

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)(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 Closed Holly Grove landfill	1242 Old Highway 29 Thomasville, NC 27360	29-02	.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)**

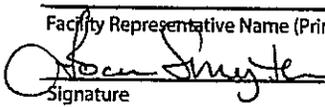
Groundwater monitoring data from monitoring wells  Methane gas monitoring data  
 Groundwater monitoring data from private water supply wells  Corrective action data (specify) \_\_\_\_\_  
 Leachate monitoring data  Other(specify) \_\_\_\_\_  
 Surface water monitoring data

**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  
 12/30/11 Affix NC Licensed/ Professional Geologist Seal  
 Signature Date

14 N. Boylan Avenue Raleigh, NC 27603  
 Facility Representative Address  
 C-0828  
 NC PE Firm License Number (if applicable effective May 1, 2009)



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# **Ground Water Monitoring Report**

## **Fall 2011 Monitoring Event**

**Davidson County  
Holly Grove Landfill  
Lexington, North Carolina  
NC Solid Waste Permit # 29-02**

Prepared for:  
**Davidson County Integrated Solid Waste**  
1242 Old Highway 29  
Thomasville, NC 27360-0024

**December 2011**



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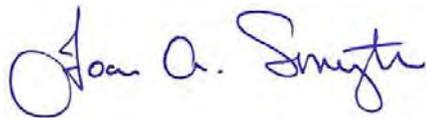
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**Ground Water Monitoring Report  
Davidson County Holly Grove Landfill  
Fall 2011 Semi - Annual Report**

Prepared for:

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

RSG Project No. **DAVDCO - 1**



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Joan A. Smyth, P.G.  
Senior Hydrogeologist

**December 2011**



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**Davidson County Holly Grove Landfill**

**Ground Water Monitoring Report  
Fall 2011 Monitoring Event**

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- Appendix A – Field Data Sheets
- Appendix B – 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 Closed Holly Grove Landfill, permit number 29-02, as required by 15A NCAC 13B .0600. Sampling was conducted September 21, 2001. 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.

Three landfills are currently monitored as the Holly Grove Landfill (under permit 29-02) due to the close proximity of their waste margins. Areas 1 and 2 are located in The Holly Grove Landfill, they were unlined municipal solid waste facilities owned and operated by Davidson County Integrated Solid Waste. The third area, The Scarlett Landfill, to the west of Areas 1 and 2, is a private landfill originally owned and operated by Mr. Scarlett and previously owned by Ms. Virginia White who sold The Scarlett property to Hale Artificier Inc in 2001; it is currently used to house storage containers.

## 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.

## 3.0 SUMMARY OF MONITORING EVENT

### 3.1 Sampling Locations

Ground water sampling was performed at fifteen well locations (MW-1A, MW-2, MW-3A, MW-5, MW-6, MW-8, MW-9, MW-10, MW11, MW-12, MW-13, MW-14, MW-15, MW-16 and MW-17). Monitoring well MW-6 and MW-7 were previously removed from the monitoring network. Two surface water locations (SW-1 and SW-2) were sampled for this event. SW-3 was not sampled because it was dry. A trip blank (TB) was also submitted for quality control purposes.

The background well for the Holly Grove site is also the background well for the Phase 1 lined Davidson County Landfill (Permit 29-06). Since that well is located on the Phase 1, it was sampled and reported with the Phase 1 wells (Environment 1 Report ID# 6038). The background well was recorded in the Phase 1 report as MW-1S, and that data is included herein under its original name MW-4.

A map illustrating the sampling locations is provided as **Figure 1**.

### 3.2 Sampling Procedure

Sampling procedures followed the protocols set forth in the site's Water Quality Monitoring Plan 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. Ground water elevations are provided in **Table 1**. Ground water purging and sample collection was performed using a factory sealed teflon bailer.

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 and found to be in good condition and free of obstructions.

#### 4.0 FIELD AND LABORATORY RESULTS

Field measurements for pH, specific conductivity, and temperature, were recorded for each well and surface water sampling location. Field parameter data is summarized in **Table 2**. Field data sheets are included in **Appendix A**.

Samples were transported to Environment 1, Inc., a North Carolina certified laboratory (NC Wastewater ID #10) and analyzed for the Appendix I VOCs via EPA Test Method 8260B and metals via EPA Test Method 200.8. The laboratory analytical report is included as **Appendix B**.

##### 4.1 Inorganic Analysis

Six inorganic constituents (barium, cobalt, copper, total chromium, vanadium and zinc) were detected above the Solid Waste Section Practical Quantitation Limits (SWSLs). Detections were reported in six wells (MW-6, MW-9, MW-10, MW-13, MW-15, and MW-17). Four inorganic constituents

- Cobalt (MW-1A, MW-2, MW-3A, MW-4<sup>1</sup>, MW-5, MW-6, MW-9, MW-10, MW-11, MW-13 and MW-15);
- Total chromium (MW-6, MW-9 and MW-15);
- thallium (MW-6 and MW-10); and
- vanadium (MW-1A, MW-2, MW-3A, MW-4<sup>1</sup>, MW-5, MW-6, MW-8 through MW-17)

were detected above their 15A NCAC 2L.0200 (2L)/Ground Water Protection (GWP) standards. Cobalt in MW-9, MW10, MW-13 and MW-15; chromium in MW-6, MW-9 and MW-15 and vanadium in MW-9 and MW-17 were detected above their respective SWSL and 2L or GWP Standards. An inorganic detection summary is presented as **Table 3**.

No surface water samples were reported above their respective 2B standards.

