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Paper Report

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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):

Richardson Smith Gardner and Associates, Inc.

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

Name: Joan A. Smyth, P.G.

Phone: 919-828-0577 x 221

E-mail: joan@rsgengineers.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Lee County Closed MSW Landfill	331 Landfill Road Lemon Springs, NC	53-01	.0500	April 9, 2010

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

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.

Joan A. Smyth, P.G.

Senior Hydrogeologist

919-828-0577 x 221

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Affix NC Professional Geologist Seal

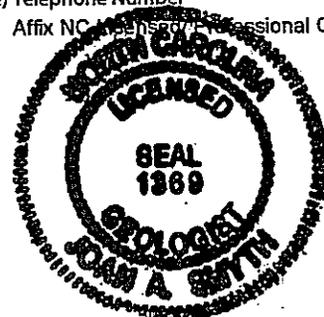
Signature

Date

14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

C0828



Ground Water Monitoring Report

Spring 2010 Monitoring Event

**Lee County Landfill
Sanford, North Carolina
NC Solid Waste Permit # 53-01**

Prepared for:
Lee County Solid Waste Superintendent
805 South Fifth Street
Sanford, NC 27330

June 2010



PRINTED ON 100% RECYCLED PAPER

Spring 2010 Ground Water Monitoring Report

**Lee County Landfill
Sanford, North Carolina
NC Solid Waste Permit # 53-01**

Prepared for:

**Lee County Solid Waste Superintendent
805 South Fifth Street
Sanford, North Carolina 27330**

RSG Project No. **Lee 09-2**



Joan A. Smyth, P.G.
Senior Hydrogeologist



June 2010



PRINTED ON 100% RECYCLED PAPER

Lee County Landfill
Ground Water Monitoring Report
Spring 2010 Monitoring Event

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1.0 Introduction

On April 9th, 2010, Richardson Smith Gardner & Associates, Inc. (RSG), personnel performed the required semi-annual ground water monitoring event at the Lee County Landfill required by 15A NCAC 13B.0500. This sampling event satisfies the requirements of the monitoring programs for this site. The following report summarizes the monitoring event, sampling procedures, field and laboratory results, and ground water characterization as required by NC Solid Waste Regulations. Also included are summary tables of ground water measurements, field parameters, detected constituents, and the laboratory analytical report.

2.0 Site Geology

The Lee County Landfill lies near the edge of the Coastal Plain Physiographic Province of North Carolina. The site lies within the Middendorf Formation which is underlain by saprolite and metavolcanic rocks. The Middendorf formation is relatively thin in this area. The Middendorf Formation consists of interbedded, lenses of sands, clays, silty clays, clayey sands and sandy clays. The formation is predominantly sand with varying amounts of silt and clay.

3.0 Lee County Landfill Monitoring Event

The following summarizes the monitoring event, sampling procedures, field and laboratory results, and ground water characterization as required by NC Solid Waste Regulations. Also included are summary tables of field measurements and detected constituents, as well as the laboratory analysis reports.

3.1 Sampling Procedures

The sampling event, performed by trained personnel from RSG engineers for Lee County Landfill, consisted of collecting samples from six (6) ground water wells (MW-5, MW-6, MW-9, MW-12, MW-13 & MW-14). One surface water sample was collected from SW-1.

Sampling procedures followed the protocols set forth in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities. Each well was inspected to determine if any repairs are required. No damage was noted. Each well was then gauged to determine ground water depth and then purged of three well volumes or until dry. Ground water purging and sample collection was performed using a factory sealed teflon bailer.

Field measurements of pH, specific conductivity, turbidity, and temperature, were taken at each well and surface water sampling location. A summary of monitoring well data is included in **Appendix A**. Samples were collected in laboratory containers provided by Environment 1, Inc. (NC Laboratory Certification # 10). Upon collection, the samples were sealed, placed on ice, and transported to the above referenced laboratory. All samples were preserved and remained on fresh ice prior to shipment, and were received by the laboratory and analyzed within specified holding times.

