

NC DENR

Environmental Monitoring Reporting Form

Division of Waste Management - Solid Waste

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, PG Phone: 919-828-0577 x222

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)
Martin County Closed MSW & Active C&D Landfill	SR 1440, Williamston, NC 27892	59-01	.0500	November 21, 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 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.

Madeline German, PG Geologist 919-828-0577 x222

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

Madeline German Signature 1/19/2015 Date

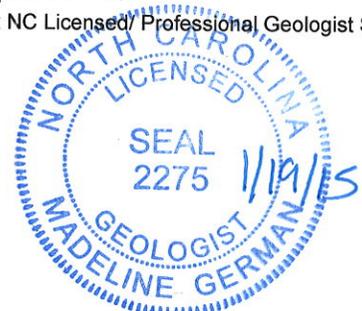
Affix NC Licensed/Professional Geologist Seal

14 N. Boylan Ave, Raleigh, NC 27603

Facility Representative Address

CO828

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



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November 2014 Groundwater Monitoring Report

Martin County Landfill Facility NC Solid Waste Permit No. 59-01

Prepared for:

**Martin County Solid Waste Management
Williamston, North Carolina**



January 2015

Prepared by:

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



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November 2014 Groundwater Monitoring Report

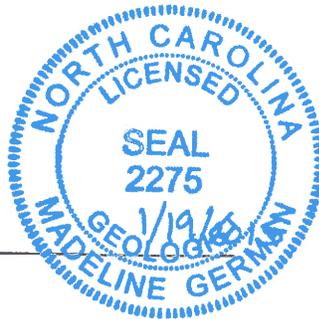
Martin County Landfill Facility
NC Solid Waste Permit No. 59-01

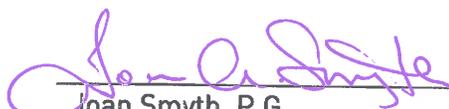
Prepared For:
Martin County Solid Waste Management
Williamston, North Carolina

S+G Project No. MARTIN 11-2



Madeline German, P.G.
Project Geologist





Joan Smyth, P.G.
Senior Hydrogeologist



January 2015

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

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**Martin County Landfill
NC Solid Waste Permit No. 59-01**

November 2014 Groundwater Monitoring Report

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1.0 INTRODUCTION

The Martin County Landfill, currently operating under Solid Waste Permit # 59-01 and 15A NCAC 13B.0544, is required to perform semi-annual groundwater monitoring. The facility includes a closed, unlined MSW landfill and an active C&D landfill. This report presents the results from the groundwater monitoring event performed November 21, 2014; and includes laboratory analyses, summary tables and laboratory analytical reports.

2.0 SITE GEOLOGY

The Martin Co. landfill is located off McCaskey Road near Williamston in the Coastal Plain physiographic province. According to the Geologic Map of North Carolina (1985) this area is underlain by the Yorktown Formation. The Yorktown Formation is characterized by fossiliferous clay with varying amounts of fine-grained sand, and bluish gray shell material commonly concentrated in lenses.

3.0 SAMPLING LOCATIONS

Samples were collected from four groundwater monitoring wells (MW-1, MW-2, MW-3 and MW-4) associated with the closed MSW landfill and from three groundwater monitoring wells (CDW-2R, CDW-5 and CDW-6) for the active C&D landfill. Four surface water locations (SW-1, SW-2, SW-3 and CDSW-2) are monitored for the facility. SW-2 was not sampled this event because it was dry. MW-1 serves as the facility background well. Available well logs and related well construction information are presented in **Appendix A**.

4.0 SAMPLING PROCEDURES

Environment 1 personnel conducted the monitoring network sampling event November 21, 2014. Reported sampling methods followed the protocol outlined in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (NCDENR, DWM) and the Site Groundwater Monitoring Plan¹. The depth to water in each well was gauged to determine groundwater depth then purged three to five well volumes or until dry. Water table elevations included in **Table 1**.

Samples were reportedly collected by Environment 1 personnel in laboratory prepared containers for the specified analytical procedures. Groundwater samples were properly preserved, placed on ice, and transported to the laboratory facility (Environment 1, Inc. Wastewater ID: 10), within the specified hold times for each analysis.

¹ Water Quality Monitoring Plan, Martin County C&D Landfill, January 2012. Richardson Smith Gardner and Associates, Inc.

5.0 FIELD AND LABORATORY RESULTS

5.1 Field Results

Field measurements for groundwater depth, pH, temperature and specific conductance were collected for each location sampled during this monitoring event. Results are consistent with previous monitoring events. Turbidity measurements were high for all samples collected likely influencing inorganic concentration results. Field measurements are included in **Table 2**.

5.2 Laboratory Analysis

Samples were transported to the Environment 1 laboratory facility in Greenville, NC under proper chain of custody and analyzed for Appendix I constituents, including metals and VOCs using the SWS approved methods specified on the laboratory report. The laboratory analytical report is included as **Appendix B**.

5.3 Laboratory Results

Analytical results were compared to the NCDWM Solid Waste Section Quantitation Limits (SWSLs)², 15A NCAC 2L.0200 (2LStandard) and the EPA established Federal Maximum Contaminant Limits (MCL) for groundwater samples and the 15A NCAC 2B Standard for Class C waters (2B Standards) for surface water samples.

Most constituents were reported either below the method detection limit (MDL) or were laboratory identified "J-values" indicating an estimated or non-quantifiable value.

5.3.1 Inorganic Constituents

Detected inorganic constituents are presented in **Table 3**.

5.3.1.1 MSW Landfill

Arsenic in MW-4 was the only inorganic parameter detected above its 2L Standard this event.

5.3.1.2 C&D Landfill

Arsenic in CDW-2R was the only inorganic parameter detected above its 2L Standard this event.

5.3.2 Organic Constituents

Detected organic parameters are presented in **Table 4**.

² New Guidelines for Electronic Submittal of Environmental Monitoring Data Memo, NCDENR – Solid Waste Section, October 27, 2006

5.3.2.1 MSW Landfill

Laboratory analysis for the MSW landfill this monitoring event indicated the organic constituents benzene (MW-2 and MW-4) and vinyl chloride (MW-3 and MW-4) were detected above their 2 L Standards.

5.3.2.2 C&D Landfill

Laboratory analysis for the C&D landfill indicated tetrahydrofuran was detected above the MDL in CDW-2R, CDW-5 and CDW-6. A 2L Standard has not been established for Tetrahydrofuran.

5.3.3 Surface Water Results

No inorganic parameters were reported at concentrations above their 2B Standards in facility surface water samples this event. Tetrahydrofuran was reported in the sample collected at CDSW-2; however no standards have been established for that parameter. No other organics were reported in samples collected this event.

6.0 GROUNDWATER CHARACTERIZATION

A potentiometric surface map was prepared from groundwater elevation data collected during this sampling event. The data indicates that groundwater is flowing generally to the north and east across most of the site. Hydraulic conductivity data is not available for these wells so groundwater velocities could not be calculated. The potentiometric surface map is provided as **Figure 1**.

7.0 CONCLUSIONS

Monitoring event results indicate concentrations of arsenic were detected above the 2L Standard. Arsenic is found naturally in groundwater in North Carolina; additionally sample turbidity can influence results to be "biased high" due to these naturally occurring constituents. The organic constituents benzene and vinyl chloride were also detected in samples from the MSW Landfill site. These results are similar to previous sampling events. The next groundwater monitoring event is scheduled for May 2015. A report with laboratory analysis will be submitted to NCDENR in accordance with 15A NCAC 13B .0544.

