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 7, 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
☐ 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. | Senior Hydrogeologist | 919-828-0577 x 221

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

Joan A. Smyth 5/18/11

Signature | Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH 5/18/11

14 N. Boylan Avenue Raleigh, NC 27603

Facility Representative Address

C0828

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

Revised 6/2009

Avery County C&D Landfill

Ground Water Monitoring Report

Spring 2011 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

May 2011

RICHARDSON SMITH GARDNER
& ASSOCIATES
ENGINEERING & GEOLOGICAL
SERVICES

PRINTED ON 100% RECYCLED PAPER

Spring 2011 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 10-1**

Joan A. Smyth, P.G.
Senior Hydrogeologist

NORTH CAROLINA LICENSED SEAL 1369 GEOLOGIST JOAN A. SMYTH

May 2010

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

PRINTED ON 100% RECYCLED PAPER

Avery County C&D Landfill
Semi-annual Ground Water Monitoring Report
Spring 2011 Sampling Event

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Table 3 – Detected Constituents
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Appendix B – Monitoring Well Information
Appendix C – Laboratory Analytical Report

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 2011. 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, rock cores collected at the site 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 7, 2011, 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 (Pace Analytical), 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 elevations and field measurements are included in **Tables 1 & 2**. Detected constituents are presented in **Table 3.** Indicator parameters are included as **Table 4**.

Eight (8) inorganic constituents (barium, beryllium, cobalt, copper, total chromium, lead, vanadium and zinc) shown in **Table 3**, were detected above the SWSL in all four (4) monitoring wells. Of these, four (4) constituents were detected at concentrations above their 2L / groundwater protection (GWP) standards:

- cobalt (CDMW-1a, CDMW-3 & CDMW-4);
- total chromium (CDMW-1a, CDMW-3 & CDMW-4);
- lead (CDMW-1a); and
- vanadium (CDMW-1a, CDMW-3 & CDMW-4).

One (1) inorganic constituent (zinc) was detected in surface water sample SW-2, above the SWSL standard. Additionally, no organic constituents were detected above the SWSL in monitoring wells or surface water locations at the site.

5.0 Ground Water Characterization

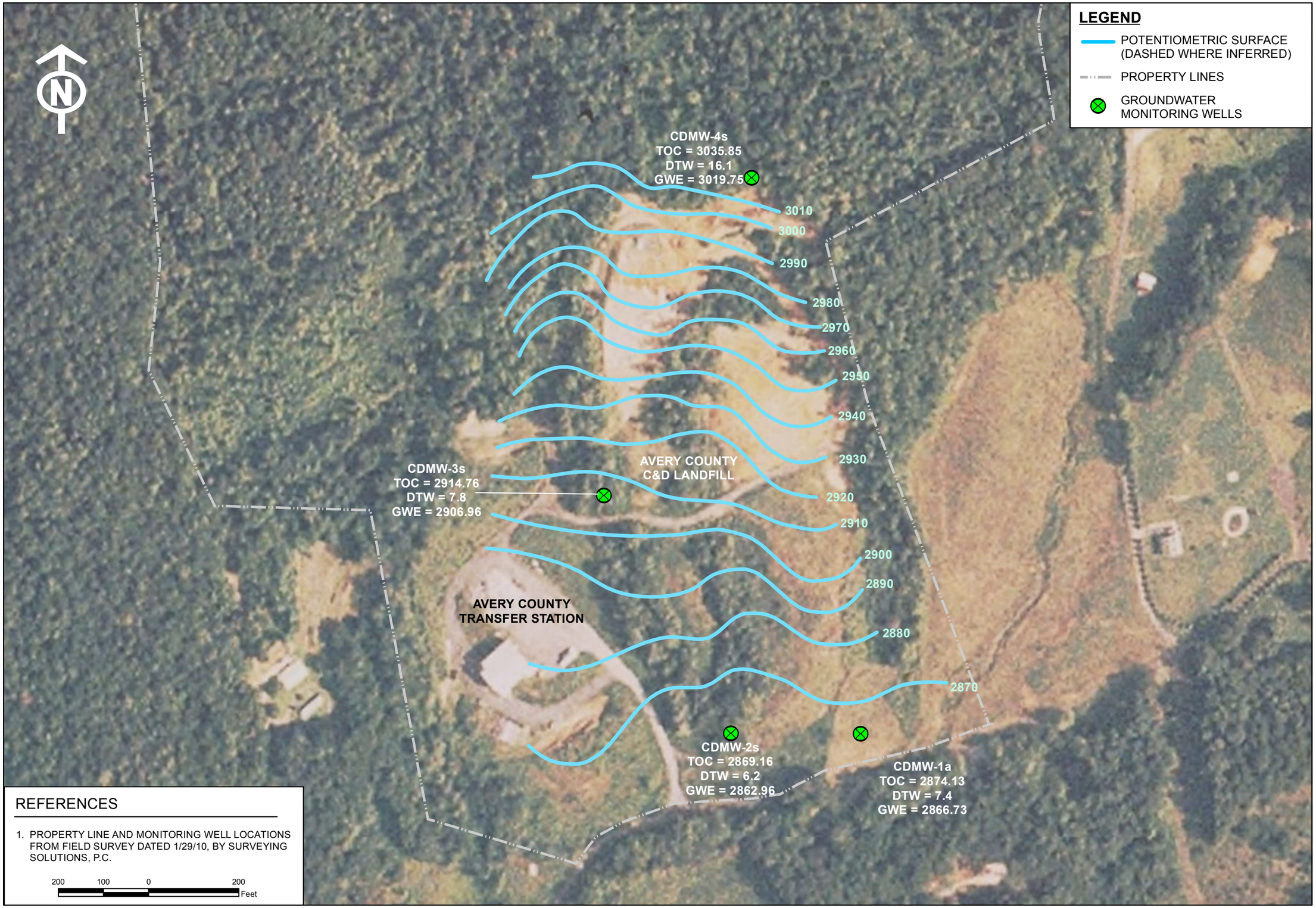
A potentiometric surface map was prepared from ground water elevation data collected during this sampling event. The data indicates that ground water is flowing generally to the south across most of the site. Hydraulic conductivity data is not available for these wells however; an average hydraulic conductivity and effective porosity for shallow wells across the site have been used to evaluate groundwater velocities. Groundwater velocity ranges from 0.008 ft/day (CDMW-1a) to 0.024 ft/day (CDMW-3). 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 eight (8) 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”. The inorganic constituents detected are naturally occurring in the mountainous region of the State.