##### 4.21 Organic Analysis

Ten organic constituents (1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloropropane, 1,4-dichlorobenzene, benzene, chlorobenzene, chloroethane, cis-1,2 dichloroethene, trichloroethene and vinyl chloride) detected above the Solid Waste Section Practical Quantitation Limits (SWSLs) were reported in nine wells (MW-1A, MW-6, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13 and MW-17). Seven organic constituents were detected above the 2L standard:

- 1,1-dichloroethane (MW-1A, MW-6, MW-8, MW-12 and MW-17);
- 1,2-dichloroethane (MW-1A and MW-12);
- 1,2-dichloropropane (MW-1A and MW-17);
- 1,4-dichlorobenzene (MW-9 and MW-13);

---

<sup>1</sup> MW-4 data is referenced from MW-1S in the Davidson County (Lined) report, created by Environment 1, Inc (ID#6038)

- benzene (MW-1A, MW-8, MW-9, and MW-13);
- trichloroethene (MW-8); and
- vinyl chloride (MW-1A, MW-2, MW-8 MW-11 and MW-12).

Detected organic constituents are shown in **Table 4**.

## 5.0 GROUNDWATER CHARACTERIZATION

A potentiometric surface map was created from ground water elevation data collected during this sampling event. Ground water velocity was calculated for each monitoring well on-site using the equation:

$$V = (KI)/n$$

where:

K = hydraulic conductivity  
 I = ground water gradient  
 n = porosity

Ground water velocities in the uppermost aquifer at the Holly Grove Landfill ranged from 0.231 feet/day (MW-10) to 2.19 feet/day (MW-13). Calculations are included in **Table 5**. Groundwater elevations indicate the flow direction is generally south and southwest across the site; which is consistent with historically reported ground water flow patterns. The potentiometric surface map is included as **Figure 1**.

## 6.0 CONCLUSIONS

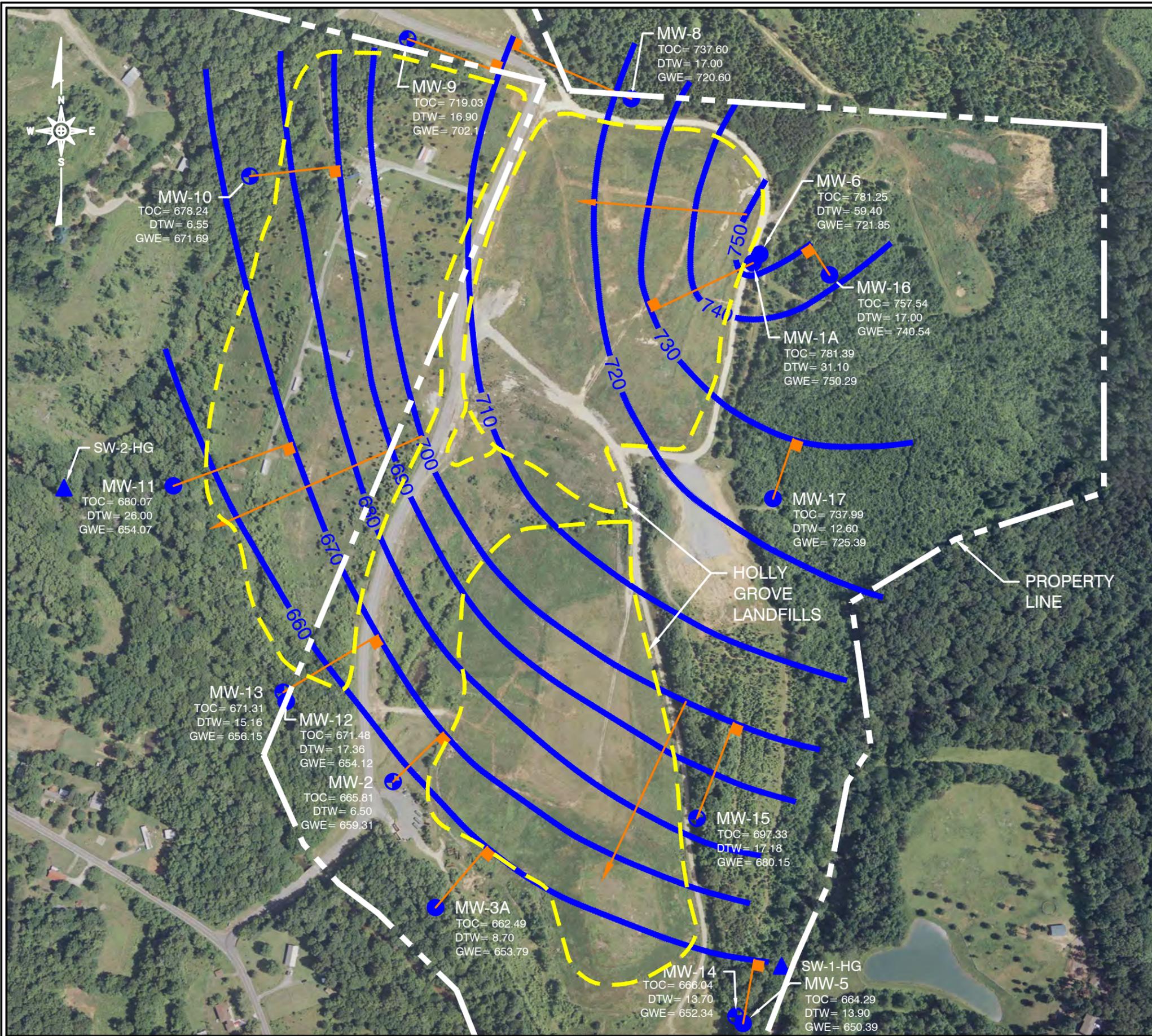
Overall reported detections remain consistent with historically reported results. Monitoring event results indicate detections of both inorganic and organic constituents above the SWSL and 2L or GWP Standard. Inorganic detections (barium, cobalt, copper, chromium, vanadium and zinc) can be attributed to natural occurrence and/or sample turbidity and are not due to landfill impact. Both chlorinated and BTEX compounds were detected across the site. Some seasonality was observed with organic detections, however, total organics have decreased since fall 2010. No 2B exceedances were reported for this event.

