

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):

Smith Gardner, Inc.

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

Name: Madeline German

Phone: 919-828-0577x222

E-mail: madeline@smithgardnerinc.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Bladen Co. Closed MSW Landfill	1522 Mercer Mill Road, Elizabethtown, NC	09-05	.0500	March 20, 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
 Methane gas monitoring data
 Groundwater monitoring data from private water supply wells
 Corrective action data (specify) _____
 Leachate monitoring data
 Surface water monitoring data
 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.

Madeline German, PG

Geologist

919-828-0577x222

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Signature

Date

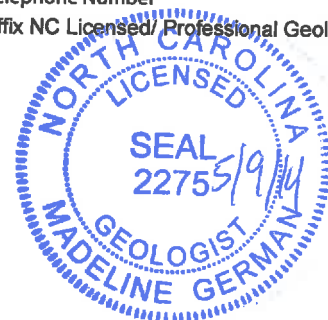
Affix NC Licensed/ Professional Geologist Seal

14 N. Boylan Ave, Raleigh, NC 27603

Facility Representative Address

CO828

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



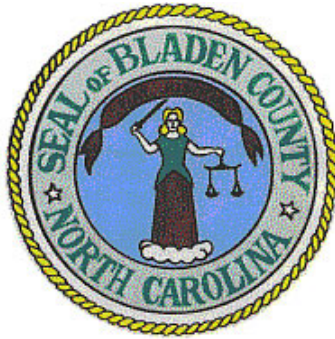
This page intentionally left blank.

March 2014 Semi-Annual Groundwater Monitoring Report

Bladen County Closed MSW Landfill NC Solid Waste Permit No. 09-05

Prepared for:

Bladen County Solid Waste Management
1522 Mercer Mill Road
Elizabethtown, North Carolina 28337



May 2014

Prepared by:

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



PRINTED ON 100% RECYCLED PAPER

© 2014 Smith Gardner, Inc.

This document is intended for the sole use of the client for which it was prepared and for the purpose agreed upon by the client and Smith Gardner, Inc.

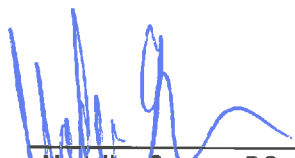
This page intentionally left blank.

March 2014 Groundwater Monitoring Report

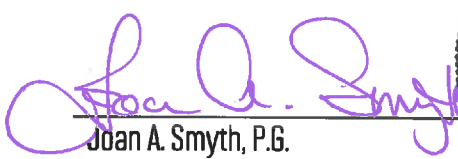
**Bladen County Closed MSW Landfill
Solid Waste Permit No. 09-05**

Prepared For:
**Bladen County Solid Waste Management
Elizabethtown, North Carolina**

S+G Project No. Bladen 08-04



Madeline German, P.G.
Project Geologist



Joan A. Smyth, P.G.
Senior Hydrogeologist



May 2014

SMITH + GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

This page intentionally left blank.

**Bladen County Closed MSW Landfill
NC Solid Waste Permit No. 09-05**

March 2014 Groundwater Monitoring Report

Table of Contents

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 SITE GEOLOGY	1
3.0 SAMPLING LOCATIONS	1
4.0 SAMPLING PROCEDURES	1
5.0 FIELD AND LABORATORY RESULTS	2
5.1 Field Parameter Results	2
5.2 Laboratory Results	2
5.2.1 Inorganic Constituent Results	2
5.2.2 Organic Constituent Results	2
5.2.3 Surface Water Results	2
6.0 GROUNDWATER CHARACTERIZATION	2
7.0 CONCLUSIONS	3

FIGURE

Figure 1 Groundwater Potentiometric Map

TABLES

Table 1 Groundwater Elevation Data
 Table 2 Field Parameter Results
 Table 3 Detected Constituents

APPENDICES

Appendix A Laboratory Analytical Report

This page intentionally left blank.

