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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)
Davidson County C&D landfill	1242 Old Highway 29 Thomasville, NC 27360	29-06	.0500	9-21-2011

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 Licensed/ Professional Geologist Seal

*Joan Smyth*  
Signature

12/30/11

Date

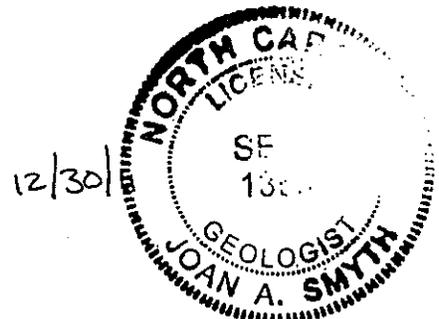
14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

C-0828

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

Revised 6/2009



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**Ground Water Monitoring Report**

**Fall 2011 Monitoring Event**

**Davidson County**

**Construction & Demolition Debris Landfill  
Lexington, North Carolina  
NC Solid Waste Permit # 29-06**

Prepared for:

**Davidson County Integrated Solid Waste**

1242 Old Highway 29  
Thomasville, NC 27360-0024

**December 2011**



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**Ground Water Monitoring Report  
Davidson County Construction & Demolition Debris Landfill  
Fall 2011 Semi - Annual Report**

Prepared for:

**Davidson County Integrated Solid Waste  
1242 Old Highway 29  
Thomasville, NC 27360**

RSG Project No. **DAVDCO - 13A**



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Joan A. Smyth, P.G.  
Senior Hydrogeologist

**December 2011**



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**Davidson County C&D Landfill**  
**Ground Water Monitoring Report**  
**Fall 2011 Monitoring Event**

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Appendix C – Laboratory Analytical Report

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## 1.0 INTRODUCTION

Richardson Smith Gardner & Associates, Inc. (RSG) was contracted by Davidson County to perform their semi-annual ground water monitoring event at the Davidson County C&D Landfill, permit number 29-02, as required by 15A NCAC 13B .0600. Sampling was conducted September 21, 2011. The following report summarizes the event sampling procedures, field and laboratory results, and ground water characterization as required by NC Solid Waste Regulations. Summary tables, a potentiometric map and the laboratory analytical report are also included.

## 2.0 SITE GEOLOGY

The Davidson County Landfill facility is located in the Piedmont Physiographic Province of North Carolina approximately three and a half miles northeast of the City of Lexington, NC. The Geologic Map of North Carolina (*USGS*, 1985) indicates that the site lies at the western margin of the Carolina Slate Belt; an area of predominantly volcanic and sedimentary rocks of Late Proterozoic to Cambrian age that have been metamorphosed and intruded by numerous igneous plutons. The boundary zone between the Carolina Slate Belt and the adjacent Charlotte Belt is known as the Gold Hill/Silver Hill shear zone. The site vicinity is underlain by volcanic rocks from the Flat Swamp Member of the Cid Formation and metavolcanic rocks of the Battleground Formation. This region also has numerous intrusions of metagabbro and metabasalt dikes and conformable sheets. This metagabbro typically crops out as round residual boulders that show no foliation except in the Gold Hill/Silver Hill shear zone.

The encountered lithology includes sandy silt and partially weathered rock. For this report partially weathered rock is defined as soils with a standard penetration test blow count of 100+ blows per foot.

## 3.0 MONITORING EVENT

### 3.1 Sampling Locations

Ground water sampling at the Davidson County C&D landfill was performed at five down-gradient ground water monitoring well locations (CDMW-2, CDMW\_3, CDMW-5, CDMW-6 and CDMW-7). Since the spring 2011 event CDMW-4A has been abandoned and two new wells (CDMW-6 and CDMW-7) were installed. Boring logs and construction records are provided in **Appendix B**. No surface water monitoring locations have been established for this site. A trip blank (TB) was also submitted for quality control purposes.

Sampling locations are shown on **Figure 1**.

It should be noted that due to construction of Phase-3 of the C&D landfill, CDMW-4a was abandoned in early 2011 and two new monitoring wells, CDMW-6 and CDMW-7 were installed in November 2010.

### 3.2 Sampling Procedures

Sampling procedures followed the protocols set forth in the site's Sampling and Analysis Plan<sup>1</sup> and the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (North Carolina Department of Environment and Natural Resources, Division of Waste Management). Each well was gauged to determine ground water depth and then purged three to five well volumes or until dry. Purged wells were allowed to stabilize prior to sample collection. Ground water purging and sample collection was performed using a factory sealed Teflon™ bailer.

Field measurements (temperature, pH, turbidity, and conductivity) were recorded at each well. Groundwater elevations and field measurements are summarized in **Table 1** and **Table 2**, respectively.

Environment 1, Inc. (NC Laboratory Certification # 10) provided laboratory prepared sample containers for the specified analytical procedures. Ground water samples were properly preserved, placed on ice and transported to the laboratory facility within the specified hold times for each analysis.

During the sampling process, wells were inspected for signs of damage or unusual conditions. CDMW-3 was unable to be sampled during the spring event, but was repaired prior to the September sampling event.

## 4.0 FIELD AND LABORATORY RESULTS

Field parameter measurements were consistent with previous sampling events. These data are summarized in **Table 2** and field data sheets are included in **Appendix A**.

Sample analysis indicated detections above the Solid Waste Section Limit (SWSL)<sup>2</sup> of barium, cobalt, copper, chromium, iron, manganese, lead, vanadium and zinc. The results are summarized in **Table 3**. Four inorganic constituents were detected above their 15A NCAC 2L.0200 (2L) / Ground Water Protection (GWP) standards in CDMW-2, CDMW-3, CD-MW-5, CDMW-6 and CDMW-7:

- Cobalt
- Iron
- Manganese and
- Vanadium.

These inorganic constituents are naturally occurring in the soils and groundwater of North Carolina. The reported concentrations are likely due to sample turbidity which can yield “biased high” results of naturally occurring constituents. No organic constituents were detected above the SWSL or 2L Standard. The laboratory report is included in **Appendix C**.

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<sup>1</sup> Davidson County C&D Landfill Water Quality Monitoring Plan. G.N. Richardson and Associates, June 1998.

<sup>2</sup> New Guidelines for electronic submittal of environmental monitoring data memo, NCDENR DWM, Solid Waste Section, October 27, 2006.

## 5.0 GROUND WATER CHARACTERIZATION

A potentiometric surface map was created from ground water elevation data collected during this sampling event. Ground water at the C&D landfill is migrating both to the north and east at this site. An ephemeral to perennial stream is located east and northeast of the C&D landfill. The potentiometric surface for the landfill property is shown on **Figure 1**.

