DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

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

Instructions:

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

Solid Waste Monitoring Data Submittal Information

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

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)
Avery County C&D Landfill	Brushy Creek Road Spruce Pine, NC	06-03	.0500	April 11, 2010

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

Notification attached?

☐ No. No groundwater or surface water standards were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Joan A. Smyth, P.G. — Facility Representative Name (Print)

Senior Hydrogeologist — Title

919-828-0577 x 221 — (Area Code) Telephone Number

Joan Smyth — Signature

6/8/10 — Date

Affix NC Licensed Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

C0828

Avery County C&D Landfill

Ground Water Monitoring Report

Spring 2010 Semi-annual Monitoring Event

Avery County Landfill
Newland, North Carolina
NC Solid Waste Permit # 06-03

Prepared for:
Avery County Solid Waste
175 Linville St.
Newland, North Carolina 28657

June 2010

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

PRINTED ON 100% RECYCLED PAPER

Spring 2010 Ground Water Monitoring Report

Avery County C&D Landfill
Newland, North Carolina
NC Solid Waste Permit # 06-01

Prepared for:

Avery County Solid Waste
175 Linville st.
Newland, North Carolina 28657

RSG Project No. **Avery 09-2**

Joan A. Smyth, P.G.
Senior Hydrogeologist

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

June 2010

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

PRINTED ON 100% RECYCLED PAPER

Avery County C&D Landfill
Semi-annual Ground Water Monitoring Report
June 2010 Sampling Event

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Table 3 – Detected Constituents

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Appendix B – Monitoring Well Information
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1.0 Introduction

Avery County C&D Landfill, currently operating under Solid Waste Permit # 06-03 (C&D) and 15A NCAC 13B.0544, is required to submit semi-annual ground water monitoring reports. This report presents the results of the first semi-annual monitoring event for 2010. This event was performed to comply with the semi-annual monitoring schedule required by NC Solid Waste Regulations.

The ground water monitoring network for the C&D landfill includes four (4) ground water monitoring wells. This report includes summaries of the field procedures and laboratory analyses for the C&D site, as well as an evaluation of site hydrogeology.

2.0 Site Geology and Hydrogeology

The site is located within Blue Ridge province of North Carolina, along the eastern limb of the Blue Ridge anticlinorium. Published geologic mapping[1] places the site approximately 12 miles west of the Brevard Zone (measured perpendicular to strike), which is the boundary of the Blue Ridge Belt and the Piedmont. Local rock types comprise medium- to high-grade metamorphic species, many of sedimentary origin, and plutonic rocks of mid Proterozoic age (>1000 MY) to Devonian age (390 MY). The rocks in the region tend to be highly jointed, due to the mechanical stresses the rocks experienced, once or repeatedly, with the older rocks typically exhibiting more complex jointing.

As relatively few outcrops exist in the area (none were observed on the project site), the rock cores are relied upon to confirm the geologic mapping. The NC Geologic Map shows a unit of Alligator Back amphibolite underlying the higher (north) portion site, surrounded by Alligator Back gneiss, including the lower (south) portion, with Grenville-age biotite gneiss existing close by to the east and Devonian quartz diorite further south. This mapping is reflected by the surface topography, e.g., the gentler slopes within the southern portions of the site and existing near Brushy Creek are probably indicative of the more deeply weathered micaceous gneiss and schist, whereas the steeper terrain located to the north likely results from the a more resistant amphibolite – the presence of the contact between gneiss and amphibolite was confirmed by the test borings.

The following table shows the field hydraulic conductivity values from piezometers installed for site permitting, grouped relative to two principal hydrogeologic units defined on the basis of material density. The field hydraulic conductivity values relative to each hydrogeologic unit vary as follows:

[1] North Carolina Geologic Survey at http://www.geology.enr.state.nc.us

Hydro. Unit	Unit Description	Conductivity (cm/sec) Max.	Min.	Avg.	Conductivity (ft/day) Max.	Min.	Avg.
1A	Saprolite <100 bpf	7.67E-4 PZ-13i	3.42E-4 PZ-12	4.92E-4	2.17 PZ-13i	0.968 PZ-12	1.40
1B	Saprolite >100 bpf	1.60E-3 PZ-9	8.19E-6 MW-3d	7.24E-4	4.53 PZ-9	0.002 MW-3d	2.05
2	Bedrock	2.66E-3 MW-1d	5.64E-4 B-6	1.61E-3	7.53 MW-1d	1.60 B-6	4.65

These data show a slight increasing trend with depth, most likely due to higher clay content in the upper soils, more sand-like conditions and fracturing at depth, indicated by the low Rock Quality Data (RQD) values.

