-3.0	-3.0	-2.8	-2.8	-2.8	-0.4	-2.8	-2.4	-3.1	-2.8	-4.5	-4.1	-3.3	NA	-3.0	-2.9	-2.8	-2.7	-2.5
CWI-1	-3.1	-3.0	-3.0	-2.9	-2.7	0.0	-3.2	-6.3	-2.9	-2.6	-4.3	-4.3	-3.4	-3.4	-2.7	-3.0	-2.7	-2.6	-2.5
CWI-2	-3.0	-2.9	-2.7	-2.8	-2.7	-0.5	-3.5	-5.9	-5.4	-2.6	-4.2	-3.9	-3.3	-3.4	-2.6	-2.8	-2.6	-2.5	-2.4
CWI-3	-3.0	-2.9	-2.9	-2.7	-2.5	0.0	-2.6	-6.8	-0.6	-2.7	-4.3	-4.1	-3.1	-3.4	-2.7	NA	NA	-2.6	-2.4
CWI-4	-2.8	-2.8	-2.4	-2.6	-2.7	-0.9	-3.2	-6.8	-2.7	-2.6	-5.0	-4.0	-3.1	-3.7	-2.7	-2.6	-2.5	-2.5	-2.3
CWI-5	-2.8	-2.5	-2.6	-2.7	-2.1	0.0	-2.3	-7.0	-2.6	-2.6	-0.3	-4.2	-3.2	-3.6	-2.6	-2.7	-2.5	-2.4	-2.3
CWI-6	-1.4	-1.4	-1.5	-1.6	-1.9	-0.1	-1.0	-0.2	-1.7	-1.4	-1.7	-2.3	-2.0	-0.2	-1.7	-1.6	-1.7	-1.7	-1.6
CWI-7	-1.2	-1.0	-1.1	-0.7	-1.4	-0.2	-0.8	-0.2	-1.3	-1.1	-1.5	-1.7	-1.7	-1.3	-1.4	-1.4	-1.2	-1.3	-1.1
CWI-8	0.0	0.0	-0.2	0.0	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	0.0
CWI-9	-0.9	-0.6	-0.7	-1.0	-0.8	-0.9	-0.6	-0.2	-0.9	-0.8	-0.9	-1.2	-1.4	-1.0	-1.0	-1.1	-0.9	-0.9	-0.8
NW-1	-2.8	-2.8	-2.8	-2.6	-2.2	-2.4	-3.2	-4.0	-3.7	-2.5	-3.2	-3.9	-2.9	-3.4	-3.0	-2.9	-2.8	-2.6	-2.1
NW-2	-3.3	-2.9	-2.7	-2.6	-2.9	-2.7	-3.4	-4.5	-3.4	-3.2	4.2	-4.5	-3.3	-3.7	-3.2	-3.2	-3.1	-3.9	-2.8
NW-3	-2.8	-2.9	-2.8	-2.7	-2.7	-2.8	-3.2	-4.0	-3.2	-2.8	-4.0	-4.0	-2.3	-3.4	-2.9	-3.0	-2.7	-2.6	-2.6
NW-4	-2.9	-3.0	-3.0	-3.0	-2.7	-2.6	-2.4	-3.6	-2.8	-2.6	-4.0	-3.6	-2.8	-3.3	-2.6	-2.9	-2.6	-2.4	-2.4
NW-5	-2.3	-2.9	-2.6	-2.6	-1.2	-2.5	-2.2	-2.6	-2.3	-2.1	-3.6	-2.9	-2.3	-3.0	-2.2	-2.6	-2.2	-1.9	-2.1
NW-6	-2.2	-3.0	-2.9	-3.0	-1.6	-2.1	-2.8	-2.8	-2.5	-2.8	-3.1	-3.0	-2.3	-2.6	-2.3	-1.6	-2.3	-2.1	-2.0
Ext-1	0.0	0.0	0.0	-0.2	-0.2	-0.3	0.0	-0.7	-0.1	-0.1	-3.6	-3.4	-2.7	-0.1	0.0	0.0	0.0	-1.7	-0.1
Ext-2	-0.6	-0.8	-0.9	-0.8	-0.8	-0.6	-0.1	-3.0	-0.9	-0.7	-3.4	NA	-2.1	-1.1	-0.8	-0.9	-0.9	-2.1	-0.9
Ext-3	-2.1	-2.8	-2.7	-2.6	-2.2	-1.9	-0.5	-3.3	-2.3	-2.1	-3.3	-3.2	-2.3	-2.9	-2.2	-2.5	-2.3	-2.3	-2.1
Ext-4	-2.0	-1.9	-1.8	-1.6	-2.1	-2.0	-0.6	-2.0	-2.0	-2.1	-3.2	-3.5	-2.0	-2.7	-2.2	-2.3	-2.1	-0.9	-2.0
Ext-5	-0.8	-1.6	-1.4	-1.6	-1.7	-1.5	-0.2	-0.1	-1.6	-1.6	-2.4	-2.6	-2.0	-2.3	-2.0	-2.1	-1.9	-0.1	-1.7
N-1	-0.3	-0.2	-0.4	-0.4	-0.6	0.0	-1.0	-2.8	-1.5	-0.2	-0.2	-0.2	0.0	0.1	0.0	-0.2	-0.1	0.0	-0.1
N-2	-0.4	-0.4	-0.8	-0.7	NA	0.0	-0.1	-0.9	-0.3	-0.6	-0.5	-0.4	-0.3	-0.4	-0.4	-0.6	-0.3	-0.3	-0.5
N-3	-0.1	-0.1	0.0	-0.2	-0.1	-0.1	0.0	-0.3	-0.1	-0.1	-0.1	-0.2	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
N-4	0.0	0.0	0.0	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	-0.2	-0.1	-0.1	0.0	-0.2	-0.8	-0.1	-0.1	0.0	-0.1
N-5	-0.1	-0.1	0.0	-1.0	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.1	-0.2	0.0	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1
N-6	NA	NA	-0.8	-0.1	NA	0.0	-1.1	-0.2	-0.9	-1.0	NA	NA	NA	NA	NA	-1.1	-0.8	-0.9	-0.9
BS-1	-4.9	-4.2	-5.1	-4.6	-4.6	-3.1	-8.5	-10.1	-6.1	-5.1	-7.3	-7.2	4.0	-5.6	-5.0	-5.1	-4.8	-7.3	-4.3