## 6.0 CONCLUSIONS

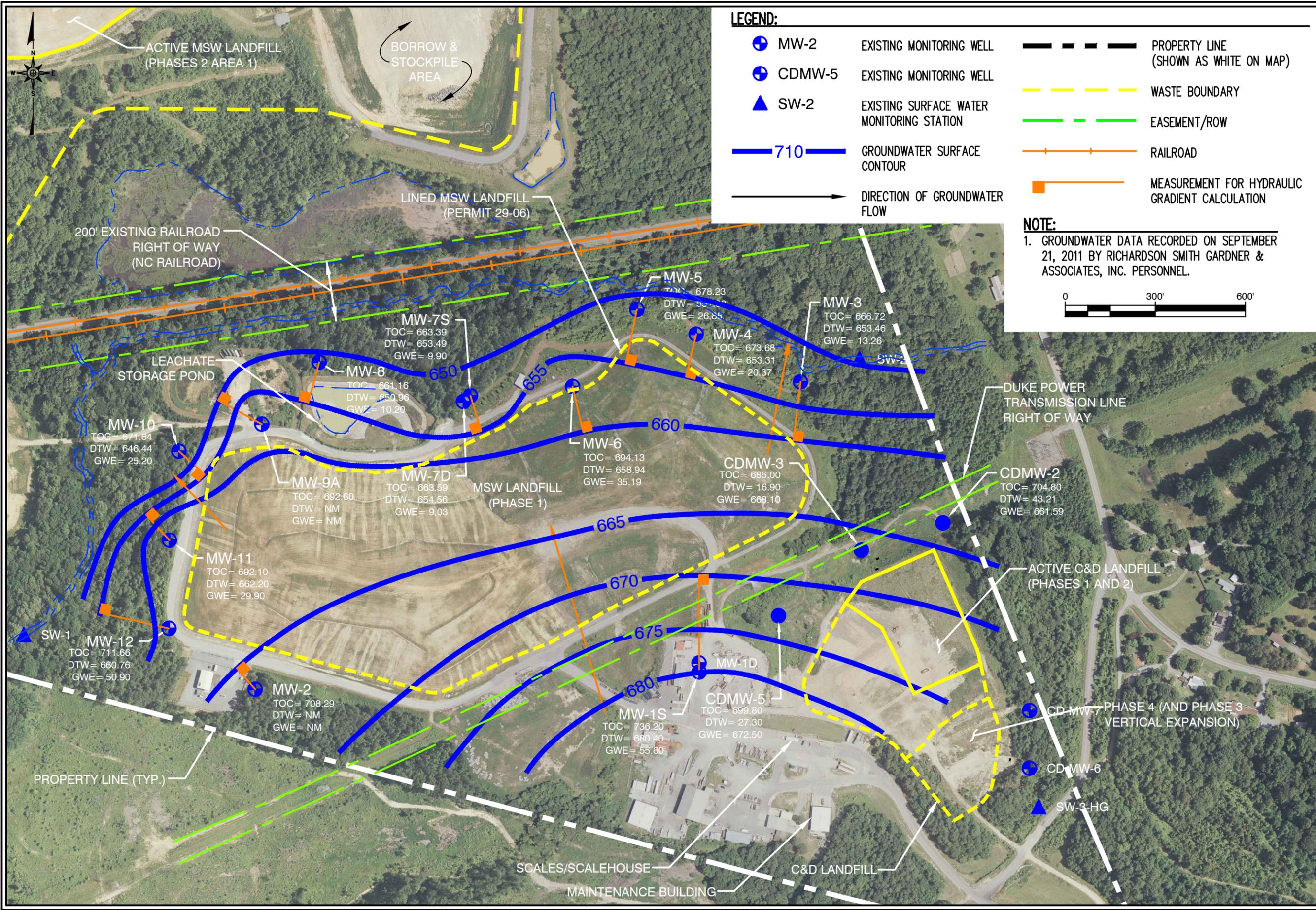
The results presented above from the C&D landfill indicate four (4) inorganic constituents at concentrations above the 2L groundwater standards. These are likely due variations in these naturally occurring constituents and are not indicative of ground water impact from the landfill. The next ground water monitoring event is scheduled for March 2012. A monitoring report will be submitted after receipt of analytical data from that event.

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## **Figures**

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**LEGEND:**

- MW-2 EXISTING MONITORING WELL
- ⊕ CDMW-5 EXISTING MONITORING WELL
- ▲ SW-2 EXISTING SURFACE WATER MONITORING STATION
- 710 GROUNDWATER SURFACE CONTOUR
- DIRECTION OF GROUNDWATER FLOW
- PROPERTY LINE (SHOWN AS WHITE ON MAP)
- WASTE BOUNDARY
- EASEMENT/ROW
- RAILROAD
- MEASUREMENT FOR HYDRAULIC GRADIENT CALCULATION

**NOTE:**

1. GROUNDWATER DATA RECORDED ON SEPTEMBER 21, 2011 BY RICHARDSON SMITH GARDNER & ASSOCIATES, INC. PERSONNEL.



**RICHARDSON SMITH GARDNER & ASSOCIATES**  
INC. (LIC. NO. C0023 ENGINEERING)  
www.rsgengineers.com

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fax: 919-526-3899

14 N. Boylan Ave.,  
Raleigh, N.C. 27603

DRAWN BY:	W.R.B.	CHECKED BY:	M.M.G.
SCALE:	AS SHOWN	FIGURE NO.:	2
DATE:	Jan. 2012	PROJECT NO.:	DAVDCO-1
		FILE NAME:	DAVDCO-B0666

**TITLE:**  
**POTENTIOMETRIC SURFACE MAP**  
**FALL 2011**  
**PHASE 1 (CLOSED)**  
**DAVIDSON COUNTY, NC**

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## **Tables**

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**Table 1**  
**Ground Water Elevations**  
**Davidson County C&D Landfill**  
**9/20/2011**

Well	Northing	Easting	TOC Elevation (feet)	Water Level (feet)	GW Elev (feet)
CDMW-2	763805.91	1651700.59	704.80	43.21	661.59
CDMW-3	763715.69	1651429.31	685.00	16.90	668.10
CDMW-5	763497.87	1651153.73	699.80	27.30	672.50
CDMW-6	NA	NA	NA	20.50	NA
CDMW-7	NA	NA	NA	35.60	NA

- Survey data reported by Michael Green and Associates.
- CDMW-4 was abandoned and new monitoring locations CDMW-6 and CDMW-7 were installed. CDMW-6 and 7 will be surveyed prior to the next monitoring event.