3.0 Sampling Procedures

The sampling event, performed by trained personnel from Richardson Smith Gardner & Associates (RSG) on April 11, 2010, consisted of collecting samples from four (4) ground water wells (CDMW-1a, CDMW-2, CDMW-3 and CDMW-4), shown in **Figure 1**. Samples were also taken from two surface water monitoring locations, (SW-1 & SW-2). Field data sheets for the monitoring wells are included in **Appendix A**, and boring logs for these well are included in **Appendix B**.

Sampling methods followed the protocol outlined in the North Carolina Water Quality Monitoring Guidance Document for Solid Waste Facilities (NCDENR, DWM). The depth to water in each well was gauged prior to purging and sampling. Field measurements of pH, specific conductivity, turbidity and temperature were obtained from each well. Water table elevations and field parameter results are included in **Tables 1 and 2,** respectively.

All samples were collected by RSG personnel in laboratory prepared containers for the specified analytical procedures. Samples were collected using new factory sealed teflon bailers. Ground water samples were properly preserved, placed on ice, and transported to the laboratory facility (Environment 1, Inc.), within the specified holding times for each analysis.

4.0 Field and Laboratory Results

4.1 Laboratory Analysis

All samples were transported to the laboratory facility under proper chain of custody analyzed at the specified DWM Solid Waste Quantitation Limits (SWSLs)[2] for Appendix I and C&D landfill mandated constituents. The laboratory report is attached for your review as **Appendix C**.

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

4.2 Field and Laboratory Results

Ground water and field measurements included in **Tables 1 & 2**. Detected constituents are presented in **Table 3**.

Nine (9) inorganic constituents (barium, beryllium, copper, total chromium, iron, manganese, mercury, vanadium and zinc) shown in **Table 3**, were detected above the SWSL in all four (4) monitoring wells. Of these, two (4) constituents were detected at concentrations above their 2L / groundwater protection (GWP) standards:

- iron;
- manganese;
- mercury; and
- vanadium.

One (1) inorganic constituent (trichlorofluoromethane) was detected in SW-2 above the SWSL limit, but below 2L or ground water protection (GWP) standards. No other organic constituents were detected above the SWSL at the site.

Constituents detected below the SWSL are denoted as "J" values and are also included in **Table 3**.

5.0 Ground Water Characterization

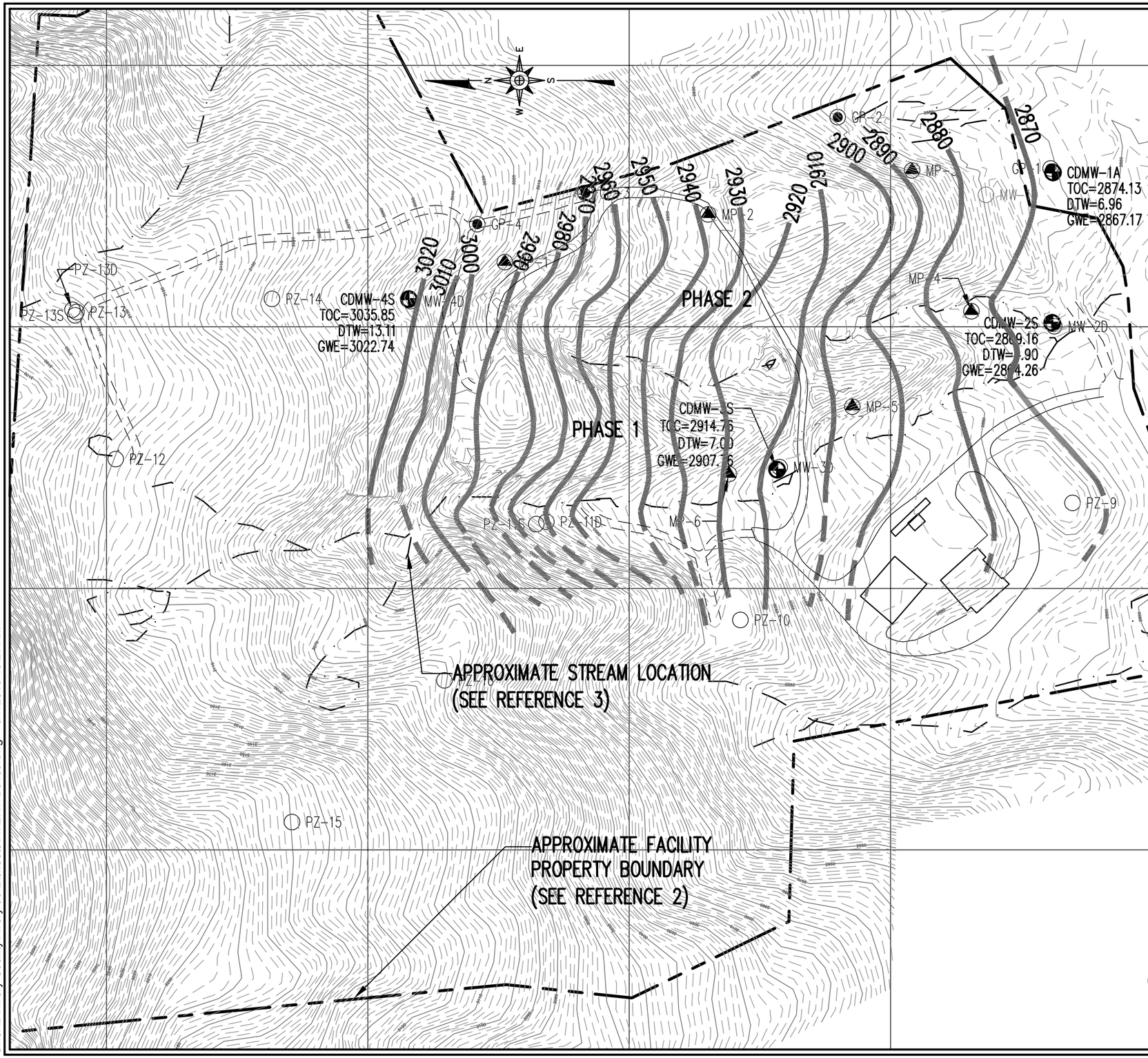
A potentiometric surface map was prepared from ground water elevation data collected during this sampling event. The data indicates that ground water is flowing generally to the south across most of the site. Hydraulic conductivity data is not available for these wells however; an average hydraulic conductivity and effective porosity for shallow wells across the site have been used to evaluate groundwater velocities. Groundwater velocity ranges from 0.004 ft/day (CDMW-3) to 0.019 ft/day (CDMW-4). The potentiometric surface map (**Figure 1**) is also attached for your review.