During the sampling process, all wells were found to be in good condition and free of obstructions.

3.2 Field and Laboratory Results

All samples were transported to the laboratory facility under proper chain of custody analyzed at the specified Solid Waste Section Limits (SWSLs) for Appendix I constituents¹. The laboratory analysis was received by our office and reviewed for accuracy. The laboratory report is attached as **Appendix B**. Ground water and field measurements included as **Tables 1 and 2**, respectively, remained similar to previous results.

Inorganic laboratory analysis detected seven (7) inorganic constituents (barium, beryllium, cadmium, cobalt, lead, selenium and zinc) in five (5) wells. Three (4) inorganic constituents were detected above their 15A NCAC 2L.0200 (2L) / Ground Water Protection (GWP) standards:

- beryllium (MW-5, MW-6 & MW-13);
- cobalt (MW-12); and
- lead (MW-14).

Surface water sampling was conducted at one point (SW-1), with the results included in **Table 3** and locations shown in **Figure 1**. One constituent, zinc was detected in SW-1 above the SWSL limit.

Organic analyses resulted in five (5) parameters detected in one (1) well. Detected organic constituents are shown in **Table 4**. Two (2) organic constituents were detected above the 2L standard:

- benzene (MW-12); and
- 1,4-dichlorobenzene (MW-12)

A review of historical data indicates general stability of detected constituents across the site. It should be noted that many of the recent detections shown are “J” values below the SWSL.

4.0 Site Ground Water Characterization

A potentiometric surface map was prepared for the entire site from ground water elevation data collected during this sampling event. Ground water velocity was calculated for each monitoring well on-site using the equation $V = (KI)/n$ where:

K = hydraulic conductivity

¹New guidelines for electronic submittal of environmental monitoring data memo, NCDENR DWM, Solid Waste Section, October 27, 2006.

I = ground water gradient
n = porosity

Ground water gradients at the Lee County Landfill ranged from 0.006 feet/foot (MW-9) to 0.041 feet/foot (MW-7). Ground water velocity could not be calculated as no hydraulic conductivity data is available. This gradient information is included in **Table 1**. The potentiometric surface map indicates that ground water is flowing generally to the south and southwest across most of the site. This is consistent with ground water flow patterns previously seen at this site. The potentiometric surface map (**Figure 1**) is also attached for your review.