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FIGURES

**November 2014 Groundwater Monitoring Report
Martin County Landfill
Solid Waste Permit No. 59-01**

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LEGEND

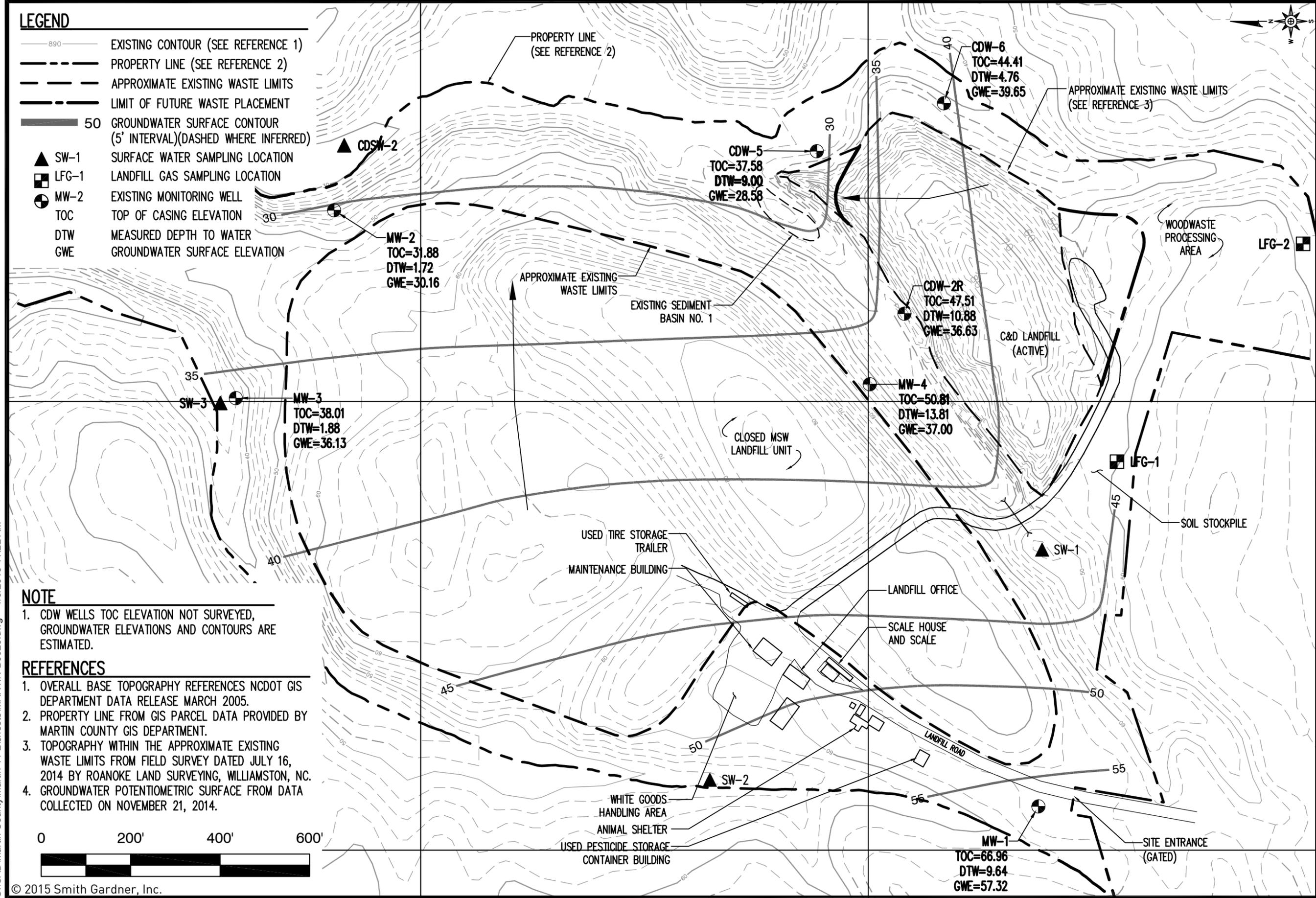
-  890 EXISTING CONTOUR (SEE REFERENCE 1)
-  PROPERTY LINE (SEE REFERENCE 2)
-  APPROXIMATE EXISTING WASTE LIMITS
-  LIMIT OF FUTURE WASTE PLACEMENT
-  50 GROUNDWATER SURFACE CONTOUR (5' INTERVAL)(DASHED WHERE INFERRED)
-  SW-1 SURFACE WATER SAMPLING LOCATION
-  LFG-1 LANDFILL GAS SAMPLING LOCATION
-  MW-2 EXISTING MONITORING WELL
-  TOC TOP OF CASING ELEVATION
-  DTW MEASURED DEPTH TO WATER
-  GWE GROUNDWATER SURFACE ELEVATION

NOTE

1. CDW WELLS TOC ELEVATION NOT SURVEYED, GROUNDWATER ELEVATIONS AND CONTOURS ARE ESTIMATED.

REFERENCES

1. OVERALL BASE TOPOGRAPHY REFERENCES NCDOT GIS DEPARTMENT DATA RELEASE MARCH 2005.
2. PROPERTY LINE FROM GIS PARCEL DATA PROVIDED BY MARTIN COUNTY GIS DEPARTMENT.
3. TOPOGRAPHY WITHIN THE APPROXIMATE EXISTING WASTE LIMITS FROM FIELD SURVEY DATED JULY 16, 2014 BY ROANOKE LAND SURVEYING, WILLIAMSTON, NC.
4. GROUNDWATER POTENTIOMETRIC SURFACE FROM DATA COLLECTED ON NOVEMBER 21, 2014.



PREPARED BY: NC LIC. NO. C-0028 (ENGINEERING)

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

FIGURE NO:	FIG. 1
SCALE:	AS SHOWN
APPROVED:	M.M.G.
DRAWN:	T.R.S.
PROJECT NO:	MARTIN 11-2
DATE:	Jan 2015
FILENAME:	MARTIN-B0023

MARTIN COUNTY
GROUNDWATER POTENTIOMETRIC MAP
NOVEMBER 2014

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TABLES

**November 2014 Groundwater Monitoring Report
Martin County Landfill
Solid Waste Permit No. 59-01**

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Table 1
Groundwater Elevation Data
Martin County Landfill
November 21, 2014

Well	Well Installation Date	Latitude	Longitude	Well Diameter (inches)	Total Well Depth (ft bgs)	Ground Surface Elevation (ft amsl)	TOC Elevation (ft amsl)	Depth to Water (ft)	Water Table Elevation (ft bgs)	Screen Interval (feet bgs)	Screen Geology
MW-1	3/13/1990	35.8634939	77.09609617	2	18.5	65.09	66.96	9.64	57.32	8.5-18.5	clayey sand
MW-2	3/13/1990	35.8677478	77.09151019	2	16	29.96	31.88	1.72	30.16	6-16	clayey sand
MW-3	3/13/1990	35.8683731	77.09290892	2	16	35.74	38.01	1.88	36.13	6-16	clayey sand
MW-4	10/19/1994	35.8644798	77.09289636	2	18	37.00 ²	50.81	13.81	37.00	3-18	clayey sand
CDW-2R	NA	35.8642582	77.09237042	2	22.84 ¹	37.51 ²	47.51	10.88	36.63	NA	NA
CDW-5	8/16/2012	35.8647774	77.09113475	2	15	29.21 ²	37.58	9.00	28.58	5-15	silty sand
CDW-6	8/16/2012	35.8639916	77.09079233	2	15	40.23 ²	44.41	4.76	39.65	5-15	silty sand

Note:

Well locations and elevations provided by Roanoke Land Surveying (RLS) survey dated 4/3/1990.

CDW wells not yet surveyed, TOC is estimated from map elevation and tapemeasured stick-up
Depth to water from Environment 1 laboratory report dated 12/23/14, Client ID # 6023.

NA= Data Not Available

1 Total Well Depth for CDW-2R from Environment 1 lab report dated 12/23/14, Client ID #6023

2 Ground Surface for MW-4, CDW-2R, CDW-5

Table 2
 Field Parameters
 Martin County Landfill
 November 21, 2014

Well Identification #	Temperature (°Celsius)	Specific Conductivity (uMhos/cm)	pH (SU)
MW-1	18	217	7.5
MW-2	14	744	5.4
MW-3	13	1379	6.7
MW-4	15	1247	6.2
CDW-2R	17	1163	6.3
CDW-5	17	887	4.4
CDW-6	15	1530	6.14
SW-1	7	225	6.7
SW-3	8	316	6.8
CDSW-2	7	473	6.5

Note: 1. Data from Environment 1 laboratory report dated 12/23/14, Client ID# 6023

Table 3
 Detected Inorganic Constituents
 Martin County Landfill
 November 21, 2014