Measured in inches of H2O

NA - Not Available

**Landfill Gas Control Well Vacuum Data**  
**East Northport Landfill, East Northport, New York**  
 for period of record between January, 2006 and January, 2009

Well	8/07	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08	5/08	6/08	7/08	8/08	9/08	10/08	11/08	12/08	1/09
CWI-4	-2.6	-2.5	-2.5	-3.1	-3.0	-2.9	-3.7	-3.7	-1.8	-3.4	-1.8	-2.1	-1.6	-1.9	-1.2	-1.4	0.0	-3.0
CWI-5	-2.7	-2.8	-2.7	-3.0	-3.5	-3.1	-3.7	-3.5	-3.0	-2.9	-1.8	-2.3	-1.9	-2.1	-1.3	-1.4	0.0	-3.4
CWI-6	-2.6	-2.2	-2.4	-2.9	-3.4	-3.2	-3.3	-3.4	-3.1	-2.9	-1.9	-2.4	-1.8	-2.1	-1.3	-1.2	-0.1	-3.6
CWI-7	-2.5	-2.5	-2.4	-2.5	-3.1	-3.0	-3.7	-3.3	-2.7	-2.3	-1.8	-2.4	-1.8	-2.0	-1.1	-0.6	NA	-3.6
CWII-1	-2.3	-1.5	-2.4	-2.4	-3.0	-2.9	-4.1	-3.2	-2.6	-2.6	-1.7	-2.4	-1.7	-2.0	-1.2	-1.1	-0.1	-3.5
CWII-2	-2.3	-2.3	-2.4	-2.5	-3.5	-2.9	-3.2	-3.6	-2.6	-2.5	-1.6	-2.4	-1.7	-2.0	-1.2	-1.6	-0.1	-3.0
CWII-3	-2.3	-2.4	-2.3	-2.4	-2.9	-2.9	-3.7	-3.1	-3.1	-2.3	-1.7	-2.7	-1.6	-2.0	-1.1	-0.9	-0.1	-3.6
CWII-4	-3.2	-2.1	-2.2	-2.3	-3.6	-2.9	-1.8	-3.5	-2.5	-2.1	-1.6	-2.4	-1.6	-1.9	-1.1	-1.1	NA	-3.4
CWII-5	-2.2	-2.4	-2.2	-2.6	-3.5	-2.9	-3.0	-3.1	-2.8	-2.4	-1.6	-2.5	-1.6	-1.9	-1.1	-1.0	-0.2	-3.5
CWII-6	-1.6	-1.5	-1.5	-1.3	-0.2	-2.0	-1.2	-2.2	-1.6	-1.7	-1.2	0.0	-1.6	-1.6	-0.7	-0.8	NA	0.0
CWII-7	-1.2	-1.1	-1.2	-1.1	-0.3	-1.5	-1.2	-1.7	-1.2	-1.3	-0.9	0.0	-1.2	-1.1	-0.7	-0.6	-0.2	0.0
CWII-8	0.0	0.0	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.1	-0.1	0.0	0.0	-0.1	0.0	-0.1	0.0
CWII-9	-0.2	-0.9	-0.9	-0.9	-0.6	-1.1	-0.2	-0.2	-0.9	-0.9	-0.6	0.0	-0.6	-0.8	-0.6	-0.5	-0.2	0.0
NW-1	-2.6	-2.4	-2.5	-2.5	-2.9	-2.8	-3.0	-3.1	-2.7	-2.8	-1.6	-1.9	-1.8	-1.9	-1.1	-1.2	-1.6	-2.9