**Table 2**  
**Field Parameters**  
**Davidson County C&D Landfill**  
**9/20/2011**

Well	pH (Std Units)	Conductivity (uhmos/cm)	Temperature (Celsius)
CDMW-2	7.5	250	14
CDMW-3	7.1	600	17
CDMW-5	7.2	290	15
CDMW-6	7.3	170	16
CDMW-7	8.0	260	15

Notes: - Data Collected by Don Misenheimer and Lindsay Quant of RSG Engineers Inc.  
 - CDMW-4 was abandoned and new monitoring locations CDMW-6 and CDMW-7 were installed.  
 NR= not reported

**Table 3  
Detected Inorganic Parameters  
Davidson County C&D Landfill  
9/20/2011**

Constituent	SWSL	2L or GWP	CDMW-2	CDMW-3	CDMW-5	CDMW-6	CDMW-7
total alkalinity	NE	NE	36000	214000	86000	41000	113000
chloride	NE	250000	16000	62000	26000	24000	17000
sulfate	250000	250000	46000 J	119000 J	24000 J	18000 J	14100 J
antimony	6	1 <sup>§</sup>	ND	ND	ND	0.24 J	ND
arsenic	10	10	0.43 J	1.7 J	0.22 J	0.66 J	0.71 J
barium	100	700	<b>202</b>	<b>656</b>	91.5 J	60 J	65.4 J
beryllium	1	4 <sup>§</sup>	0.22 J	0.61 J	0.09 J	0.46 J	0.63 J
cadmium	1	2	0.34 J	0.19 J	0.15 J	0.11 J	0.17 J
cobalt	10	1 <sup>§</sup>	8.1 J	<b>13</b>	5 J	3.6 J	9.9 J
copper	10	1000	<b>11</b>	<b>214</b>	<b>11</b>	6.6 J	<b>91</b>
total chromium	10	10	3.8 J	<b>19</b>	7 J	4 J	<b>39</b>
iron	300	300	<b>25925</b>	<b>102750</b>	<b>9590</b>	<b>17120</b>	<b>41575</b>
manganese	50	50	<b>581</b>	<b>1242</b>	<b>321</b>	<b>651</b>	<b>837</b>
lead	10	15	3.9 J	<b>12</b>	1 J	10	<b>13</b>
mercury	0.2	1	ND	ND	ND	0.07 J	ND
nickel	50	100	3.8 J	14 J	7.1 J	5.8 J	14.9 J
selenium	10	20	0.48 J	1.6 J	0.36 J	0.36 J	0.52 J
silver	10	20	0.06 J	0.94 J	0.04 J	0.06 J	0.13 J
thallium	5.5	0.28 <sup>§</sup>	0.04 J	0.25 J	0.18 J	0.05 J	0.04 J
vanadium	25	0.3 <sup>§</sup>	<b>27</b>	<b>67</b>	14.3 J	19.9 J	<b>62</b>
zinc	10	1000	<b>74</b>	<b>151</b>	<b>30</b>	<b>55</b>	<b>97</b>

- SWSL - Solid Waste Section Quantitation Limits
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- GWP - Groundwater Protection Standards (noted by <sup>§</sup>)
- MDL - Method Detection Limit
- Shading - Detection above 2L standard or GWP standard
- Bold Letters - Constituents detected above SWSL
- J - Detected between MDL and SWSL limit
- ND - Not detected at or above MDL

Table units are presented in ug/l.

Lab data analysis by Environment 1, Inc. report dated 10/29/2011, ID#6050.

**Table 3**  
**Detected Organic Parameters**  
**Davidson County C&D Landfill**  
**9/20/2011**

Constituent	SWSL	2L	CDMW-2	CDMW-3	CDMW-5	CDMW-6	CDMW-7
acetone	100	6000	9.7 J	ND	ND	ND	ND
1,1-dichloroethane	5	6	ND	0.5 J	ND	ND	ND
tetrahydrofuran	NE	NE	ND	21.2	ND	ND	ND

- SWSL - Solid Waste Section Quantitation Limits
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- MDL - Method Detection Limit
- Shading - Detection above 2L Standard
- Bold Letters - Constituents detected above SWSL
- J - Detected between MDL and SWSL limit
- ND - Not detected at or above MDL

Table units are presented in ug/l.  
 Lab data analysis by Environment 1, Inc. report dated 10/29/2011, ID#6050.

## **Appendix A**

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# Groundwater Monitoring Well Inspection Checklist

This checklist is provided to inform our clients about the health and maintenance of their groundwater monitoring wells. This checklist provides no information pertaining to groundwater quality, but focuses on the physical characteristics of the well and its vicinity.

Site: Davidson C&D Landfill Date: 9/21/11

Well ID: CDMW-6 Initials: DMM

Please mark the appropriate box for the following areas of concern. If you answer NO, please explain in the comment box.

	YES	NO
<b>1. Well Vicinity</b>		
A. Well is assessable and surrounding area is safe for employees.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Vicinity is free of potential contaminants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Dead trees, etc. not in danger of falling and damaging wells.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Well is in the same location as on field maps.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>2. Concrete Apron and Steel Case</b>		
A. Concrete apron is present and in good condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Steel case is present and upright.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Steel case is not movable and cemented in.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Well tag is present with pertinent information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. No evidence of tampering is present.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Lock operates properly.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
I.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed: Lock replaced at a later date.		

	YES	NO
<b>3. PVC Riser</b>		
A. Monitoring cap is present and provides a tight seal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Riser is of appropriate height (has not been cut off too low within the steel case).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Riser is not loose/ easily moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Riser does not appear cracked, broken, or brittle.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. No visual sign of external contamination entering well through riser.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

# Groundwater Monitoring Well Inspection Checklist

This checklist is provided to inform our clients about the health and maintenance of their groundwater monitoring wells. This checklist provides no information pertaining to groundwater quality, but focuses on the physical characteristics of the well and its vicinity.

Site: Davidson C&D Landfill Date: 9/21/11

Well ID: CDMW-5 Initials: DMM

Please mark the appropriate box for the following areas of concern. If you answer NO, please explain in the comment box.