1.0 INTRODUCTION

The Closed Bladen County MSW Landfill, (Solid Waste Permit # 09-05) requires semi-annual ground water monitoring as a condition of the water quality monitoring program. This report, prepared by Smith Gardner, Inc. (S+G), presents the March 20, 2014 monitoring event results. This event was performed in compliance with NC Solid Waste Regulations.

As specified in rule 15A NCAC 13B .1632 (j) and the Solid Waste Section (SWS) Environmental Monitoring Report Form, this report includes field procedure and laboratory analyses summaries for the closed MSW site. A potentiometric surface map, results summary tables and laboratory analytical reports are also included.

2.0 SITE GEOLOGY

The Bladen Co. landfill is located off Highway 87 just east of Elizabethtown in the Coastal Plain physiographic province. According to the *Geologic Map of North Carolina (1985)* this area is underlain by the Black Creek Formation, which is characterized by gray to black lignitic clay with thin beds of fine grained sands and thick lenses of cross-grained sand.

3.0 SAMPLING LOCATIONS

The sampling event was reportedly performed by Environment 1, Incorporated (Greenville, NC) personnel on March 20, 2014. The ground water monitoring network for the MSW landfill includes seven ground water monitoring wells (MW-1, MW-3, MW-4, MW-5A, MW-7, MW-8 & MW-9) and two surface water locations (SW-1 & SW-2). MW-7 was unable to be accessed this event therefore it was not sampled. MW-1 serves as the background location. **Figure 1** illustrates sampling locations.

4.0 SAMPLING PROCEDURES

Sampling methods followed the protocol outlined in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (NCDENR, DWM). The depth to water in each well was gauged prior to purging and sampling. The field parameters pH, specific conductivity and temperature were measured at each sampling location. Water table elevations are included in **Table 1**.

Samples were collected by Environment 1 personnel in laboratory prepared containers for the specified analytical procedures. Ground water samples were properly preserved, placed on ice and transported to the laboratory facility (Environment 1, Inc.), within the specified hold times for each analysis.

5.0 FIELD AND LABORATORY RESULTS

5.1 Field Parameter Results

Temperature, pH, and specific conductance were measured in the field at the time of sampling. The field parameter results are summarized in **Table 2** and have remained consistent with previously reported sampling events.

5.2 Laboratory Results

Samples were transported to the laboratory facility under proper chain of custody and analyzed at the specified DWM Solid Waste Quantitation Limits (SWSLs)¹ for Appendix I constituents. Water samples were analyzed to the laboratory established Method Detection Limits (MDL). The laboratory report is included as **Appendix A**.

Table 3 summarizes the detected constituent list. Several constituents were detected above the method detection limit at concentrations below the SWSLs. These are listed as “J” values on **Table 3**, indicating they are non-quantifiable values.

5.2.1 Inorganic Constituent Results

This event only barium (MW-1 & MW-5A) was detected above its SWSL. No inorganics were reported above the NCAC 2L.0200 2L Standard (2L).

5.2.2 Organic Constituent Results

1,-4-Dichlorobenze, chlorobenzene and vinyl chloride were detected above their SWSL in MW-9 this event. Only vinyl chloride in MW-9 was reported at a concentration above its SWSL and 2L Standard.

5.2.3 Surface Water Results

No quantifiable detections of inorganic or organic constituents were reported in samples from the surface water locations.

6.0 GROUNDWATER CHARACTERIZATION

A potentiometric map (**Figure 1**) for the uppermost aquifer, was prepared from the ground water elevation data for this sampling event. The data indicates that ground is flowing generally north to northwest across most of the site. Hydraulic conductivity data is not available for these wells so ground water velocities could not be calculated.

¹ New Guidelines for Electronic Submittal of Environmental Monitoring Data Memo, NCDENR – Solid Waste Section, October 27, 2006

7.0 CONCLUSIONS

The reported barium concentrations are likely due to natural deposit erosion and suspended solids in the sample. The reported organic detections are consistent with historically reported detections in MW-9. Monitoring well MW-9 is located immediately adjacent to the waste at the site.

Surface water sampling did not indicate contaminant migration.