The next ground water monitoring event is scheduled for October 2011. A report will be submitted to NCDENR upon receipt of laboratory analyses.

Figures



REFERENCES

1. PROPERTY LINE AND MONITORING WELL LOCATIONS FROM FIELD SURVEY DATED 1/29/10, BY SURVEYING SOLUTIONS, P.C.

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

FIGURE NO.	1
FILE NAME	AVERY CD
SCALE:	AS SHOWN
PROJECT NO.	AVERY 10-1
CHECKED BY:	J.A.S.
DRAWN BY:	D.M.M.
DATE:	MAY 2011

TITLE: AVERY COUNTY C&D LANDFILL POTENTIOMETRIC SURFACE MAP SPRING 2011

C:\gw\Avery\DATA\POTENTIOMETRIC SURFACE\AVERY CD.mxd 5/10/2011 2:35:20 PM

Tables

By: DMM
Date: 4/29/2011

Table 1
Avery County C&D Landfill
Ground Water Elevations
4/7/2011

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	7.4	2866.73	2.26E+00	19	0.071	0.008
CDMW-2s	817190.86	1121007.60	2869.16	6.2	2862.96	2.26E+00	19	0.081	0.010
CDMW-3s	817717.60	1120726.57	2914.76	7.8	2906.96	2.26E+00	19	0.205	0.024
CDMW-4s	818421.66	1121053.03	3035.85	16.1	3019.75	2.26E+00	19	0.180	0.021

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: 4/29/2011

Table 2
Avery County C&D Landfill
Field Parameters
4/7/2011

Well Identification #	Temperature (°Celsius)	Turbidity (NTU)	Specific Conductivity (uS/cm)	pH
CDMW-1a	12	NM	90	7.1
CDMW-2s	13	NM	170	7.9
CDMW-3s	12	NM	120	8.3
CDMW-4s	14	NM	10	8
SW-1	15	NM	10	7.7
SW-2	14	NM	40	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 Joan Smyth of RSG Engineers Inc.

By: DMM
Date: 4/29/2011

Table 3
Avery County C&D Landfill
Detected Inorganic and Organic Constituents
4/7/2011

Constituents	SWSL	2L or GWP Standards	CDMW-1s	CDMW-2s	CDMW-3s	CDMW-4s	SW-1	SW-2
Inorganic Constituents								
Barium	100	700	**392**	**192**	**154**	ND	ND	ND
Beryllium	1	4	**1.8**	ND	**1.4**	**1.1**	ND	ND
Cobalt	10	1	**41.7**	ND	**11.4**	**16.9**	ND	ND
Copper	10	1000	**46.5**	ND	**21.4**	**12**	ND	ND
Chromium, total	10	10	**55.8**	ND	**28.9**	**13.4**	ND	ND
Lead	10	15	**21**	ND			ND	ND
Vanadium	25	0.3	**86.7**	ND	**47.9**	**28.6**	ND	ND
Zinc	10	1000	**254**	**16.6**	**181**	**21.6**	ND	**20.6**

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 reported by Pace Laboratory.

BY: DMM

DATE: 4/29/2011

RICHARDSON SMITH GARDNER & ASSOCIATES
ENGINEERING & GEOLOGICAL SERVICES

Table 4
Indicator Parameters
Avery C&D County Landfill
4/7/2011

Parameter	SWSL /PQL	CDMW-1s	CDMW-2s	CDMW-3s	CDMW-4s	SW-1	SW-2
Total Alkalinity	---	21200	39200	28600	8470	NM	NM
Total Dissolved Solids	500000	52000	114000	ND	ND	NM	NM
Chloride	250000	ND	14800	ND	ND	NM	NM
Sulfate	250000	37800	33100	39700	ND	NM	NM

Note : All results are in ug/l.
NM = Not Measured

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: 4.7.11
Well ID: MW-1a 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:

o.k.

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:

o.k.

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:

o.k.

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:** 4.7.11

Well ID: MW-2 **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:

O.K.

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:

O.K.

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:

O.K.

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 Cty **Date:** 4.7.11
Well ID: MW-3 **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:

Concrete apron may 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 (+D) **Date:** 4-7-11
Well ID: MW-4s **Initials:** [illegible]

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:

o.k.

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:

concrete apron may 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:

o.k.

Appendix B

Monitoring Well Information

By: DMM
Date: 4/29/2011

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	7.4	16.2	4'-12
CDMW-2s	817190.86	1121007.60	2869.16	6.2	12.7	10' - 20
CDMW-3s	817717.60	1120726.57	2914.76	7.8	22.95	10' - 20
CDMW-4s	818421.66	1121053.03	3035.85	16.1	35.5	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

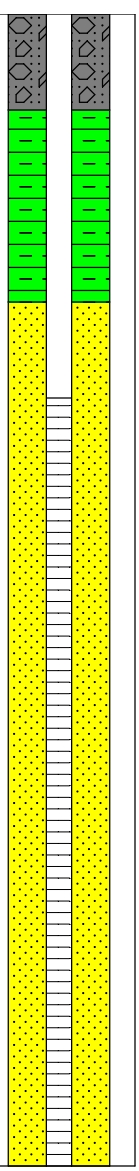
BOREHOLE NUMBER **MW-1a** Page 1 of 1

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

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
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Pace Analytical Services, Inc.
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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

April 26, 2011

Ms. Joan Smyth
RSG&A
14 N. Boylan Ave
Raleigh, NC 27603

RE: Project: AVERY COUNTY
Pace Project No.: 9291808

Dear Ms. Smyth:
Enclosed are the analytical results for sample(s) received by the laboratory on April 12, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bonnie McKee

Bonnie McKee

bonnie.mckee@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: AVERY COUNTY
Pace Project No.: 9291808

Charlotte Certification IDs

9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357

Asheville Certification IDs

2225 Riverside Dr., Asheville, NC 28804
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
New Jersey Certification #: NC011
North Carolina Bioassay Certification #: 9
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
Pennsylvania Certification #: 68-03578
South Carolina Bioassay Certification #: 99030002
South Carolina Certification #: 99030001
Virginia Certification #: 00072
West Virginia Certification #: 356