Proper sampling protocols were followed in performing this sampling event. The next ground water monitoring event is tentatively scheduled for March 2012. Sampling results will be reported to NCDENR with laboratory analysis.

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## **Figures**

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**LEGEND:**

- MW-1A EXISTING MONITORING WELL
- MW-5 BEDROCK 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
- 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**  
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 www.rsgengineers.com

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 Raleigh, N.C. 27603  
 ph: 919-526-0577  
 fax: 919-526-3899

FIGURE NO.	1	FILE NAME	DAVDCO-B0665
SCALE:	AS SHOWN	PROJECT NO.	DAVDCO-1
CHECKED BY:	M.M.G.	DATE:	Dec. 2011
DRAWN BY:	W.R.B.		

**TITLE:**  
 POTENTIOMETRIC SURFACE MAP  
 FALL 2011  
 CLOSED HOLLY GROVE LANDFILL  
 DAVIDSON COUNTY, NC

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## **Tables**

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By: MG  
 Date: 11/28/2011

**Table 1**  
**Ground Water Elevations**  
**Davidson County Holly Grove Landfill**  
**09/21/11**

Well	Northing	Easting	Top of Casing	Depth to Water	Water Table Elevation
MW-1a	761805.92	1652937.78	781.39	31.10	750.29
MW-2	760300.50	1651891.20	665.81	6.50	659.31
MW-3a	759934.68	1652014.48	662.49	8.70	653.79
MW-4*	763311.06	1650889.31	736.20	55.80	680.40
MW-5	759598.21	1652909.22	664.29	13.90	650.39
MW-6	761831.31	1652957.39	781.25	59.40	721.85
MW-8	762282.39	1652584.06	737.60	17.00	720.60
MW-9	762456.06	1651933.56	719.03	16.90	702.13
MW-10	762057.74	1651474.85	678.24	6.55	671.69
MW-11	761158.90	1651252.18	680.07	26.00	654.07
MW-12	760532.63	1651580.20	671.48	17.36	654.12
MW-13	760559.79	1651571.95	671.31	15.16	656.15
MW-14	762282.39	1652584.06	666.04	13.70	652.34
MW-15	760193.97	1652774.91	697.33	17.18	680.15
MW-16	761771.23	1653160.68	757.54	17.00	740.54
MW-17	761121.95	1652995.87	737.99	12.60	725.39

\* MW-4 is the same well as MW-1 associated with Davidson County Phase 1 Lined Landfill.

**Table 2**  
**Field Parameters**  
**Davidson County Holly Grove Landfill**  
**09/21/11**

Well	pH (std units)	Sp. Conductivity (uMhos)	Temperature (degrees C)
MW-1a	7.1	1330	17
MW-2	8	330	18
MW-3A	8.1	630	15
MW-4*	6.6	550	16
MW-5	7.8	200	15
MW-6	7.3	820	16
MW-8	7.7	940	15
MW-9	6.9	1210	16
MW-10	6.7	2080	17
MW-11	7.5	1330	16
MW-12	7.6	1790	15
MW-13	7.2	2790	17.5
MW-14	8	410	16
MW-15	7.6	230	15
MW-16	8	730	15
MW-17	8.2	510	15
SW-1	7.6	370	18
SW-2	7.5	350	17

Note: \* MW-4 is the same well as MW-1 associated with Davidson County Phase 1 Lined Landfill.  
 SW-3 was dry therefore field parameters were not collected for the September event.  
 Data Collected RSG Engineers Inc. personel Don Misenheimer and Lindsay Quant.



**Table 3**  
**Detected Inorganic Parameters**  
**Davidson County Holly Grove Landfill**  
**09/21/11**

Constituent	SWSL	2L or GWP	2B	MW-1A	MW-2	MW-3A	MW-4*	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	SW-1	SW-2
Antimony	6	1 <sup>§</sup>	640	ND	ND	ND	ND	ND	0.16 J	ND	ND	0.36 J	ND	0.18 J	0.18 J	ND	ND	ND	ND	0.26 J	0.34 J
Arsenic	10	10	10	0.57 J	0.32 J	0.19 J	0.28 J	0.18 J	2.0 J	0.65 J	3.1 J	2.7 J	0.79 J	2.3 J	4.4 J	0.19 J	0.52 J	0.19 J	1.3 J	0.42 J	0.43 J
Barium	100	700	2000000	234	156	21 J	38.8 J	48.4	<b>157</b>	33.8 J	<b>491</b>	<b>328</b>	66.3 J	<b>71.7</b>	<b>199</b>	26.3 J	<b>123</b>	30.7 J	<b>173</b>	21.9 J	23.1 J
Beryllium	1	4 <sup>§</sup>	6.5	ND	ND	ND	ND	ND	0.11 J	ND	1	0.11 J	ND	ND	ND	ND	0.2 J	ND	ND	ND	ND
Cadmium	1	2	2	0.35 J	0.10 J	0.08 J	0.04 J	0.11 J	0.84 J	0.08 J	0.67 J	0.15 J	0.12 J	0.46 J	0.09 J	0.04 J	0.21 J	0.16 J	0.23 J	ND	ND
Cobalt	10	1 <sup>§</sup>	270	7.3 J	9.1 J	0.16 J	1.2 J	1.6 J	4.3 J	0.72 J	<b>19</b>	<b>17</b>	2.2 J	0.7 J	<b>15</b>	0.43 J	<b>23</b>	0.41 J	5.0 J	0.65 J	0.72 J
Copper	10	1000	7	1.1 J	0.45 J	ND	2.7 J	3.9 J	<b>19</b>	1.5 J	<b>52</b>	<b>11</b>	3.4 J	2.5 J	3.9 J	3.3 J	<b>20</b>	1 J	3.2 J	3.2 J	2.7 J
Total Chromium	10	10	50	ND	ND	ND	0.76 J	1.7 J	<b>20</b>	1.5 J	<b>41</b>	2.4 J	0.37 J	0.43 J	1.1 J	0.64 J	<b>28</b>	0.28 J	ND	ND	ND
Lead	10	15	25	0.11 J	0.05 J	0.05 J	0.63 J	0.46 J	6.0 J	0.27 J	9.3 J	2.0 J	0.23 J	1.1 J	0.49 J	0.11 J	1.5 J	7.5 J	0.46 J	0.29 J	0.27 J
Nickel	50	100	88	3.4 J	2.5 J	0.07 J	1.4 J	2.2 J	5.9 J	2.8 J	20.2 J	29.4 J	9 J	7.5 J	29.9 J	1 J	19.5 J	1.5 J	2.4 J	6.1 J	5.9 J
Selenium	10	20	5	0.44 J	1.3 J	0.68 J	0.56 J	0.27 J	0.9 J	1.1 J	2.1 J	8.4 J	2.8 J	8.7 J	12	0.57 J	0.45	1.6 J	0.57 J	0.37 J	0.31 J
Silver	10	20	0.06	ND	ND	ND	ND	ND	0.08 J	ND	0.23 J	0.04 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	5.5	0.28 <sup>§</sup>	0.47	ND	0.10 J	ND	ND	ND	0.37 J	0.09 J	0.15 J	0.29 J	0.04 J	ND	ND	ND	0.11 J	ND	ND	ND	0.1 J
Vanadium	25	0.3 <sup>§</sup>	NE	16.9 J	1.1 J	3.0 J	4.5 J	7.8 J	21.9 J	9.9 J	<b>43</b>	16.2 J	4.7 J	3.0 J	9.3 J	5.8 J	<b>31</b>	3.2 J	<b>32</b>	2.3 J	2 J
Zinc	10	1000	50	6.8 J	9.6 J	6.9 J	5.6 J	9.4 J	<b>47</b>	4.3 J	<b>229</b>	8 J	6.8 J	4.4 J	6.1 J	3.2 J	<b>42</b>	2.9 J	<b>12</b>	<b>13</b>	<b>10</b>