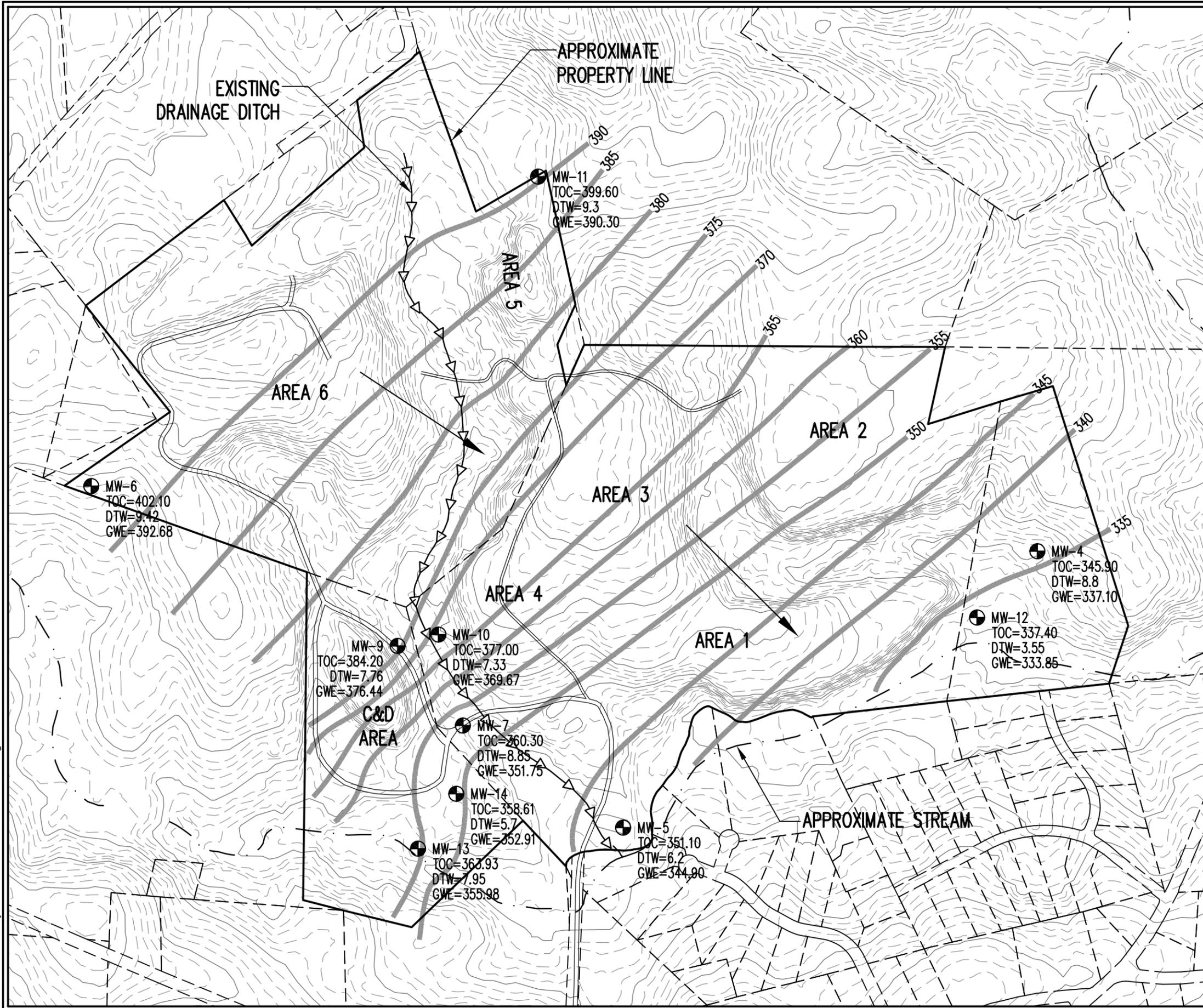
5.0 Conclusions

During the spring 2010 monitoring event all proper sampling protocols were followed. Analysis of samples indicated the detection of inorganic and organic constituents in certain wells above the 2L or GWP standards. The inorganic constituent concentrations are likely due to turbidity in the samples when they were collected. Turbidity can bias concentration results higher due to the metals found in the soils. In general, detected ground water concentrations at the site have remained stable as compared with historical values.

The next ground water monitoring event is tentatively scheduled for September 2010. The results of this event will be reported to NCDENR upon completion of analysis of laboratory data.

Figures

G:\CAD\Lee County\Lee 09-1\sheets\LEE-B0009.dwg - 6/8/2010 10:06 AM

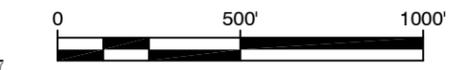


LEGEND

- GROUNDWATER MONITORING WELL (LOCATION APPROXIMATE)
- DIRECTION OF GROUNDWATER FLOW

REFERENCES

1. TOPOGRAPHY PROVIDED BY NCDOT G.I.S. DEPARTMENT.
2. PARCEL BOUNDARIES FROM LEE COUNTY G.I.S. STRATEGIC SERVICES DEPARTMENT.



RICHARDSON SMITH GARDNER & ASSOCIATES
INC. LIC. NO. C-288 (Engineering)
www.rsgengineers.com

14 N. Boylan Ave.
Raleigh, N.C. 27603
ph: 919-826-0577
fax: 919-826-3899

FIGURE NO.	1	FILE NAME	LEE-B0009
SCALE:	AS SHOWN	PROJECT NO.	LEE 09-2
CHECKED BY:	J.A.S.	DATE:	Jun. 2010
DRAWN BY:	W.R.B.		