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SAMPLE ANALYTE COUNT

Project: AVERY COUNTY
Pace Project No.: 9291808

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9291808001	**CDMW-1**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
		SM 2320B	JKS	1	PASI-A
		SM 2540C	GW1	1	PASI-A
		EPA 300.0	EWS	1	PASI-A
		SM 4500-Cl-E	JDA	1	PASI-A
9291808002	**CDMW-2S**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
		SM 2320B	JKS	1	PASI-A
		SM 2540C	GW1	1	PASI-A
		EPA 300.0	EWS	1	PASI-A
		SM 4500-Cl-E	JDA	1	PASI-A
9291808003	**CDMW-3S**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
		SM 2320B	JKS	1	PASI-A
		SM 2540C	GW1	1	PASI-A
		EPA 300.0	EWS	1	PASI-A
		SM 4500-Cl-E	JDA	1	PASI-A
9291808004	**CDMW-4S**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
		SM 2320B	JKS	1	PASI-A
		SM 2540C	GW1	1	PASI-A
		EPA 300.0	EWS	1	PASI-A
		SM 4500-Cl-E	JDA	1	PASI-A
9291808005	**CD-SW-1**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C
9291808006	**CD-SW-2**	EPA 6010	JMW	15	PASI-A
		EPA 8260	MCK	52	PASI-C

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-1 **Lab ID: 9291808001** Collected: 04/07/11 17:40 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/25/11 21:29	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-38-2	
Barium	**392**	ug/L	100	1	04/21/11 12:00	04/25/11 21:29	7440-39-3	
Beryllium	**1.8**	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:29	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:29	7440-43-9	
Chromium	**55.8**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-47-3	
Cobalt	**41.7**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-48-4	
Copper	**46.5**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-50-8	
Lead	**21.0**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/25/11 21:29	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/25/11 21:29	7440-28-0	
Vanadium	**86.7**	ug/L	25.0	1	04/21/11 12:00	04/25/11 21:29	7440-62-2	
Zinc	**254**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:29	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 16:23	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 16:23	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 16:23	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 16:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 16:23	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 16:23	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 16:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 16:23	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 16:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 16:23	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 16:23	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 16:23	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 16:23	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 16:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 16:23	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 16:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 16:23	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 16:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 16:23	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 16:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 16:23	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 16:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 16:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 16:23	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 16:23	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 16:23	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 16:23	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-1 **Lab ID: 9291808001** Collected: 04/07/11 17:40 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 16:23	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 16:23	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 16:23	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 16:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 16:23	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 16:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 16:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 16:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 16:23	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 16:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 16:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 16:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 16:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 16:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 16:23	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 16:23	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 16:23	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 16:23	1330-20-7	
4-Bromofluorobenzene (S)	97	%	70-130	1		04/16/11 16:23	460-00-4	
Dibromofluoromethane (S)	112	%	70-130	1		04/16/11 16:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		04/16/11 16:23	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/16/11 16:23	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**21200**	ug/L	5000	1		04/21/11 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**52.0**	mg/L	25.0	1		04/14/11 22:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**37800**	ug/L	5000	1		04/20/11 00:06	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	ND	mg/L	5.0	1		04/18/11 12:15	16887-00-6	

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ACCREDITED IN ACCORDANCE WITH nelac