- SWSL - Solid Waste Section Quantitation Limits
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- GWP - Groundwater Protection Standards (noted by §)
- 2B - NCAC 2B Standard for Class C waters
- 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

MW-4 is also known as MW-1 for the Phase 1 lined landfill.

Table units are presented in ug/l.

Lab data analysis by Environment 1, Inc. report dated 10/17/2011, ID#6037.



By: MG  
Date: 11/22/2011

**Table 4**  
**Detected Organic Parameters**  
**Davidson County Holly Grove Landfill**  
**09/21/11**

Parameter	SWSL	2L	MW-1A	MW-2	MW-3A	MW-4*	MW-5	MW-6	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	SW-1	SW-2
1,1-dichloroethane	5	6	<b>31</b>	0.7 J	4.6 J	ND	0.8 J	<b>8.7</b>	<b>25.8</b>	0.5 J	0.3 J	2.8 J	<b>13.9</b>	0.6 J	0.9 J	4.2 J	ND	<b>14.4</b>	ND	ND
1,1-dichloroethene	5	7	0.3 J	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	0.8 J	ND	ND	ND	ND	ND	ND	ND
1,2-dichlorobenzene	5	20	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	0.5 J	0.4 J	1.1 J	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	1	0.4	<b>2.4</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.7 J	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	1	0.6	<b>3.9</b>	ND	ND	ND	ND	0.5 J	ND	0.5 J	ND	0.4 J	0.6 J	ND	ND	ND	ND	0.9 J	ND	ND
1,4-dichlorobenzene	1	6	<b>3.4</b>	<b>1</b>	<b>0.4</b>	ND	ND	ND	ND	<b>6.3</b>	<b>1</b>	<b>1.8</b>	<b>5.2</b>	<b>9.1</b>	ND	ND	ND	ND	ND	ND
acetone	100	6000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.6 J	27 J	ND	14 J	ND	ND	ND	ND
benzene	1	1	<b>4</b>	ND	0.3 J	ND	ND	ND	<b>2.6</b>	<b>2.5</b>	0.5 J	0.3 J	0.8 J	<b>2.6</b>	ND	ND	ND	ND	ND	ND
chlorobenzene	3	50	0.5 J	1.6 J	ND	ND	ND	ND	ND	<b>6.6</b>	<b>5.2</b>	<b>4.1</b>	2.9 J	<b>14.2</b>	ND	ND	ND	ND	ND	ND
chloroethane	10	3000	3.1 J	2.7 J	0.8 J	ND	0.6 J	ND	2.6 J	1.3 J	ND	0.5 J	8.3 J	<b>14.3</b>	ND	2.7 J	ND	ND	ND	ND
cis-1,2-dichloroethene	5	70	<b>49.8</b>	ND	0.3 J	ND	ND	1.4 J	0.9 J	ND	ND	0.5 J	ND	ND	ND	0.3 J	ND	2.6 J	ND	ND
trichlorofluoromethane	1	2000	ND	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	<b>2.1</b>	ND	ND	ND	ND	ND
trans-1,2-dichloroethene	5	100	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
tetrachloroethene	1	0.7	0.2 J	ND	ND	ND	ND	0.6 J	0.6 J	ND	ND	ND	ND	ND	ND	ND	ND	0.5 J	ND	ND
trichloroethene	1	3	<b>2.5</b>	ND	0.3 J	ND	ND	0.7 J	<b>3.5</b>	ND	ND	ND	ND	ND	ND	ND	ND	0.8 J	ND	ND
toluene	1	600	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3 J	ND	ND	ND	ND	ND	ND
vinyl chloride	1	0.03	<b>2.7</b>	0.9 J	ND	ND	ND	ND	0.9 J	ND	ND	<b>1.3</b>	<b>2.9</b>	ND	ND	ND	ND	ND	ND	ND

- SWSL - Solid Waste Section Quantitation Limits
- 2L - Groundwater Standards (15A NCAC 2L 0200)
- 2B - NCAC 2B Standard for Class C waters
- 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

MW-4 is also known as MW-1 for the Phase 1 lined landfill.