Constituent	MDL	SWSL	2L or GWP	MCL	2B	MW-1	MW-2	MW-3	MW-4	CDW-2R	CDW-5	CDW-6	SW-1	SW-3	CDSW-2
Arsenic	0.10	10	10	10	10	1.0 J	0.88 J	0.16 J	45	32	1.3 J	5.2 J	0.78 J	0.39 J	1.1 J
Barium	0.12	100	700	2000	2000000	60 J	155	187	88.6 J	91.7 J	27.2 J	185	58.3 J	60.1 J	73.3 J
Beryllium	0.04	1	4 [§]	4	6.5	<0.04	2	<0.04	<0.04	NA	NA	NA	<0.04	<0.04	NA
Cadmium	0.04	1	2	5	2	0.07 J	0.09 J	0.09 J	0.06 J	0.24 J	1	0.15 J	<0.04	<0.04	<0.04
Cobalt	0.12	10	1 [§]	NE	270	<0.12	0.49 J	0.13 J	0.60 J	NA	NA	NA	1.1 J	1.4 J	NA
Copper	0.10	10	1000	1300	7	0.17 J	0.64 J	0.39 J	0.35 J	NA	NA	NA	0.31 J	0.22 J	NA
Total Chromium	0.14	10	10	100	50	<0.14	0.20 J	<0.14	1.3 J	1.3 J	<0.14	1.6 J	0.45 J	0.14 J	0.44 J
Lead	0.13	10	15	15	25	<0.13	<0.13	<0.13	<0.13	0.38 J	0.68 J	0.40 J	0.37 J	0.13 J	<0.13
Nickel	0.12	50	100	NE	88	0.70 J	3.0 J	2.3 J	2.7 J	NA	NA	NA	1.3 J	1.3 J	NA
Selenium	0.16	10	20	50	5	<0.16	3.0 J	1.8 J	1.1 J	1.6 J	3.8 J	5.9 J	0.30 J	0.39 J	1.2 J
Vanadium	0.06	25	0.3 [§]	NE	NE	0.30 J	3.1 J	0.22 J	1.1 J	NA	NA	NA	0.82 J	0.14 J	NA
Zinc	0.47	10	1000	5000	50	71	2.0 J	<0.47	0.78 J	NA	NA	NA	2.9 J	2.7 J	NA

- NOTE:**
- MDL - Method Detection Limit
 - SWSL - Solid Waste Section Quantitation Limit
 - 2L - Groundwater Standards (15A NCAC 2L 0200)
 - GWP - Groundwater Protection Standard (identified by [§])
 - MCL - Federal Maximum Contaminant Limit
 - 2B - NCAC 2B Standard for Class C waters
 - Bold - Concentration above 2L standard
 - < MDL - Constituent not detected above the MDL
 - J - Laboratory defined concentration between the MDL and SWSL
 - NE - Standard Not Established
 - NA - Constituent not analyzed

Table Data is presented in ug/l.
 Data from Environment 1 laboratory report dated 12/23/14, Client ID# 6023.

Table 4
 Detected Organic Constituents
 Martin County Landfill
 November 21, 2014

Constituents	MDL	SWSL	2L	MCL	2B	MW-2	MW-3	MW-4	CDW-2R	CDW-5	CDW-6	SW-3	CDSW-2
1,1- Dichloroethane	0.20	5	6	NE	20,000	0.80 J	0.60 J	2.0 J	<0.20	<0.20	<0.20	<0.20	<0.20
1,4-Dichlorobenzene	0.39	1	6	75	100	<0.39	<0.39	4.1	<0.39	<0.39	<0.39	<0.39	<0.39
1,2-Dichlorobenzene	0.32	5	20	600	470	<0.32	<0.32	0.40 J	<0.32	<0.32	<0.32	<0.32	<0.32
Benzene	0.24	1	1	5	51	2	0.90 J	5.3	<0.24	0.30 J	0.30 J	<0.24	<0.24
Chlorobenzene	0.30	3	50	100	140	2.8 J	1.1 J	12.8	<0.30	<0.30	<0.30	0.30 J	<0.30
Chloroethane	0.48	10	3000	NE	550	<0.48	<0.48	0.60 J	<0.48	<0.48	<0.48	<0.48	<0.48
Cis-1,2-Dichloroethene	0.25	5	70	70	4900	1.0 J	9.7	0.50 J	<0.25	<0.25	<0.25	<0.25	<0.25
Ethylbenzene	0.21	1	600	700	97	0.30 J	<0.21	0.30 J	<0.21	<0.21	<0.21	<0.21	<0.21
Tetrahydrofuran	0.39	NE	NE	NE	NE	<0.39	<0.39	<0.39	2	2.5	8	<0.39	1.2
Toluene	0.23	1	600	1000	11	<0.23	<0.23	0.90 J	<0.23	<0.23	<0.23	<0.23	<0.23
Vinyl Chloride	0.63	1	0.03	2	2.4	<0.63	1.3	8.4	<0.63	<0.63	<0.63	<0.63	<0.63
Xylene	0.68	5	500	10000	670	<0.68	<0.68	4.6 J	<0.68	<0.68	<0.68	<0.68	<0.68

- MDL - Method Detection Limit
- SWSL - Solid Waste Section Quantitation Limit
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- MCL - Federal Maximum Contaminant Limit
- 2B - NCAC 2B Standard for Class C waters
- Bold Letters - Concentrations above 2L standard
- < MDL - Constituent not detected above the MDL
- J - Laboratory identified as detected between MDL and SWSL

SWSLs, 2L Standards and Results are presented in ug/l.
 Data from Environment 1 laboratory report dated 06/03/14, Client ID# 6023.

APPENDIX A

Well Logs

**November 2014 Groundwater Monitoring Report
Martin County Landfill
Solid Waste Permit No. 59-01**

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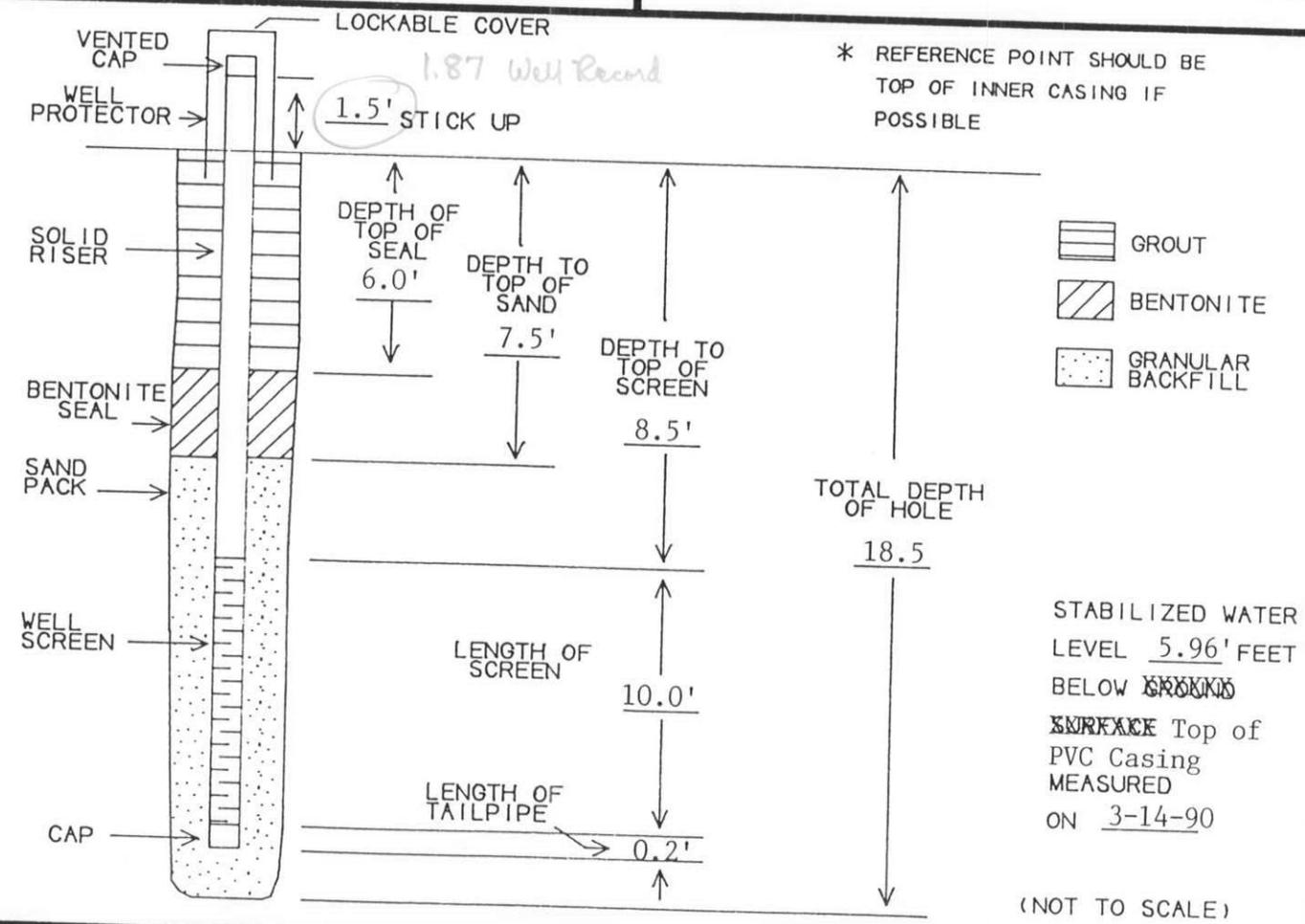
LAW ENVIRONMENTAL, INC.