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-2S **Lab ID: 9291808002** Collected: 04/07/11 17:15 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/25/11 21:33	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-38-2	
Barium	**192**	ug/L	100	1	04/21/11 12:00	04/25/11 21:33	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:33	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:33	7440-43-9	
Chromium	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-47-3	
Cobalt	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-48-4	
Copper	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-50-8	
Lead	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/25/11 21:33	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/25/11 21:33	7440-28-0	
Vanadium	ND	ug/L	25.0	1	04/21/11 12:00	04/25/11 21:33	7440-62-2	
Zinc	**16.6**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:33	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 16:46	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 16:46	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 16:46	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 16:46	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 16:46	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 16:46	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 16:46	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 16:46	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 16:46	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 16:46	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 16:46	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 16:46	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 16:46	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 16:46	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 16:46	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 16:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 16:46	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 16:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 16:46	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 16:46	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 16:46	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 16:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 16:46	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 16:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 16:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 16:46	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 16:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 16:46	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-2S **Lab ID: 9291808002** Collected: 04/07/11 17:15 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 16:46	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 16:46	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 16:46	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 16:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 16:46	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 16:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 16:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 16:46	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 16:46	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 16:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 16:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 16:46	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 16:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 16:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 16:46	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 16:46	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 16:46	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 16:46	1330-20-7	
4-Bromofluorobenzene (S)	95	%	70-130	1		04/16/11 16:46	460-00-4	
Dibromofluoromethane (S)	111	%	70-130	1		04/16/11 16:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	117	%	70-130	1		04/16/11 16:46	17060-07-0	
Toluene-d8 (S)	99	%	70-130	1		04/16/11 16:46	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**39200**	ug/L	5000	1		04/21/11 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**114**	mg/L	25.0	1		04/14/11 22:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**33100**	ug/L	5000	1		04/20/11 00:20	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	**14.8**	mg/L	5.0	1		04/18/11 12:16	16887-00-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-3S **Lab ID: 9291808003** Collected: 04/07/11 16:40 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/25/11 21:37	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-38-2	
Barium	**154**	ug/L	100	1	04/21/11 12:00	04/25/11 21:37	7440-39-3	
Beryllium	**1.4**	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:37	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/25/11 21:37	7440-43-9	
Chromium	**28.9**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-47-3	
Cobalt	**11.4**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-48-4	
Copper	**21.4**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-50-8	
Lead	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/25/11 21:37	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/25/11 21:37	7440-28-0	
Vanadium	**47.9**	ug/L	25.0	1	04/21/11 12:00	04/25/11 21:37	7440-62-2	
Zinc	**181**	ug/L	10.0	1	04/21/11 12:00	04/25/11 21:37	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 17:10	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 17:10	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 17:10	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 17:10	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 17:10	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 17:10	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 17:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 17:10	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 17:10	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 17:10	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 17:10	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 17:10	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 17:10	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 17:10	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 17:10	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 17:10	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 17:10	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 17:10	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 17:10	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 17:10	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 17:10	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 17:10	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 17:10	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:10	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:10	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:10	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:10	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:10	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:10	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-3S **Lab ID: 9291808003** Collected: 04/07/11 16:40 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 17:10	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 17:10	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 17:10	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 17:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 17:10	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 17:10	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 17:10	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 17:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 17:10	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 17:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 17:10	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 17:10	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 17:10	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 17:10	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 17:10	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 17:10	1330-20-7	
4-Bromofluorobenzene (S)	97	%	70-130	1		04/16/11 17:10	460-00-4	
Dibromofluoromethane (S)	104	%	70-130	1		04/16/11 17:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	70-130	1		04/16/11 17:10	17060-07-0	
Toluene-d8 (S)	97	%	70-130	1		04/16/11 17:10	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**28600**	ug/L	5000	1		04/21/11 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	ND	mg/L	25.0	1		04/14/11 22:01		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**39700**	ug/L	10000	2		04/22/11 18:58	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	ND	mg/L	5.0	1		04/18/11 12:16	16887-00-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-4S **Lab ID: 9291808004** Collected: 04/07/11 15:15 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/24/11 23:22	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-38-2	
Barium	ND	ug/L	100	1	04/21/11 12:00	04/24/11 23:22	7440-39-3	
Beryllium	**1.1**	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:22	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:22	7440-43-9	
Chromium	**13.4**	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-47-3	
Cobalt	**16.9**	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-48-4	
Copper	**12.0**	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-50-8	
Lead	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/24/11 23:22	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/24/11 23:22	7440-28-0	
Vanadium	**28.6**	ug/L	25.0	1	04/21/11 12:00	04/24/11 23:22	7440-62-2	
Zinc	**21.6**	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:22	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 17:33	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 17:33	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 17:33	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 17:33	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 17:33	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 17:33	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 17:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 17:33	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 17:33	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 17:33	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 17:33	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 17:33	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 17:33	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 17:33	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 17:33	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 17:33	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 17:33	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 17:33	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 17:33	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 17:33	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 17:33	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 17:33	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 17:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:33	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:33	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:33	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:33	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:33	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:33	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CDMW-4S **Lab ID: 9291808004** Collected: 04/07/11 15:15 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 17:33	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 17:33	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 17:33	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 17:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 17:33	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 17:33	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 17:33	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 17:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 17:33	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 17:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 17:33	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 17:33	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 17:33	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 17:33	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 17:33	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 17:33	1330-20-7	
4-Bromofluorobenzene (S)	95	%	70-130	1		04/16/11 17:33	460-00-4	
Dibromofluoromethane (S)	109	%	70-130	1		04/16/11 17:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	116	%	70-130	1		04/16/11 17:33	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		04/16/11 17:33	2037-26-5	
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	**8470**	ug/L	5000	1		04/21/11 11:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	ND	mg/L	25.0	1		04/14/11 22:06		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	ND	ug/L	5000	1		04/20/11 00:47	14808-79-8	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	ND	mg/L	5.0	1		04/18/11 12:18	16887-00-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CD-SW-1 **Lab ID: 9291808005** Collected: 04/07/11 15:30 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/24/11 23:25	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-38-2	
Barium	ND	ug/L	100	1	04/21/11 12:00	04/24/11 23:25	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:25	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:25	7440-43-9	
Chromium	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-47-3	
Cobalt	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-48-4	
Copper	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-50-8	
Lead	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/24/11 23:25	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/24/11 23:25	7440-28-0	
Vanadium	ND	ug/L	25.0	1	04/21/11 12:00	04/24/11 23:25	7440-62-2	
Zinc	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:25	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 17:57	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 17:57	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 17:57	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 17:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 17:57	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 17:57	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 17:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 17:57	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 17:57	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 17:57	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 17:57	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 17:57	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 17:57	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 17:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 17:57	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 17:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 17:57	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 17:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 17:57	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 17:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 17:57	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 17:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 17:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:57	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 17:57	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:57	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 17:57	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 17:57	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CD-SW-1 **Lab ID: 9291808005** Collected: 04/07/11 15:30 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 17:57	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 17:57	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 17:57	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 17:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 17:57	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 17:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 17:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 17:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 17:57	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 17:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 17:57	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 17:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 17:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 17:57	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 17:57	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 17:57	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 17:57	1330-20-7	
4-Bromofluorobenzene (S)	93	%	70-130	1		04/16/11 17:57	460-00-4	
Dibromofluoromethane (S)	106	%	70-130	1		04/16/11 17:57	1868-53-7	
1,2-Dichloroethane-d4 (S)	118	%	70-130	1		04/16/11 17:57	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		04/16/11 17:57	2037-26-5	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CD-SW-2 **Lab ID: 9291808006** Collected: 04/07/11 16:51 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 ICP Groundwater	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Antimony	ND	ug/L	6.0	1	04/21/11 12:00	04/24/11 23:28	7440-36-0	
Arsenic	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-38-2	
Barium	ND	ug/L	100	1	04/21/11 12:00	04/24/11 23:28	7440-39-3	
Beryllium	ND	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:28	7440-41-7	
Cadmium	ND	ug/L	1.0	1	04/21/11 12:00	04/24/11 23:28	7440-43-9	
Chromium	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-47-3	
Cobalt	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-48-4	
Copper	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-50-8	
Lead	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7439-92-1	
Nickel	ND	ug/L	50.0	1	04/21/11 12:00	04/24/11 23:28	7440-02-0	
Selenium	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7782-49-2	
Silver	ND	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-22-4	
Thallium	ND	ug/L	5.5	1	04/21/11 12:00	04/24/11 23:28	7440-28-0	
Vanadium	ND	ug/L	25.0	1	04/21/11 12:00	04/24/11 23:28	7440-62-2	
Zinc	**20.6**	ug/L	10.0	1	04/21/11 12:00	04/24/11 23:28	7440-66-6	
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Acetone	ND	ug/L	100	1		04/16/11 18:21	67-64-1	
Acrylonitrile	ND	ug/L	200	1		04/16/11 18:21	107-13-1	
Benzene	ND	ug/L	1.0	1		04/16/11 18:21	71-43-2	
Bromochloromethane	ND	ug/L	3.0	1		04/16/11 18:21	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		04/16/11 18:21	75-27-4	
Bromoform	ND	ug/L	3.0	1		04/16/11 18:21	75-25-2	
Bromomethane	ND	ug/L	10.0	1		04/16/11 18:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	100	1		04/16/11 18:21	78-93-3	
Carbon disulfide	ND	ug/L	100	1		04/16/11 18:21	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		04/16/11 18:21	56-23-5	
Chlorobenzene	ND	ug/L	3.0	1		04/16/11 18:21	108-90-7	
Chloroethane	ND	ug/L	10.0	1		04/16/11 18:21	75-00-3	
Chloroform	ND	ug/L	5.0	1		04/16/11 18:21	67-66-3	
Chloromethane	ND	ug/L	1.0	1		04/16/11 18:21	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	13.0	1		04/16/11 18:21	96-12-8	
Dibromochloromethane	ND	ug/L	3.0	1		04/16/11 18:21	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		04/16/11 18:21	106-93-4	
Dibromomethane	ND	ug/L	10.0	1		04/16/11 18:21	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	5.0	1		04/16/11 18:21	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/16/11 18:21	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	100	1		04/16/11 18:21	110-57-6	
1,1-Dichloroethane	ND	ug/L	5.0	1		04/16/11 18:21	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/16/11 18:21	107-06-2	
1,1-Dichloroethene	ND	ug/L	5.0	1		04/16/11 18:21	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 18:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	5.0	1		04/16/11 18:21	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		04/16/11 18:21	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		04/16/11 18:21	142-28-9	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 18:21	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		04/16/11 18:21	10061-02-6	