Table units are presented in ug/l.

Lab data analysis by Environment 1, Inc. report dated 10/17/2011, ID#6037.

**Table 5**  
**Ground Water Velocity Calculations**  
**Holly Grove Landfill - Davidson County**  
**09/21/11**

Well Number	Aquifer	Conductivity (ft/day)	Conductivity (ft/min)	Assumed Porosity (n)	Gradient (I)	Velocity (ft/day)
MW-1a	Bedrock	0.415	2.88E-04	0.15	0.037	0.102
MW-2	Unconsolidated	1.440	1.00E-03	0.20	0.048	0.346
MW-3a	Bedrock	0.105	7.27E-05	0.15	0.011	0.008
MW-5	Bedrock	1.814	1.26E-03	0.20	0.022	0.200
MW-7	Bedrock	NA	NA	NA	NA	NA
MW-8	Bedrock	NA	NA	NA	NA	NA
MW-9	Unconsolidated	3.787	2.63E-03	0.20	0.059	1.117
MW-10	Unconsolidated	1.541	1.07E-03	0.20	0.030	0.231
MW-11	Bedrock	1.440	1.00E-03	0.15	0.042	0.403
MW-13	Unconsolidated	5.890	4.09E-03	0.20	0.040	1.178
MW-14	Bedrock	NA	NA	NA	NA	NA
MW-15	Unconsolidated	5.688	3.95E-03	0.20	0.077	2.190

Notes:

Velocity calculated from  $V=KI/n$ :

V = Velocity  
 K = Hydraulic Conductivity  
 I = Gradient  
 n = Porosity

Hydraulic conductivity data from slug testing  
 Porosity estimated from soil types

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## **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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-1a 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-3a 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-4 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

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Site: Davidson Holly Grove Landfill Date: 9/21/11

Well ID: MW-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

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Site: Davidson Holly Grove Landfill Date: 9/21/11

Well ID: MW-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 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

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Site: Davidson Holly Grove Landfill Date: 9/21/11

Well ID: MW-8 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-9 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-10 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-11 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-12 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-13 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-14 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-15 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-16 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 Holly Grove Landfill Date: 9/21/11

Well ID: MW-17 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.	X		
B. Vicinity is free of potential contaminants.	X		
C. Dead trees, etc. not in danger of falling and damaging wells.	X		
D. Well is in the same location as on field maps.	X		
E.			
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.	X		
B. Steel case is present and upright.	X		
C. Steel case is not movable and cemented in.	X		
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	X		
E. Well tag is present with pertinent information.	X		
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	X		
G. No evidence of tampering is present.	X		
H. Lock operates properly.	X		
I.			
Comments/ items addressed or to be addressed:			

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

## **Appendix B**

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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#: 6037

DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA ,NC 27526

DATE COLLECTED: 09/21/11  
DATE REPORTED : 10/17/11

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-1A	MW-2	MW-3A	MW-5	MW-6	Analysis		Method		
									Date	Analyst	Code	
Antimony, ug/l	0.14	6.0	---	U	---	U	---	U	09/28/11	LFG	EPA200.8	
Antimony, ug/l	0.14	6.0						0.16 J	10/04/11	CMF	EPA200.8	
Arsenic, ug/l	0.10	10.0	0.57 J	0.32 J	0.19 J	0.18 J			09/28/11	LFG	EPA200.8	
Arsenic, ug/l	0.10	10.0						2.0 J	10/04/11	CMF	EPA200.8	
Barium, ug/l	0.02	100.0	234	156	21.0 J	48.4 J			09/28/11	LFG	EPA200.8	
Barium, ug/l	0.02	100.0						157	10/04/11	CMF	EPA200.8	
Beryllium, ug/l	0.02	1.0	---	U	---	U	---	U	09/28/11	LFG	EPA200.8	
Beryllium, ug/l	0.02	1.0						0.11 J	10/04/11	CMF	EPA200.8	
Cadmium, ug/l	0.02	1.0	0.35 J	0.10 J	0.08 J	0.11 J			09/28/11	LFG	EPA200.8	
Cadmium, ug/l	0.02	1.0						0.84 J	10/04/11	CMF	EPA200.8	
Cobalt, ug/l	0.03	10.0	7.3 J	9.1 J	0.16 J	1.6 J			09/28/11	LFG	EPA200.8	
Cobalt, ug/l	0.03	10.0						4.3 J	10/04/11	CMF	EPA200.8	
Copper, ug/l	0.02	10.0	1.1 J	0.45 J	---	U	3.9 J		09/28/11	LFG	EPA200.8	
Copper, ug/l	0.02	10.0						19	10/04/11	CMF	EPA200.8	
Total Chromium, ug/l	0.04	10.0	---	U	---	U	1.7 J		09/28/11	LFG	EPA200.8	
Total Chromium, ug/l	0.04	10.0						20	10/04/11	CMF	EPA200.8	
Lead, ug/l	0.02	10.0	0.11 J	0.05 J	0.05 J	0.46 J			09/29/11	LFG	EPA200.8	
Lead, ug/l	0.02	10.0						6.0 J	10/04/11	CMF	EPA200.8	
Nickel, ug/l	0.04	50.0	3.4 J	2.5 J	0.07 J	2.2 J			09/28/11	LFG	EPA200.8	
Nickel, ug/l	0.04	50.0						5.9 J	10/04/11	CMF	EPA200.8	
Selenium, ug/l	0.20	10.0	0.44 J	1.3 J	0.68 J	0.27 J			09/28/11	LFG	EPA200.8	
Selenium, ug/l	0.20	10.0						0.90 J	10/04/11	CMF	EPA200.8	
Silver, ug/l	0.02	10.0	---	U	---	U	---	U	09/28/11	LFG	EPA200.8	
Silver, ug/l	0.02	10.0						0.08 J	10/04/11	CMF	EPA200.8	
Thallium, ug/l	0.02	5.5	---	U	0.10 J	---	U	---	U	09/28/11	LFG	EPA200.8
Thallium, ug/l	0.02	5.5						0.37 J	10/04/11	CMF	EPA200.8	
Vanadium, ug/l	0.14	25.0	16.9 J	1.1 J	3.0 J	7.8 J			09/28/11	LFG	EPA200.8	
Vanadium, ug/l	0.14	25.0						21.9 J	10/04/11	CMF	EPA200.8	
Zinc, ug/l	0.24	10.0	6.8 J	9.6 J	6.9 J	9.4 J			09/29/11	LFG	EPA200.8	
Zinc, ug/l	0.24	10.0						47	10/04/11	CMF	EPA200.8	

