

DENR USE ONLY:

Paper Report

Electronic Data - Email CD (data loaded: Yes / No)

Doc/Event #:

NC DENR

Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Smith Gardner, Inc.

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

Name: Madeline German

Phone: 919-828-0577 x 222

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) |
|------------------------------|---|-------------------|------------------------------------|---|
| Davidson County C&D Landfill | 1242 Old Highway 29 Thomasville, NC 27360 | 29-06 | 0.0500 | September 24, 2013 |

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

Geologist

919-828-0577 x 222

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Signature

Date

11-21-13

Affix NC Licensed Professional Geologist Seal

14 N. Boylan Ave. Raleigh, NC 27603

Facility Representative Address

C-0828

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



This page intentionally left blank.

September 2013 Semi-Annual Groundwater Monitoring Report

Davidson County Construction and Demolition Debris Landfill NC Solid Waste Permit No. 29-06

Prepared for:

Davidson County Integrated Solid Waste
1242 Old Highway 29
Thomasville, North Carolina 27360-0024



November 2013

Prepared by:

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577



PRINTED ON 100% RECYCLED PAPER

© 2013 Smith Gardner, Inc.

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

This page intentionally left blank.

September 2013 Semi-Annual Groundwater Monitoring Report

Davidson County Construction and Demolition Debris Landfill NC Solid Waste Permit No. 29-06

Prepared For:

**Davidson County Integrated Solid Waste
Thomasville, North Carolina 27360-0024**

S+G Project No. DAVDCO-13A



Madeline German P.G.
Project Geologist



Joan Smyth, P.G.
Senior Hydrogeologist



November 2013

SMITH+GARDNER

14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

This page intentionally left blank.

**Davidson County Construction and Demolition Debris Landfill
NC Solid Waste Permit No. 29-06**

September 2013 Groundwater Monitoring Report

Table of Contents

| | | <u>Page</u> |
|-----|------------------------------------|-------------|
| 1.0 | INTRODUCTION | 1 |
| 2.0 | SITE GEOLOGY | 1 |
| 3.0 | SAMPLING LOCATIONS | 1 |
| 4.0 | SAMPLING PROCEDURES | 2 |
| 5.0 | FIELD & LABORATORY RESULTS | 2 |
| 5.1 | Field Results..... | 2 |
| 5.2 | Laboratory Analysis..... | 2 |
| | 5.2.1 Inorganic Constituents..... | 2 |
| | 5.2.2 Organic Constituents | 3 |
| 6.0 | GROUNDWATER CHARACTERIZATION | 3 |
| 7.0 | CONCLUSIONS | 3 |

FIGURE

Figure 1 Ground Water Potentiometric Map

TABLES

Table 1 Ground Water Elevations
 Table 2 Field Parameters
 Table 3 Detected Inorganic Parameters
 Table 4 Detected Organic Parameters

APPENDICES

Appendix A Field Data Sheets
 Appendix B Monitoring Well Information
 Appendix C Laboratory Analytical Report

This page intentionally left blank.

1.0 INTRODUCTION

Smith Gardner, Inc. (S+G) was contracted by Davidson County to perform their semi-annual ground water monitoring at the Davidson County Construction and Demolition (C&D) Debris Landfill, permit number 29-06, as required by 15A NCAC 13B .0600. Sampling was conducted September 24, 2013. This 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 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). No surface water monitoring locations have been established for this site. A trip blank (TB) was also submitted for quality control purposes.

Please note, due to Phase 3 C&D landfill construction, CDMW-4A was abandoned in early 2011 and monitoring wells, CDMW-6 and CDMW-7 were installed in November 2010.

Sampling locations are shown on **Figure 1**. Boring logs and construction records are provided in **Appendix B**.

4.0 SAMPLING PROCEDURES

Sampling procedures followed the protocols set forth in the site's Sampling and Analysis Plan¹ 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 purged three to five well volumes or until dry. Field measurements for pH, specific conductivity and temperature were recorded at each well. Ground water elevations are provided in **Table 1**.

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.

Sampling wells and locations were inspected and found to be in good condition and free of obstructions. Field logs are presented in **Appendix A**.

5.0 FIELD & LABORATORY RESULTS

5.1 Field Results

Temperature, pH, and specific conductance were measured in the field at the time of sampling via direct read instruments. Turbidity could not be measured this event due to equipment malfunction. The field parameter results are summarized in **Table 2** and have remained consistent with previously reported sampling events.

5.2 Laboratory Analysis

Samples were transported to Environment 1, Inc., in Greenville, NC, a North Carolina certified laboratory (NC Wastewater ID #10). Laboratory analysis included C&D metals via EPA Test Method 200.8, Appendix I Volatile Organic Compounds (VOCs) via EPA Test Method 8260B and additional C&D parameters for alkalinity, chloride, total dissolved residue and sulfate via SWS approved methods listed in the laboratory report. Analytical results were compared to the NC DWM Solid Waste Section Quantitation Limits (SWSLs) and 15A NCAC 2L.0200 (2LStandard). The laboratory analysis is presented in **Appendix B**.