	YES	NO
<b>1. Well Vicinity</b>		
A. Well is assessable and surrounding area is safe for employees.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Vicinity is free of potential contaminants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Dead trees, etc. not in danger of falling and damaging wells.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Well is in the same location as on field maps.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>2. Concrete Apron and Steel Case</b>		
A. Concrete apron is present and in good condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Steel case is present and upright.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Steel case is not movable and cemented in.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Well tag is present with pertinent information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. No evidence of tampering is present.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Lock operates properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>3. PVC Riser</b>		
A. Monitoring cap is present and provides a tight seal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Riser is of appropriate height (has not been cut off too low within the steel case).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Riser is not loose/ easily moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Riser does not appear cracked, broken, or brittle.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. No visual sign of external contamination entering well through riser.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

# Groundwater Monitoring Well Inspection Checklist

This checklist is provided to inform our clients about the health and maintenance of their groundwater monitoring wells. This checklist provides no information pertaining to groundwater quality, but focuses on the physical characteristics of the well and its vicinity.

Site: Davidson C&D Landfill Date: 9/21/11

Well ID: CDMW-3 Initials: DMM

Please mark the appropriate box for the following areas of concern. If you answer NO, please explain in the comment box.

	YES	NO
<b>1. Well Vicinity</b>		
A. Well is assessable and surrounding area is safe for employees.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Vicinity is free of potential contaminants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Dead trees, etc. not in danger of falling and damaging wells.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Well is in the same location as on field maps.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>2. Concrete Apron and Steel Case</b>		
A. Concrete apron is present and in good condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Steel case is present and upright.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Steel case is not movable and cemented in.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Well tag is present with pertinent information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. No evidence of tampering is present.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Lock operates properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>3. PVC Riser</b>		
A. Monitoring cap is present and provides a tight seal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Riser is of appropriate height (has not been cut off too low within the steel case).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Riser is not loose/ easily moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Riser does not appear cracked, broken, or brittle.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. No visual sign of external contamination entering well through riser.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

# Groundwater Monitoring Well Inspection Checklist

This checklist is provided to inform our clients about the health and maintenance of their groundwater monitoring wells. This checklist provides no information pertaining to groundwater quality, but focuses on the physical characteristics of the well and its vicinity.

Site: Davidson C&D Landfill Date: 9/21/11

Well ID: CDMW-2 Initials: DMM

Please mark the appropriate box for the following areas of concern. If you answer NO, please explain in the comment box.

	YES	NO
<b>1. Well Vicinity</b>		
A. Well is assessable and surrounding area is safe for employees.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Vicinity is free of potential contaminants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Dead trees, etc. not in danger of falling and damaging wells.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Well is in the same location as on field maps.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>2. Concrete Apron and Steel Case</b>		
A. Concrete apron is present and in good condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Steel case is present and upright.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Steel case is not movable and cemented in.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Well tag is present with pertinent information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. No evidence of tampering is present.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Lock operates properly.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
I.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>3. PVC Riser</b>		
A. Monitoring cap is present and provides a tight seal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Riser is of appropriate height (has not been cut off too low within the steel case).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Riser is not loose/ easily moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Riser does not appear cracked, broken, or brittle.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. No visual sign of external contamination entering well through riser.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

# Groundwater Monitoring Well Inspection Checklist

This checklist is provided to inform our clients about the health and maintenance of their groundwater monitoring wells. This checklist provides no information pertaining to groundwater quality, but focuses on the physical characteristics of the well and its vicinity.

Site: Davidson C&D Landfill Date: 9/21/11

Well ID: CDMW-7 Initials: DMM

Please mark the appropriate box for the following areas of concern. If you answer NO, please explain in the comment box.

	YES	NO
<b>1. Well Vicinity</b>		
A. Well is assessable and surrounding area is safe for employees.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Vicinity is free of potential contaminants.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Dead trees, etc. not in danger of falling and damaging wells.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Well is in the same location as on field maps.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

	YES	NO
<b>2. Concrete Apron and Steel Case</b>		
A. Concrete apron is present and in good condition.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Steel case is present and upright.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Steel case is not movable and cemented in.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. Well tag is present with pertinent information.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
G. No evidence of tampering is present.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H. Lock operates properly.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
I.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed: Lock replaced at a later date.		

	YES	NO
<b>3. PVC Riser</b>		
A. Monitoring cap is present and provides a tight seal.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B. Riser is of appropriate height (has not been cut off too low within the steel case).	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C. Riser is not loose/ easily moved.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D. Riser does not appear cracked, broken, or brittle.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E. No visual sign of external contamination entering well through riser.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
F.	<input type="checkbox"/>	<input type="checkbox"/>
Comments/ items addressed or to be addressed:		

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## **Appendix B**

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<b>FIELD BOREHOLE LOG</b>		BOREHOLE NUMBER <b>B-6</b>
PROJECT NUMBER: <b>Davco-14</b> PROJECT NAME: <b>Davidson County Landfill</b> LOCATION: <b>Lexington, North Carolina</b> DRILLING COMPANY: <b>Engineering Tectonics</b> RIG TYPE & NUMBER: <b>MOBILE B-50</b> DRILLING METHOD: <b>Hollow Stem/Air Rotary/Hammer</b> WEATHER: <b>Sunny, 95 DEGREES</b> FIELD PARTY: <b>R. Barron</b> GEOLOGIST: <b>P. May</b> DATE BEGUN: <b>7/16/98</b>		TOP OF CASING ELEVATION: <b>TBD</b> TOTAL DEPTH: <b>51.0 FT</b> GROUND SURFACE ELEVATION: <b>TBD</b> SHEET: <b>1</b> OF <b>2</b>
STATIC WATER LEVEL (BLS) WD=While Drilling AB=After Boring		
DATE COMPLETED: <b>7/16/98</b>		Depth(Ft): - Time: - Date: -

DEPTH	BLDN COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION	DEPTH	LITHOLOGY	WELL INSTALLATION
1.0							AR	<p><b>SAND:</b> Tan orange fine to medium with some coarse sand mottled with iron and manganese, SP.</p>	1.0		
0.0									0.0		
1.0									1.0		
2.0									2.0		
3.0	10	Ss	S1						3.0		
4.0	15								4.0		
5.0	18								5.0		
6.0									6.0		
7.0									7.0		
8.0	17	Ss	S2						8.0		
9.0	26								9.0		
10.0	34								10.0		
11.0									11.0		
12.0								12.0			
13.0	50/5	Ss	S3					13.0			
14.0								14.0			
15.0								15.0			
16.0								16.0			
17.0								17.0			
18.0	50/4	Ss	S4					18.0			
19.0								19.0			
20.0								20.0			
21.0								21.0			
22.0								22.0			
23.0							AH	<p><b>GRANITE:</b> Tan and gray granite. Dry.</p>	23.0		
24.0								24.0			