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ANALYTICAL RESULTS

Project: AVERY COUNTY
Pace Project No.: 9291808

Sample: CD-SW-2 **Lab ID: 9291808006** Collected: 04/07/11 16:51 Received: 04/12/11 16:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level Landfill	Analytical Method: EPA 8260							
Ethylbenzene	ND	ug/L	1.0	1		04/16/11 18:21	100-41-4	
2-Hexanone	ND	ug/L	50.0	1		04/16/11 18:21	591-78-6	
Iodomethane	ND	ug/L	10.0	1		04/16/11 18:21	74-88-4	
Methylene Chloride	ND	ug/L	1.0	1		04/16/11 18:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	1		04/16/11 18:21	108-10-1	
Styrene	ND	ug/L	1.0	1		04/16/11 18:21	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	1		04/16/11 18:21	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	3.0	1		04/16/11 18:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		04/16/11 18:21	127-18-4	
Toluene	ND	ug/L	1.0	1		04/16/11 18:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/16/11 18:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/16/11 18:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/16/11 18:21	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		04/16/11 18:21	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		04/16/11 18:21	96-18-4	
Vinyl acetate	ND	ug/L	50.0	1		04/16/11 18:21	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		04/16/11 18:21	75-01-4	
Xylene (Total)	ND	ug/L	5.0	1		04/16/11 18:21	1330-20-7	
4-Bromofluorobenzene (S)	97	%	70-130	1		04/16/11 18:21	460-00-4	
Dibromofluoromethane (S)	107	%	70-130	1		04/16/11 18:21	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	70-130	1		04/16/11 18:21	17060-07-0	
Toluene-d8 (S)	100	%	70-130	1		04/16/11 18:21	2037-26-5	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: MPRP/8220 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9291808001, 9291808002, 9291808003

METHOD BLANK: 593980 | Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	04/25/11 21:09	
Arsenic	ug/L	ND	10.0	04/25/11 21:09	
Barium	ug/L	ND	100	04/25/11 21:09	
Beryllium	ug/L	ND	1.0	04/25/11 21:09	
Cadmium	ug/L	ND	1.0	04/25/11 21:09	
Chromium	ug/L	ND	10.0	04/25/11 21:09	
Cobalt	ug/L	ND	10.0	04/25/11 21:09	
Copper	ug/L	ND	10.0	04/25/11 21:09	
Lead	ug/L	ND	10.0	04/25/11 21:09	
Nickel	ug/L	ND	50.0	04/25/11 21:09	
Selenium	ug/L	ND	10.0	04/25/11 21:09	
Silver	ug/L	ND	10.0	04/25/11 21:09	
Thallium	ug/L	ND	5.5	04/25/11 21:09	
Vanadium	ug/L	ND	25.0	04/25/11 21:09	
Zinc	ug/L	ND	10.0	04/25/11 21:09	

LABORATORY CONTROL SAMPLE: 593981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	501	100	80-120	
Arsenic	ug/L	500	507	101	80-120	
Barium	ug/L	500	517	103	80-120	
Beryllium	ug/L	500	518	104	80-120	
Cadmium	ug/L	500	515	103	80-120	
Chromium	ug/L	500	500	100	80-120	
Cobalt	ug/L	500	509	102	80-120	
Copper	ug/L	500	518	104	80-120	
Lead	ug/L	500	510	102	80-120	
Nickel	ug/L	500	508	102	80-120	
Selenium	ug/L	500	510	102	80-120	
Silver	ug/L	250	253	101	80-120	
Thallium	ug/L	500	507	101	80-120	
Vanadium	ug/L	500	506	101	80-120	
Zinc	ug/L	500	498	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 593982 593983

Parameter	Units	9291942007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	477	548	95	109	75-125	14	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 593982 593983

Parameter	Units	9291942007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Arsenic	ug/L	2.7J	500	500	494	569	98	113	75-125	14	
Barium	ug/L	18.7J	500	500	491	561	94	108	75-125	13	
Beryllium	ug/L	ND	500	500	496	561	99	112	75-125	12	
Cadmium	ug/L	ND	500	500	473	538	95	108	75-125	13	
Chromium	ug/L	3.0J	500	500	463	527	92	105	75-125	13	
Cobalt	ug/L	1.5J	500	500	468	533	93	106	75-125	13	
Copper	ug/L	5.5J	500	500	501	568	99	113	75-125	13	
Lead	ug/L	ND	500	500	457	523	91	105	75-125	13	
Nickel	ug/L	ND	500	500	463	526	92	105	75-125	13	
Selenium	ug/L	ND	500	500	485	545	97	109	75-125	12	
Silver	ug/L	0.22J	250	250	243	274	97	110	75-125	12	
Thallium	ug/L	ND	500	500	453	522	91	104	75-125	14	
Vanadium	ug/L	15.9J	500	500	499	561	97	109	75-125	12	
Zinc	ug/L	17.3	500	500	481	548	93	106	75-125	13	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 593986 593987

Parameter	Units	9291944005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	527	501	105	100	75-125	5	
Arsenic	ug/L	ND	500	500	533	507	106	101	75-125	5	
Barium	ug/L	197	500	500	727	695	106	100	75-125	5	
Beryllium	ug/L	ND	500	500	543	519	109	104	75-125	5	
Cadmium	ug/L	ND	500	500	528	502	106	100	75-125	5	
Chromium	ug/L	0.96J	500	500	517	488	103	97	75-125	6	
Cobalt	ug/L	24.2	500	500	548	521	105	99	75-125	5	
Copper	ug/L	0.81J	500	500	548	520	109	104	75-125	5	
Lead	ug/L	ND	500	500	515	489	103	98	75-125	5	
Nickel	ug/L	ND	500	500	518	492	104	98	75-125	5	
Selenium	ug/L	ND	500	500	534	505	107	101	75-125	6	
Silver	ug/L	ND	250	250	266	253	106	101	75-125	5	
Thallium	ug/L	ND	500	500	518	490	104	98	75-125	6	
Vanadium	ug/L	ND	500	500	537	509	107	102	75-125	5	
Zinc	ug/L	4.4J	500	500	523	498	104	99	75-125	5	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: MPRP/8222 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET NC Groundwater
Associated Lab Samples: 9291808004, 9291808005, 9291808006