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

# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

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

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

ID#: 6037

DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA , NC 27526

DATE COLLECTED: 09/21/11  
DATE REPORTED : 10/17/11

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-8	MW-9	MW-10	MW-11	MW-12	Analysis		Method
								Date	Analyst	Code
Antimony, ug/l	0.14	6.0	--- U	--- U	0.36 J	--- U	0.18 J	10/04/11	CMF	EPA200.8
Arsenic, ug/l	0.10	10.0	0.65 J	3.1 J	2.7 J	0.79 J	2.3 J	10/04/11	CMF	EPA200.8
Barium, ug/l	0.02	100.0	33.8 J	491	328	66.3 J	71.7 J	10/04/11	CMF	EPA200.8
Beryllium, ug/l	0.02	1.0	--- U	1	0.11 J	--- U	--- U	10/04/11	CMF	EPA200.8
Cadmium, ug/l	0.02	1.0	0.08 J	0.67 J	0.15 J	0.12 J	0.46 J	10/04/11	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	0.72 J	19	17	2.2 J	0.70 J	10/04/11	CMF	EPA200.8
Copper, ug/l	0.02	10.0	1.5 J	52	11	3.4 J	2.5 J	10/04/11	CMF	EPA200.8
Total Chromium, ug/l	0.04	10.0	1.5 J	41	2.4 J	0.37 J	0.43 J	10/04/11	CMF	EPA200.8
Lead, ug/l	0.02	10.0	0.27 J	9.3 J	2.0 J	0.23 J	1.1 J	10/04/11	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	2.8 J	20.2 J	29.4 J	9.0 J	7.5 J	10/04/11	CMF	EPA200.8
Selenium, ug/l	0.20	10.0	1.1 J	2.1 J	8.4 J	2.8 J	8.7 J	10/04/11	CMF	EPA200.8
Silver, ug/l	0.02	10.0	--- U	0.23 J	0.04 J	--- U	--- U	10/04/11	CMF	EPA200.8
Thallium, ug/l	0.02	5.5	0.09 J	0.15 J	0.29 J	0.04 J	--- U	10/04/11	CMF	EPA200.8
Vanadium, ug/l	0.14	25.0	9.9 J	43	16.2 J	4.7 J	3.0 J	10/04/11	CMF	EPA200.8
Zinc, ug/l	0.24	10.0	4.3 J	229	8.0 J	6.8 J	4.4 J	10/04/11	CMF	EPA200.8

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

# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

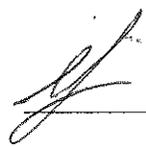
P.O. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

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

ID#: 6037

DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA , NC 27526

DATE COLLECTED: 09/21/11  
DATE REPORTED : 10/17/11

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-13	MW-14	Analysis		Method Code
					Date	Analyst	
Antimony, ug/l	0.14	6.0	0.18 J	--- U	10/04/11	CMF	EPA200.8
Arsenic, ug/l	0.10	10.0	4.4 J	0.19 J	10/04/11	CMF	EPA200.8
Barium, ug/l	0.02	100.0	199	26.3 J	10/04/11	CMF	EPA200.8
Beryllium, ug/l	0.02	1.0	--- U	--- U	10/04/11	CMF	EPA200.8
Cadmium, ug/l	0.02	1.0	0.09 J	0.04 J	10/04/11	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	15	0.43 J	10/04/11	CMF	EPA200.8
Copper, ug/l	0.02	10.0	3.9 J	3.3 J	10/04/11	CMF	EPA200.8
Total Chromium, ug/l	0.04	10.0	1.1 J	0.64 J	10/04/11	CMF	EPA200.8
Lead, ug/l	0.02	10.0	0.49 J	0.11 J	10/04/11	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	29.9 J	1.0 J	10/04/11	CMF	EPA200.8
Selenium, ug/l	0.20	10.0	12	0.57 J	10/04/11	CMF	EPA200.8
Silver, ug/l	0.02	10.0	--- U	--- U	10/04/11	CMF	EPA200.8
Thallium, ug/l	0.02	5.5	--- U	--- U	10/04/11	CMF	EPA200.8
Vanadium, ug/l	0.14	25.0	9.3 J	5.8 J	10/04/11	CMF	EPA200.8
Zinc, ug/l	0.24	10.0	6.1 J	3.2 J	10/04/11	CMF	EPA200.8

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

# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

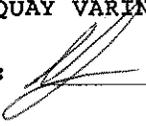
P.O. BOX 7085, 114 OAKMONT DRIVE  
GREENVILLE, N.C. 27835-7085

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

CLIENT: DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6037  
ANALYST: MAO  
DATE COLLECTED: 09/21/11  
DATE REPORTED: 10/17/11