FIELD BOREHOLE LOG		BOREHOLE NUMBER B-6
PROJECT NUMBER: Davdco-14 PROJECT NAME: Davidson County Landfill LOCATION: Lexington, North Carolina DRILLING COMPANY: Engineering Tectonics RIG TYPE & NUMBER: MOBILE B-50 DRILLING METHOD: Hollow Stem/Air Rotary/Hammer WEATHER: Sunny, 95 DEGREEE6 FIELD PARTY: R. Barron GEOLGIST: P. May DATE BEGUN: 7/16/98	TOP OF CASING ELEVATION: TBD TOTAL DEPTH: 51.0 FT GROUND SURFACE ELEVATION: TBD SHEET: 2 OF 2	
STATIC WATER LEVEL (BLS) WD=While Drilling AB=After Boring		
Depth(ft)	-	-
Time	-	-
Date	-	-

DEPTH	BLOW COUNTS	SAMPLING METHOD	SAMPLE NUMBER	MOISTURE	CONSISTANCY	SAMPLE RECOVERY	DRILL METHOD	LITHOLOGY DESCRIPTION	DEPTH	LITHOLOGY	WELL INSTALLATION
25.0								GRANITE: Tan and gray granite. Dry.	25.0		
26.0											
27.0											
28.0		G	S5								
29.0											
30.0											
31.0											
32.0											
33.0		G	S6								
34.0											
35.0								GRANITE: Gray and tan granite. Darker than above. Water seam at 51 feet. Boring terminated.	35.0		
36.0											
37.0											
38.0		G	S7								
39.0											
40.0											
41.0											
42.0											
43.0		G	S8								
44.0											
45.0											
46.0											
47.0											
48.0		G	S9								
49.0											
50.0											
51.0											





**G. N. Richardson & Associates, Inc.**  
 14 North Boylan Avenue, Raleigh NC 27603  
 (919) 828-0577

**FIELD BOREHOLE LOG**

BOREHOLE NUMBER **CDMW-4a** Page 1 of 2

PROJECT NAME: **Davidson County C&D Landfill**  
 LOCATION: **Lexington, NC**  
 DRILLING CO: **Engineering Tectonics, P.A.**  
 DRILLING METHOD: **AR/AH**  
 FIELD PARTY: **R. Barron**  
 GEOLOGIST: **J. Smyth**  
 DATE BEGUN: **1/24/06** COMPLETED: **1/24/06**

TOTAL DEPTH: **78**  
 GROUND SURFACE ELEVATION: **NA**  
 TOP OF CASING ELEVATION:

STATIC WATER LEVEL (BLS)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
-------	------------	-----------------	----------	--------------	-------------	-----------	-------	-------------------

0.0				AR	SAND: Highly weathered partially weathered rock, granitic sand rock, dry. Auger refusal at 17 feet		0.0	
1.0							1.0	
2.0							2.0	
3.0							3.0	
4.0							4.0	
5.0		Grab					5.0	
6.0							6.0	
7.0							7.0	
8.0							8.0	
9.0							9.0	
10.0		Grab			10.0			
11.0					11.0			
12.0					12.0			
13.0					13.0			
14.0					14.0			
15.0		Grab			15.0			
16.0					16.0			
17.0				AH	GRANITE: Weathered granite, dry.		17.0	
18.0							18.0	
19.0							19.0	
20.0							20.0	
21.0							21.0	
22.0		Grab					22.0	
23.0							23.0	
24.0							24.0	
25.0							25.0	
26.0							26.0	
27.0					27.0			
28.0		Grab			28.0			
29.0					29.0			
30.0		Grab			30.0			
31.0					31.0			
32.0					32.0			
33.0		Grab			33.0			
34.0					34.0			
35.0					35.0			
36.0		Grab			36.0			
37.0					37.0			
38.0					38.0			
39.0					39.0			
					SANDY SILT: Soil seam of sandy silt, dry.			
					GRANITE: Weathered granite, dry.			







**G. N. Richardson & Associates, Inc.**

14 North Boylan Avenue, Raleigh NC 27603  
(919) 828-0577

**FIELD BOREHOLE LOG**

BOREHOLE NUMBER CDMW-5

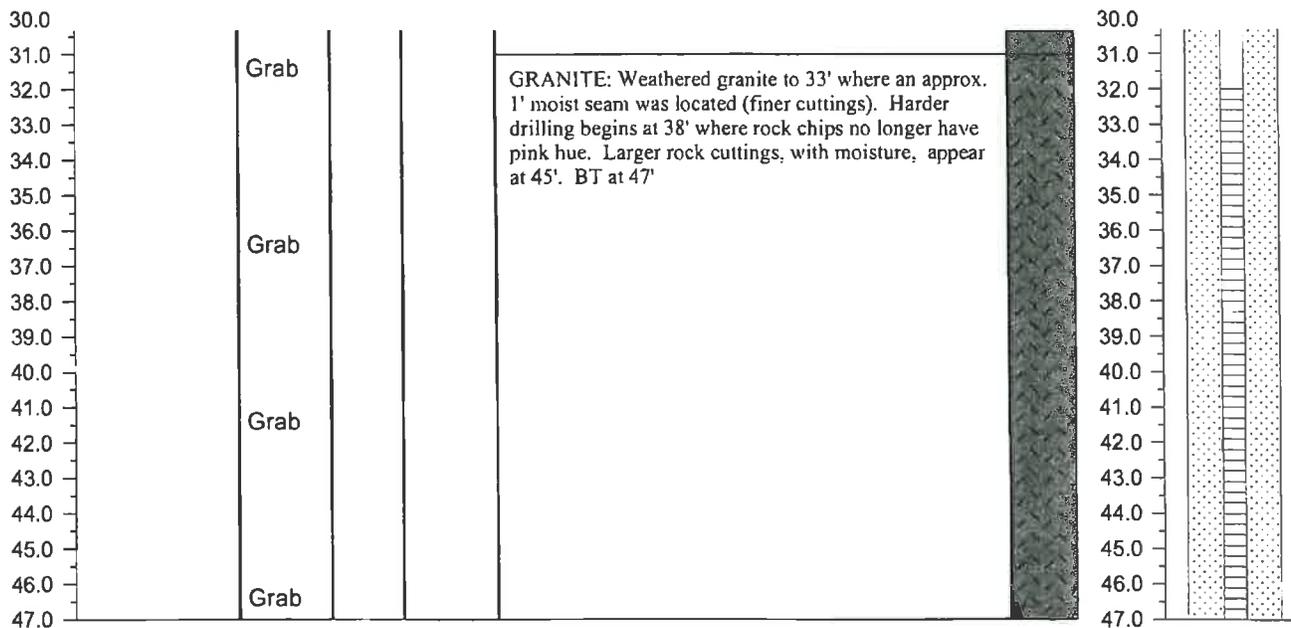
Page 2 of 2

PROJECT NAME: Davidson County C&D Landfill  
LOCATION: Lexington, NC  
DRILLING CO: Engineering Tectonics, P.A.  
DRILLING METHOD: AR/AH  
FIELD PARTY: R. Barron  
GEOLOGIST: J. Smyth  
DATE BEGUN: 1/30/06 COMPLETED: 1/30/06