5.2.1 Inorganic Constituents

Four inorganic constituents' barium (CDMW-2 and CDMW-3), iron (CDMW-2, CDMW-3, CDMW-5, CDMW-6 and CDMW-7), manganese (CDMW-2, CDMW-3,

¹ Davidson County C&D Landfill Water Quality Monitoring Plan. Richardson Smith Gardner and Associates, April 2011.

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

CDMW-5 and CDMW-6) and zinc (CDMW-6) were detected above their respective SWSL standards. Two inorganic constituents were detected above the 2L Standard:

- iron (CDMW-2, CDMW-3, CDMW-5, CDMW-6 and CDMW-7) and
- manganese (CDMW-2, CDMW3, CDMW-5 and CDMW-6).

Most inorganic constituents were either below the method detection limit (MDL) or were "J-values" indicating a non-quantifiable value.

The indicator parameter total dissolved residue was detected about the 2L standard in CDMW-3. No inorganics were detected above 2B Standards in surface water samples.

5.2.2 Organic Constituents

No organic constituents were detected above the SWSL or 2L Standard in groundwater samples from the September 2013 sampling event.

6.0 GROUNDWATER CHARACTERIZATION

A potentiometric surface map was prepared from ground water data from this sampling event. Ground water at the C&D landfill flows in a generally northern direction. An ephemeral stream is located east and northeast of the C&D landfill. The potentiometric surface for the landfill property is shown on **Figure 1**.

7.0 CONCLUSIONS

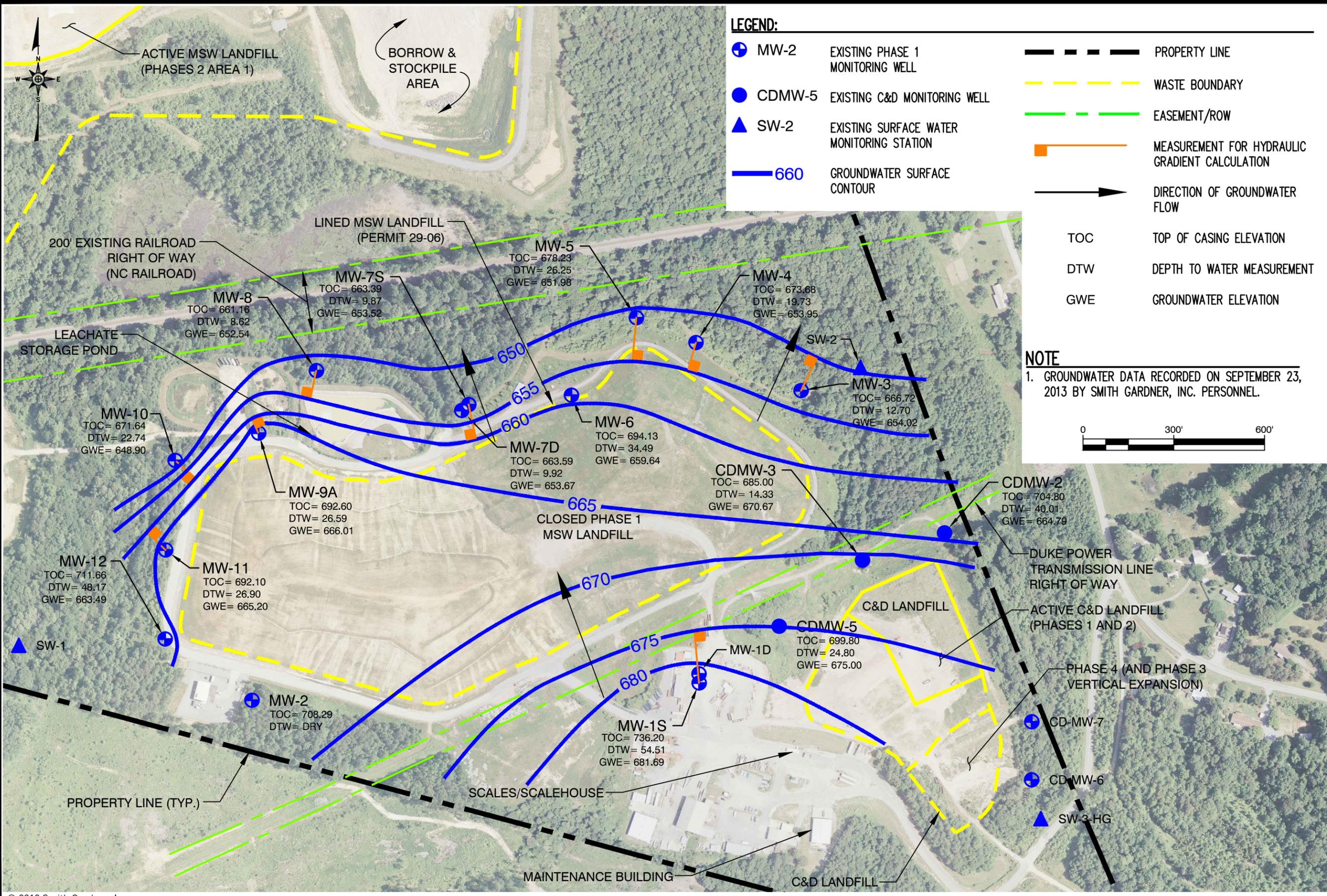
C&D landfill analytical results indicate four inorganic constituents were detected in samples at concentrations above the SWSL, with iron and manganese detected above the 2L standard in groundwater samples. These detections are likely due to variations in these naturally occurring constituents and are not indicative of ground water impact from the landfill. The next ground water monitoring event is scheduled for April 2014. A monitoring report will be submitted with analytical data from that event

This page intentionally left blank.