6.0 Conclusions

The results of this monitoring event indicate detectable levels of nine (9) inorganic constituents. Of these, only four (4) were above their respective 2L/GWP. The inorganic constituents are likely due to suspended solids in the samples which can yield results that are "biased high". Additionally, many inorganic constituents are naturally occurring in the mountainous region of the State.

Trichlorofluoromethane has not been detected previously. This detection is suspicious as this compound is naturally a gas a temperatures above 75 °F. Additionally, this compound volatilizes easily in surface water bodies. Evaluation of future samples for this compound will determine if this detection is representative of site conditions. This constituent is not currently regulated by concentration in surface water in North Carolina. The next ground water monitoring event is scheduled for September 2010. A report will be submitted to NCDENR upon receipt of laboratory analyses.

Figures



LEGEND

- EXISTING 10' CONTOUR (SEE REFERENCE 1)
- EXISTING 2' CONTOUR
- PROPERTY LINE (SEE REFERENCE 2)
- PERMITTED PHASE LIMITS
- APPROX. STREAM LOACTION (SEE REFERENCE 3)
- POTENTIOMETRIC SURFACE (DASHED WHERE INFERRED)
- MONITORING WELL
- PIEZOMETER
- MONITORING POINT
- GAS PROBE
- TOC= TOP OF CASING ELEVATION (SEE REFERENCE 2)
- DTW= DEPTH TO WATER
- GWE= GROUND WATER ELEVATION

NOTES

1. DEPTH TO WATER MEASUREMENTS OBTAINED BY RSG PERSONNEL ON APRIL 11, 2010.

REFERENCES

1. OVERALL SITE TOPOGRAPHY FROM NORTH CAROLINA DEPARTMENT OF TRANSPORTATION, DATA GENERATED FROM LIDAR DATED MARCH 2005, TOPO IN AREAS IN AND SURROUNDING PHASES 1 AND 2 FROM FIELD SURVEY DATED 1/11/10, BY APPALACHIAN PROFESSIONAL LAND SURVEYORS, AND CONSULTANTS, PA.
2. SITE PROPERTY LINE AND MONITORING WELLS FROM FIELD SURVEYS DATED JANUARY 29, 2010, BY SURVEYING SOLUTIONS, P.C.
3. STREAM LOCATIONS OBTAINED FROM GPS FIELD SURVEY DATED 4/07, BY CAROLINA ECOSYSTEMS, INC.