1410 Commonwealth Drive
Suite 110
Wilmington, NC 28403
919-256-2007
Panafax 919-256-2408

TYPE II MONITORING WELL INSTALLATION RECORD

JOB NAME Martin County Landfill
 JOB NUMBER 59-9544
 WELL NUMBER MW-1
 INSTALLATION DATE 03-13-90
 LOCATION Martin County, NC
 GROUND SURFACE ELEVATION 65.09'
 REFERENCE POINT ELEVATION 66.96'
 LAW ENVIRONMENTAL
 FIELD REPRESENTATIVE H. van der Meyden
 DRILLING CONTRACTOR Law Engineering
 DRILLING TECHNIQUE Hollow Stem Auger

GRANULAR BACKFILL MATERIAL Coarse Sand
 SLOT SIZE 0.010 inches
 SCREEN MATERIAL Schedule 40 PVC
 RISER MATERIAL Schedule 40 PVC
 SCREEN DIAMETER 2-inch
 RISER DIAMETER 2-inch
 BOREHOLE DIAMETER 10-inch
 LOCK BRAND Master
 SIZE/MODEL --
 KEY CODE/
 COMBINATION 536



WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-1

NAME OF SITE: Martin County Landfill		PERMIT NO.: 59-01
ADDRESS: SR 1441 Williamston, NC		OWNER (print): Martin County
DRILLING CONTRACTOR: Law Engineering - Raleigh		REGISTRATION NO.: 332

Casing Type: Schedule 40 PVC dia. 2 in. Grout Depth: from 0.0 to 6.0 ft. - dia. 10 in.
 Casing Depth: from 0.0 to ft. - dia. 2 in. Bentonite Seal: from 6.0 to 7.5 ft. - dia. 10 in.
 Screen Type: Schedule 40 PVC dia. 2 in. Sand/Gravel PK: from 7.5 to 18.5 ft. - dia. 10 in.
 Screen Depth: from 8.5 to 18.5 ft. - dia. 2 in. Total Well Depth: from 0.0 to 18.5 ft. - dia. 10 in.
 Static Water Level: 5.96' feet from top of casing Date Measured 03 / 13 / 90
 Yield (gpm): N/A Method of Testing: N/A top of Casing is 1.87 feet above land surface

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0.0	18.0'	Tan to gray slightly clayey to clayey fine SAND
18.0	20.0'	Dark olive gray Clay and clayey fine SAND with shell fragments
boring terminated @ 20.0 feet		

LOCATION SKETCH
(show distance to numbered roads, or other map reference points)
SEE ATTACHED DRAWING NO. 1

REMARKS: Drilling log is based on test boring drilled approximately 50 feet from monitoring well location. Boring for monitoring well installation was advanced to 20.0 feet without sampling.

DATE: 4/10/90 SIGNATURE: *[Signature]*



LAW ENVIRONMENTAL, INC.

VISUAL CLASSIFICATION OF SOILS

5041 NEWCENTRE DRIVE
 SUITE 111
 WILMINGTON, NORTH CAROLINA 28403
 919-392-4888
 PANAFAX 919-392-1050

PROJECT NUMBER: 59-9544	PROJECT NAME: Martin County Landfill
BORING NUMBER: MW-2	COORDINATES: N/A
ELEVATION: N/A	GWL: N/A DATE/TIME N/A
GEOLOGIST/ENGINEER: HJV	DATE STARTED: March 12, 1990
DRILLING METHODS: HSA	DATE COMPLETED: March 12, 1990

SAMPLE DEPTH (FT)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 IN)	RECOVERY (IN)	DESCRIPTION	PROFILE	WELL	USCS SYMBOL	REMARKS
5.0	ss1	1/18"	7	Tan gray slightly clayey fine SAND with organic material			SC	
	ss2	WH-1/12	8	Blue gray clayey SILT with some wood fragments			ML	
	ss3	1/12-1	13	Olive gray slightly clayey fine to medium SAND			SC	
10.0	ss4	4-4-6	18	Olive gray clayey fine SAND with shell fragments			SC	
15.0	ss5	3-2-2	18	Olive gray silty clayey fine SAND with shell fragments			SC	
				Boring terminated @ 16.0'				

NOTES:



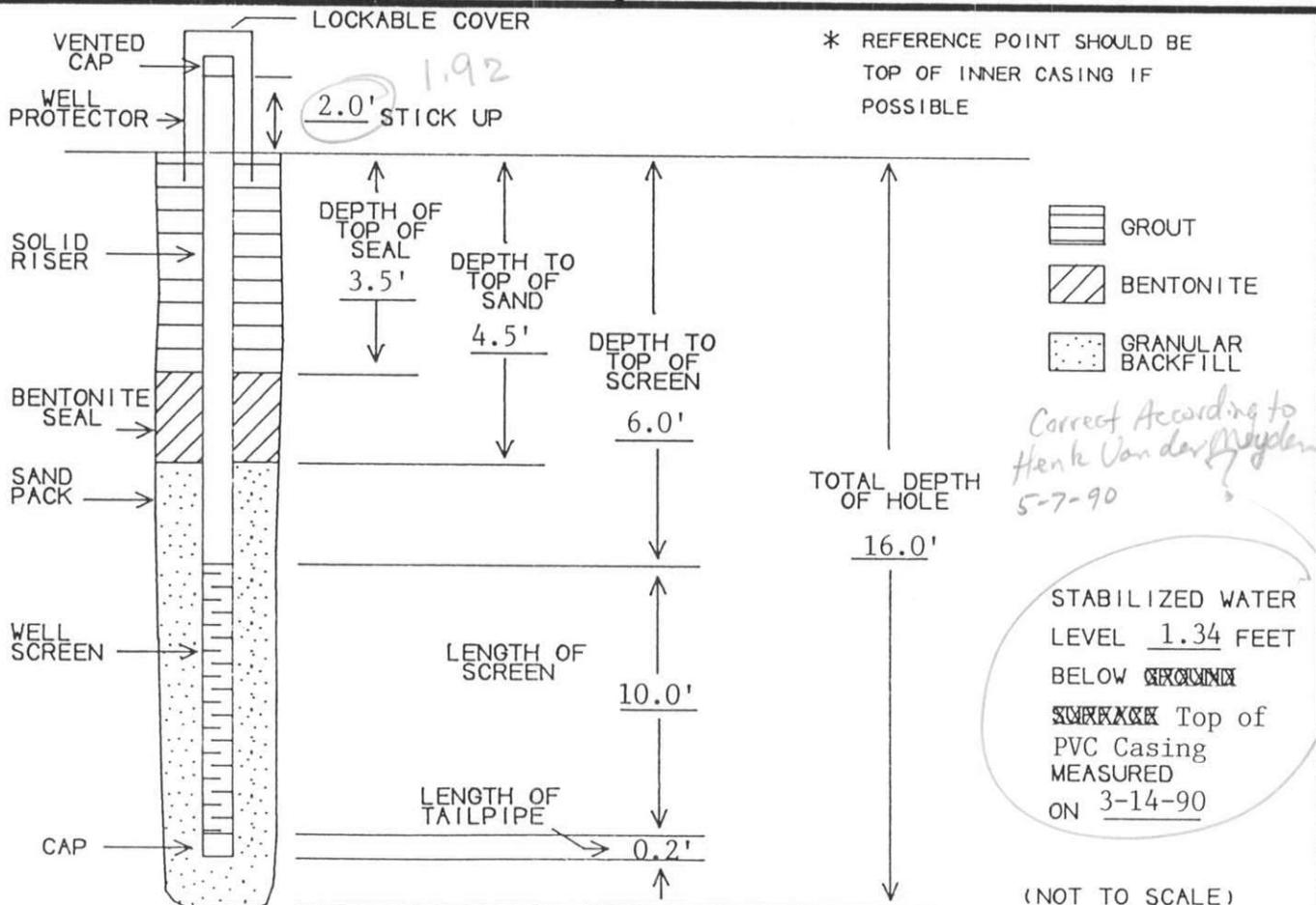
LAW ENVIRONMENTAL, INC.

