Environmental Engineers, Scientists & Consultants

JOYCE ENGINEERING

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FEB 24 2014
SOLID WASTE SECTION

February 17, 2014

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 Report
LFG Monitoring - Quarterly Event of February 2014
Town of Kernersville Closed Landfill, Permit No. 34-04
JOYCE Project No. 838.1301.12, Task No. 05

Dear Ms. Drummond:

Please find attached a Landfill Gas Monitoring Log and an EMRF for the quarterly monitoring event that occurred on February 17, 2014 at the Closed Town of Kernersville Landfill (Permit number 34-04). Methane monitoring for this event was conducted as proposed by JOYCE on behalf of the Town of Kernersville in accordance with approved *Landfill Gas Monitoring Plan*– dated July 17, 2012. Methane was detected in gas monitoring probes GW-1, GW-3, and GW-8 above the LEL (Lower Explosive Limit) during this monitoring event.

During this event three probes belonging to the adjacent Waste Management Piedmont landfill GP-9, GP-10, and GP-11 were also monitored for methane gas. In the Piedmont landfill boundary probe GP-10 methane gas was detected above the LEL. As has been noted in the past, it is likely that the impacts observed at GP-10 are the result of migration from the Kernersville landfill. The results in GP-10 are consistent with those seen in the northern boundary probes of Kernersville and inconsistent with other probes surrounding the Piedmont Landfill. The migration from the Kernersville Landfill has been addressed through a system of landfill gas vents installed on the property at the end of November. A map has been included in this report to illustrate the proximity of the two landfills and the gas probes between them.

If you have any further questions, please contact me at (336) 323-0092. Thank you.

Sincerely,
JOYCE ENGINEERING

Adam Cox

Adam Cox
Field Consultant

Copy: Thad Buck, Town of Kernersville

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):

Joyce Engineering, Inc.

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

Name: G. Van Ness Burbach, Ph.D., P.G. Phone: (336)-323-0092

E-mail: vburbach@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Town of Kernersville Landfill	Freeman Road Kernersville, NC 27284	34-04	.0500	February 17, 2014

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.

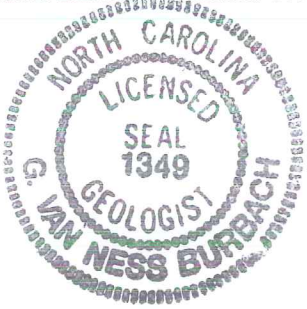
Certification

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.

G. Van Ness Burbach, Ph.D., P.G. | Technical Consultant | (336)-323-0092

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

Affix NC Licensed/ Professional Geologist Seal



Signature | Date 2/19/14

2211 W. Meadowview Rd. 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 Form

Facility Name: Town of Kernersville
Date of Sampling: February 17, 2014
Gas Monitor Type & Serial Number: GEM 2000: 5194
Field Calibration Date & Time: 2/17/14 0935 AM
General Weather Conditions: Sunny 40's°F

Permit Number: 34-04
Personnel: A. Cox
Calibration Date: September 20, 2013
Calibration Gas Type: 50% CH4, exp. 4-2016
Barometer : 30.35 In-Hg

Location or ID	Time	Probe Pressure (In-Wg)	Instr. sample tube purged	Time Pumped (sec.)	CH_4 (%LEL)	CH_4 (%Vol)	Notes
GW-1	944	0.10	Y	60	402	20.1	
GW-2R	949	0.00	Y	60	2	0.1	replacement probe for GW-2
GW-3	1019	0.10	Y	60	144	7.2	
GW-4	1011	0.00	Y	60	0.0	0.0	
GW-5	958	-0.10	Y	60	0.0	0.0	
GW-6	938	-0.20	Y	60	0.0	0.0	
GW-7	1025	0.00	Y	60	0.0	0.0	
GW-8	1047	0.10	Y	60	1192	59.6	
GW-9	1029	0.00	Y	60	0.0	0.0	Waste Management/ Piedmont LF
GW-10	1033	0.00	Y	60	602	30.1	Waste Management/ Piedmont LF
GW-11	1039	0.00	Y	60	0.0	0.0	Waste Management/ Piedmont LF