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):

ERM NC, Inc. (consultant)

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

Name: Alan Martin Phone: 704-541-8345

E-mail: alan.martin@erm.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
R.J. Reynolds Industrial Landfill	Edwards Road (S.R. 1903) Rural Hall, Forsyth County	34-05	0.0503	April 1-3, 2015

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.

Alan Martin, PG — Project Manager — 704-541-8345

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

Alan D. Martin — June 23, 2015

Signature — Date

Affix NC Licensed Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1846 GEOLOGIST ALAN D. MARTIN

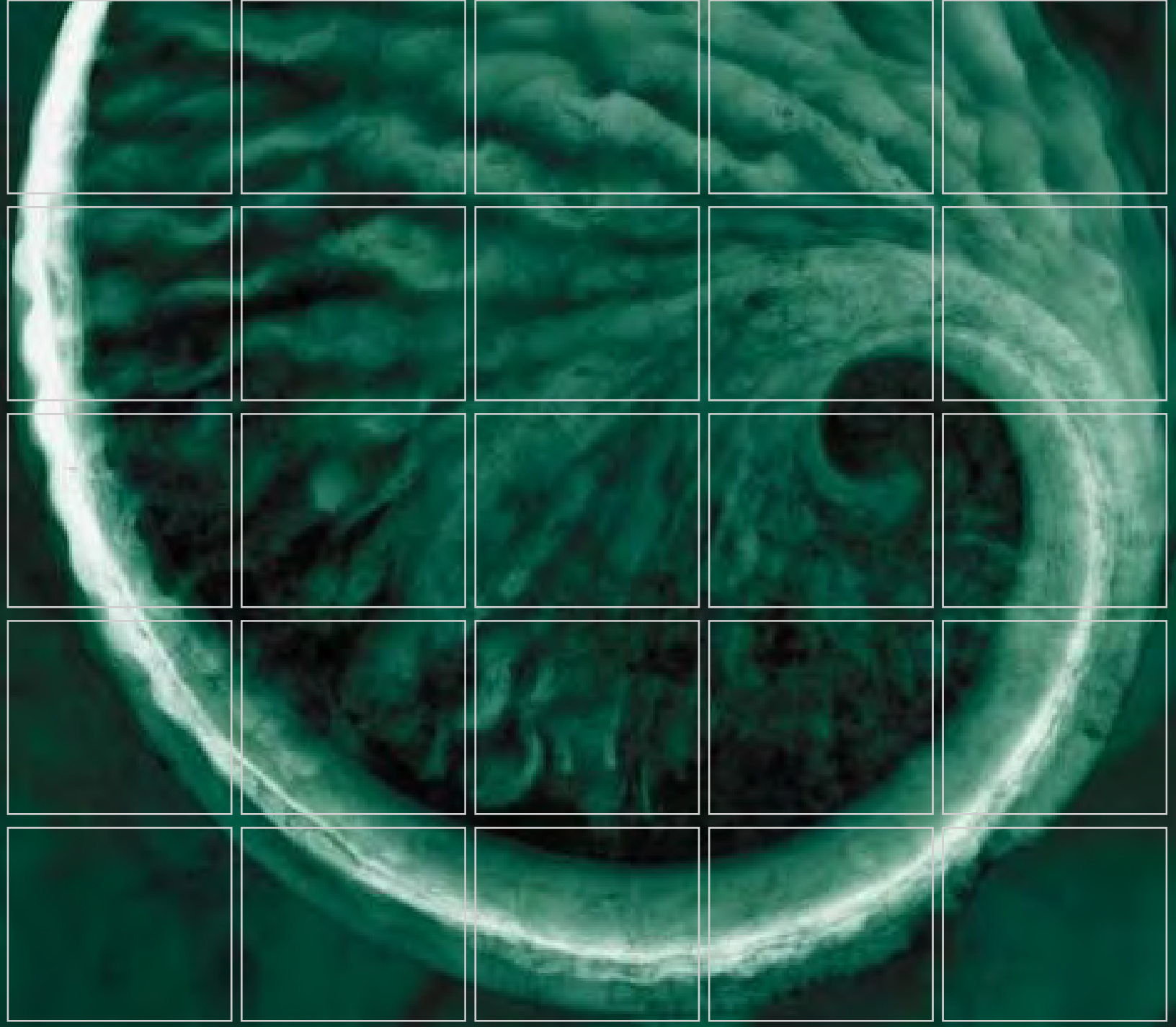
ERM NC, Inc. - 15720 Brixham Hill Avenue, Suite 120, Charlotte, NC 28277

Facility Representative Address

NC Professional Geologic Corporation # C-470

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

Revised 6/2009



R.J. Reynolds Tobacco Company

Groundwater and Surface Water Monitoring Semi-Annual Summary Report – April 2015

Edwards Road Landfill - Permit # 34-05
Edwards Road
Rural Hall, Forsyth County,
North Carolina

June 2015

Delivering sustainable solutions in a more competitive world

ERM

ERM NC, Inc.

15720 Brixham Hill Avenue
Suite 120
Charlotte, NC 28277
(704) 541-8345

June 23, 2015

North Carolina Department of Environment and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
Attention: Ms. Jaclynne Drummond

Via Email

Subject: Groundwater and Surface Water Monitoring
Semi-Annual Summary Report – April 2015
Edwards Road Landfill – Permit #34-05
Edwards Road
Rural Hall, Forsyth County, North Carolina

Dear Ms. Drummond:

On behalf of R.J. Reynolds Tobacco Company, ERM NC, Inc. (ERM) is submitting the summary report for the April 2015 groundwater and surface water monitoring event associated with the subject property. Please contact Mr. Max Hopkins of R.J. Reynolds Tobacco Company at 336-741-6932 or myself if you have any questions or comments.