FIGURES

**September 2013 Groundwater Monitoring Report
Davidson County C&D Landfill
NC Solid Waste Permit No. 29-06**

This page intentionally left blank.

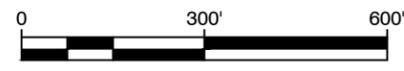


LEGEND:

- MW-2 EXISTING PHASE 1 MONITORING WELL
- CDMW-5 EXISTING C&D MONITORING WELL
- ▲ SW-2 EXISTING SURFACE WATER MONITORING STATION
- 660 GROUNDWATER SURFACE CONTOUR
- PROPERTY LINE
- WASTE BOUNDARY
- EASEMENT/ROW
- MEASUREMENT FOR HYDRAULIC GRADIENT CALCULATION
- DIRECTION OF GROUNDWATER FLOW
- TOC TOP OF CASING ELEVATION
- DTW DEPTH TO WATER MEASUREMENT
- GWE GROUNDWATER ELEVATION

NOTE

1. GROUNDWATER DATA RECORDED ON SEPTEMBER 23, 2013 BY SMITH GARDNER, INC. PERSONNEL.



G:\CAD\Davidson\Davidco-4\sheets\DAVDCO-B0769.dwg - 11/15/2013 1:05 PM

© 2013 Smith Gardner, Inc.

PREPARED BY: SMITH+GARDNER
NC LIC. NO. C-9828 (ENGINEERING)

SMITH+GARDNER
14 N. Boylan Avenue, Raleigh NC 27603 | 919.828.0577

| | | | |
|-----------|----------|--------------|--------------|
| SCALE: | AS SHOWN | FIGURE NO.: | 1 |
| APPROVED: | M.M.G. | PROJECT NO.: | DAVDCO-B0769 |
| DRAWN: | K.C.B. | DATE: | Nov 2013 |

POTENTIOMETRIC SURFACE MAP
SEPTEMBER 2013
CLOSED PHASE 1 AND C&D
DAVIDSON COUNTY, NC

This page intentionally left blank.

TABLES

**September 2013 Groundwater Monitoring Report
Davidson County C&D Landfill
Solid Waste Permit No. 29-06**

This page intentionally left blank.

Table 1
Groundwater Elevations
Davidson County C&D Landfill
September 24, 2013

| Well | Northing | Easting | TOC Elevation (feet) | Water Level (feet) | GW Elev (feet) |
|--------|-----------|------------|----------------------------|--------------------------|----------------------|
| CDMW-2 | 763805.91 | 1651700.59 | 704.80 | 40.01 | 664.79 |
| CDMW-3 | 763715.69 | 1651429.31 | 685.00 | 14.33 | 670.67 |
| CDMW-5 | 763497.87 | 1651153.73 | 699.80 | 24.80 | 675.00 |
| CDMW-6 | NA | NA | NA | 13.74 | NA |
| CDMW-7 | NA | NA | NA | 31.45 | 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 have not yet been surveyed, estimated locations provided on Figure 1.
- NA = Not Available

Table 2
Field Parameters
Davidon County C&D Landfill
September 24, 2013

| Well | pH (Std Units) | Conductivity (uhmos/cm) | Temperature (Celsius) |
|--------|-------------------|----------------------------|--------------------------|
| CDMW-2 | 5.85 | 0.131 | 15.75 |
| CDMW-3 | 5.58 | 0.313 | 17.68 |
| CDMW-5 | 6.34 | 0.142 | 15.58 |
| CDMW-6 | 5.81 | 0.001 | 18.12 |
| CDMW-7 | 6.26 | 0.119 | 15.54 |

NOTES:

Data Collected by Jared Lemaster & John Fearrington of S+G.

CDMW-4 was abandoned and new monitoring locations CDMW-6 and CDMW-7 were installed prior to sampling.