TOTAL DEPTH: 47  
GROUND SURFACE ELEVATION: NA  
TOP OF CASING ELEVATION:

STATIC WATER LEVEL (BLS)		
Depth (ft)		
Time		
Date		

DEPTH	BLOW COUNT	SAMPLING METHOD	RECOVERY	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH	WELL INSTALLATION
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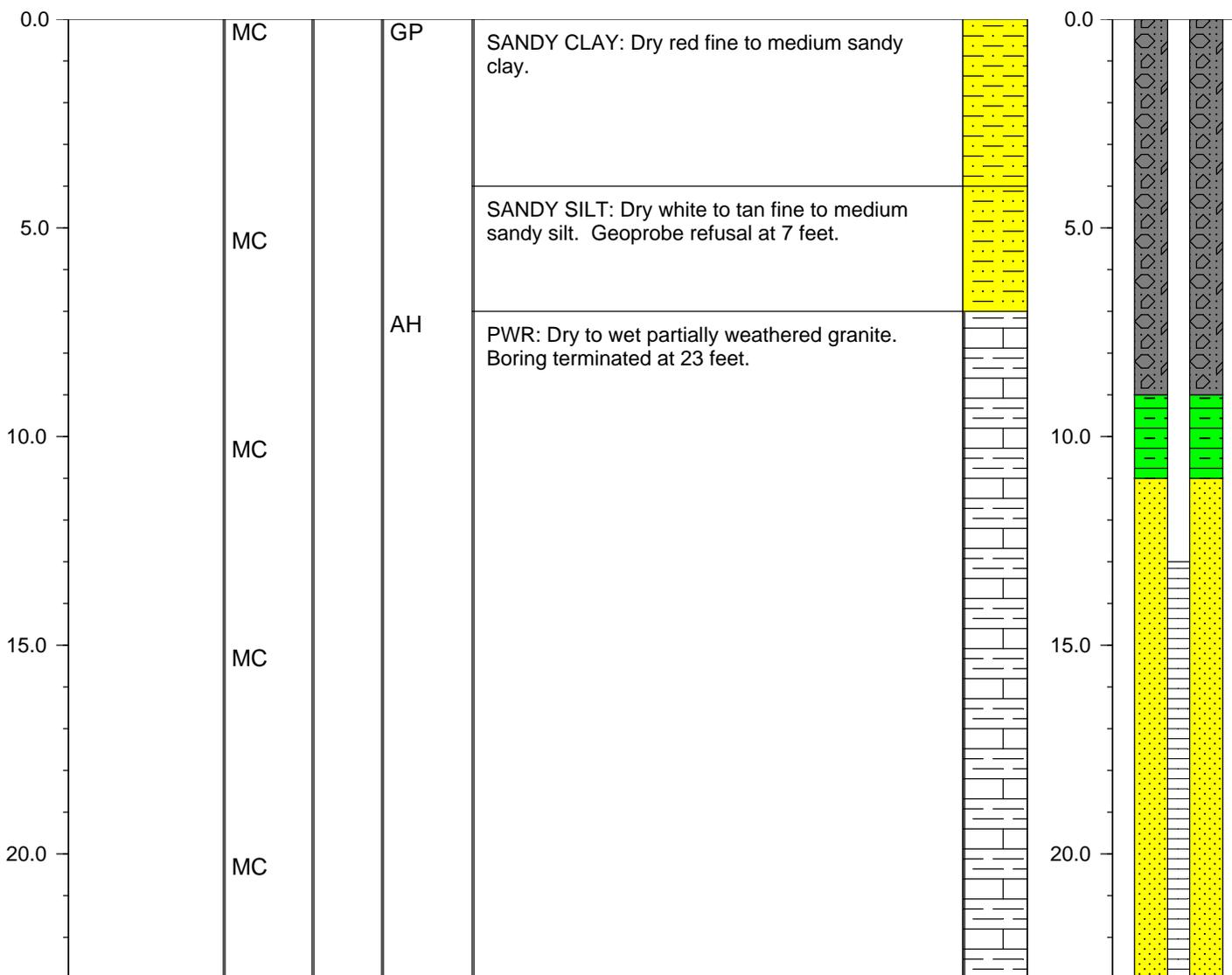
**FIELD BOREHOLE LOG**

PROJECT NAME: **Davidson County C&D Landfill**  
 LOCATION: **Lexington, NC**  
 DRILLING CO: **Geologic Exploration**  
 DRILLING METHOD: **GP/AH**  
 FIELD PARTY: **John Burr**  
 GEOLOGIST: **Lindsay Quant**  
 DATE BEGUN: **11/15/10** COMPLETED: **11/15/10**

TOTAL DEPTH: **23**  
 TOP OF CASING ELEV. **689.05** GROUND ELEV.: **686.32**  
 NORTHING: **762991.614** EASTING: **1651988.624**