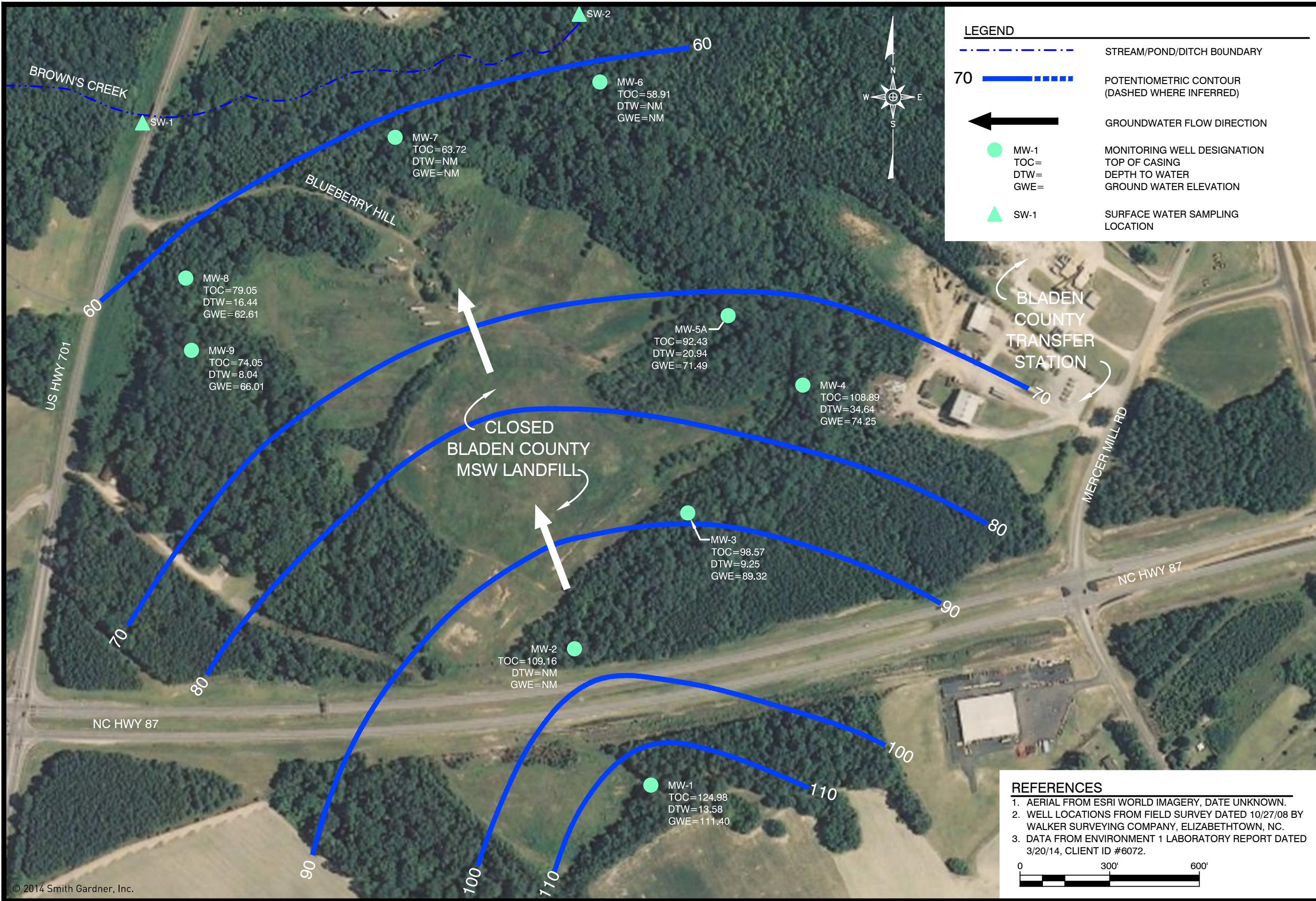
The next ground water monitoring event is scheduled for September 2014. Following receipt of laboratory data a report will be prepared and submitted to NCDENR and Bladen County.