Turbidity not measured due to equipment malfunction

| Constituent | SWSL | 2L or GWP | MDL | CDMW-2 | CDMW-3 | CDMW-5 | CDMW-6 | CDMW-7 |
|-------------------------|--------|-------------------|------|-------------|---------------|------------|--------------|-------------|
| total alkalinity | NE | NE | 1000 | 54000 | 227000 | 73000 | 41000 | 123000 |
| chloride | NE | 250000 | 5000 | 17000 | 60000 | 42000 | 18000 | 23000 |
| total dissolved residue | NE | 500000 | 1000 | 238000 | 586000 | 272000 | 171000 | 232000 |
| sulfate | 250000 | 250000 | 5000 | 58300 J | 34000 J | 30400 J | 22700 J | 22900 J |
| antimony | 6 | 1 [§] | 0.02 | <0.02 | <0.02 | 0.03 J | 0.14 J | 0.08 J |
| arsenic | 10 | 10 | 0.05 | 0.6 J | 1.1 J | <0.05 | 0.32 J | <0.05 |
| barium | 100 | 700 | 0.06 | 113 | 187 | 45.7 J | 34.4 J | 4.7 J |
| beryllium | 1 | 4 [§] | 0.03 | 0.06 J | 0.04 J | <0.03 | 0.34 J | <0.03 |
| cadmium | 1 | 2 | 0.05 | 0.07 J | <0.05 | 0.07 J | 0.07 J | <0.05 |
| cobalt | 10 | 1 [§] | 0.02 | 1.3 J | 1.4 J | 1.4 J | 2.5 J | 0.35 J |
| copper | 10 | 1000 | 0.06 | 2.4 J | 8.8 J | 1 J | 4.9 J | 2.6 J |
| total chromium | 10 | 10 | 0.04 | 0.32 J | 0.64 J | 0.34 J | 2.2 J | 0.36 J |
| iron | 300 | 300 | 13.6 | 4400 | 3945 | 302 | 11110 | 1096 |
| manganese | 50 | 50 | 0.21 | 59 | 70 | 58 | 325 | 9.2 J |
| lead | 10 | 15 | 0.02 | 0.61 J | 0.62 J | 0.06 J | 5.8 J | 0.36 J |
| nickel | 50 | 100 | 0.45 | 3.7 J | 7.7 J | 8 J | 14.2 J | 1.6 J |
| selenium | 10 | 20 | 0.06 | 0.56 J | 1.8 J | 0.57 J | 0.52 J | 0.33 J |
| silver | 10 | 20 | 0.03 | <0.03 | 0.24 J | <0.03 | 0.07 J | <0.03 |
| thallium | 5.5 | 0.28 [§] | 0.02 | <0.02 | <0.02 | 0.08 J | 0.06 J | 0.03 J |
| vanadium | 25 | 0.3 [§] | 0.07 | 7.1 J | 16.3 J | 2.6 J | 14.7 J | 5.7 J |
| zinc | 10 | 1000 | 0.47 | 9.7 J | 9.2 J | 7.1 J | 36 | 4.8 J |

- SWSL - Solid Waste Section Quantitation Limits
 2L - Groundwater Standards (15A NCAC 2L 0200)
 GWP - Groundwater Protection Standards (noted by §)
 MDL - Method Detection Limit
 Shading - Detection above 2L Standard
 Bold Letters - Constituents detected above SWSL
 J - Laboratory reported detection 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 5/20/2013, Client ID#6050.

Table 4
Detected Organic Parameters
Davidson County C&D Landfill
September 24, 2013

| Constituent | SWSL | 2L | MDL | CDMW-3 |
|--------------------|------|------|------|--------|
| Acetone | 100 | 6000 | 9.06 | 15.7 J |
| 1,1-dichloroethane | 5 | 6 | 0.20 | 0.4 J |
| benzene | 1 | 1 | 0.24 | 0.3 J |
| tetrahydrofuran | NE | NE | 0.39 | 28 |

NOTES:

- 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 - Laboratory reported detection between MDL and SWSL limit

Table units are presented in ug/l.

Lab data analysis by Environment 1, Inc. report dated 5/20/2013, Client ID#6050.

Appendix A

Field Data Sheets

**September 2013 Groundwater Monitoring Report
Davidson County C&D Landfill
Solid Waste Permit No. 29-06**

This page intentionally left blank.

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: DAVISON C.I.D

Date: 9/23/13

Well ID: CDMW-2

Initials: JRF

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

| | | YES | NO |
|---|--|-------------------------------------|--------------------------|
| 1. Well Vicinity | | | |
| 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: <u>AREA VERY OVERGROWN. REPRESENTATIVE SPENT EXTENSIVE CLEARING AREA AROUND WELL ONCE IT WAS LOCATED</u> | | | |

| | | YES | NO |
|---|---|-------------------------------------|--------------------------|
| 2. Concrete Apron and Steel Case | | | |
| 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 |
|---|--|-------------------------------------|--------------------------|
| 3. PVC Riser | | | |
| 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: | | | |

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 CID

Date: 9/23/13

Well ID: CDMW-3

Initials: JRF

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

| | | YES | NO |
|---|--|-------------------------------------|-------------------------------------|
| 1. Well Vicinity | | | |
| A. | Well is assessable and surrounding area is safe for employees. | <input type="checkbox"/> | <input checked="" 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: <u>ACCESS VERY OVERGROWN AND WELL ALMOST UNLOCATABLE</u> | | | |

| | | YES | NO |
|---|---|-------------------------------------|--------------------------|
| 2. Concrete Apron and Steel Case | | | |
| 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 |
|---|--|-------------------------------------|--------------------------|
| 3. PVC Riser | | | |
| 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: | | | |