METHOD BLANK: 594023 | Matrix: Water
Associated Lab Samples: 9291808004, 9291808005, 9291808006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	6.0	04/24/11 23:15	
Arsenic	ug/L	ND	10.0	04/24/11 23:15	
Barium	ug/L	ND	100	04/24/11 23:15	
Beryllium	ug/L	ND	1.0	04/24/11 23:15	
Cadmium	ug/L	ND	1.0	04/24/11 23:15	
Chromium	ug/L	ND	10.0	04/24/11 23:15	
Cobalt	ug/L	ND	10.0	04/24/11 23:15	
Copper	ug/L	ND	10.0	04/24/11 23:15	
Lead	ug/L	ND	10.0	04/24/11 23:15	
Nickel	ug/L	ND	50.0	04/24/11 23:15	
Selenium	ug/L	ND	10.0	04/24/11 23:15	
Silver	ug/L	ND	10.0	04/24/11 23:15	
Thallium	ug/L	ND	5.5	04/24/11 23:15	
Vanadium	ug/L	ND	25.0	04/24/11 23:15	
Zinc	ug/L	ND	10.0	04/24/11 23:15	

LABORATORY CONTROL SAMPLE: 594024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	500	482	96	80-120	
Arsenic	ug/L	500	484	97	80-120	
Barium	ug/L	500	493	99	80-120	
Beryllium	ug/L	500	497	99	80-120	
Cadmium	ug/L	500	480	96	80-120	
Chromium	ug/L	500	484	97	80-120	
Cobalt	ug/L	500	485	97	80-120	
Copper	ug/L	500	501	100	80-120	
Lead	ug/L	500	487	97	80-120	
Nickel	ug/L	500	476	95	80-120	
Selenium	ug/L	500	495	99	80-120	
Silver	ug/L	250	245	98	80-120	
Thallium	ug/L	500	470	94	80-120	
Vanadium	ug/L	500	479	96	80-120	
Zinc	ug/L	500	503	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 594025 594026

Parameter	Units	9291945008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Antimony	ug/L	ND	500	500	482	502	96	100	75-125	4	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 594025 594026

Parameter	Units	9291945008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Arsenic	ug/L	ND	500	500	487	504	97	101	75-125	3	
Barium	ug/L	16.2J	500	500	504	524	98	102	75-125	4	
Beryllium	ug/L	ND	500	500	499	516	100	103	75-125	3	
Cadmium	ug/L	ND	500	500	477	493	95	99	75-125	3	
Chromium	ug/L	1.1J	500	500	484	501	97	100	75-125	3	
Cobalt	ug/L	2.2J	500	500	484	505	96	101	75-125	4	
Copper	ug/L	3.4J	500	500	505	526	100	105	75-125	4	
Lead	ug/L	ND	500	500	480	498	96	99	75-125	4	
Nickel	ug/L	ND	500	500	473	489	95	98	75-125	3	
Selenium	ug/L	ND	500	500	501	515	100	103	75-125	3	
Silver	ug/L	ND	250	250	244	252	98	101	75-125	3	
Thallium	ug/L	ND	500	500	467	485	93	97	75-125	4	
Vanadium	ug/L	1.7J	500	500	480	499	96	99	75-125	4	
Zinc	ug/L	7.0J	500	500	495	510	98	101	75-125	3	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: MSV/14838 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level Landfill
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004, 9291808005, 9291808006

METHOD BLANK: 592377 Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004, 9291808005, 9291808006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	5.0	04/16/11 14:25	
1,1,1-Trichloroethane	ug/L	ND	1.0	04/16/11 14:25	
1,1,2,2-Tetrachloroethane	ug/L	ND	3.0	04/16/11 14:25	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/16/11 14:25	
1,1-Dichloroethane	ug/L	ND	5.0	04/16/11 14:25	
1,1-Dichloroethene	ug/L	ND	5.0	04/16/11 14:25	
1,2,3-Trichloropropane	ug/L	ND	1.0	04/16/11 14:25	
1,2-Dibromo-3-chloropropane	ug/L	ND	13.0	04/16/11 14:25	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	04/16/11 14:25	
1,2-Dichlorobenzene	ug/L	ND	5.0	04/16/11 14:25	
1,2-Dichloroethane	ug/L	ND	1.0	04/16/11 14:25	
1,2-Dichloropropane	ug/L	ND	1.0	04/16/11 14:25	
1,3-Dichloropropane	ug/L	ND	1.0	04/16/11 14:25	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/16/11 14:25	
2-Butanone (MEK)	ug/L	ND	100	04/16/11 14:25	
2-Hexanone	ug/L	ND	50.0	04/16/11 14:25	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	04/16/11 14:25	
Acetone	ug/L	ND	100	04/16/11 14:25	
Acrylonitrile	ug/L	ND	200	04/16/11 14:25	
Benzene	ug/L	ND	1.0	04/16/11 14:25	
Bromochloromethane	ug/L	ND	3.0	04/16/11 14:25	
Bromodichloromethane	ug/L	ND	1.0	04/16/11 14:25	
Bromoform	ug/L	ND	3.0	04/16/11 14:25	
Bromomethane	ug/L	ND	10.0	04/16/11 14:25	
Carbon disulfide	ug/L	ND	100	04/16/11 14:25	
Carbon tetrachloride	ug/L	ND	1.0	04/16/11 14:25	
Chlorobenzene	ug/L	ND	3.0	04/16/11 14:25	
Chloroethane	ug/L	ND	10.0	04/16/11 14:25	
Chloroform	ug/L	ND	5.0	04/16/11 14:25	
Chloromethane	ug/L	ND	1.0	04/16/11 14:25	
cis-1,2-Dichloroethene	ug/L	ND	5.0	04/16/11 14:25	
cis-1,3-Dichloropropene	ug/L	ND	1.0	04/16/11 14:25	
Dibromochloromethane	ug/L	ND	3.0	04/16/11 14:25	
Dibromomethane	ug/L	ND	10.0	04/16/11 14:25	
Ethylbenzene	ug/L	ND	1.0	04/16/11 14:25	
Iodomethane	ug/L	ND	10.0	04/16/11 14:25	
Methylene Chloride	ug/L	ND	1.0	04/16/11 14:25	
Styrene	ug/L	ND	1.0	04/16/11 14:25	
Tetrachloroethene	ug/L	ND	1.0	04/16/11 14:25	
Toluene	ug/L	ND	1.0	04/16/11 14:25	
trans-1,2-Dichloroethene	ug/L	ND	5.0	04/16/11 14:25	
trans-1,3-Dichloropropene	ug/L	ND	1.0	04/16/11 14:25	
trans-1,4-Dichloro-2-butene	ug/L	ND	100	04/16/11 14:25	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

