Environmental Engineers, Scientists & Consultants

JOYCE ENGINEERING

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August 7, 2013

Ms. Jackie Drummond
North Carolina Department of Environment and Natural Resources
Division of Waste Management, Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

RE: Landfill Gas Monitoring – Third Quarter 2013
Piedmont Landfill and Recycling Center, Permit 34-06
JOYCE Project No. 392.1301.12, Task No. 03

Dear Ms. Drummond:

Landfill gas monitoring for the closed Piedmont Landfill and Recycling Center was conducted by Joyce Engineering on July 31, 2013. The Environmental Monitoring Reporting Form (EMRF) and Monitoring Data Log of the results are attached for this third quarterly event. Methane was detected in gas probe GP-10 above the LEL on this date. Methane has been previously detected in GP-10 over the limit, but the methane has been attributed to migration from close proximity of the Kernersville Landfill that is unlined. Piedmont Landfill and Recycling Center will continue monitoring landfill gas on a quarterly basis, with the next event scheduled in October 2013. If you have any further questions, please contact me or Larry Hineline at (336) 323-0092. Thank you.

Sincerely,
JOYCE ENGINEERING

Daniel A. Girdner

Daniel Girdner
Staff Consultant

Enclosures: EMRF
Landfill Gas Monitoring Data Log
Drawing

cc: Al Lacsamana, P.E. – WM

DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Waste Management

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Dan Girdner Phone: (336) 323-0092

E-mail: dgirdner@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Piedmont Landfill & Recycling Center	9001 Freeman Rd. Kernersville, NC	34-06	.1600	July 31, 2013

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☐ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☐ Surface water monitoring data
☒ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify) _____

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☐ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☒ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

T. Lawrence Hineline — Technical Consultant — 336-323-0036

Facility Representative Name (Print) — Title — (Area Code) Telephone Number

Signature — Date: 8/7/13

Affix NC Licensed Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 2357 GEOLOGIST T. LAWRENCE HINELINE

2211 W. Meadowview Road, Ste. 101, Greensboro, NC, 27407

Facility Representative Address

C-0782

NC PE Firm License Number (if applicable effective May 1, 2009)