Page: 1

REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		09/27/11	09/26/11	09/26/11	09/27/11	09/27/11	
	MDL	SWSL	MW-1A	MW-2	MW-3A	MW-5	MW-6	
1. Chloromethane	0.77	1.0	---	U	---	U	---	U
2. Vinyl Chloride	0.63	1.0	2.70	J	0.90	J	---	U
3. Bromomethane	0.67	10.0	---	U	---	U	---	U
4. Chloroethane	0.48	10.0	3.10	J	2.70	J	0.80	J
5. Trichlorofluoromethane	0.24	1.0	---	U	---	U	0.50	J
6. 1,1-Dichloroethene	0.17	5.0	0.30	J	---	U	---	U
7. Acetone	9.06	100.0	---	U	---	U	---	U
8. Iodomethane	0.26	10.0	---	U	---	U	---	U
9. Carbon Disulfide	0.23	100.0	---	U	---	U	---	U
10. Methylene Chloride	0.64	1.0	---	U	---	U	---	U
11. trans-1,2-Dichloroethene	0.23	5.0	0.60	J	---	U	---	U
12. 1,1-Dichloroethane	0.20	5.0	31.00	J	0.70	J	4.60	J
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U
14. Cis-1,2-Dichloroethene	0.25	5.0	49.80	J	---	U	0.30	J
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	4.00	J	---	U	0.30	J
21. 1,2-Dichloroethane	0.27	1.0	2.40	J	---	U	---	U
22. Trichloroethene	0.23	1.0	2.50	J	---	U	0.30	J
23. 1,2-Dichloropropane	0.21	1.0	3.90	J	---	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	0.20	J	---	U	---	U
31. 2-Hexsnone	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	0.50	J	1.60	J	---	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	3.40	J	1.00	J	0.40	J
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

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 (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6037  
ANALYST: MAO  
DATE COLLECTED: 09/21/11  
DATE REPORTED: 10/17/11

Page: 2

REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		09/27/11	09/27/11	09/27/11	09/27/11	09/27/11	
	MDL	SWSL	MW-8	MW-9	MW-10	MW-11	MW-12	
1. Chloromethane	0.77	1.0	---	U	---	U	---	U
2. Vinyl Chloride	0.63	1.0	0.90	J	---	U	1.30	2.90
3. Bromomethane	0.67	10.0	---	U	---	U	---	U
4. Chloroethane	0.48	10.0	2.60	J	1.30	J	0.50	J
5. Trichlorofluoromethane	0.24	1.0	---	U	---	U	---	U
6. 1,1-Dichloroethene	0.17	5.0	0.70	J	---	U	---	U
7. Acetone	9.06	100.0	---	U	---	U	---	U
8. Iodomethane	0.26	10.0	---	U	---	U	---	U
9. Carbon Disulfide	0.23	100.0	---	U	---	U	---	U
10. Methylene Chloride	0.64	1.0	---	U	---	U	---	U
11. trans-1,2-Dichloroethene	0.23	5.0	---	U	---	U	---	U
12. 1,1-Dichloroethane	0.20	5.0	25.80		0.50	J	0.30	J
13. Vinyl Acetate	0.20	50.0	---	U	---	U	---	U
14. Cis-1,2-Dichloroethene	0.25	5.0	0.90	J	---	U	0.50	J
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	2.60		2.50		0.50	J
21. 1,2-Dichloroethane	0.27	1.0	---	U	---	U	---	U
22. Trichloroethene	0.23	1.0	3.50		---	U	---	U
23. 1,2-Dichloropropane	0.21	1.0	---	U	0.50	J	0.40	J
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	0.60	J	---	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	6.60		5.20	
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	6.30		1.00	
44. 1,2-Dichlorobenzene	0.32	5.0	---	U	0.50	J	0.50	J
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	---	U	---	U	---	U
46. Acrylonitrile	2.72	200.0	---	U	---	U	---	U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	---	U	---	U	---	U

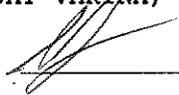
J = Between MDL and SWSL, U = Below ALL Quantitation Limits.

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

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

CLIENT: DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6037  
ANALYST: MAO  
DATE COLLECTED: 09/21/11 Page: 3  
DATE REPORTED: 10/17/11

REVIEWED BY: 

VOLATILE ORGANICS  
EPA METHOD 8260B

PARAMETERS, ug/l	Date Analyzed:		09/27/11	09/27/11
	MDL	SWSL	MW-13	MW-14
1. Chloromethane	0.77	1.0	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U
4. Chloroethane	0.48	10.0	14.30	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	2.10
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U
7. Acetone	9.06	100.0	27.00 J	--- U
8. Iodomethane	0.26	10.0	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	0.60 J	0.90 J
13. Vinyl Acetate	0.20	50.0	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U
20. Benzene	0.24	1.0	2.60	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U
27. Toluene	0.23	1.0	0.30 J	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U
34. Chlorobenzene	0.30	3.0	14.20	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	9.10	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	1.10 J	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U

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

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

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

CLIENT: 6037 Week: 39

DAVIDSON COUNTY (HOLLY GROVE)  
 MS. JOAN SMYTH  
 RICHARDSON SMITH GARDNER  
 133 SPRING AVENUE  
 FLOUAY 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			Metals	EPA 8260B	8260 Dup. 1	8260 Dup. 2	CHLORINE NEUTRALIZED AT COLLECTION
	DATE	TIME				<input type="checkbox"/> CHLORINE	<input type="checkbox"/> UV	<input type="checkbox"/> NONE					
MTW-1A	9/21/11	11:47A			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-2	9/21/11	10:27A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-3A	9/21/11	10:37A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-5	9/21/11	10:44A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-6	9/21/11	11:51A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-8	9/21/11	11:27A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-9	9/21/11	11:17A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-10	9/21/11	11:05A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-11	9/21/11	9:46A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-12	9/21/11	9:58A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MTW-13	9/21/11	10:03A			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
<i>[Signature]</i>	9/22/11	12:00P	<i>[Signature]</i>	9/23/11	1:00P	<i>[Signature]</i>	9/23/11	1:00P	9/23/11	1:00P	9/23/11	1:00P	9/23/11
RELINQUISHED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME	DATE/TIME
COMMENTS:													CHLORINE NEUTRALIZED AT COLLECTION
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													pH CHECK (LAB)
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													CONTAINER TYPE, P/G
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													CHEMICAL PRESERVATION
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													PARAMETERS
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													A - NONE D - NaOH
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													B - HNO <sub>3</sub> E - HCL
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													C - H <sub>2</sub> SO <sub>4</sub> F - ZINC ACETATE
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													G - Na THIOSULFATE
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													CLASSIFICATION:
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													<input type="checkbox"/> WASTEWATER (NPDES)
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													<input type="checkbox"/> DRINKING WATER
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													<input type="checkbox"/> DWQ/GW
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													<input checked="" type="checkbox"/> SOLID WASTE SECTION
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													SAMPLES COLLECTED BY: (Please Print)
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													LAQ & DMM
SAMPLER MUST PLACE A "C" FOR COMPOSITE SAMPLE OR A "G" FOR GRAB SAMPLE IN THE BLOCKS ABOVE FOR EACH PARAMETER REQUESTED													SAMPLES RECEIVED IN LAB AT 0.2 °C