METHOD BLANK: 592377 Matrix: Water

Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004, 9291808005, 9291808006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/L	ND	1.0	04/16/11 14:25	
Trichlorofluoromethane	ug/L	ND	1.0	04/16/11 14:25	
Vinyl acetate	ug/L	ND	50.0	04/16/11 14:25	
Vinyl chloride	ug/L	ND	1.0	04/16/11 14:25	
Xylene (Total)	ug/L	ND	5.0	04/16/11 14:25	
1,2-Dichloroethane-d4 (S)	%	109	70-130	04/16/11 14:25	
4-Bromofluorobenzene (S)	%	93	70-130	04/16/11 14:25	
Dibromofluoromethane (S)	%	104	70-130	04/16/11 14:25	
Toluene-d8 (S)	%	101	70-130	04/16/11 14:25	

LABORATORY CONTROL SAMPLE: 592378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	53.1	106	70-130	
1,1,1-Trichloroethane	ug/L	50	49.7	99	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	55.3	111	70-130	
1,1,2-Trichloroethane	ug/L	50	52.5	105	70-130	
1,1-Dichloroethane	ug/L	50	49.5	99	70-130	
1,1-Dichloroethene	ug/L	50	47.7	95	70-132	
1,2,3-Trichloropropane	ug/L	50	54.1	108	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	62.8	126	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	56.0	112	70-130	
1,2-Dichlorobenzene	ug/L	50	52.4	105	70-130	
1,2-Dichloroethane	ug/L	50	50.8	102	70-130	
1,2-Dichloropropane	ug/L	50	49.6	99	70-130	
1,3-Dichloropropane	ug/L	50	51.5	103	70-130	
1,4-Dichlorobenzene	ug/L	50	52.7	105	70-130	
2-Butanone (MEK)	ug/L	100	118	118	70-145	
2-Hexanone	ug/L	100	125	125	70-144	
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	70-140	
Acetone	ug/L	100	115	115	50-175	
Acrylonitrile	ug/L	250	266	106	70-143	
Benzene	ug/L	50	47.6	95	70-130	
Bromochloromethane	ug/L	50	47.5	95	70-130	
Bromodichloromethane	ug/L	50	53.0	106	70-130	
Bromoform	ug/L	50	57.0	114	70-130	
Bromomethane	ug/L	50	48.9	98	54-130	
Carbon disulfide	ug/L	50	51.7J	103	70-131	
Carbon tetrachloride	ug/L	50	51.6	103	70-132	
Chlorobenzene	ug/L	50	51.2	102	70-130	
Chloroethane	ug/L	50	45.6	91	64-134	
Chloroform	ug/L	50	49.4	99	70-130	
Chloromethane	ug/L	50	51.4	103	64-130	
cis-1,2-Dichloroethene	ug/L	50	50.9	102	70-131	
cis-1,3-Dichloropropene	ug/L	50	53.5	107	70-130	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

LABORATORY CONTROL SAMPLE: 592378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Dibromochloromethane	ug/L	50	52.4	105	70-130	
Dibromomethane	ug/L	50	51.7	103	70-131	
Ethylbenzene	ug/L	50	51.8	104	70-130	
Iodomethane	ug/L	100	100	100	49-180	
Methylene Chloride	ug/L	50	51.3	103	63-130	
Styrene	ug/L	50	54.4	109	70-130	
Tetrachloroethene	ug/L	50	53.6	107	70-130	
Toluene	ug/L	50	48.2	96	70-130	
trans-1,2-Dichloroethene	ug/L	50	48.0	96	70-130	
trans-1,3-Dichloropropene	ug/L	50	52.7	105	70-132	
trans-1,4-Dichloro-2-butene	ug/L	50	57J	114	70-141	
Trichloroethene	ug/L	50	49.1	98	70-130	
Trichlorofluoromethane	ug/L	50	50.3	101	62-133	
Vinyl acetate	ug/L	100	106	106	66-157	
Vinyl chloride	ug/L	50	45.0	90	69-130	
Xylene (Total)	ug/L	150	162	108	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 592379 592380

Parameter	Units	9291797001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1-Dichloroethene	ug/L	ND	50	50	54.3	53.5	109	107	70-166	2	
Benzene	ug/L	ND	50	50	53.3	52.5	106	105	70-148	1	
Chlorobenzene	ug/L	ND	50	50	57.6	58.1	115	116	70-146	1	
Toluene	ug/L	ND	50	50	55.0	55.1	110	110	70-155	0	
Trichloroethene	ug/L	ND	50	50	55.2	53.5	110	107	69-151	3	
1,2-Dichloroethane-d4 (S)	%						113	110	70-130		
4-Bromofluorobenzene (S)	%						95	97	70-130		
Dibromofluoromethane (S)	%						103	102	70-130		
Toluene-d8 (S)	%						96	98	70-130		

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: WET/16115 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

METHOD BLANK: 594250 Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	ug/L	ND	5000	04/21/11 11:00	

LABORATORY CONTROL SAMPLE: 594251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	ug/L	50000	54600	109	90-110	

SAMPLE DUPLICATE: 594252

Parameter	Units	9292121001 Result	Dup Result	RPD	Qualifiers
Alkalinity, Total as CaCO3	ug/L	783 mg/L	782000	0	

SAMPLE DUPLICATE: 594253

Parameter	Units	9292169004 Result	Dup Result	RPD	Qualifiers
Alkalinity, Total as CaCO3	ug/L	85.8 mg/L	92200	7	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: WET/16047 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

METHOD BLANK: 591628 Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	04/14/11 21:59	

LABORATORY CONTROL SAMPLE: 591629

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	240	96	80-120	

SAMPLE DUPLICATE: 591630

Parameter	Units	9291808001 Result	Dup Result	RPD	Qualifiers
Total Dissolved Solids	mg/L	52.0	61.0	16	D6

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: WETA/9506 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

METHOD BLANK: 591785 Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	ug/L	ND	5000	04/19/11 20:56	