0 200' 400' 600'

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FIGURE NO.	1
FILE NAME	AVERY-B0139
SCALE:	AS SHOWN
PROJECT NO.	AVERY 09-2
CHECKED BY:	J.A.S.
DRAWN BY:	W.R.B.
DATE:	Jun. 2010

TITLE:
AVERY COUNTY
SOLID WASTE DEPARTMENT
AVERY COUNTY C&D LANDFILL
POTENTIOMETRIC MAP SPRING '10

G:\CAD\Avery County\Avery 09-2\sheets\AVERY-B0139.dwg - 6/7/2010 10:27 AM

Tables

By: DMM
Date: 6/2/2010

Table 1
Avery County C&D Landfill
Ground Water Elevations
4/11/2010

Well	Well Location Northing	Well Location Easting	TOC Elevation (feet)	Depth to Water (feet)	GW Elev (feet)	Hyd. Cond. (ft/day)	Porosity (%)	Gradient (ft/ft)	Velocity (ft/day)
CDMW-1a	817189.34	1121295.22	2874.13	6.96	2867.17	2.26E+00	19	0.100	0.012
CDMW-2s	817190.86	1121007.60	2869.16	4.9	2864.26	2.26E+00	19	0.100	0.012
CDMW-3s	817717.60	1120726.57	2914.76	7	2907.76	2.26E+00	19	0.120	0.014
CDMW-4s	818421.66	1121053.03	3035.85	13.11	3022.74	2.26E+00	19	0.200	0.024

Note:
1) survey data from 9/07 and 1/14/08 by Surveying Solutions, P.C. and 1/11/10 by Appalachian Professional Land Surveyors, and Consultants, PA.

By: DMM
Date: 6/2/2010

Table 2
Avery County C&D Landfill
Field Parameters
4/11/2010

Well Identification #	Temperature (°Celsius)	Turbidity (NTU)	Specific Conductivity (uS/cm)	pH
CDMW-1a	11	97	60	6.8
CDMW-2s	10	19	250	6.3
CDMW-3s	12	247	100	7.1
CDMW-4s	12.5	535	30	6.5
SW-1	15	12	110	7.8
SW-2	14.5	15	90	7.7

Note:

1. pH measured with a 'Hanna" pH/EC/TDS Meter, type HI9811
2. Water Levels measured with a Slope Indicator Water Level Meter
3. Turbidity measured with a Hach 2100P turbidimeter
4. Temperature measured with a laboratory grade thermometer.
5. Data Collected by Don Misenheimer & Richard Sheehan of RSG Engineers Inc.

By: DMM
Date: 6/2/2010

Table 3
Avery County C&D Landfill
Detected Inorganic and Organic Constituents
4/11/2010

Constituents	SWSL	2L or GWP Standards	CDMW-1s	CDMW-2s	CDMW-3s	CDMW-4s	SW-1	SW-2
Inorganic Constituents								
Antimony	6	1.4	ND	ND	ND	ND	ND	ND
Arsenic	10	50	0.5 J	0.6 J	0.9 J	0.2 J	ND	ND
Barium	100	2000	66.3 J	**384**	**125**	29 J	15.3 J	6.6 J
Beryllium	1	4	0.3 J	0.9 J	**1.1**	0.5 J	0.1 J	0.1 J
Cadmium	1	5	0.2 J	0.4 J	0.4 J	0.5 J	ND	0.1 J
Cobalt	10	70	3.5 J	4.1 J	6.7 J	6.9 J	1.6 J	0.4 J
Copper	10	1000	5.4 J	8.7 J	**10**	7 J	2.5 J	1.3 J
Chromium, total	10	50	6.9 J	8 J	**16**	9.2 J	1.7 J	0.3 J
Iron	300	300	**11540**	**12525**	**16250**	**5555**	ND	ND
Lead	10	15	4.2 J	3.4 J	7.3 J	2.9 J	0.8 J	0.3 J
Manganese	50	50	**242**	**711**	**348**	**216**	ND	ND
Mercury	0.2	1.1	ND	0.12 J	**1.8**	ND	ND	ND
Nickel	50	100	5.8 J	7.2 J	8.2 J	6.2 J	1.4 J	0.5 J
Selenium	10	50	ND	1.1 J	0.7 J	ND	ND	ND
Silver	10	17.5	ND	0.1 J	0.1 J	ND	ND	ND
Thallium	5.5	0.28	0.1 J	0.1 J	0.1 J	ND	ND	ND
Vanadium	25	3.5	11.3 J	12.4 J	**26**	13.7	4.5 J	1.7 J
Zinc	10	2100	**41**	**47**	**66**	**20**	8.1 J	2.9 J
Organic Constituents								
Trichlorofluoromethane	1	2100	ND	0.4 J	ND	ND	ND	**1.9**
1,1-Dichloroethane	5	70	ND	0.2 J	ND	ND	ND	ND
Cis-1,2-Dichloroethene	5	70	ND	1.5 J	ND	ND	ND	ND
Xylenes	5	530	ND	1.8 J	ND	ND	ND	ND

SWSL - Solid Waste Section Quantitation Limit
ND - Not detected at or above SWSL
Shading - Concentrations above 2L standard or Groundwater Protection Standard
Bold Letters - Constituent detected above SWSL
J - Constituent detected below SWSL

All SWSLs, 2L Standards and Results are in ug/l.