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 CJD

Date: 9/27/13

Well ID: CDMW-5

Initials: JRF

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

| | | YES | NO |
|---|-------------------------------------|--------------------------|--------------------------|
| 1. Well Vicinity | | | |
| A. Well is assessable and surrounding area is safe for employees. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| B. Vicinity is free of potential contaminants. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| C. Dead trees, etc. not in danger of falling and damaging wells. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Well is in the same location as on field maps. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Comments/ items addressed or to be addressed: <div style="text-align: center; color: blue; font-family: cursive;"> CASING CANNOT BE SEEN UNLES WITHIN 2- FEET OF WELL. SURROUNDING VEGETATION 3-5 FEET HIGH </div> | | | |

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

| | | YES | NO |
|---|-------------------------------------|--------------------------|--------------------------|
| 3. PVC Riser | | | |
| A. Monitoring cap is present and provides a tight seal. | <input checked="" type="checkbox"/> | <input 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"/> | <input type="checkbox"/> |
| C. Riser is not loose/ easily moved. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| D. Riser does not appear cracked, broken, or brittle. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| E. No visual sign of external contamination entering well through riser. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| F. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Comments/ items addressed or to be addressed: | | | |

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

Date: 9/23/13

Well ID: CDMW-6

Initials: JRF

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

| | YES | NO |
|---|-------------------------------------|--------------------------|
| 1. Well Vicinity | | |
| 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: <u>ACCESS VERY OVERGROWN</u> | | |

| | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 2. Concrete Apron and Steel Case | | |
| 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: <u>NO LOCK</u> | | |

| | YES | NO |
|---|-------------------------------------|--------------------------|
| 3. PVC Riser | | |
| 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: | | |

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

Date: 9/23/19

Well ID: CDMW-7

Initials: JRF

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

| | YES | NO |
|---|-------------------------------------|--------------------------|
| 1. Well Vicinity | | |
| 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: <u>ACCESS VERY OVERGROWN</u> | | |

| | YES | NO |
|--|-------------------------------------|-------------------------------------|
| 2. Concrete Apron and Steel Case | | |
| 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: <u>NO LOCK</u> | | |

| | YES | NO |
|---|-------------------------------------|--------------------------|
| 3. PVC Riser | | |
| 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: | | |

This page intentionally left blank.

Appendix B

Monitoring Well Information

**September 2013 Groundwater Monitoring Report
Davidson County C&D Landfill
NC Solid Waste Permit No. 29-06**

This page intentionally left blank.

| | | |
|--|--|---|
| FIELD BOREHOLE LOG | | BOREHOLE NUMBER B-6 |
| PROJECT NUMBER: Davco-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 DEGREES FIELD PARTY: R. Barron GEOLOGIST: P. May DATE BEGUN: 7/16/98 | | TOP OF CASING ELEVATION: TBD TOTAL DEPTH: 51.0 FT GROUND SURFACE ELEVATION: TBD SHEET: 1 OF 2 |
| STATIC WATER LEVEL (BLS) WD=While Drilling AB=After Boring | | |
| DATE COMPLETED: 7/16/98 | | 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>SAND: 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 | 23.0 | | | |
| 24.0 | | | | | | | | 24.0 | | | |

GRANITE: Tan and gray granite. Dry.

| | | |
|---|--|------------------------|
| 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 | BLOG 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 | | Grab | | | | | 3.0 | |
| 4.0 | | | | | | | 4.0 | |
| 5.0 | | | | | 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 | | | SANDY SILT: Soil seam of sandy silt, dry. | | 30.0 | |
| 31.0 | | | | | | | 31.0 | |
| 32.0 | | | | | 32.0 | | | |
| 33.0 | | Grab | | | GRANITE: Weathered granite, dry. | | 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 | | | |