LABORATORY CONTROL SAMPLE: 591786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	20000	18800	94	90-110	

MATRIX SPIKE SAMPLE: 591787

Parameter	Units	9291858007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	119 mg/L	20000	133000	74	90-110	M0

MATRIX SPIKE SAMPLE: 591789

Parameter	Units	9291858008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	ug/L	19.9 mg/L	20000	39400	98	90-110	

SAMPLE DUPLICATE: 591788

Parameter	Units	9291858007 Result	Dup Result	RPD	Qualifiers
Sulfate	ug/L	119 mg/L	112000	6	

SAMPLE DUPLICATE: 591790

Parameter	Units	9291858008 Result	Dup Result	RPD	Qualifiers
Sulfate	ug/L	19.9 mg/L	19700	1	

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QUALITY CONTROL DATA

Project: AVERY COUNTY
Pace Project No.: 9291808

QC Batch: WETA/9519 — Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E — Analysis Description: 4500 Chloride
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

METHOD BLANK: 592482 — Matrix: Water
Associated Lab Samples: 9291808001, 9291808002, 9291808003, 9291808004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	04/18/11 12:03	

LABORATORY CONTROL SAMPLE: 592483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.1	101	90-110	

MATRIX SPIKE SAMPLE: 592484

Parameter	Units	9292121001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	160	20	178	91	75-125	

SAMPLE DUPLICATE: 592485

Parameter	Units	9291858004 Result	Dup Result	RPD	Qualifiers
Chloride	mg/L	12.8	14.1	9	

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ACCREDITED IN ACCORDANCE WITH nelac

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: AVERY COUNTY
Pace Project No.: 9291808

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AVERY COUNTY
Pace Project No.: 9291808

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9291808001	**CDMW-1**	EPA 3010	MPRP/8220	EPA 6010	ICP/7597
9291808002	**CDMW-2S**	EPA 3010	MPRP/8220	EPA 6010	ICP/7597
9291808003	**CDMW-3S**	EPA 3010	MPRP/8220	EPA 6010	ICP/7597
9291808004	**CDMW-4S**	EPA 3010	MPRP/8222	EPA 6010	ICP/7599
9291808005	**CD-SW-1**	EPA 3010	MPRP/8222	EPA 6010	ICP/7599
9291808006	**CD-SW-2**	EPA 3010	MPRP/8222	EPA 6010	ICP/7599
9291808001	**CDMW-1**	EPA 8260	MSV/14838		
9291808002	**CDMW-2S**	EPA 8260	MSV/14838		
9291808003	**CDMW-3S**	EPA 8260	MSV/14838		
9291808004	**CDMW-4S**	EPA 8260	MSV/14838		
9291808005	**CD-SW-1**	EPA 8260	MSV/14838		
9291808006	**CD-SW-2**	EPA 8260	MSV/14838		
9291808001	**CDMW-1**	SM 2320B	WET/16115		
9291808002	**CDMW-2S**	SM 2320B	WET/16115		
9291808003	**CDMW-3S**	SM 2320B	WET/16115		
9291808004	**CDMW-4S**	SM 2320B	WET/16115		
9291808001	**CDMW-1**	SM 2540C	WET/16047		
9291808002	**CDMW-2S**	SM 2540C	WET/16047		
9291808003	**CDMW-3S**	SM 2540C	WET/16047		
9291808004	**CDMW-4S**	SM 2540C	WET/16047		
9291808001	**CDMW-1**	EPA 300.0	WETA/9506		
9291808002	**CDMW-2S**	EPA 300.0	WETA/9506		
9291808003	**CDMW-3S**	EPA 300.0	WETA/9506		
9291808004	**CDMW-4S**	EPA 300.0	WETA/9506		
9291808001	**CDMW-1**	SM 4500-Cl-E	WETA/9519		
9291808002	**CDMW-2S**	SM 4500-Cl-E	WETA/9519		
9291808003	**CDMW-3S**	SM 4500-Cl-E	WETA/9519		
9291808004	**CDMW-4S**	SM 4500-Cl-E	WETA/9519		

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

1473268

Section A Required Client Information:

Company: Richardson Smith Gardner
Address: 14 N. Boylan Ave. Raleigh NC 27603
Email To: joan@rsgengineers.com
Phone: 919-828-0577 Fax: 919-828-3899
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Richardson Smith Gardner
Copy To:
Purchase Order No.: N/A
Project Name: Avery County
Project Number: Avery-10-1

Section C Invoice Information:

Attention: Joan Smyth
Company Name: Richards[redacted]ner
Address: 14 N. Boyl[redacted]
Pace Quote Reference:
Pace Project Manager: Kelly Dillon
Pace Profile #: 3962-2

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

Matrix Codes (see valid codes to left): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED DATE	COLLECTED TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	8260	metals 200.7	Alkalinity	Chloride	TDS	Sulfate	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	CDMW-1	WT	G	4/7/11	5:40p			12°	8									✓	✓	✓	✓	✓	✓		001
2	CDMW-2S	WT	G	4/7/11	5:15p			13°	8									✓	✓	✓	✓	✓	✓		002
3	CDMW-3S	WT	G	4/7/11	4:40p			12°	8									✓	✓	✓	✓	✓	✓		003
4	CDMW-4S	WT	G	4/7/11	3:15p			14°	8									✓	✓	✓	✓	✓	✓		004
5	CD-SW-1	WT	G	4/7/11	3:30p			15°	4									✓	✓						005
6	CD-SW-2	WT	G	4/7/11	4:51p			14°	4									✓	✓						006
7																									
8																									
9																									
10																									
11																									
12																									

929180

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	4/11/11	1020	[signature] / Pace	4/12/11	1020				
	[signature] / Pace	4/12/11	1605	Jamelle Cloud / Pace	4/12/11	1605	2.1	Y	N	Y

Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Lindsay Quant

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4/11/11

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Sample Condition Upon Receipt

Pace Analytical

Client Name: Richardson Smith Gardner / Project # 92291808

Where Received: ☑ Huntersville ☐ Asheville ☐ Eden

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun : T904 **Type of Ice:** (Wet) Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor: Add / Subtract _____0_____C

Corrected Cooler Temp.: 2.1 C **Biological Tissue is Frozen:** Yes No

Temp should be above freezing to 6°C

Comments:

Optional
Proj. Due Date:
Proj. Name:

Date and Initials of person examining contents: 4/12/11 [illegible]

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15. SC 4/12/11
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review: BKM **Date:** 4/12/11 **SRF Review:** BKM **Date:** 4/13/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)