FORM #5 PLEASE READ Instructions for completing this form on the reverse side. Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested. No 222579



# 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#: 6037 A

DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA , NC 27526

DATE COLLECTED: 09/21/11  
DATE REPORTED : 10/17/11

REVIEWED BY: 

PARAMETERS	MDL	SWSL	MW-15	MW-16	MW-17	SW-1	SW-2	Analysis		Method
								Date	Analyst	
Antimony, ug/l	0.14	6.0	--- U	--- U	--- U	0.26 J	0.34 J	10/04/11	CMF	EPA200.8
Arsenic, ug/l	0.10	10.0	0.52 J	0.19 J	1.3 J	0.42 J	0.43 J	10/04/11	CMF	EPA200.8
Barium, ug/l	0.02	100.0	123	30.7 J	173	21.9 J	23.1 J	10/04/11	CMF	EPA200.8
Beryllium, ug/l	0.02	1.0	0.20 J	--- U	--- U	--- U	--- U	10/04/11	CMF	EPA200.8
Cadmium, ug/l	0.02	1.0	0.21 J	0.16 J	0.23 J	--- U	--- U	10/04/11	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	23	0.41 J	5.0 J	0.65 J	0.72 J	10/04/11	CMF	EPA200.8
Copper, ug/l	0.02	10.0	20	1.0 J	3.2 J	3.2 J	2.7 J	10/04/11	CMF	EPA200.8
Total Chromium, ug/l	0.04	10.0	28	0.28 J	--- U	--- U	--- U	10/04/11	CMF	EPA200.8
Lead, ug/l	0.02	10.0	1.5 J	7.5 J	0.46 J	0.29 J	0.27 J	10/04/11	CMF	EPA200.8
Nickel, ug/l	0.04	50.0	19.5 J	1.5 J	2.4 J	6.1 J	5.9 J	10/04/11	CMF	EPA200.8
Selenium, ug/l	0.20	10.0	0.45 J	1.6 J	0.57 J	0.37 J	0.31 J	10/04/11	CMF	EPA200.8
Silver, ug/l	0.02	10.0	--- U	10/04/11	CMF	EPA200.8				
Thallium, ug/l	0.02	5.5	0.11 J	--- U	--- U	--- U	0.10 J	10/04/11	CMF	EPA200.8
Vanadium, ug/l	0.14	25.0	31	3.2 J	32	2.3 J	2.0 J	10/04/11	CMF	EPA200.8
Zinc, ug/l	0.24	10.0	42	2.9 J	12	13	10	10/04/11	CMF	EPA200.8

# 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#: 6037 A

DAVIDSON COUNTY (HOLLY GROVE)  
MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA , NC 27526

DATE COLLECTED: 09/21/11  
DATE REPORTED : 10/17/11

REVIEWED BY: 

PARAMETERS	MDL	SW-3 SWSL	Trip	Analysis	Method
			Blank	Date	Analyst
Antimony, ug/l	0.24	10.0	Missing		
Arsenic, ug/l	0.24	10.0	Missing		
Barium, ug/l	0.24	10.0	Missing		
Beryllium, ug/l	0.24	10.0	Missing		
Cadmium, ug/l	0.24	10.0	Missing		
Cobalt, ug/l	0.24	10.0	Missing		
Copper, ug/l	0.24	10.0	Missing		
Total Chromium, ug/l	0.24	10.0	Missing		
Lead, ug/l	0.24	10.0	Missing		
Nickel, ug/l	0.24	10.0	Missing		
Selenium, ug/l	0.24	10.0	Missing		
Silver, ug/l	0.24	10.0	Missing		
Thallium, ug/l	0.24	10.0	Missing		
Vanadium, ug/l	0.24	10.0	Missing		
Zinc, ug/l	0.24	10.0	Missing		

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MS. JOAN SMYTH  
RICHARDSON SMITH GARDNER  
133 SPRING AVENUE  
FUQUAY VARINA, NC 27526

CLIENT ID: 6037 A

ANALYST: MAO  
DATE COLLECTED: 09/21/11  
DATE ANALYZED: 09/27/11  
DATE REPORTED: 10/17/11

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REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-15	MW-16	MW-17	SW-1	SW-2
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	2.70 J	--- 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	14.00 J	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	4.20 J	--- U	14.40	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	0.30 J	--- U	2.60 J	--- 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	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.27	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.23	1.0	--- U	--- U	0.80 J	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	0.90 J	--- 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	0.50 J	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.32	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.34	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	2.72	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.42	100.0	--- U	--- U	--- U	--- U	--- U

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

# Environment 1, Incorporated

Drinking Water ID: 37715  
Wastewater ID: 10

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

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REVIEWED BY: 

## VOLATILE ORGANICS EPA METHOD 8260B

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

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



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