1410 Commonwealth Drive
Suite 110
Wilmington, NC 28403
919-256-2007
Panafax 919-256-2408

TYPE II MONITORING WELL INSTALLATION RECORD

JOB NAME Martin County Landfill
 JOB NUMBER 59-9544
 WELL NUMBER MW-2
 INSTALLATION DATE 03-13-90
 LOCATION Martin County, NC
 GROUND SURFACE ELEVATION 29.96'
 REFERENCE POINT ELEVATION 31.88'
 LAW ENVIRONMENTAL
 FIELD REPRESENTATIVE H. van der Meyden
 DRILLING CONTRACTOR Law Engineering
 DRILLING TECHNIQUE Hollow Stem Auger

GRANULAR BACKFILL MATERIAL Coarse Sand
 SLOT SIZE 0.010 inches
 SCREEN MATERIAL Schedule 40 PVC
 RISER MATERIAL Schedule 40 PVC
 SCREEN DIAMETER 2-inch
 RISER DIAMETER 2-inch
 BOREHOLE DIAMETER 10-inch
 LOCK BRAND Master
 SIZE/MODEL --
 KEY CODE/
 COMBINATION 536



(NOT TO SCALE)

WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-2

NAME OF SITE: Martin County Landfill PERMIT NO.: 59-01

ADDRESS: SR 1441 Williamston, NC OWNER (print): Martin County

DILLING CONTRACTOR: Law Engineering - Raleigh REGISTRATION NO.: 332

Casing Type: Schedule 40 PVC dia. 2 in. Grout Depth: from 0.0 to 3.5 ft. - dia. 10 in.

Casing Depth: from 0.0 to 6.0 ft. - dia. 2 in. Bentonite Seal: from 3.5 to 4.5 ft. - dia. 10 in.

Screen Type: Schedule 40 PVC dia. 2 in. Sand/Gravel PK: from 4.5 to 16.0 ft. - dia. 10 in.

Screen Depth: from 6.0 to 16.0 ft. - dia. 2 in. Total Well Depth: from 0.0 to 16.0 ft. - dia. 10 in.

Static Water Level: 1.34' feet from top of casing Date Measured 3 / 14 / 90

Flow (gpm): N/A Method of Testing: N/A top of Casing is 1.92 feet above land surface

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0.0	8.0'	Tan and gray slightly clayey fine to medium SAND
8.0	13.0'	Olive green slightly clayey to clayey fine to medium SAND
13.0	20.0'	Olive green clayey fine SAND with shell fragments
Drilling terminated @ 20.0 feet		

LOCATION SKETCH

(show distance to numbered roads, or other map reference points)

SEE ATTACHED DRAWING NO. 1

MARKS: _____

DATE: 4/10/90 SIGNATURE: [Signature]



LAW ENVIRONMENTAL, INC.

5041 NEWCENTRE DRIVE
 SUITE 111
 WILMINGTON, NORTH CAROLINA 28403
 919-392-4888
 PANAFAX 919-392-1050

VISUAL CLASSIFICATION OF SOILS

PROJECT NUMBER: 59-9544	PROJECT NAME: Martin County Landfill
BORING NUMBER: MW-3	COORDINATES: N/A
ELEVATION: N/A	GWL: N/A DATE/TIME N/A
GEOLOGIST/ENGINEER: HJV	DATE STARTED: March 13, 1990
DRILLING METHODS: HSA	DATE COMPLETED: March 13 PAGE 1 OF 1

SAMPLE DEPTH (FT)	SAMPLE TYPE & NO.	BLOWS ON SAMPLER PER (6 IN)	RECOVERY (IN)	DESCRIPTION	PROFILE	WELL	USCS SYMBOL	REMARKS
	ss1	WH/18"	7	Tan silty very fine SAND			SM	
5.0	ss2	2-2-2	9"	Tan gray slightly clayey fine to medium SAND with root fragments			SC	
	ss3	1-1-3	0	NO RECOVERY			--	
10.0	ss4	2-3-5	14	Olive gray slightly clayey fine SAND			SC	
15.0	ss5	2-1/12"	18	Olive gray clayey fine to medium SAND			SC	
20.0	ss6	3-7-13	18	Olive gray clayey fine SAND with shell fragments			SC	
				Boring terminated @ 20.0'				

NOTES:



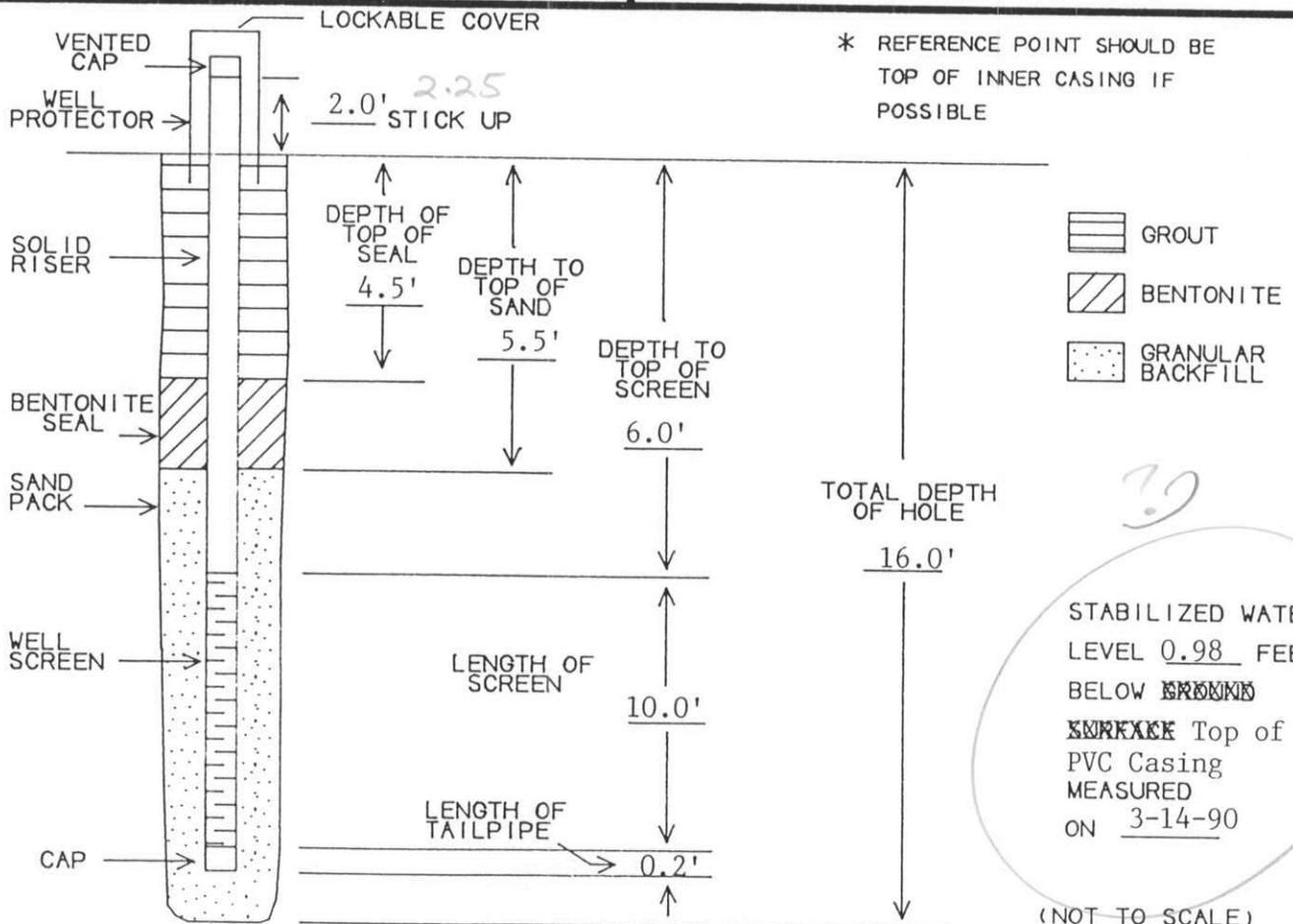
LAW ENVIRONMENTAL, INC.