STATIC WATER LEVEL (BLS)		
Depth (ft)	14.95	
Time	10 am	
Date	3/30/11	

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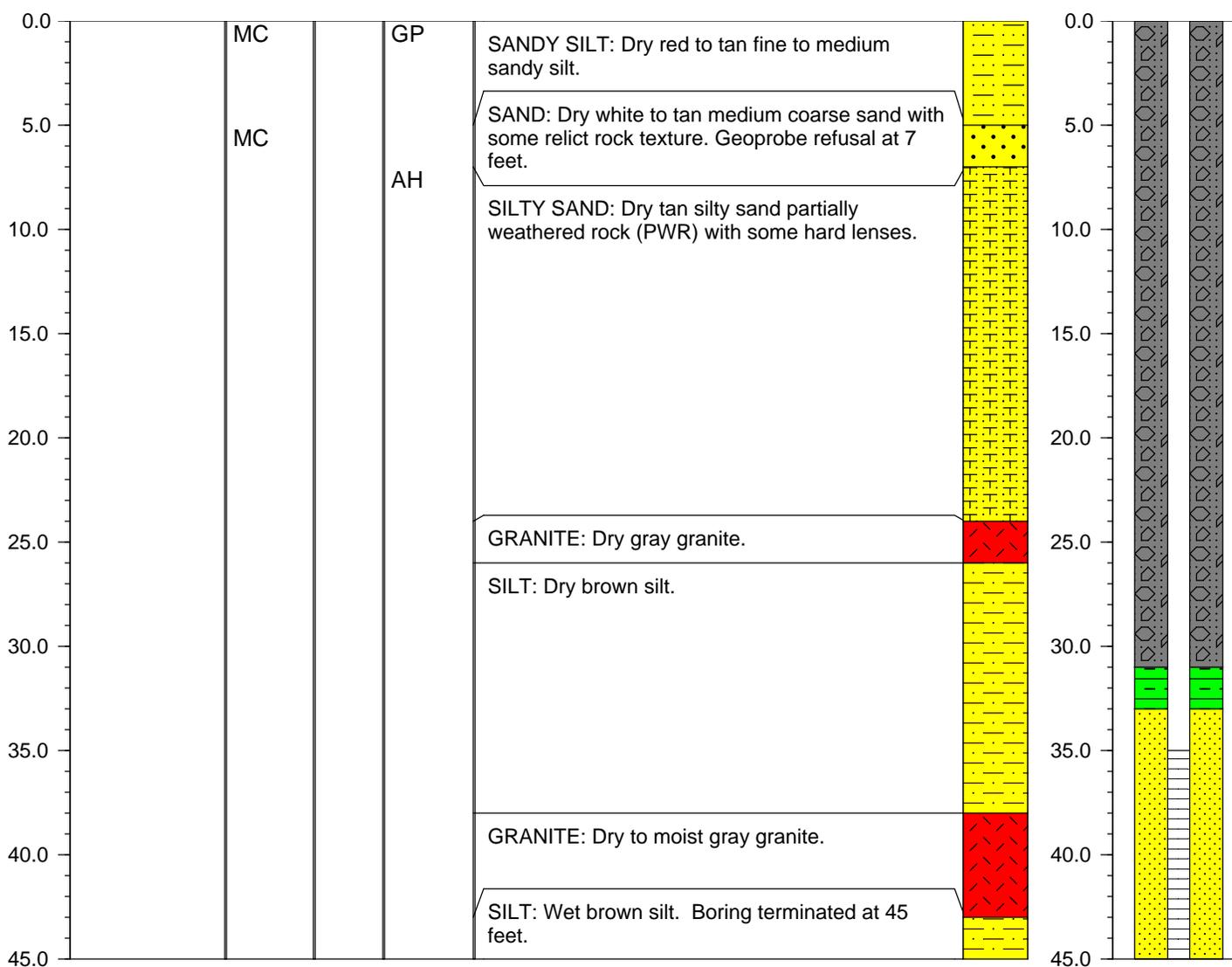
**FIELD BOREHOLE LOG**

PROJECT NAME: **Davidson County C&D Landfill**  
 LOCATION: **Lexington, NC**  
 DRILLING CO: **Geologic Exploration**  
 DRILLING METHOD: **GP/AH**  
 FIELD PARTY: **John Burr**  
 GEOLOGIST: **Lindsay Quant**  
 DATE BEGUN: **11/15/10** COMPLETED: **11/15/10**

TOTAL DEPTH: **45**  
 TOP OF CASING ELEV.: **701.11** GROUND ELEV.: **698.58**  
 NORTHING: **763182.755** EASTING: **1651989.107**

STATIC WATER LEVEL (BLS)		
Depth (ft)	31.02	
Time	11 am	
Date	3/30/11	

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

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# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

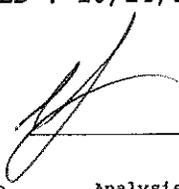
P.O. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

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

ID#: 6050

DAVIDSON COUNTY LANDFILL (C&D)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

DATE COLLECTED: 09/20/11  
DATE REPORTED : 10/14/11

REVIEWED BY: 

PARAMETERS	MDL	SWSL	CDMW-2	CDMW-5	CDMW-6	CDMW-7	Trip Blank	Analysis Date	Method Analyst	Code
Total Alkalinity, mg/l	1.0	1.0	36	86	41	113		09/23/11	TRB	SM2320B
Chloride, mg/l	5.0	5.0	16	26	24	17		09/29/11	HLB	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0	174	234	160	220		09/27/11	MEL	SM2540C
Sulfate, mg/l	5.0	250.0	46.0 J	24.0 J	18.0 J	14.1 J		09/30/11	TRB	SM426C
Antimony, ug/l	0.14	6.0	--- U					09/27/11	CMF	EPA200.8
Antimony, ug/l	0.14	6.0		--- U	0.24 J	--- U		09/28/11	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	0.43 J					09/27/11	CMF	EPA200.8
Arsenic, ug/l	0.10	10.0		0.22 J	0.66 J	0.71 J		09/28/11	LFJ	EPA200.8
Barium, ug/l	0.02	100.0	202					09/27/11	CMF	EPA200.8
Barium, ug/l	0.02	100.0		91.5 J	60.0 J	65.4 J		09/28/11	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.22 J					09/27/11	CMF	EPA200.8
Beryllium, ug/l	0.02	1.0		0.09 J	0.46 J	0.63 J		09/28/11	LFJ	EPA200.8
Cadmium, ug/l	0.02	1.0	0.34 J					09/27/11	CMF	EPA200.8
Cadmium, ug/l	0.02	1.0		0.15 J	0.11 J	0.17 J		09/28/11	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	8.1 J					09/27/11	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0		5.0 J	3.6 J	9.9 J		09/28/11	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	11					09/27/11	CMF	EPA200.8
Copper, ug/l	0.02	10.0		11	6.6 J	91		09/28/11	LFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0	3.8 J					09/27/11	CMF	EPA200.8
Total Chromium, ug/l	0.04	10.0		7.0 J	4.0 J	39		09/28/11	LFJ	EPA200.8
Iron, ug/l	15.9	300.0	25925	9590	17120	41575		10/06/11	ADD	SM3111B
Manganese, ug/l	0.61	50.0	581	321	651	837		10/03/11	LFJ	EPA200.7
Lead, ug/l	0.02	10.0	3.9 J					09/27/11	CMF	EPA200.8
Lead, ug/l	0.02	10.0		1.0 J	10	13		09/29/11	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	--- U					09/27/11	CMF	EPA200.8
Mercury, ug/l	0.05	0.20		--- U				10/07/11	ADD	EPA245.1
Mercury, ug/l	0.05	0.20			0.07 J	--- U		09/28/11	LFJ	EPA200.8
Nickel, ug/l	0.04	50.0	3.8 J					09/27/11	CMF	EPA200.8
Nickel, ug/l	0.04	50.0		7.1 J	5.8 J	14.9 J		09/28/11	LFJ	EPA200.8
Selenium, ug/l	0.20	10.0	0.48 J					09/27/11	CMF	EPA200.8
Selenium, ug/l	0.20	10.0		0.36 J	0.36 J	0.52 J		09/28/11	LFJ	EPA200.8
Silver, ug/l	0.02	10.0	0.06 J					09/27/11	CMF	EPA200.8
Silver, ug/l	0.02	10.0		0.04 J	0.06 J	0.13 J		09/28/11	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	0.04 J					09/27/11	CMF	EPA200.8
Thallium, ug/l	0.02	5.5		0.18 J	0.05 J	0.04 J		09/28/11	LFJ	EPA200.8
Vanadium, ug/l	0.14	25.0	27					09/27/11	CMF	EPA200.8
Vanadium, ug/l	0.14	25.0		14.3 J	19.9 J	62		09/28/11	LFJ	EPA200.8
Zinc, ug/l	0.24	10.0	74					09/27/11	CMF	EPA200.8
Zinc, ug/l	0.24	10.0		30	55	97		09/29/11	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