TITLE:
SPRING 2010 POTENTIOMETRIC SURFACE MAP
LEE COUNTY LANDFILL
SANFORD, NORTH CAROLINA

Tables

Table 1
Lee County Landfill
Ground Water Elevations
4/9/2010

Well	TOC Elevation (feet)	Depth to Water (feet)	GW Elev (feet)	Gradient (ft/ft)
MW-4	345.9	8.8	337.1	0.009
MW-5	351.1	6.2	344.9	0.007
MW-6	402.1	9.42	392.68	0.011
MW-7	360.3	8.55	351.75	0.041
MW-9	384.2	7.76	376.44	0.006
MW-10	377	7.33	369.67	0.017
MW-11	399.6	9.3	390.3	0.019
MW-12	337.4	3.55	333.85	0.017
MW-13	363.93	7.95	355.98	0.010
MW-14	358.61	5.7	352.91	0.016

Table 2
Lee County Landfill
Field Parameters
4/9/2010

Well Identification #	Temperature (°Celsius)	Turbidity (NTU)	Specific Conductivity (uS/cm)	pH
MW-5	12	217	130	7.8
MW-6	15	112	20	6.3
MW-9	12	41	30	5.2
MW-12	13	110	1670	6.7
MW-14	12	59	40	6.4
MW-13	13	132	40	6.5
SW-1	15	40	230	6.8

Note:

1. pH measured with a "Hanna" pH/EC/TDS Meter, type HI9811
2. Water Levels measured with a Slope Indicator Water Level Meter
3. Turbidity measured with a Hach 2100P turbidimeter
4. Temperature measured with a laboratory grade thermometer.
5. Data Collected by Britt Ransom of RSG Engineers Inc.

Table 3
Lee County Landfill
Detected Inorganic and Organic Constituents
4/9/2010

Constituents	SWSL	2L or GWP Standards	MW-5	MW-6	MW-9	MW-12	MW-13	MW-14	SW-1
Inorganic Constituents									
Antimony	6	1.4	ND	ND	ND	ND	ND	ND	0.2 J
Arsenic	10	50	ND	0.3 J	ND	5.9 J	ND	ND	0.4 J
Barium	100	2000	253	55.5 J	82.9 J	1549	212	92.9 J	46.7 J
Beryllium	1	4	11	4	0.3 J	2	9	3	0.1 J
Cadmium	1	1.75	0.3 J	0.2 J	0.2 J	1	0.4 J	0.2 J	0.1 J
Cobalt	10	70	1.1 J	1.7 J	1 J	212	4.7 J	3.8 J	1 J
Copper	10	1000	4.8 J	2.2 J	0.8 J	4.7 J	3.3 J	2.9 J	2.5 J
Chromium, total	10	50	2.1 J	ND	0.2 J	2.3 J	1.6 J	2.5 J	1 J
Lead	10	15	5.7 J	1.4 J	2.4 J	11	6.8 J	24	1.5 J
Nickel	50	100	1.5 J	1.5 J	0.8 J	24 J	4.2 J	3 J	3.2 J
Selenium	10	50	ND	ND	ND	13	ND	ND	0.6 J
Silver	10	17.5	0.1 J	ND	0.1 J	0.1 J	ND	ND	ND
Thallium	5	0.28	ND	ND	ND	0.1 J	0.3 J	ND	ND
Vanadium	25	3.5	12.5 J	3.5 J	2.2 J	8.1 J	2 J	1 J	3.6 J
Zinc	10	1050	27	27	5.7 J	18	24	39	16
Organic Constituents									
Chloroethane	10	2800	ND	ND	ND	93.6	ND	ND	ND
Benzene	1	1	ND	ND	ND	5.8	ND	ND	ND
1,1-Dichloroethane	5	70	ND	ND	ND	9.1	ND	ND	ND
1,2-Dichloroethane	1	0.38	ND	ND	ND	0.5 J	ND	ND	ND
Toluene	1	1	ND	ND	ND	0.4 J	ND	ND	ND
Chlorobenzene	3	50	ND	ND	ND	19.7	ND	ND	ND
Xylenes	5	530	ND	ND	ND	1.4 J	ND	ND	ND
1,4-Dichlorobenzene	1	1.4	ND	ND	ND	5.5	ND	ND	ND
1,2-Diichlorobenzene	5	24	ND	ND	ND	0.4 J	ND	ND	ND