NW-2	-2.8	-1.7	-2.9	-3.1	-3.3	-3.1	-3.4	-3.8	-2.9	-3.2	-2.1	-2.4	-1.7	-2.0	-1.1	-0.8	-1.4	-3.1
NW-3	-2.5	-2.0	-2.4	-2.5	-2.8	-2.7	-4.3	-3.1	-2.7	-2.1	-1.8	-2.1	-1.3	-1.8	-1.1	-0.7	-1.0	-2.7
NW-4	-2.2	-2.2	-2.3	-2.2	-2.6	-2.4	-3.4	-2.8	-3.1	-2.9	-1.6	-1.9	-1.5	-1.7	-1.0	-1.0	-0.9	-2.3
NW-5	-1.8	-1.8	-1.9	-2.0	-2.1	-2.1	-2.5	-2.2	-2.2	-0.9	-1.4	-1.6	-1.2	-1.5	-0.8	-0.6	-1.2	-2.1
NW-6	-1.8	-1.8	-1.9	-2.2	-2.2	-2.1	-2.4	-2.4	-2.1	-2.1	-1.3	-1.6	-1.2	-1.4	-0.9	-0.7	-1.3	-2.3
Ext-1	-0.1	0.0	0.0	-0.1	-0.1	-2.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	-1.1	0.0	0.0	-0.1	-0.4	0.0
Ext-2	-0.7	-0.8	-0.7	-0.7	-0.9	-0.9	-1.0	-1.0	-0.9	-2.2	-0.9	-0.7	-1.0	-0.5	-0.5	-0.4	-0.7	-0.9
Ext-3	-2.1	-2.0	-1.9	-1.9	-2.3	-2.2	-2.6	-2.7	-2.2	-2.2	-1.6	-1.7	-0.6	-1.4	-0.9	-0.7	-0.3	-2.1
Ext-4	-1.9	-1.9	-2.2	-1.9	-2.2	-2.1	-2.4	-2.3	-1.9	-2.0	-1.4	-1.1	-1.7	-1.5	-0.9	-0.6	-1.1	-2.0
Ext-5	-1.6	-1.5	-1.7	-1.5	-1.9	-1.8	-2.0	-2.1	-1.8	-1.8	-1.1	-0.4	-0.9	-1.2	-0.8	-1.0	-1.4	-1.8
N-1	-0.3	-0.2	-0.2	-0.2	-0.2	-0.1	-0.3	-0.2	-0.2	-0.1	-0.3	-0.2	-0.2	-0.2	NA	NA	NA	NA
N-2	-0.6	-0.5	-0.7	-0.6	-0.6	-0.6	NA	-0.4	-0.6	-0.7	-0.5	-0.5	-0.6	-0.5	-0.3	-0.5	-0.3	-0.7
N-3	-0.2	-0.1	-0.2	0.0	-0.2	-0.1	-0.2	-0.1	-0.1	-0.1	-0.1	-0.3	-0.1	-0.1	-0.2	-0.1	-0.2	-0.2
N-4	-0.1	-0.1	-0.1	0.0	-0.2	-0.1	-0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.1	NA	-0.2
N-5	-0.1	-0.1	-0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	-0.2	-0.1	-0.2	-0.1	NA	-0.2
N-6	-0.9	-0.8	-0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-0.1
BS-1	-5.6	0.3	-4.4	-4.7	-5.1	-4.5	-5.0	-5.2	-4.2	-4.8	-2.8	-3.2	0.1	-3.0	-1.7	-21.7	0.1	-4.1

Measured in inches of H2O.

NA - Not Available