CLIENT: DAVIDSON COUNTY LANDFILL (C&D)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6050  
ANALYST: MAO  
DATE COLLECTED: 09/20/11  
DATE ANALYZED: 09/26/11  
DATE REPORTED: 10/14/11

Page: 1

REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	CDMW-2	CDMW-5	CDMW-6	CDMW-7	Trip Blank	
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	---	U
6. 1,1-Dichloroethene	0.17	5.0	---	U	---	U	---	U
7. Acetone	9.06	100.0	9.70	J	---	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	---	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	---	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	---	U	---	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	---	U	---	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
48. Tetrahydrofuran	0.39	1.0	---	U	---	U	---	U

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

Environment<sup>+</sup>, Inc.  
 P.O. Box 7085, 114 Oakmont Dr.  
 Greenville, NC 27838

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

CLIENT: 6050 Week: 39

DAVIDSON COUNTY LANDFILL (C&D)  
 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 OR ug/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	DISINFECTION			Alkalinity	Chloride	TDS	Sulfate	Metals	EPA 8260B	8260 Dup. 1	8260 Dup. 2	CHLORINE NEUTRALIZED AT COLLECTION	pH CHECK (LAB)	CONTAINER TYPE, P/G	CHEMICAL PRESERVATION	
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE													
CDMW-2	9/20/11	12:00 p			8																
CDMW-4	9/20/11	12:34 p			7																
CDMW-4	9/20/11	12:26 p			7																
CDMW-5	9/20/11	12:08 p			7																
Trip Blank					2																
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
<i>Joan Smyth</i>	9/22/11	2:00 p	<i>Joan</i>	9/23/11	8:00																
COMMENTS: CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY SAMPLES COLLECTED BY: <i>LAR &amp; DMM</i> (Please Print) SAMPLES RECEIVED IN LAB AT <i>OZ</i> °C <input checked="" type="checkbox"/> SOLID WASTE SECTION <input type="checkbox"/> WASTEWATER (NPDES) <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> DWQ/GW CLASSIFICATION: A - NONE    D - NaOH B - HNO <sub>3</sub> E - HCL C - H <sub>2</sub> SO <sub>4</sub> F - ZINC ACETATE G - Na THIOSULFATE PARAMETERS																					

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

# 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#: 6050

DAVIDSON COUNTY LANDFILL (C&D)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA ,NC 27526

DATE COLLECTED: 09/29/11  
DATE REPORTED : 11/08/11

REVIEWED BY: 

PARAMETERS	MDL	CDMW-3		Analysis		Method
		SWSL		Date	Analyst	Code
Total Alkalinity, mg/l	1.0	1.0	214	09/30/11	TRB	SM2320B
Chloride, mg/l	5.0	5.0	62	10/07/11	HLB	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0	543	10/06/11	MEL	SM2540C
Sulfate, mg/l	5.0	250.0	119 J	10/14/11	TRB	SM426C
Antimony, ug/l	0.14	6.0	--- U	10/17/11	LFJ	EPA200.8
Arsenic, ug/l	0.10	10.0	1.7 J	10/17/11	LFJ	EPA200.8
Barium, ug/l	0.02	100.0	656	10/17/11	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.61 J	10/17/11	LFJ	EPA200.8
Cadmium, ug/l	0.02	1.0	0.19 J	10/17/11	LFJ	EPA200.8
Cobalt, ug/l	0.03	10.0	13	10/17/11	LFJ	EPA200.8
Copper, ug/l	0.02	10.0	214	10/17/11	LFJ	EPA200.8
Total Chromium, ug/l	0.04	10.0	19	10/17/11	LFJ	EPA200.8
Iron, ug/l	15.9	300.0	102750	11/03/11	ADD	SM3111B
Manganese, ug/l	0.61	50.0	1242	11/03/11	LFJ	EPA200.7
Lead, ug/l	0.02	10.0	12	10/17/11	LFJ	EPA200.8
Mercury, ug/l	0.05	0.20	--- U	10/27/11	ADD	EPA245.1
Nickel, ug/l	0.04	50.0	14.0 J	10/17/11	LFJ	EPA200.8
Selenium, ug/l	0.20	10.0	1.6 J	10/17/11	LFJ	EPA200.8
Silver, ug/l	0.02	10.0	0.94 J	10/17/11	LFJ	EPA200.8
Thallium, ug/l	0.02	5.5	0.25 J	10/17/11	LFJ	EPA200.8
Vanadium, ug/l	0.14	25.0	67	10/17/11	LFJ	EPA200.8
Zinc, ug/l	0.24	10.0	151	10/17/11	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

CLIENT: DAVIDSON COUNTY LANDFILL (C&D)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6050  
ANALYST: MAO  
DATE COLLECTED: 09/29/11  
DATE ANALYZED: 10/10/11  
DATE REPORTED: 11/08/11

Page: 1

REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	CDMW-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	0.50 J
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	--- U
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
48. Tetrahydrofuran	0.39	1.0	21.20

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