SWSL - Solid Waste Section Quantitation Limit
 ND - Not detected at or above SWSL
 Shading - Concentrations above 2L standard or Groundwater Protection Standard
 Bold Letters - Constituent detected above SWSL
 J - Constituent detected below SWSL

All SWSLs, 2L Standards and Results are in ug/l.

Data from Environment 1 laboratory report dated 5/07/10, ID# 6074.

Appendix A

Monitoring Well Information

**Appendix A
Lee County Landfill
Monitoring Well Information**

Well	TOC Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Assumed Screened Interval
MW-4	345.9	8.8	19	9' - 19'
MW-5	351.1	6.2	19.5	9.5' - 19.5'
MW-6	402.1	9.42	40.4	30.4' - 40.4'
MW-7	360.3	8.55	22.17	12.17' - 22.17'
MW-9	384.2	7.76	22.85	12.85' - 22.85'
MW-10	377	7.33	22.8	12.8' - 22.8
MW-11	399.6	9.3	22.75	12.75' - 22.75'
MW-12	337.4	3.55	13.3	8.3' - 13.3'
MW-13	363.93	7.95	24.25	14.25' - 24.25'
MW-14	358.61	5.7	18.25	8.25' - 18.25'

Note: survey data from 9/07 and 1/14/08 by Surveying Solutions, P.C.
Depth to Water and Depth to Bottom measured from Top of Casing
No boring logs available for monitoring wells
Screened interval assumed based upon depth to bottom measurements.

Appendix B

Laboratory Analytical Report

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6074

LEE COUNTY LANDFILL
C/O MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA , NC 27526

DATE COLLECTED: 04/09/10
DATE REPORTED : 05/07/10

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-5	MW-6	MW-9	MW-12	MW-13	Analysis		Method Code	
									Date		Analyst
Antimony, ug/l	0.22	6.0	--- U	--- U	---	---	---	---	04/16/10	LFJ	EPA200.8
Arsenic, ug/l	0.04	10.0	---	0.3 J	---	5.9 J	---	04/16/10	LFJ	EPA200.8	
Barium, ug/l	0.03	100.0	253	55.5 J	82.9 J	1549	212	04/15/10	LFJ	EPA200.8	
Beryllium, ug/l	0.02	1.0	11	4	0.3 J	2	9	04/16/10	LFJ	EPA200.8	
Cadmium, ug/l	0.02	1.0	0.3 J	0.2 J	0.2 J	1	0.4 J	04/16/10	LFJ	EPA200.8	
Cobalt, ug/l	0.10	10.0	1.1 J	1.7 J	1 J	212	4.7 J	04/16/10	LFJ	EPA200.8	
Copper, ug/l	0.03	10.0	4.8 J	2.2 J	0.8 J	4.7 J	3.3 J	04/16/10	LFJ	EPA200.8	
Total Chromium, ug/l	0.03	10.0	2.1 J	---	0.2 J	2.3 J	1.6 J	04/16/10	LFJ	EPA200.8	
Lead, ug/l	0.01	10.0	5.7 J	1.4 J	2.4 J	11	6.8 J	04/16/10	LFJ	EPA200.8	
Nickel, ug/l	0.05	50.0	1.5 J	1.5 J	0.8 J	24 J	4.2 J	04/16/10	LFJ	EPA200.8	
Selenium, ug/l	0.32	10.0	---	---	---	13	---	04/16/10	LFJ	EPA200.8	
Silver, ug/l	0.03	10.0	0.1 J	---	0.1 J	0.1 J	---	04/16/10	LFJ	EPA200.8	
Thallium, ug/l	0.05	5.0	---	---	---	0.1 J	0.3 J	04/16/10	LFJ	EPA200.8	
Vanadium, ug/l	0.03	25.0	12.5 J	3.5 J	2.3 J	8.1 J	2 J	04/16/10	LFJ	EPA200.8	
Zinc, ug/l	0.08	10.0	27	27	5.4 J	18	24	04/16/10	LFJ	EPA200.8	