Data from Environment 1 laboratory report dated 5/7/2010, ID# 6057.

Appendix A

Field Data Sheets

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

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: Avery C+D **Date:** 4/11/10

Well ID: MW1a **Initials:** MD

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

1. Well Vicinity	YES	NO
A. Well is assessable and surrounding area is safe for employees.	✓	
B. Vicinity is free of potential contaminants.	✓	
C. Dead trees, etc. not in danger of falling and damaging wells.	✓	
D. Well is in the same location as on field maps.	✓	
E.		

Comments/ items addressed or to be addressed:

ok.

2. Concrete Apron and Steel Case	YES	NO
A. Concrete apron is present and in good condition.	✓	
B. Steel case is present and upright.	✓	
C. Steel case is not movable and cemented in.	✓	
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	✓	
E. Well tag is present with pertinent information.	✓	
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	✓	
G. No evidence of tampering is present.	✓	
H. Lock operates properly.	✓	
I.		

Comments/ items addressed or to be addressed:

ok

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

Comments/ items addressed or to be addressed:

ok

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

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: Avery C+D **Date:** 4/11/

Well ID: CDMW-2 **Initials:**

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

1. Well Vicinity	YES	NO
A. Well is assessable and surrounding area is safe for employees.	✓	
B. Vicinity is free of potential contaminants.	✓	
C. Dead trees, etc. not in danger of falling and damaging wells.	✓	
D. Well is in the same location as on field maps.	✓	
E.		

Comments/ items addressed or to be addressed:

ok

2. Concrete Apron and Steel Case	YES	NO
A. Concrete apron is present and in good condition.	✓	
B. Steel case is present and upright.	✓	
C. Steel case is not movable and cemented in.	✓	
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	✓	
E. Well tag is present with pertinent information.	✓	
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	✓	
G. No evidence of tampering is present.	✓	
H. Lock operates properly.	✓	
I.		

Comments/ items addressed or to be addressed:

ok.

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

Comments/ items addressed or to be addressed:

ok.

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

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: Avery CD **Date:** 4/11/10

Well ID: CD MW-3 **Initials:** JM

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

1. Well Vicinity	YES	NO
A. Well is assessable and surrounding area is safe for employees.	✓	
B. Vicinity is free of potential contaminants.	✓	
C. Dead trees, etc. not in danger of falling and damaging wells.	✓	
D. Well is in the same location as on field maps.	✓	
E.		

Comments/ items addressed or to be addressed:

ok.

2. Concrete Apron and Steel Case	YES	NO
A. Concrete apron is present and in good condition.		✓
B. Steel case is present and upright.	✓	
C. Steel case is not movable and cemented in.	✓	
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	✓	
E. Well tag is present with pertinent information.	✓	
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	✓	
G. No evidence of tampering is present.	✓	
H. Lock operates properly.	✓	
I.		

Comments/ items addressed or to be addressed:

if concrete apron is present, it appears to be buried

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

Comments/ items addressed or to be addressed:

ok.

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

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: Avery C&D **Date:** 4/11/10

Well ID: CO MW-45 **Initials:** M

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

1. Well Vicinity	YES	NO
A. Well is assessable and surrounding area is safe for employees.	✓	
B. Vicinity is free of potential contaminants.	✓	
C. Dead trees, etc. not in danger of falling and damaging wells.	✓	
D. Well is in the same location as on field maps.	✓	
E.		

Comments/ items addressed or to be addressed:

ok.

2. Concrete Apron and Steel Case	YES	NO
A. Concrete apron is present and in good condition.		✓
B. Steel case is present and upright.	✓	
C. Steel case is not movable and cemented in.	✓	
D. Steel case lid opens and closes correctly with no gaps. Lock can be easily applied.	✓	
E. Well tag is present with pertinent information.	✓	
F. Well numbers are prominently displayed (Reflective address numbers, etc.).	✓	
G. No evidence of tampering is present.	✓	
H. Lock operates properly.	✓	
I.		

Comments/ items addressed or to be addressed:

if concrete apron is present, it appears to be buried.

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

Comments/ items addressed or to be addressed:

ok.