Revised 6/2009

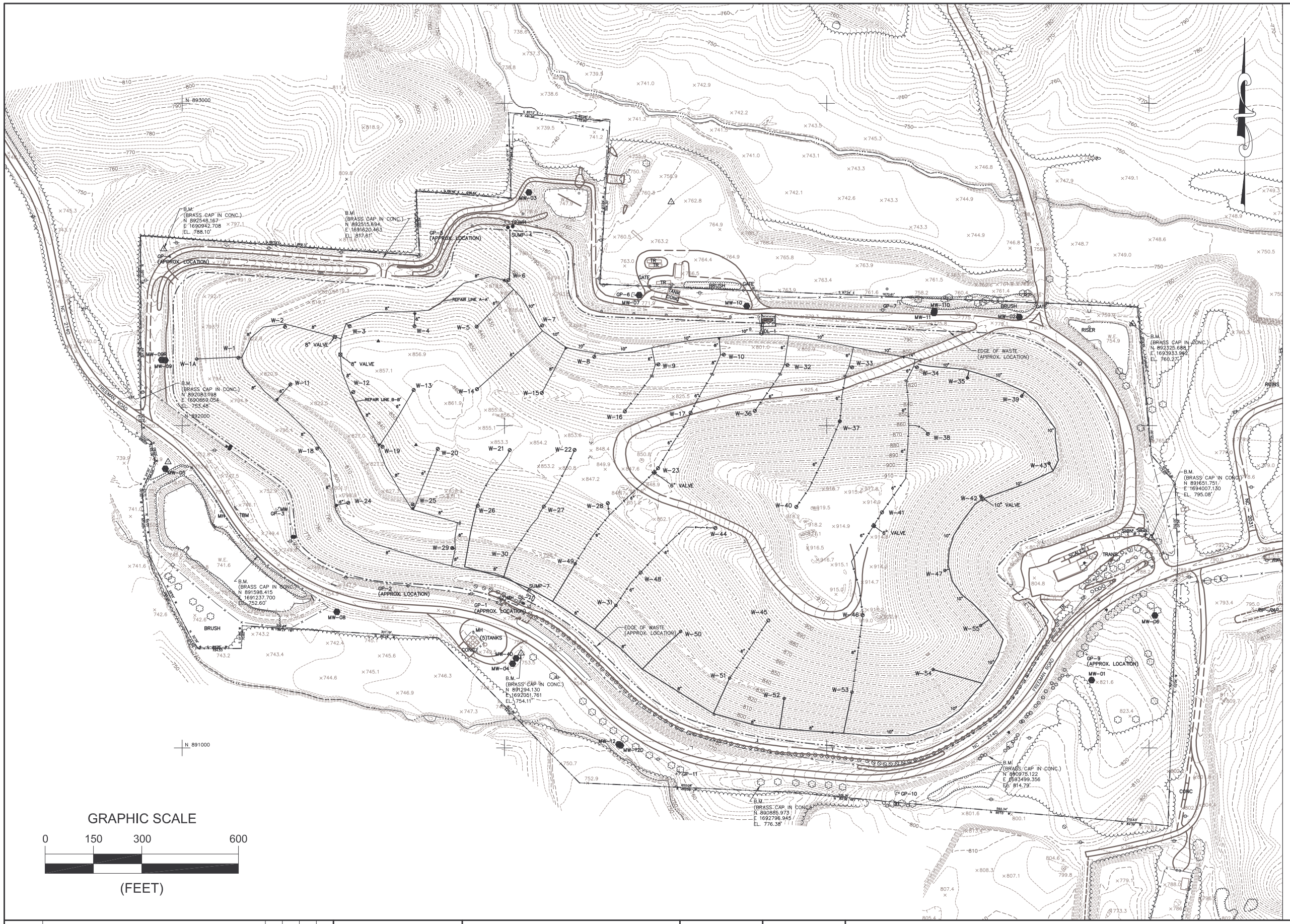
Landfill Gas Monitoring Data Log

Facility Name:	**Waste Management - Piedmont Landfill**	**Permit Number:**	**34-06**
Date of Sampling:	**07/31/13**	**Personnel:**	**D. Girdner, A. Cox / JOYCE**
Gas Monitor Type & Serial Number:	**GEM 2000 #5194**	**Calibration Date:**	**03/10/13**
Field Calibration Date & Time:	**7/31/2013 10:43**	**Calibration Gas Type:**	**15% CH4, exp. 4-2016**
General Weather Conditions:	**Partly cloudy, 81° F**	**Barometer :**	**30.09 In-Hg**

Location or LFG Well ID	Instr. purged	Time	Probe Pressure (InWg)	Time Pumped (seconds)	CH_4 (%Vol.)	CH_4 (%LEL)	% LEL Limit	Notes
PED-BH001	Y	11:39	na	15	0	0	100	
PED-BH002	Y	11:37	na	15	0	0	100	
PED-BH003	Y	11:36	na	15	0	0	100	
PED-BH004	Y	11:34	na	15	0	0	100	
PED-BH005	Y	11:33	na	15	0	0	100	
PED-BH006	Y	11:29	na	15	0	0	100	
PED-BH007	Y	11:28	na	15	0	0	100	
PED-BH008	Y	11:27	na	15	0	0	100	
PED-BH009	Y	11:25	na	15	0	0	100	
PED-BH010	Y	11:20	na	15	0	0	100	
PED-BH011	Y	11:19	na	15	0	0	100	
PED-BH012	Y	11:18	na	15	0	0	100	
PED-BH013	Y	11:15	na	15	0	0	100	
PED-BH014	Y	11:11	na	15	0	0	100	
PED-BH015	Y	11:09	na	15	0	0	100	
PED-BH016	Y	11:08	na	15	0	0	100	
PED-BH017	Y	11:06	na	15	0	0	100	
PED-GP001	Y	12:10	1.100	60	0	0	100	
PED-GP002	Y	12:14	1.030	60	0	0	100	
PED-GP003	Y	11:42	0.010	60	0	0	100	
PED-GP004	Y	11:22	-0.180	60	0	0	100	
PED-GP005	Y	11:14	-0.190	60	0	0	100	
PED-GP006	Y	11:01	-0.130	60	0	0	100	
PED-GP007	Y	12:37	0.24	60	0	0	100	
PED-GP008	Y	12:44	n/a	15	0	0	100	
PED-GP009	Y	11:58	-0.020	60	0	0	100	
PED-GP010	**Y**	**11:54**	**0.900**	**60**	**51.9**	**1038**	**100**	exceeds limit
PED-GP011	Y	11:49	-0.010	60	0	0	100	
PED-LO001	Y	12:50	n/a	Cont.	0	0	25	Office