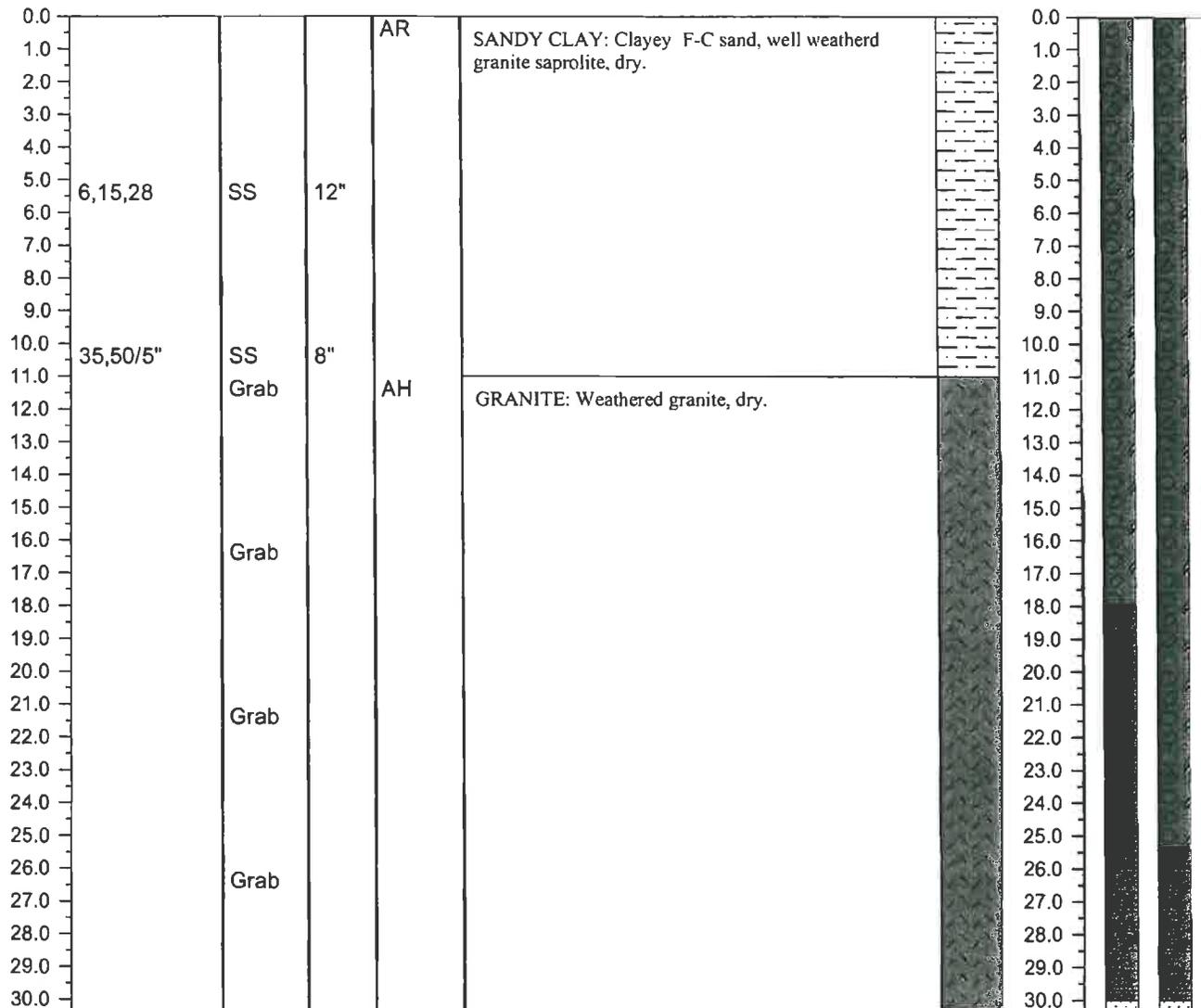
FIELD BOREHOLE LOG

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 |
|-------|------------|-----------------|----------|--------------|-------------|-----------|-------|-------------------|
|-------|------------|-----------------|----------|--------------|-------------|-----------|-------|-------------------|