This page intentionally left blank.

FIGURES

**March 2014 Groundwater Monitoring Report
Bladen County Closed MSW Landfill
NC Solid Waste Permit No. 09-05**

This page intentionally left blank.



LEGEND

- STREAM/POND/DITCH BOUNDARY
- POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- MW-1
TOC=
DTW=
GWE=
- SW-1
SURFACE WATER SAMPLING LOCATION



- REFERENCES**
1. AERIAL FROM ESRI WORLD IMAGERY, DATE UNKNOWN.
 2. WELL LOCATIONS FROM FIELD SURVEY DATED 10/27/08 BY WALKER SURVEYING COMPANY, ELIZABETHTOWN, NC.
 3. DATA FROM ENVIRONMENT 1 LABORATORY REPORT DATED 3/20/14, CLIENT ID #6072.



PREPARED FOR: **BLADEN COUNTY MSW LANDFILL POTENTIOMETRIC SURFACE MAP**
MARCH 2014

APPROVED:	M.M.G.	SCALE:	AS SHOWN	FIGURE NO.:	1
DRAWN:	K.C.B.	PROJECT NO.:	BLADEN 08-4	FILENAME:	BLADEN-B0034
DATE:	May 2014				

PREPARED BY: **SMITH+GARDNER**
NC LIC. NO. C-0828 (ENGINEERING)
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

This page intentionally left blank.

TABLES

**March 2014 Groundwater Monitoring Report
Bladen County Closed MSW Landfill
Solid Waste Permit No. 09-05**

This page intentionally left blank.

Table 1
 Groundwater Elevation Data
 Bladen County MSW Landfill
 March 20, 2014

Well	Well location Northing	Well location Easting	TOC Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
MW-1	310645.01	2117281.60	124.98	13.58	111.40
MW-3	311555.58	2117405.04	98.57	9.25	89.32
MW-4	311983.00	2117790.01	108.89	34.64	74.25
MW-5A	312215.61	2117539.78	92.43	20.94	71.49
MW-8	312341.38	2115725.65	79.05	16.44	62.61
MW-9	312099.55	2115744.51	74.05	8.04	66.01

Well locations and elevations provided by Walker Surveying Co., Elizabethtown, NC from field survey conducted on 10/27/08.

Data from Environment 1 laboratory report dated 4/16/14, Client ID# 6072.

Table 2
 Field Parameters
 Bladen County MSW Landfill
 March 20, 2014

Well Identification #	Temperature (°Celsius)	Specific Conductivity (uS/cm)	pH
MW-1	16	233	5.9
MW-3	15	594	6.5
MW-4	18	829	7.1
MW-5A	17	1165	6.5
MW-8	16	303	6.5
MW-9	14	1125	7.5
SW-1	11	124	7.6
SW-2	11	241	2.8

Note: 1. Data from Environment 1 laboratory report dated 4/16/14, Client ID# 6072.
 2. NM = Not Measured

Table 3
 Detected Inorganic and Organic Constituents
 Bladen County MSW Landfill
 March 20, 2014