1410 Commonwealth Drive
Suite 110
Wilmington, NC 28403
919-256-2007
Panafax 919-256-2408

TYPE II MONITORING WELL INSTALLATION RECORD

JOB NAME Martin County Landfill
 JOB NUMBER 59-9544
 WELL NUMBER MW-3
 INSTALLATION DATE 03-13-90
 LOCATION Martin County, NC
 GROUND SURFACE ELEVATION 35.74'
 REFERENCE POINT ELEVATION 38.01'
 LAW ENVIRONMENTAL
 FIELD REPRESENTATIVE H. van der Meyden
 DRILLING CONTRACTOR Law Engineering
 DRILLING TECHNIQUE Hollow Stem Auger

GRANULAR BACKFILL MATERIAL Coarse Sand
 SLOT SIZE 0.010 inches
 SCREEN MATERIAL Schedule 40 PVC
 RISER MATERIAL Schedule 40 PVC
 SCREEN DIAMETER 2-inch
 RISER DIAMETER 2-inch
 BOREHOLE DIAMETER 10-inch
 LOCK BRAND Master
 SIZE/MODEL --
 KEY CODE/
 COMBINATION 536



WELL COMPLETION RECORD

COMPLETE ALL INFORMATION REQUESTED BELOW FOR EACH WELL INSTALLED, AND RETURN FORM TO THE N.C. DEPARTMENT OF HUMAN RESOURCES, SOLID AND HAZARDOUS WASTE MANAGEMENT BRANCH, P. O. BOX 2091, RALEIGH, N.C. 27602

Monitoring Well MW-3	
NAME OF SITE: Martin County Landfill	PERMIT NO.: 59-01
ADDRESS: SR 1441 Williamston, NC	OWNER (print): Martin County
DRILLING CONTRACTOR: Law Engineering - Raleigh	REGISTRATION NO.: 332

Casing Type: Schedule 40 PVC dia. 2 in. Grout Depth: from 0.0 to 4.5 ft. - dia. 10 in.
 Casing Depth: from 0.0 to 6.0 ft. - dia. 2 in. Bentonite Seal: from 4.5 to 5.5 ft. - dia. 10 in.
 Screen Type: Schedule 40 PVC dia. 2 in. Sand/Gravel PK: from 5.5 to 16.0 ft. - dia. 10 in.
 Screen Depth: from 6.0 to 16.0 ft. - dia. 2 in. Total Well Depth: from 0.0 to 16.0 ft. - dia. 10 in.

Static Water Level: 0.98 feet from top of casing Date Measured 3 / 14 / 90

Yield (gpm): N/A Method of Testing: N/A top of Casing is 2.25 feet above land surface

DRILLING LOG		
DEPTH		FORMATION DESCRIPTION
FROM	TO	
0.0	3.0'	Tan gray slightly clayey fine SAND with some organic material
3.0	5.5'	Blue gray clayey fine sand with wood fragments
5.5	16.0'	Olive gray slightly clayey to clayey fine to medium SAND, with shell fragments from 8.5 to 16.0 feet
Boring terminated @ 16.0 feet		

LOCATION SKETCH
(show distance to numbered roads, or other map reference points)
SEE ATTACHED DRAWING NO. 1

REMARKS: _____

DATE: 4/10/90 SIGNATURE: [Signature]

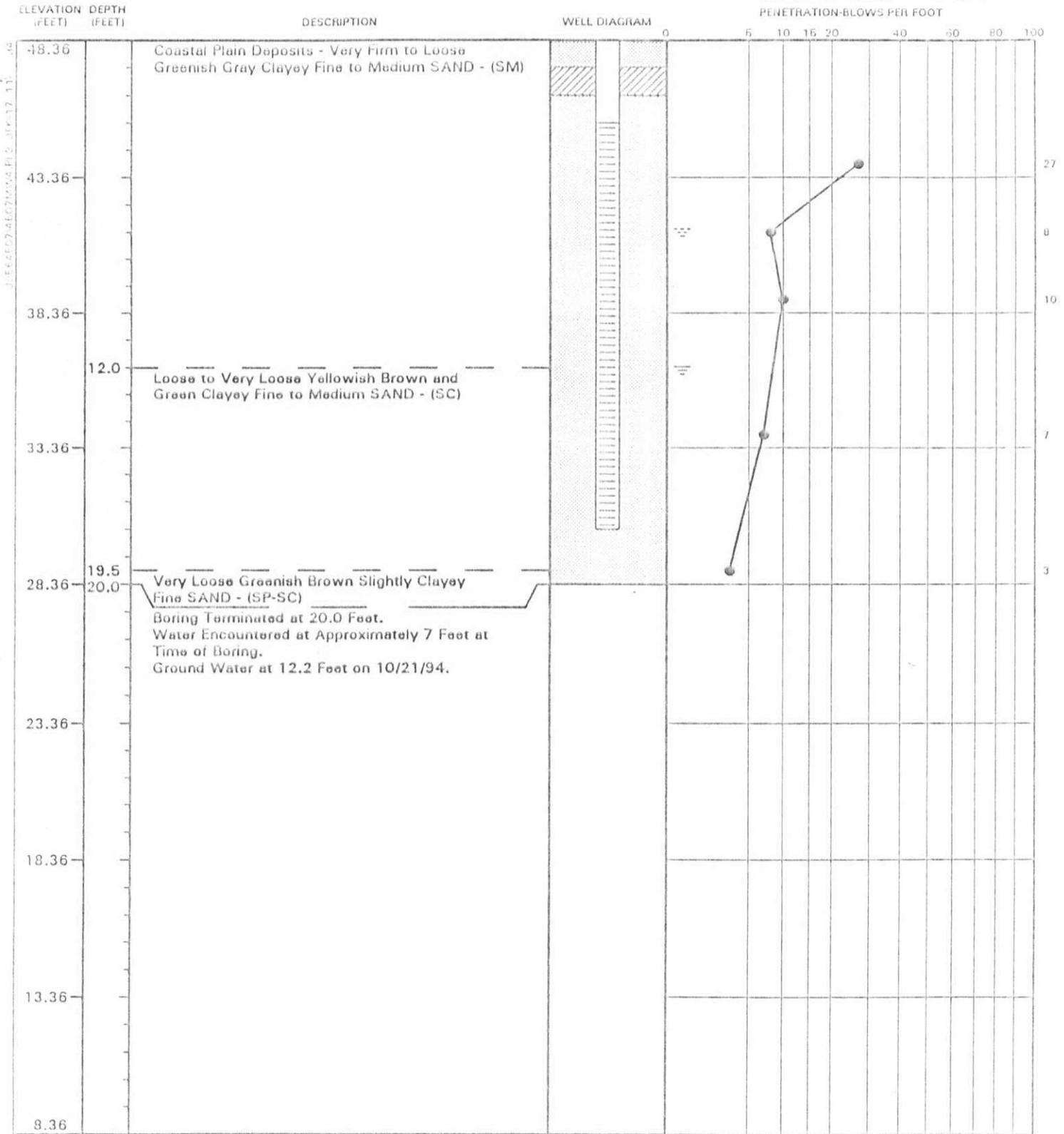
MW-4

TEST BORING RECORD

DATUM ELEVATION: 50.81 Ft.

HEIGHT OF RISER: 2.45 Ft.

PENETRATION-BLOWS PER FOOT



REMARKS:

Drilled with 8-inch Hollow-Stem Augers. Set 2-inch Diameter PVC With Bottom 15-ft Screen to 18.0 Feet. Sand to 2.0 Feet. Bentonite Seal to 1.0 Foot. Grout to Ground Surface. Set Lockable Steel Cover.