Appendix B

Monitoring Well Information

By: DMM
Date: 6/2/2010

Appendix B
Avery County C&D Landfill
Monitoring Well Information

Well	Well Location Northing	Well Location Easting	TOC Elevation (feet)	Depth to Water (feet)	Depth to Bottom (feet)	Assumed Screened Interval
CDMW-1a	817189.34	1121295.22	2880.37	6.96	13	4'-12
CDMW-2s	817190.86	1121007.60	2869.16	4.9	23	10' - 20
CDMW-3s	817717.60	1120726.57	2914.76	7	23	10' - 20
CDMW-4s	818421.66	1121053.03	3035.85	13.11	32	22' - 32'*

Note: survey data from 9/07 and 1/14/08 by Surveying Solutions, P.C. and 1/11/10 by Appalachian Professional Land Surveyors, and Consultants, PA.
Depth to Water and Depth to Bottom measured from Top of Casing

No boring logs available for monitoirng wells MW-2s and MW-3s
screened interval assumed based upon depth to bottom measurements.
Monitoring well MW-1a MW-4s data is actual data from boring logs (attached)

Richardson Smith Gardner & Assoc
14 North Boylan Avenue, Raleigh NC 27603
(919) 828-0577

FIELD BOREHOLE LOG

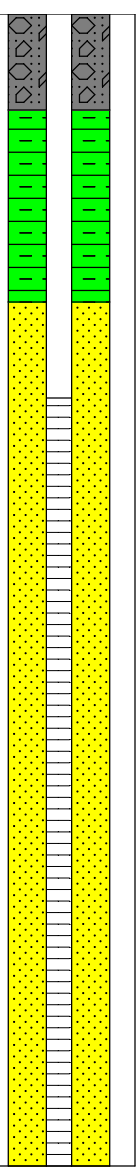
BOREHOLE NUMBER **MW-1a** Page 1 of 1

PROJECT NAME: **Avery County C&D Landfill**
LOCATION: **Ingalls, NC**
DRILLING CO: **Mad Dawg Drilling Inc**
DRILLING METHOD: **Geoprobe/HSA**
FIELD PARTY: **Tom Whitehead**
GEOLOGIST: **Joan Smyth**
DATE BEGUN: **10/26/09** COMPLETED: **10/26/09**

TOTAL DEPTH: **13**
TOP OF CASING ELEV.: GROUND ELEV.:
NORTHING: **0** EASTING: **0**

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

DEPTH Feet	BLOW COUNT Per 6"	SAMPLING METHOD	RECOVERY Inches	DRILL METHOD	DESCRIPTION	LITHOLOGY	DEPTH Feet	WELL INSTALLATION
0.0		Grab		GP/HSA	SANDY SILT: Dry micaceous brown sandy silt		0.0	
5.0		Grab			CLAYEY SANDY SILT: Dry brown micaceous clayey sandy silt.		5.0	
10.0		Grab			CLAYEY SANDY SILT: Clayey sandy silt to sandy clayey silt with relict structure. Wet at bottom of borehole. Auger refusal at 13'. (This was the deepest auger refusal of three attempted borings in this area).		10.0	



David Garrett and Associates

Engineering and Geology

Depths in feet, referenced b.g.s.

Boring No. MW-4s

Page **1** of **1**

Client and Project	**Avery County C&D Expansion**			Ground Elevation	**3032.72**
Equipment	**Dietrich D-50 ATV**	Drilling Method	**HSA**	Water Level, TOB	**20.00**
Date Started	**11/19/07**	Date Ended	**11/19/07**	Water Level, 24 Hr.	**15.78**
Drilling Firm	**Red Dog Drilling, Inc.**	Logged by	**Joan Smythe**	Stabilized Level	**18.30**
Comments	**Immediately north of landfill**	Total Depth	**32.0**	Observation Date	**2/7/08**

Elev.	SPT Depth, Value and Plot		Strata Depth and Soil Description (USCS)		Piezometer Constuction Data
		N = 0 20 40 60 80 100 BPF			
3032			SILT: Saprolite; finely laminated; highly micaceous;rock frags., qtz, feldspar, mica; relict rock texture and structure with depth (mica gneiss); approximately horizontal layering with sub-vertical fractures; dark mineral staining and more abundant rock frags. with depth; tan to brown; sample clayey from 7.5 to 10 feet; sample becoming wet at 23.5 feet, very wet at 33.5 with iron-manganese stains but alternating wet and dry layers noted; very wet (muddy) conditions at 43.5 feet in initial boring		
3030					
3028	3.5	32 27 11		MH	
3026					
3024	8.5	2 2 4		MH	
3022					Grout 0 to 18.0 ft.
3020					
3018	13.5	4 4 10		MH	
3016					
3014	18.5	1 2 4		MH	Bentonite Seal 18.0 to 20.0 ft.
3012					
3010			Initial boring extended to 45 feet but caved at 35 feet, was redrilled to 73.5 feet and called MW-4d, new boring installed to 32 feet and called MW-4s		Sand Pack 20.0 to 32.0 ft.
3008	23.5	8 5 6		MH	0.010" Slotted Screen 22.0 to 32.0 ft.
3006					
3004	28.5	3 4 5		MH	
3002			Boring Terminated at 32 feet		