Constituents	MDL	SWSL	2L	2B	MW-1	MW-3	MW-4	MW-5A	MW-8	MW-9	SW-1	SW-2
Inorganic Constituents												
Arsenic	0.05	10	10	10	0.48 J	5.4 J	0.21 J	<0.05	0.34 J	4.3 J	0.52 J	0.73 J
Barium	0.06	100	700	2000000	119	31.6 J	64.7 J	123	40.3 J	60 J	28.2 J	35 J
Cadmium	0.05	1	2	2	0.17 J	0.2 J	0.07 J	0.22 J	0.28 J	<0.05	0.06 J	0.43 J
Total Chromium	0.04	10	10	50	<0.04	0.13 J	<0.04	<0.04	<0.04	<0.04	0.44 J	0.14 J
Lead	0.02	10	15	25	0.8 J	0.33 J	0.09 J	0.06 J	0.16 J	0.18 J	0.31 J	0.27 J
Selenium	0.06	10	20	5	1.2 J	0.62 J	1.0 J	1.1	0.37 J	8.5 J	0.38 J	0.44 J
Silver	0.03	10	20	0.06	0.04 J	0.03 J	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Organic Constituents												
1,4-Dichlorobenzene	0.39	1	6	100	<0.39	<0.39	<0.39	<0.39	<0.39	1.1	<0.39	<0.39
Benzene	0.24	1	1	51	<0.24	1	<0.24	<0.24	<0.24	0.9 J	<0.24	<0.24
Chlorobenzene	0.30	3	50	140	<0.3	<0.3	<0.3	<0.3	<0.3	4.90	<0.3	<0.3
Cis-1,2-Dichloroethene	0.25	5	70	4.9	<0.25	<0.25	<0.25	<0.25	<0.25	2.3 J	<0.25	<0.25
Vinyl Chloride	0.63	1	0.03	2.4	<0.63	<0.63	<0.63	<0.63	<0.63	2.20	<0.63	<0.63

- SWSL - Solid Waste Quantitation Limit
- MDL - Method Detection Limit
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- 2B - NCAC 2B Standard for Class C waters
- Shading - Concentrations above 2L standard.
- Bold** - Constituent detected above SWSL
- J - Laboratory identified constituents below SWSL limit but above method detection limit.
- <MDL - Constituent not detected above MDL

SWSLs, 2L Standards and Results are presented in ug/l.
 Data from Environment 1 laboratory report dated 4/16/14, Client ID# 6072.

This page intentionally left blank.

Appendix A

Laboratory Analytical Report

**March 2014 Groundwater Monitoring Report
Bladen County Closed MSW Landfill
Solid Waste Permit No. 09-05**

This page intentionally left blank.

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#: 6072

BLADEN COUNTY MSW
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH ,NC 27603

DATE COLLECTED: 03/20/14
DATE REPORTED : 04/16/14

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-1	MW-3	MW-4	MW-5A	MW-8	Analysis	Method
									Date
PH (field measurement), Units			5.9	6.5	7.1	6.5	6.5	03/20/14BF	4500HB-00
Arsenic, ug/l	0.05	10.0	0.48 J	5.4 J	0.21 J	---	0.34 J	04/01/14LFJ	EPA200.8
Barium, ug/l	0.06	100.0	119	31.6 J	64.7 J	123	40.3 J	04/01/14LFJ	EPA200.8
Cadmium, ug/l	0.05	1.0	0.17 J	0.20 J	0.07 J	0.22 J	0.28 J	04/01/14LFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0	---	0.13 J	---	---	---	04/01/14LFJ	EPA200.8
Lead, ug/l	0.02	10.0	0.80 J	0.33 J	0.09 J	0.06 J	0.16 J	04/01/14LFJ	EPA200.8
Mercury, ug/l	0.01	0.20	---	---	---	---	---	03/28/14MTM	245.1 R3-94
Selenium, ug/l	0.06	10.0	1.2 J	0.62 J	1.0 J	1.1 J	0.37 J	04/01/14LFJ	EPA200.8
Silver, ug/l	0.03	10.0	0.04 J	0.03 J	---	---	---	04/01/14LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	233	594	829	1165	303	03/20/14BF	2510B-97
Temperature, °C			16	15	18	17	16	03/20/14BF	2550B-00
Static Water Level, feet			13.58	9.25	34.64	20.94	16.44	03/20/14BF	
Well Depth, feet			41.12	21.52	44.32	31.74	30.00	03/20/14BF	

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#: 6072

BLADEN COUNTY MSW
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH ,NC 27603

DATE COLLECTED: 03/20/14
DATE REPORTED : 04/16/14

REVIEWED BY: 