G. N. Richardson & Associates, Inc.

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

FIELD BOREHOLE LOG

BOREHOLE NUMBER CDMW-5

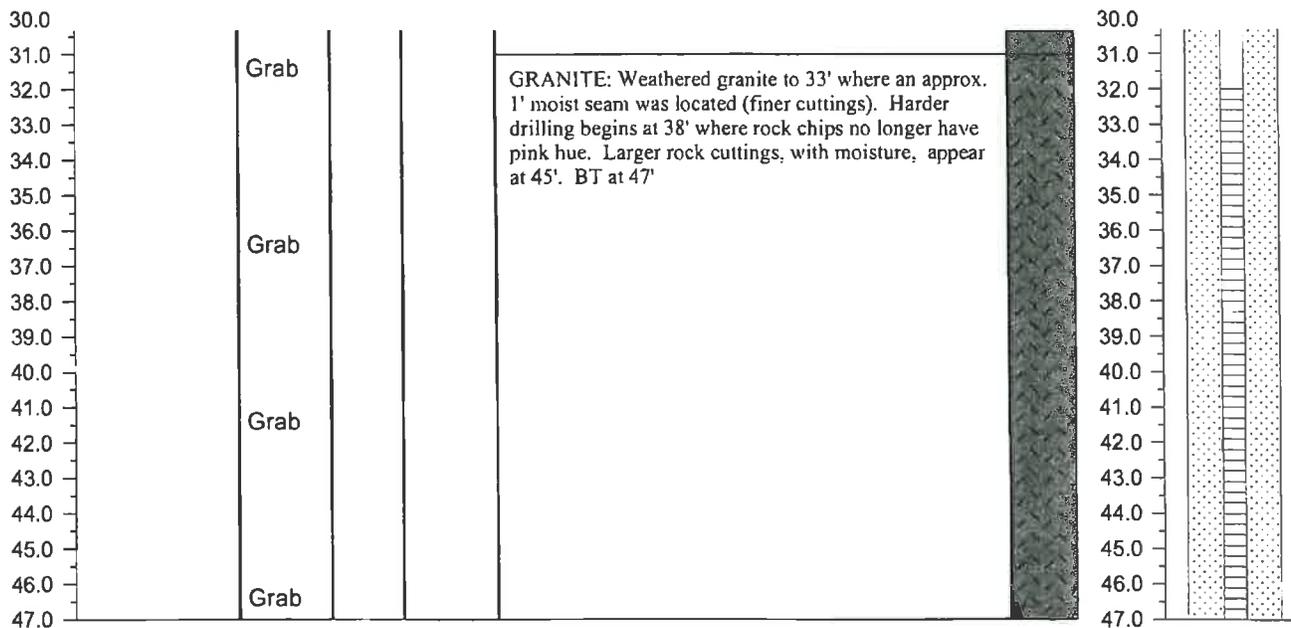
Page 2 of 2

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 |
|-------|------------|-----------------|----------|--------------|-------------|-----------|-------|-------------------|
|-------|------------|-----------------|----------|--------------|-------------|-----------|-------|-------------------|



This page intentionally left blank.

Appendix C

Laboratory Analytical Report

**September 2013 Groundwater Monitoring Report
Davidson County C&D Landfill
NC Solid Waste Permit No. 29-06**

This page intentionally left blank.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

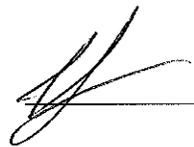
P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

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

ID#: 6050

DAVIDSON COUNTY LANDFILL (C&D)
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH, NC 27603

DATE COLLECTED: 09/24/13
DATE REPORTED : 10/28/13

REVIEWED BY: 

| PARAMETERS | MDL | SWSL | CDMW-2 | CDMW-3 | CDMW-5 | CDMW-6 | CDMW-7 | Analysis Date | Method Analyst Code |
|------------------------------------|------|-------|--------|--------|--------|--------|--------|---------------|---------------------|
| | | | | | | | | | |
| Total Alkalinity (to pH 4.5), mg/l | 1.0 | 1.0 | 54 | 227 | 73 | 41 | 123 | 09/30/13TRB | 2320B-97 |
| Chloride, mg/l | 5.0 | 5.0 | 17 | 60 | 42 | 18 | 23 | 10/01/13HMB | 4500CLB-97 |
| Total Dissolved Residue, mg/l | 1.0 | 1.0 | 238 | 586 | 272 | 171 | 232 | 09/27/13CMC | 2540C-97 |
| Sulfate, mg/l | 5.0 | 250.0 | 58.3 J | 34.0 J | 30.4 J | 22.7 J | 22.9 J | 09/27/13TRB | 4500S042E97 |
| Antimony, ug/l | 0.02 | 6.0 | --- U | --- U | 0.03 J | 0.14 J | 0.08 J | 10/11/13LFJ | EPA200.8 |
| Arsenic, ug/l | 0.05 | 10.0 | 0.60 J | 1.1 J | --- U | 0.32 J | --- U | 10/09/13LFJ | EPA200.8 |
| Barium, ug/l | 0.06 | 100.0 | 113 | 187 | 45.7 J | 34.4 J | 4.7 J | 10/09/13LFJ | EPA200.8 |
| Beryllium, ug/l | 0.03 | 1.0 | 0.06 J | 0.04 J | --- U | 0.34 J | --- U | 10/09/13LFJ | EPA200.8 |
| Cadmium, ug/l | 0.05 | 1.0 | 0.07 J | --- U | 0.07 J | 0.07 J | --- U | 10/09/13LFJ | EPA200.8 |
| Cobalt, ug/l | 0.02 | 10.0 | 1.3 J | 1.4 J | 1.4 J | 2.5 J | 0.35 J | 10/09/13LFJ | EPA200.8 |
| Copper, ug/l | 0.06 | 10.0 | 2.4 J | 8.8 J | 1.0 J | 4.9 J | 2.6 J | 10/09/13LFJ | EPA200.8 |
| Total Chromium, ug/l | 0.04 | 10.0 | 0.32 J | 0.64 J | 0.34 J | 2.2 J | 0.36 J | 10/09/13LFJ | EPA200.8 |
| Iron, ug/l | 13.6 | 300.0 | 4400 | 3945 | 302 | 11110 | 1096 | 10/23/13ADD | 3111B-99 |
| Manganese, ug/l | 0.21 | 50.0 | 59 | 70 | 58 | 325 | 9.2 J | 10/09/13LFJ | EPA200.8 |
| Lead, ug/l | 0.02 | 10.0 | 0.61 J | 0.62 J | 0.06 J | 5.8 J | 0.36 J | 10/09/13LFJ | EPA200.8 |
| Mercury, ug/l | 0.01 | 0.20 | --- U | 10/10/13ADD | 245.1 R3-94 |
| Nickel, ug/l | 0.45 | 50.0 | 3.7 J | 7.7 J | 8.0 J | 14.2 J | 1.6 J | 10/09/13LFJ | EPA200.8 |
| Selenium, ug/l | 0.06 | 10.0 | 0.56 J | 1.8 J | 0.57 J | 0.52 J | 0.33 J | 10/09/13LFJ | EPA200.8 |
| Silver, ug/l | 0.03 | 10.0 | --- U | 0.24 J | --- U | 0.07 J | --- U | 10/09/13LFJ | EPA200.8 |
| Thallium, ug/l | 0.02 | 5.5 | --- U | --- U | 0.08 J | 0.06 J | 0.03 J | 10/09/13LFJ | EPA200.8 |
| Vanadium, ug/l | 0.07 | 25.0 | 7.1 J | 16.3 J | 2.6 J | 14.7 J | 5.7 J | 10/09/13LFJ | EPA200.8 |
| Zinc, ug/l | 0.47 | 10.0 | 9.7 J | 9.2 J | 7.1 J | 36 | 4.8 J | 10/09/13LFJ | 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
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH, NC 27603