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

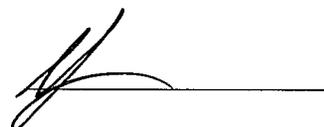
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6074

LEE COUNTY LANDFILL
C/O MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA ,NC 27526

DATE COLLECTED: 04/09/10
DATE REPORTED : 05/07/10

REVIEWED BY: 

PARAMETERS	MDL	MW-14		SW-1		Analysis		Method Code
		SWSL				Date	Analyst	
Antimony, ug/l	0.22	6.0	---	U	---	U	04/16/10 LFFJ	EPA200.8
Arsenic, ug/l	0.04	10.0	---	U	0.4	J	04/16/10 LFFJ	EPA200.8
Barium, ug/l	0.03	100.0	92.9	J	46.7	J	04/15/10 LFFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	3		0.1	J	04/16/10 LFFJ	EPA200.8
Cadmium, ug/l	0.02	1.0	0.2	J	0.1	J	04/16/10 LFFJ	EPA200.8
Cobalt, ug/l	0.10	10.0	3.8	J	1	J	04/16/10 LFFJ	EPA200.8
Copper, ug/l	0.03	10.0	2.9	J	2.5	J	04/16/10 LFFJ	EPA200.8
Total Chromium, ug/l	0.03	10.0	2.5	J	1	J	04/16/10 LFFJ	EPA200.8
Lead, ug/l	0.01	10.0	24		1.5	J	04/16/10 LFFJ	EPA200.8
Nickel, ug/l	0.05	50.0	3	J	3.2	J	04/16/10 LFFJ	EPA200.8
Selenium, ug/l	0.32	10.0	---	U	0.6	J	04/16/10 LFFJ	EPA200.8
Silver, ug/l	0.03	10.0	---	U	---	U	04/16/10 LFFJ	EPA200.8
Thallium, ug/l	0.05	5.0	---	U	---	U	04/16/10 LFFJ	EPA200.8
Vanadium, ug/l	0.03	25.0	1	J	3.6	J	04/16/10 LFFJ	EPA200.8
Zinc, ug/l	0.08	10.0	39		16		04/16/10 LFFJ	EPA200.8

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LEE COUNTY LANDFILL
C/O MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA, NC 27526