PARAMETERS	MDL	MW-9		SW-1	SW-2	Trip	Analysis		Method
		SWSL				Blank	Date	Analyst	Code
PH (field measurement), Units			7.5	7.6	2.8		03/20/14BF		4500HB-00
Arsenic, ug/l	0.05	10.0	4.3 J	0.52 J	0.73 J		04/01/14LFFJ		EPA200.8
Barium, ug/l	0.06	100.0	60.0 J	28.2 J	35.0 J		04/01/14LFFJ		EPA200.8
Cadmium, ug/l	0.05	1.0	--- U	0.06 J	0.43 J		04/01/14LFFJ		EPA200.8
Total Chromium, ug/l	0.04	10.0	--- U	0.44 J	0.14 J		04/01/14LFFJ		EPA200.8
Lead, ug/l	0.02	10.0	0.18 J	0.31 J	0.27 J		04/01/14LFFJ		EPA200.8
Mercury, ug/l	0.01	0.20	--- U	--- U	--- U		03/28/14MTM		245.1 R3-94
Selenium, ug/l	0.06	10.0	8.5 J	0.38 J	0.44 J		04/01/14LFFJ		EPA200.8
Silver, ug/l	0.03	10.0	--- U	--- U	--- U		04/01/14LFFJ		EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	1125	124	241		03/20/14BF		2510B-97
Temperature, °C			14	11	11		03/20/14BF		2550B-00
Static Water Level, feet			8.04				03/20/14BF		
Well Depth, feet			17.58				03/20/14BF		

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: BLADEN COUNTY MSW
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH, NC 27603

CLIENT ID: 6072

ANALYST: MAO
DATE COLLECTED: 03/20/14
DATE ANALYZED: 03/31/14
DATE REPORTED: 04/16/14

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-3	MW-4	MW-5A	MW-8
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	1.00	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U	--- U

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

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

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

CLIENT: **BLADEN COUNTY MSW**
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH, NC 27603

CLIENT ID: 6072

ANALYST: MAO
DATE COLLECTED: 03/20/14
DATE ANALYZED: 03/31/14
DATE REPORTED: 04/16/14

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS
EPA METHOD 8260B R1 (96)

PARAMETERS, ug/l	MDL	SWSL	MW-9	SW-1	SW-2	Trip Blank		
1. Chloromethane	0.77	1.0	---	U	---	U		
2. Vinyl Chloride	0.63	1.0	2.20	---	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	---	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	---	U
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U
14. Cis-1,2-Dichloroethene	0.25	5.0	2.30	J	---	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	0.90	J	---	U	---	U
21. 1,2-Dichloroethane	0.27	1.0	---	U	---	U	---	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-Dichloropropene	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	---	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	4.90	---	U	---	---	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	---	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	1.10	---	U	---	---	U
44. 1,2-Dichlorobenzene	0.32	5.0	---	U	---	U	---	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

CHAIN OF CUSTODY RECORD

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

CLIENT: 6072 Week: 13

BLADEN COUNTY MSW
 MS. JOAN SMYTH
 SMITH GARDNER, INC.
 14 NORTH BOYLAN AVE.
 RALEIGH NC 27603

(919) 828-0577

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR µg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION			Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2	PARAMETERS	CLASSIFICATION	
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE											
MMW-1	3-20-14	1010	16	5	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A	A	A	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-3	3-20-14	1045	15	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-4	3-20-14	1040	18	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-5A	3-20-14	1055	17	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-7	3-20-14			4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-8	3-20-14	1025	16	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
MMW-9	3-20-14	1030	14	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
SW-1	3-20-14	1110	11	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
SW-2	3-20-14	1100	11	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	P	P	P	P	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
Trip Blank	3-20-14			2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
REINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Tom Bowles	3-20-14 1345	B	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345	Bob	3-20-14 1345
REINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
COMMENTS: MW7 - could not locate well due to fallen trees / did not sample CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY SAMPLES COLLECTED BY: Bobby / Tom SAMPLES RECEIVED IN LAB AT 0-2 °C CLASSIFICATION: <input checked="" type="checkbox"/> SOLID WASTE SECTION <input type="checkbox"/> WASTEWATER (APDES) <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> DMORGW																			

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
 NC 276205