Appendix C

Laboratory Analytical Report

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#: 6057

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

DATE COLLECTED: 04/11/10
DATE REPORTED : 05/07/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-1	SW-2	CDMW-1	CDMW-2	CDMW-3	Analysis Date	Analyst	Method Code
Total Alkalinity, mg/l	1.0	1.0			23	34	32	04/13/10	TRB	SM2320B
Chloride, mg/l	5.0	5.0			--- U	15	--- U	04/15/10	MJN	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0			318	201	80	04/15/10	TRB	SM2540C
Sulfate, mg/l	5.0	250.0			--- U	47.3 J	12.6 J	04/19/10	TRB	SM426C
Antimony, ug/l	0.22	6.0	--- U	--- U	--- U	--- U	--- U	04/20/10	LFJ	EPA200.8
Arsenic, ug/l	0.04	10.0	--- U	--- U	0.5 J	0.6 J	0.9 J	04/23/10	LFJ	EPA200.8
Barium, ug/l	0.03	100.0	15.3 J	6.6 J	66.3 J		125	04/20/10	LFJ	EPA200.8
Barium, ug/l	0.03	100.0				384		04/21/10	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.1 J	0.1 J	0.3 J	0.9 J	1.1	04/20/10	LFJ	EPA200.8
Cadmium, ug/l	0.02	1.0	--- U	0.1 J	0.2 J	0.4 J	0.4 J	04/20/10	LFJ	EPA200.8
Cobalt, ug/l	0.10	10.0	1.4 J	0.4 J	3.5 J	4.1 J	6.7 J	04/20/10	LFJ	EPA200.8
Copper, ug/l	0.03	10.0	2.5 J	1.3 J	5.4 J	8.7 J	10	04/20/10	LFJ	EPA200.8
Total Chromium, ug/l	0.03	10.0	1.7 J	0.3 J	6.9 J	8 J	16	04/20/10	LFJ	EPA200.8
Iron, ug/l	13.8	300.0			11540	12525	16250	04/23/10	ADD	SM3111B
Manganese, ug/l	0.61	50.0			242	711	348	04/23/10	LFJ	EPA200.7
Lead, ug/l	0.01	10.0	0.8 J	0.3 J	4.2 J	3.4 J	7.3 J	04/20/10	LFJ	EPA200.8
Mercury, ug/l	0.07	0.20			--- U	0.12 J		04/20/10	LFJ	EPA200.8
Mercury, ug/l	0.07	0.20					1.8	05/04/10	ADD	EPA245.1
Nickel, ug/l	0.05	50.0	1.4 J	0.5 J	5.8 J	7.2 J	8.2 J	04/20/10	LFJ	EPA200.8
Selenium, ug/l	0.32	10.0	--- U	--- U	--- U	1.1 J	0.7 J	04/20/10	LFJ	EPA200.8
Silver, ug/l	0.03	10.0	--- U	--- U	--- U	0.1 J	0.1 J	04/20/10	LFJ	EPA200.8
Thallium, ug/l	0.05	5.0	--- U	--- U	0.1 J	0.1 J	0.1 J	04/20/10	LFJ	EPA200.8
Vanadium, ug/l	0.03	25.0	4.5 J	1.7 J	11.3 J	12.4 J	26	04/20/10	LFJ	EPA200.8
Zinc, ug/l	0.08	10.0	8.1 J	2.9 J	41	47	66	04/20/10	LFJ	EPA200.8

J = Between MDL and SWSL, U = Below ALL Quanititation 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#: 6057

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

DATE COLLECTED: 04/11/10
DATE REPORTED : 05/07/10

REVIEWED BY:

PARAMETERS	MDL	SWSL	CDMW-4	Frye Well	On-Site Well	Wise Well	Analysis Date	Analyst	Method Code
Total Alkalinity, mg/l	1.0	1.0	4				04/13/10	TRB	SM2320B
Chloride, mg/l	5.0	5.0	6				04/15/10	MJN	SM4500-CLB
Total Dissolved Residue, mg/l	1.0	1.0	42				04/15/10	TRB	SM2540C
Sulfate, mg/l	5.0	250.0	10.8 J				04/19/10	TRB	SM426C
Antimony, ug/l	0.22	6.0	--- U	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Arsenic, ug/l	0.04	10.0	0.2 J	Missing	Missing	Missing	04/23/10	LFJ	EPA200.8
Barium, ug/l	0.03	100.0	29 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Beryllium, ug/l	0.02	1.0	0.5 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Cadmium, ug/l	0.02	1.0	0.5 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Cobalt, ug/l	0.10	10.0	6.9 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Copper, ug/l	0.03	10.0	7 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Total Chromium, ug/l	0.03	10.0	9.2 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Iron, ug/l	13.8	300.0	5555				04/23/10	ADD	SM3111B
Manganese, ug/l	0.61	50.0	216				04/23/10	LFJ	EPA200.7
Lead, ug/l	0.01	10.0	2.9 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Mercury, ug/l	0.08	0.20	--- U				04/20/10	LFJ	EPA200.8
Nickel, ug/l	0.05	50.0	6.2 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Selenium, ug/l	0.32	10.0	--- U	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Silver, ug/l	0.03	10.0	--- U	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Thallium, ug/l	0.05	5.0	--- U	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Vanadium, ug/l	0.03	25.0	13.7 J	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8
Zinc, ug/l	0.08	10.0	20	Missing	Missing	Missing	04/20/10	LFJ	EPA200.8

J = Between MDL and SWSL, U = Below ALL Quanititation 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
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CLIENT: AVERY COUNTY C&D LANDFILL
MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA, NC 27526

CLIENT ID: 6057

ANALYST: MAO
DATE COLLECTED: 04/11/10
DATE REPORTED: 05/07/10

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	04/21/10 SW-1	04/21/10 SW-2	04/21/10 CDMW-1	04/22/10 CDMW-2	04/22/10 CDMW-3
	Date Analyzed:						
1. Chloromethane	0.77	1.0	--- U	--- U	--- U	--- U	--- U
2. Vinyl Chloride	0.63	1.0	--- U	--- U	--- U	--- U	--- U
3. Bromomethane	0.67	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.48	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.24	1.0	--- U	1.90	--- U	0.40 J	--- U
6. 1,1-Dichloroethene	0.17	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	9.06	100.0	--- U	--- U	--- U	--- U	--- U
8. Iodomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.23	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.64	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.23	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.20	5.0	--- U	--- U	--- U	0.20 J	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.25	5.0	--- U	--- U	--- U	1.50 J	--- U
15. 2-Butanone	2.21	100.0	--- U	--- U	--- U	--- U	--- U
16. Bromochloromethane	0.27	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.25	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.19	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.22	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.24	1.0	--- U	--- 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	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.21	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.24	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	1.19	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.23	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.28	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.25	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.57	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.24	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.26	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.30	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.22	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.68	5.0	--- U	--- U	--- U	1.80 J	--- U
38. Dibromomethane	0.28	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.19	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.20	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.26	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.43	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.39	1.0	--- U	--- U	--- U	--- 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 Quanititation 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: AVERY COUNTY C&D LANDFILL
MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA, NC 27526

CLIENT ID: 6057

ANALYST: MAO
DATE COLLECTED: 04/11/10
DATE REPORTED: 05/07/10

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Date Analyzed: 04/22/10 CDMW-4
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 Quanititation Limits.

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

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

CHAIN OF CUSTODY RECORD

CLIENT: 6057 **Week: 13**

AVERY COUNTY C&D LANDFILL
MS. JOAN SMYTH
RICHARDSON SMITH GARDNER
133 SPRING AVENUE
FUQUAY VARINA NC 27526

(919) 828-0577

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Alkalinity	Chloride	TDS	Sulfate	Metals	EPA 8260B	8260 Dup. 1	8260 Dup. 2
CHLORINE NEUTRALIZED AT COLLECTION													
pH CHECK (LAB)										<2	<2	<2	<2
CONTAINER TYPE, P/G						P	P	P	P	P	G	G	G
CHEMICAL PRESERVATION						A	A	A	A	A	E	E	E
SW-1	4/11/10	1:20p			3					▒	▒	▒	
SW-2	4/11/10	2:28p			3					▒	▒	▒	
CDMW-1	4/11/10	1:49p			8	▒	▒	▒	▒	▒	▒	▒	▒
CDMW-2	4/11/10	1:35p			7	▒	▒	▒	▒	▒	▒	▒	
CDMW-3	4/11/10	2:41p			7	▒	▒	▒	▒	▒	▒	▒	
CDMW-4	4/11/10	2:16p			7	▒	▒	▒	▒	▒	▒	▒	
~~Frye Well~~					3					▒	▒	▒	
~~On-Site Well~~					3					▒	▒	▒	
~~Wise Well~~					3					▒	▒	▒	

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY
Y N

SAMPLES COLLECTED BY: (Please Print)
Don Misenheimer

SAMPLES RECEIVED IN LAB AT 0.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Don Misenheimer	4/12/10 12:30p	[illegible]	4/13 9:54
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

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.

№ 199516

FORM #5