DRILLED BY LAW
 LOGGED BY WAS
 CHECKED BY NJG

BORING NUMBER MW-4
 DATE STARTED 10/19/94
 DATE COMPLETED 10/19/94
 JOB NUMBER 56-4507



Smith Gardner, Inc.
 14 North Boylan Avenue, Raleigh NC 27603
 (919) 828-0577

FIELD BOREHOLE LOG

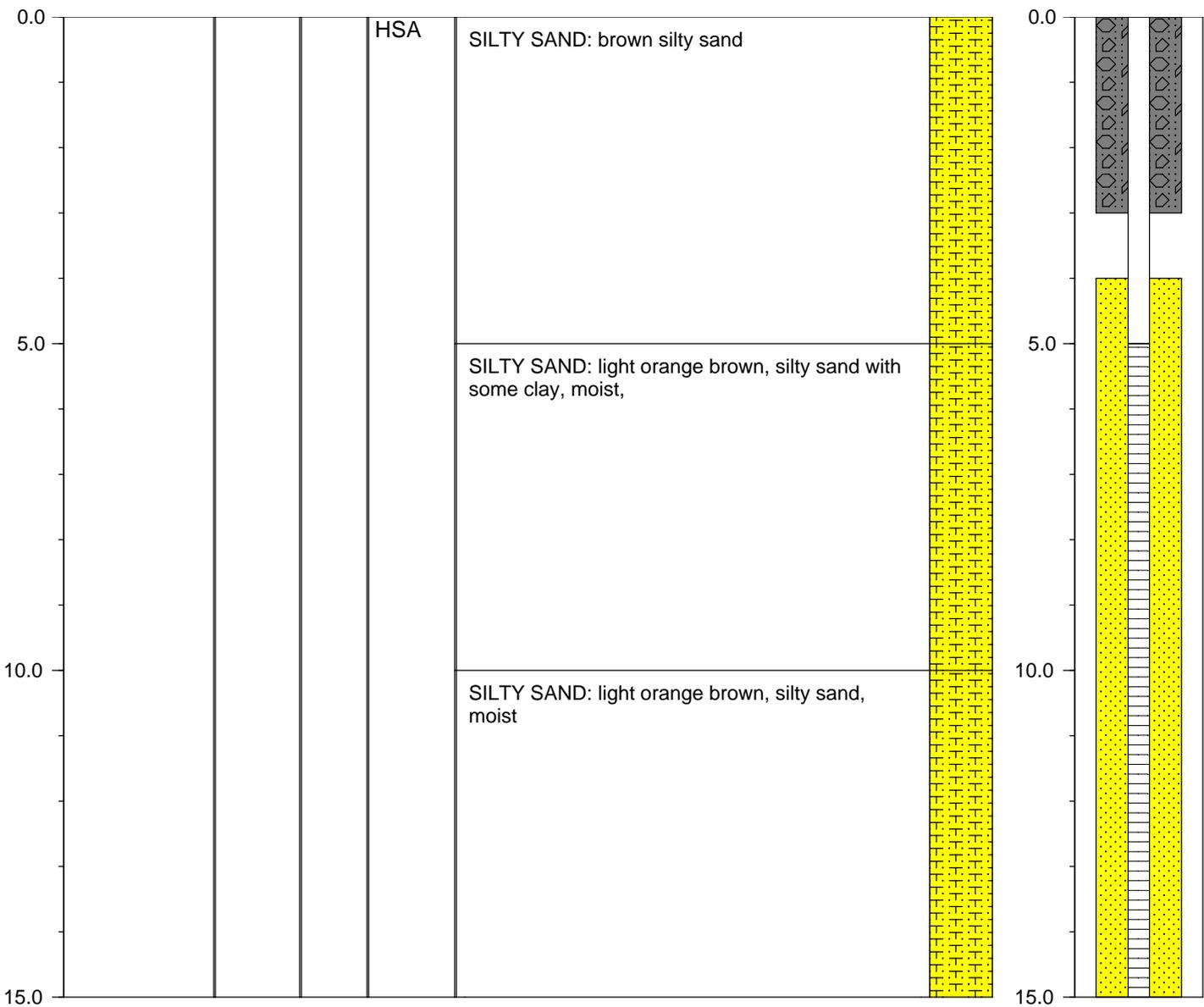
BOREHOLE NUMBER **CDW-5** Page 1 of 1

PROJECT NAME: **Martin County**
 LOCATION: **Williamston, NC**
 DRILLING CO: **Geologic Explorations, Inc.**
 DRILLING METHOD: **AIR ROTARY**
 FIELD PARTY: **Vince Federle**
 GEOLOGIST: **Madeline German**
 DATE BEGUN: **08/16/12** COMPLETED: **08/16/2012**

TOTAL DEPTH: **15 feet bgs**
 TOP OF CASING ELEV.: GROUND ELEV.:
 NORTHING: **0** EASTING: **0**

STATIC WATER LEVEL (from TOC)		
Depth (ft)	17.5 feet	stick up estimated
Time	1315	
Date	08/16/2012	

DEPTH Feet	BLOW COUNT Per 6"	SAMPLING METHOD	RECOVERY Inches	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH Feet	WELL INSTALLATION
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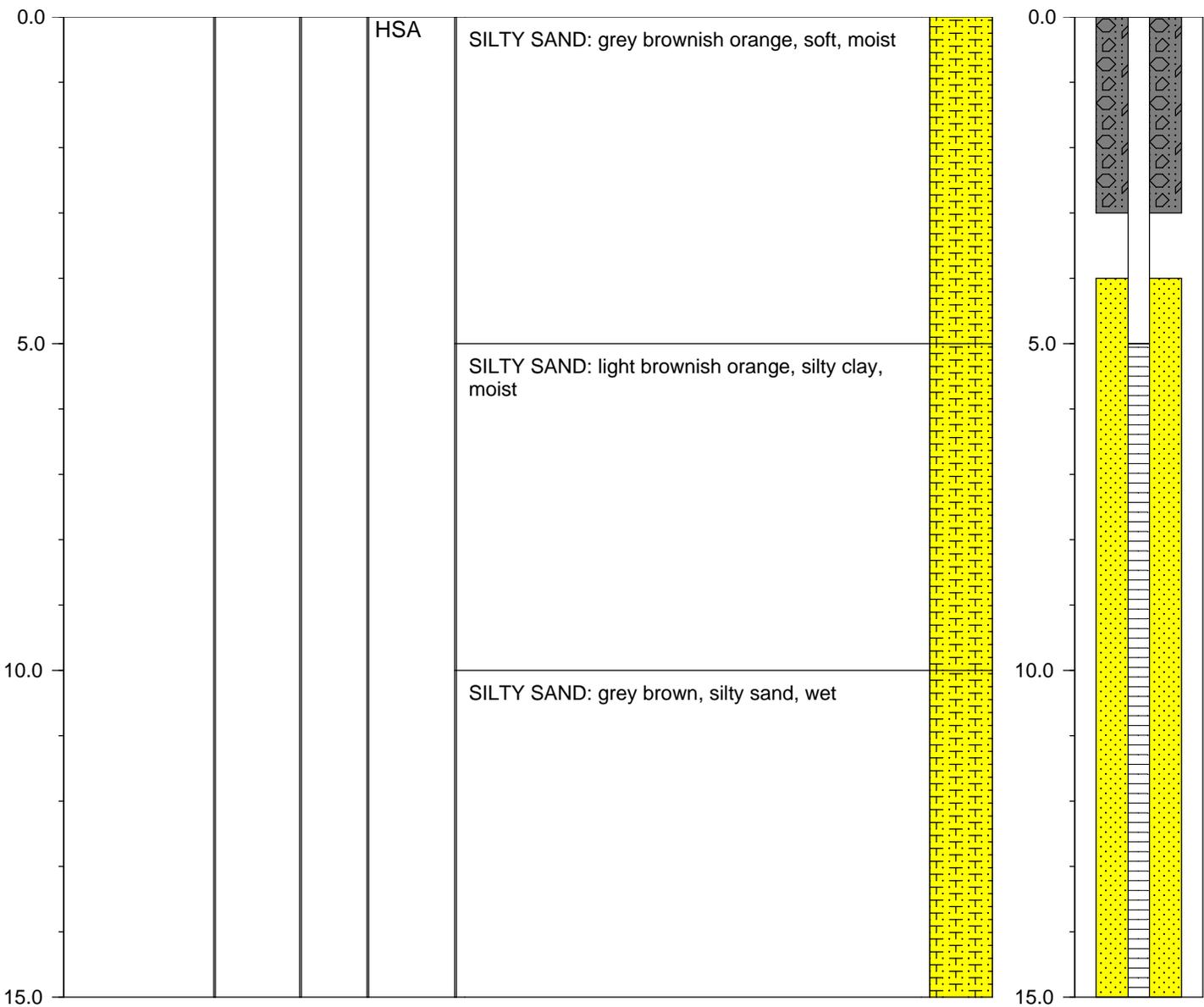


PROJECT NAME: **Martin County**
 LOCATION: **Williamston, NC**
 DRILLING CO: **Geologic Explorations, Inc.**
 DRILLING METHOD: **AIR ROTARY**
 FIELD PARTY: **Vince Federle**
 GEOLOGIST: **Madeline German**
 DATE BEGUN: **08/16/12** COMPLETED: **08/16/2012**

TOTAL DEPTH: **15 feet bgs**
 TOP OF CASING ELEV.: GROUND ELEV.:
 NORTHING: **0** EASTING: **0**

STATIC WATER LEVEL (from TOC)		
Depth (ft)	17.5 feet	stick up estimated
Time	1130	
Date	08/16/2012	

DEPTH Feet	BLOW COUNT Per 6"	SAMPLING METHOD	RECOVERY Inches	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH Feet	WELL INSTALLATION
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APPENDIX B

Laboratory Analytical Results

**November 2014 Groundwater Monitoring Report
Martin County Landfill
Solid Waste Permit No. 59-01**

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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#: 6023

MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON ,NC 27892

DATE COLLECTED: 11/21/14
DATE REPORTED : 12/23/14

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-1	MW-2	MW-3	MW-4	SW-1	Analysis		Method
								Date	Analyst	Code
PH (field measurement), Units			7.5	5.4	6.7	6.2	6.7	11/21/14	BF	4500HB-00
Antimony, ug/l	0.12	6.0	--- U	12/08/14	LFJ	EPA200.8				
Arsenic, ug/l	0.10	10.0	1.0 J	0.88 J	0.16 J	45	0.78 J	12/08/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	60.0 J	155	187	88.6 J	58.3 J	12/08/14	LFJ	EPA200.8
Beryllium, ug/l	0.04	1.0	--- U	2	--- U	--- U	--- U	12/08/14	TRB	EPA200.8
Cadmium, ug/l	0.04	1.0	0.07 J	0.09 J	0.09 J	0.06 J	--- U	12/08/14	LFJ	EPA200.8
Cobalt, ug/l	0.12	10.0	--- U	0.49 J	0.13 J	0.60 J	1.1 J	12/08/14	LFJ	EPA200.8
Copper, ug/l	0.10	10.0	0.17 J	0.64 J	0.39 J	0.35 J	0.31 J	12/08/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	--- U	0.20 J	--- U	1.3 J	0.45 J	12/08/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	--- U	--- U	--- U	--- U	0.37 J	12/08/14	LFJ	EPA200.8
Nickel, ug/l	0.12	50.0	0.70 J	3.0 J	2.3 J	2.7 J	1.3 J	12/08/14	LFJ	EPA200.8
Selenium, ug/l	0.16	10.0	--- U	3.0 J	1.8 J	1.1 J	0.30 J	12/08/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	12/08/14	LFJ	EPA200.8				
Thallium, ug/l	0.13	5.5	--- U	12/08/14	LFJ	EPA200.8				
Vanadium, ug/l	0.06	25.0	0.30 J	3.1 J	0.22 J	1.1 J	0.82 J	12/08/14	LFJ	EPA200.8
Zinc, ug/l	0.53	10.0	71	2.0 J	--- U	0.78 J	2.9 J	12/08/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	217	744	1379	1247	225	11/21/14	BF	2510B-97
Temperature, °C			18	14	13	15	7	11/21/14	BF	2550B-00
Static Water Level, feet			9.64	1.72	1.88	13.81		11/21/14	BF	
Well Depth, feet			20.28	19.76	19.00	20.58		11/21/14	BF	

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#: 6023

MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON ,NC 27892

DATE COLLECTED: 11/21/14
DATE REPORTED : 12/23/14

REVIEWED BY: 

PARAMETERS	MDL	SW-2		SW-3	CDW2R	CDW5	CDW6	Analysis		Method Code				
		SWSL						Date	Analyst					
PH (field measurement), Units			Missing	6.8	6.3	4.4	6.1	11/21/14	BF	4500HB-00				
Antimony, ug/l	0.12	6.0	Missing	---	U			12/08/14	LFJ	EPA200.8				
Arsenic, ug/l	0.10	10.0	Missing	0.39	J	32	1.3	J	5.2	J	12/08/14	LFJ	EPA200.8	
Barium, ug/l	0.12	100.0	Missing	60.1	J	91.7	J	27.2	J	185	12/08/14	LFJ	EPA200.8	
Beryllium, ug/l	0.04	1.0	Missing	---	U						12/08/14	TRB	EPA200.8	
Cadmium, ug/l	0.04	1.0	Missing	---	U	0.24	J	1	0.15	J	12/08/14	LFJ	EPA200.8	
Cobalt, ug/l	0.12	10.0	Missing	1.4	J						12/08/14	LFJ	EPA200.8	
Copper, ug/l	0.10	10.0	Missing	0.22	J						12/08/14	LFJ	EPA200.8	
Total Chromium, ug/l	0.14	10.0	Missing	0.14	J	1.3	J	---	U	1.6	J	12/08/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	Missing	0.13	J	0.38	J	0.68	J	0.40	J	12/08/14	LFJ	EPA200.8
Mercury, ug/l	0.06	0.20				---	U	---	U	---	U	12/01/14	MTM	245.1 R3-9
Nickel, ug/l	0.12	50.0	Missing	1.3	J						12/08/14	LFJ	EPA200.8	
Selenium, ug/l	0.16	10.0	Missing	0.39	J	1.6	J	3.8	J	5.9	J	12/08/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	Missing	---	U	---	U	---	U	---	U	12/08/14	LFJ	EPA200.8
Thallium, ug/l	0.13	5.5	Missing	---	U						12/08/14	LFJ	EPA200.8	
Vanadium, ug/l	0.06	25.0	Missing	0.14	J						12/08/14	LFJ	EPA200.8	
Zinc, ug/l	0.53	10.0	Missing	2.7	J						12/08/14	LFJ	EPA200.8	
Conductivity (at 25c), uMhos/cm	1.0	1.0	Missing	316		1163		887		1530	11/21/14	BF	2510B-97	
Temperature, °C			Missing	8		17		17		15	11/21/14	BF	2550B-00	
Static Water Level, feet						10.88		9.00		4.76	11/21/14	BF		
Well Depth, feet						22.84		18.59		18.50	11/21/14	BF		

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#: 6023

MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON, NC 27892

DATE COLLECTED: 11/21/14
DATE REPORTED : 12/23/14

REVIEWED BY: 

PARAMETERS	MDL	SWSL	CDWS2	Analysis		Method Code
				Date	Analyst	
PH (field measurement), Units			6.5	11/21/14	BF	4500HB-00
Arsenic, ug/l	0.10	10.0	1.1 J	12/08/14	LFJ	EPA200.8
Barium, ug/l	0.12	100.0	73.3 J	12/08/14	LFJ	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U	12/08/14	LFJ	EPA200.8
Total Chromium, ug/l	0.14	10.0	0.44 J	12/08/14	LFJ	EPA200.8
Lead, ug/l	0.13	10.0	--- U	12/08/14	LFJ	EPA200.8
Mercury, ug/l	0.06	0.20	--- U	12/01/14	MTM	245.1 R3-94
Selenium, ug/l	0.16	10.0	1.2 J	12/08/14	LFJ	EPA200.8
Silver, ug/l	0.04	10.0	--- U	12/08/14	LFJ	EPA200.8
Conductivity (at 25c), uMhos/cm	1.0	1.0	473	11/21/14	BF	2510B-97
Temperature, °C			7	11/21/14	BF	2550B-00

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: MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON, NC 27892

CLIENT ID: 6023

ANALYST: MAO
DATE COLLECTED: 11/21/14
DATE ANALYZED: 12/02/14
DATE REPORTED: 12/23/14

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	MW-1	MW-2	MW-3	MW-4	SW-1
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	1.30	8.40	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	0.60 J	--- 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	0.80 J	0.60 J	2.00 J	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	1.00 J	9.70	0.50 J	--- 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	2.00	0.90 J	5.30	--- 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-Dichloropropane	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	0.90 J	--- 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	2.80 J	1.10 J	12.80	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	0.30 J	--- U	0.30 J	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	4.60 J	--- 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	4.10	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	0.40 J	--- 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: MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON, NC 27892

CLIENT ID: 6023

ANALYST: MAO
DATE COLLECTED: 11/21/14
DATE ANALYZED: 12/02/14
DATE REPORTED: 12/23/14

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS
EPA METHOD 8260B R1 (96)

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

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: MARTIN COUNTY LANDFILL
MR. MAURICE ROBINSON
P.O. BOX 668
WILLIAMSTON, NC 27892

CLIENT ID: 6023

ANALYST: MAO
DATE COLLECTED: 11/21/14
DATE ANALYZED: 12/02/14
DATE REPORTED: 12/23/14

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

PARAMETERS, ug/l	MDL	SWSL	CDW2R	CDW5	CDW6	CDWS2
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	0.30 J	0.30 J	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U
48. Tetrahydrofuran	0.39	1.0	2.00	2.50	8.00	1.20

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

Environment 1, Inc.
 P.O. Box 709 Oakmont Dr.
 Greenville, NC 27858
 environment1inc.com
 Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6023 Week: 48

MARTIN COUNTY LANDFILL
 MR. MAURICE ROBINSON
 P.O. BOX 668
 WILLIAMSTON NC 27892

(252) 792-1240

SAMPLE LOCATION	COLLECTION		TOTAL CHLORINE, mg/l OR ug/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/TESTS
	DATE	TIME				CHLORINE	UV									
MW-1	11-21-14	11:30		15	5	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		CLASSIFICATION: <input type="checkbox"/> WASTEWATER (NPDES) <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> DW/OGW <input checked="" type="checkbox"/> SOLID WASTE SECTION
MW-2	11-21-14	11:10		14	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
MW-3	11-21-14	10:45		13	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY <input checked="" type="checkbox"/> N
MW-4	11-21-14	10:25		15	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
SW-1	11-21-14	10:10		7	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		SAMPLES COLLECTED BY: (Please Print) Bobby Fox
SW-2					4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
SW-3	11-21-14	10:40		8	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		SAMPLES RECEIVED IN LAB AT <u>06</u> °C
CDW2R	11-21-14	10:00		17	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
CDW5	11-21-14	09:35		17	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		COMMENTS: SW-2 DAY
CDW6	11-21-14	09:15		15	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
CDWS2	11-21-14	11:05		7	4	<input type="checkbox"/>	<input type="checkbox"/>	A	A	A	A	E	E	E		
RELINQUISHED 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	

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