CLIENT ID: 6074

ANALYST: MAO
DATE COLLECTED: 04/09/10 Page: 1
DATE ANALYZED: 04/21/10
DATE REPORTED: 05/07/10

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-5	MW-6	MW-9	MW-12	MW-13		
1. Chloromethane	0.77	1.0	---	U	---	U	---	U	
2. Vinyl Chloride	0.63	1.0	---	U	---	U	---	U	
3. Bromomethane	0.67	10.0	---	U	---	U	---	U	
4. Chloroethane	0.48	10.0	---	U	---	U	---	U	
5. Trichlorofluoromethane	0.24	1.0	---	U	---	U	93.60	---	U
6. 1,1-Dichloroethene	0.17	5.0	---	U	---	U	---	U	
7. Acetone	9.06	100.0	---	U	---	U	---	U	
8. Iodomethane	0.26	10.0	---	U	---	U	---	U	
9. Carbon Disulfide	0.23	100.0	---	U	---	U	---	U	
10. Methylene Chloride	0.64	1.0	---	U	---	U	---	U	
11. trans-1,2-Dichloroethene	0.23	5.0	---	U	---	U	---	U	
12. 1,1-Dichloroethane	0.20	5.0	---	U	---	U	9.10	---	U
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U	
14. Cis-1,2-Dichloroethene	0.25	5.0	---	U	---	U	---	U	
15. 2-Butanone	2.21	100.0	---	U	---	U	---	U	
16. Bromochloromethane	0.27	3.0	---	U	---	U	---	U	
17. Chloroform	0.25	5.0	---	U	---	U	---	U	
18. 1,1,1-Trichloroethane	0.19	1.0	---	U	---	U	---	U	
19. Carbon Tetrachloride	0.22	1.0	---	U	---	U	---	U	
20. Benzene	0.24	1.0	---	U	---	U	5.80	---	U
21. 1,2-Dichloroethane	0.27	1.0	---	U	---	U	0.50 J	---	U
22. Trichloroethene	0.23	1.0	---	U	---	U	---	U	
23. 1,2-Dichloropropane	0.21	1.0	---	U	---	U	---	U	
24. Bromodichloromethane	0.21	1.0	---	U	---	U	---	U	
25. Cis-1,3-Dichloropropane	0.24	1.0	---	U	---	U	---	U	
26. 4-Methyl-2-Pentanone	1.19	100.0	---	U	---	U	---	U	
27. Toluene	0.23	1.0	---	U	---	U	0.40 J	---	U
28. trans-1,3-Dichloropropene	0.28	1.0	---	U	---	U	---	U	
29. 1,1,2-Trichloroethane	0.25	1.0	---	U	---	U	---	U	
30. Tetrachloroethene	0.17	1.0	---	U	---	U	---	U	
31. 2-Hexanone	1.57	50.0	---	U	---	U	---	U	
32. Dibromochloromethane	0.24	3.0	---	U	---	U	---	U	
33. 1,2-Dibromoethane	0.26	1.0	---	U	---	U	---	U	
34. Chlorobenzene	0.30	3.0	---	U	---	U	19.70	---	U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	---	U	---	U	---	U	
36. Ethylbenzene	0.21	1.0	---	U	---	U	---	U	
37. Xylenes	0.68	5.0	---	U	---	U	1.40 J	---	U
38. Dibromomethane	0.28	10.0	---	U	---	U	---	U	
39. Styrene	0.19	1.0	---	U	---	U	---	U	
40. Bromoform	0.20	3.0	---	U	---	U	---	U	
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	---	U	---	U	---	U	
42. 1,2,3-Trichloropropane	0.43	1.0	---	U	---	U	---	U	
43. 1,4-Dichlorobenzene	0.39	1.0	---	U	---	U	5.50	---	U
44. 1,2-Dichlorobenzene	0.32	5.0	---	U	---	U	0.40 J	---	U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	---	U	---	U	---	U	
46. Acrylonitrile	2.72	200.0	---	U	---	U	---	U	
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	---	U	---	U	---	U	

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715

Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

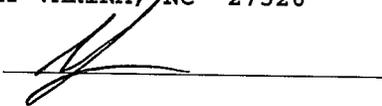
PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LEE COUNTY LANDFILL
C/O MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA, NC 27526