CLIENT ID: 6050

ANALYST: MAO
DATE COLLECTED: 09/24/13
DATE ANALYZED: 10/01/13
DATE REPORTED: 10/28/13

Page: 1

REVIEWED BY: 

VOLATILE ORGANICS EPA METHOD 8260B R1(96)

| PARAMETERS, ug/l | MDL | SWSL | CDMW-2 | CDMW-3 | CDMW-5 | CDMW-6 | CDMW-7 |
|---------------------------------|------|-------|--------|---------|--------|--------|--------|
| 1. Chloromethane | 0.77 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 2. Vinyl Chloride | 0.63 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 3. Bromomethane | 0.67 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 4. Chloroethane | 0.48 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 5. Trichlorofluoromethane | 0.24 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 6. 1,1-Dichloroethene | 0.17 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 7. Acetone | 9.06 | 100.0 | --- U | 15.70 J | --- 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 | 0.40 J | --- U | --- U | --- U |
| 13. Vinyl Acetate | 0.20 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 14. Cis-1,2-Dichloroethene | 0.25 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 15. 2-Butanone | 2.21 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 16. Bromochloromethane | 0.27 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 17. Chloroform | 0.25 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 18. 1,1,1-Trichloroethane | 0.19 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 19. Carbon Tetrachloride | 0.22 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 20. Benzene | 0.24 | 1.0 | --- U | 0.30 J | --- U | --- U | --- U |
| 21. 1,2-Dichloroethane | 0.27 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 22. Trichloroethene | 0.23 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 23. 1,2-Dichloropropane | 0.21 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 24. Bromodichloromethane | 0.21 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 25. Cis-1,3-Dichloropropene | 0.24 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 26. 4-Methyl-2-Pentanone | 1.19 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 27. Toluene | 0.23 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 28. trans-1,3-Dichloropropene | 0.28 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 29. 1,1,2-Trichloroethane | 0.25 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 30. Tetrachloroethene | 0.17 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 31. 2-Hexanone | 1.57 | 50.0 | --- U | --- U | --- U | --- U | --- U |
| 32. Dibromochloromethane | 0.24 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 33. 1,2-Dibromoethane | 0.26 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 34. Chlorobenzene | 0.30 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 35. 1,1,1,2-Tetrachloroethane | 0.22 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 36. Ethylbenzene | 0.21 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 37. Xylenes | 0.68 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 38. Dibromomethane | 0.28 | 10.0 | --- U | --- U | --- U | --- U | --- U |
| 39. Styrene | 0.19 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 40. Bromoform | 0.20 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 41. 1,1,2,2-Tetrachloroethane | 0.26 | 3.0 | --- U | --- U | --- U | --- U | --- U |
| 42. 1,2,3-Trichloropropane | 0.43 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 43. 1,4-Dichlorobenzene | 0.39 | 1.0 | --- U | --- U | --- U | --- U | --- U |
| 44. 1,2-Dichlorobenzene | 0.32 | 5.0 | --- U | --- U | --- U | --- U | --- U |
| 45. 1,2-Dibromo-3-Chloropropane | 0.34 | 13.0 | --- U | --- U | --- U | --- U | --- U |
| 46. Acrylonitrile | 2.72 | 200.0 | --- U | --- U | --- U | --- U | --- U |
| 47. trans-1,4-Dichloro-2-Butene | 0.42 | 100.0 | --- U | --- U | --- U | --- U | --- U |
| 48. Tetrahydrofuran | 0.39 | 1.0 | --- U | 28.00 | --- U | --- U | --- U |

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

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

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

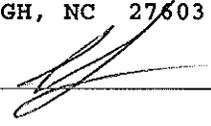
PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: DAVIDSON COUNTY LANDFILL (C&D)
MS. JOAN SMYTH
SMITH GARDNER, INC.
14 NORTH BOYLAN AVE.
RALEIGH, NC 27603

CLIENT ID: 6050

ANALYST: MAO
DATE COLLECTED: 09/24/13
DATE ANALYZED: 10/01/13
DATE REPORTED: 10/28/13

Page: 2

REVIEWED BY: 

VOLATILE ORGANICS
EPA METHOD 8260B R1 (96)

| PARAMETERS, ug/l | MDL | SWSL | Trip Blank |
|---------------------------------|------|-------|------------|
| 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 | --- 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 | --- U |

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