Abbreviations:

LEL= Lower Explosive Limit
na = not applicable
InWg = inches of water column
GP = Gas Monitoring Probe
BH = bar-hole probe
LO = Landfill Office (now LFGTE Plant office)



CONTROL LEGEND

POINT	DESCRIPTION	NORTH	EAST	ELEV.
H-1	APEX OF ROOF	891543.96	1693733.63	
V-2	EOP AT NOSE OF ISLAND	891527.88	1693684.01	804.36
HV-3	FENCE CORNER	892439.09	1692294.89	767.33
V-5	CENTER OF CURVE	892083.90	1690956.89	766.72
V-6	CL OF ROAD OVER CREEK	892533.08	1694907.96	755.77
H-7	CORNER OF TRAILER	893369.61	1695175.58	780.90
V-8	CL OF DR OF TREES	891294.30	1692795.20	808.21
TBM				749.56
PS1	UTILITY POLE	891582.446	1694366.253	789.80
PS2	FENCE CORNER	892366.763	1693962.022	758.824
PS3	FENCE CORNER	890628.055	1694054.526	791.80
PS4	FENCE CORNER	892588.196	1690869.920	776.0
PS5	MONITORING WELL	891865.700	1690947.640	740.55
PS6	TOP SW CORNER WALL	891328.000	1691880.340	752.7
BM				789.58
MON 1		890826.243	1696469.921	878.77
MON 2		893499.94	1696966.134	769.52
MON 3		895525.115	1696448.917	869.286

LANDFILL GAS WELL AND HEADER LAYOUT LEGEND

W-1	GAS EXTRACTION WELL
DL-1	BAROMETRIC DRIPLEG
	EXISTING LEACHATE CLEANOUT RISER
12"	GAS COLLECTION HEADER
2"	CONDENSATE FORCEMAIN
	INLINE HEADER VALVE
	REDUCER
	FLANGES
	BLIND FLANGE
	TEE
A	GAS COLLECTION HEADER SECTION
.	GAS PROBE

The following revisions were made 1/25/05:

Added wells W16,17,36,37,38,21,22,23,44,40,41, 27,28,48,45, and new 46.

Changed old W46 to W47.

Added new header lines labeled '--G--'

These revisions were made based on survey data provided by Waste Management, Inc. to Joyce Engineering on 1/20/05.

The following revisions were made 1/28/05:

Added section of header connecting W45 to W51

Added section of header connecting W46 to W53

Added the three valve locations shown.

Labeled new header (--G--) as 6"

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GRAPHIC SCALE

0 150 300 600

(FEET)

DATE	REVISIONS AND RECORD OF ISSUE	NO	BY	CK	APP
1/25/05	UPDATED (SEE NOTE)		SC		

DESIGNED CM
DRAWN CADD/BWM
CHECKED
APPROVED
DATE 12/15/04

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SCALE 1"=300'

PROJECT NO.

PIEDMONT LANDFILL AND RECYCLING CENTER
KERNERSVILLE, NORTH CAROLINA
LFG SYSTEM AS-BUILT

DRAWING NO.

L:\WMI\dwg\Piedmont\Combined Gas System\Piedmont LFG As-Built_1_05.dwg