CLIENT ID: 6074

ANALYST: MAO
DATE COLLECTED: 04/09/10
DATE ANALYZED: 04/21/10
DATE REPORTED: 05/07/10

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-14	SW-1	Trip Blank	
1. Chloromethane	0.77	1.0	---	U	---	U
2. Vinyl Chloride	0.63	1.0	---	U	---	U
3. Bromomethane	0.67	10.0	---	U	---	U
4. Chloroethane	0.48	10.0	---	U	---	U
5. Trichlorofluoromethane	0.24	1.0	---	U	---	U
6. 1,1-Dichloroethene	0.17	5.0	---	U	---	U
7. Acetone	9.06	100.0	---	U	---	U
8. Iodomethane	0.26	10.0	---	U	---	U
9. Carbon Disulfide	0.23	100.0	---	U	---	U
10. Methylene Chloride	0.64	1.0	---	U	---	U
11. trans-1,2-Dichloroethene	0.23	5.0	---	U	---	U
12. 1,1-Dichloroethane	0.20	5.0	---	U	---	U
13. Vinyl Acetate	0.20	50.0	---	U	---	U
14. Cis-1,2-Dichloroethene	0.25	5.0	---	U	---	U
15. 2-Butanone	2.21	100.0	---	U	---	U
16. Bromochloromethane	0.27	3.0	---	U	---	U
17. Chloroform	0.25	5.0	---	U	---	U
18. 1,1,1-Trichloroethane	0.19	1.0	---	U	---	U
19. Carbon Tetrachloride	0.22	1.0	---	U	---	U
20. Benzene	0.24	1.0	---	U	---	U
21. 1,2-Dichloroethane	0.27	1.0	---	U	---	U
22. Trichloroethene	0.23	1.0	---	U	---	U
23. 1,2-Dichloropropane	0.21	1.0	---	U	---	U
24. Bromodichloromethane	0.21	1.0	---	U	---	U
25. Cis-1,3-Dichloropropene	0.24	1.0	---	U	---	U
26. 4-Methyl-2-Pentanone	1.19	100.0	---	U	---	U
27. Toluene	0.23	1.0	---	U	---	U
28. trans-1,3-Dichloropropene	0.28	1.0	---	U	---	U
29. 1,1,2-Trichloroethane	0.25	1.0	---	U	---	U
30. Tetrachloroethene	0.17	1.0	---	U	---	U
31. 2-Hexanone	1.57	50.0	---	U	---	U
32. Dibromochloromethane	0.24	3.0	---	U	---	U
33. 1,2-Dibromoethane	0.26	1.0	---	U	---	U
34. Chlorobenzene	0.30	3.0	---	U	---	U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	---	U	---	U
36. Ethylbenzene	0.21	1.0	---	U	---	U
37. Xylenes	0.68	5.0	---	U	---	U
38. Dibromomethane	0.28	10.0	---	U	---	U
39. Styrene	0.19	1.0	---	U	---	U
40. Bromoform	0.20	3.0	---	U	---	U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	---	U	---	U
42. 1,2,3-Trichloropropane	0.43	1.0	---	U	---	U
43. 1,4-Dichlorobenzene	0.39	1.0	---	U	---	U
44. 1,2-Dichlorobenzene	0.32	5.0	---	U	---	U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	---	U	---	U
46. Acrylonitrile	2.72	200.0	---	U	---	U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	---	U	---	U

J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

Environment 1, Inc.
 P.O. Box 7085, 114 Oakmont Dr.
 Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

CLIENT: 6074 Week: 21

LEE COUNTY LANDFILL
 C/O MS. JOAN SMYTH
 RICHARDSON SMITH GARDNER
 133 SPRING AVENUE
 FUQUAY VARINA NC 27526

(919) 828-0577

CHAIN OF CUSTODY RECORD

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l	AT COLLECTION	TEMPERATURE, °C	# OF CONTAINERS	DISINFECTION		Metals	EPA 8260B	8260 Dup. 1	8260 Dup. 2	CHLORINE NEUTRALIZED AT COLLECTION
	DATE	TIME					CHLORINE	UV					
MW-5	4-9-10	3:55			12	4	<input type="checkbox"/>	<input type="checkbox"/>					
MW-6	4-9-10	2:51p			15	3	<input type="checkbox"/>	<input type="checkbox"/>					
MW-9	4-9-10	3:09p			12	3	<input type="checkbox"/>	<input type="checkbox"/>					
MW-12	4-9-10	1:10p			13	3	<input type="checkbox"/>	<input type="checkbox"/>					
MW-13	4-9-10	3:39p			13	3	<input type="checkbox"/>	<input type="checkbox"/>					
MW-14	4-9-10	3:23p			12	3	<input type="checkbox"/>	<input type="checkbox"/>					
SW-1	4-9-10	4:25			15	3	<input type="checkbox"/>	<input type="checkbox"/>					
Trip Blank						2	<input type="checkbox"/>	<input type="checkbox"/>					
RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS:									
<i>Byron S. Hackney</i>	4-12-10 2:00pm	<i>[Signature]</i>	4/13/10 1:54										
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME										
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME										

PLEASE READ Instructions for completing this form on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

FORM #5

No 201002