Sincerely,

Alan Martin, P.G.
Project Manager

Attachments:
Environmental Monitoring Reporting Form
Groundwater and Surface Water Monitoring Semi-Annual Summary Report

cc: Mr. Max Hopkins - R.J. Reynolds Tobacco Company
Mr. Tom Wilson - ERM

R.J. Reynolds Tobacco Company

Groundwater and Surface Water Monitoring Semi-Annual Summary Report – April 2015

Edwards Road Landfill - Permit # 34-05
Edwards Road
Rural Hall, Forsyth County, North Carolina

June 19, 2015

Project No. 0263289

Alan Martin, P.G.
Project Manager

Thomas M. Wilson, P.G.
Principal-in-Charge

ERM NC, Inc.
15720 Brixham Hill Avenue
Suite 120
Charlotte, North Carolina 28277
(704) 541-8345

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1.0 INTRODUCTION

In accordance with the February 4, 2014 *Corrective Action Plan* (ERM NC, Inc.) and the *Industrial Solid Waste Landfill Facility Permit No. 34-05-indus-1986* as amended through August 12, 2011, this report presents the results of the April 2015 groundwater and surface water sampling event conducted at the closed Edwards Road Landfill previously operated by R.J. Reynolds Tobacco Company. The closed landfill is located northeast of the jurisdictional boundaries of Rural Hall, Forsyth County, North Carolina and the location of the Site along with topographic map coverage of the vicinity are shown on Figure 1.

The current monitoring data, as well as previously submitted monitoring data, indicate the occurrence of certain inorganic compounds in excess of the North Carolina Groundwater Standards (15A NCAC 2L) and Surface Water Standards (15A NCAC 2B) in portions of the landfill site.

A Corrective Action Plan (ERM) to restore groundwater quality beyond the compliance boundary, to stop unacceptable impacts to the adjacent surface waters, and to reduce the overall groundwater contamination at the facility was approved by NCDENR DWM on February 19, 2014. The selected remedy includes source area contaminant control via the previous installation of the synthetic liner (cap) over the limits of waste plus drainage improvements (completed in 2012) to minimize rainfall infiltration, leachate generation and discharge of constituents to groundwater, to allow intrinsic remediation of the existing affected-groundwater.

The April 2015 groundwater and surface water sampling event represents the sixth semi-annual monitoring event conducted at the site since the completion of the synthetic cap installation and the drainage improvements.

2.0 HISTORICAL GROUNDWATER AND SURFACE WATER QUALITY

Groundwater and surface water quality monitoring has been conducted in the vicinity of the Edwards Road Landfill since 1989 in accordance with the conditions of Permit Number 34-05 and subsequent to the closure of the landfill, in accordance with the approved Post Closure Monitoring Plan. An updated water quality monitoring plan presented in the February 2014 CAP (ERM) was approved by NCDENR on February 19, 2014 and is summarized in Section 3.0. Figure 2 depicts the locations of the groundwater monitor wells and surface water sampling locations and Table 1 presents a summary of available well construction details. Historical laboratory analytical results for available groundwater and surface water samples are summarized in Appendix A.

3.0 SUMMARY OF MONITORING PROGRAM

Routine groundwater and surface water monitoring activities were conducted on April 1-3, 2015 and are summarized in the following table:

Sampling and Analyses Plan

Sample Location I.D.	Analytical Parameters			
	Metals [1] (EPA 6020B/ 7074)	Sulfate (EPA 300.0)	Total Dissolved Solids (SM 2540C)	Field Parameters [2]
Groundwater:				
W-1	✓	✓	✓	✓
W-2	✓	✓	✓	✓
W-3	✓	✓	✓	✓
W-3B	✓	✓	✓	✓
W-5	--	--	--	--
W-6	✓	✓	✓	✓
W-7	✓	✓	✓	✓
W-8	✓	✓	✓	✓
W-9	✓	✓	✓	✓
PW-1	✓	✓	✓	✓
PZ-1	✓	✓	✓	--
PZ-2	✓	✓	✓	--
PZ-3	✓	✓	✓	--
PZ-4	✓	✓	✓	--
PZ-5	✓	✓	✓	--
Subtotal	*14*	*14*	*14*	*9*
Surface Water:				
SS-01	✓	✓	✓	✓
SS-02	✓	✓	✓	✓
SS-10	--	--	--	--
SS-15	--	--	--	--
SS-20	✓	✓	✓	✓
SS-25	--	--	--	--
SS-30	✓	✓	✓	✓
SS-40	✓	✓	✓	✓
SS-50	✓	✓	✓	✓
SS-60	✓	✓	✓	✓
SS-70	✓	✓	✓	✓
SS-80	✓	✓	✓	✓
SS-90	✓	✓	✓	✓
Subtotal	*10*	*10*	*10*	*10*
TOTAL	**24**	**24**	**24**	**19**

1 *Aluminum, barium, cadmium, chromium (total), iron, lead, manganese and selenium.*
2 *Field parameters include temperature, pH, conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential (Eh).*

Depth-to-water measurements and groundwater elevations for available monitor wells from the April 2015 sampling event are presented in Table 2. Groundwater flow directions are presented on Figure 3. Groundwater and surface water analytical data from the April 2015 sampling event are presented in Table 3. Field collection parameters are provided in Table 4. Historical analytical data for both groundwater and surface water are presented in Appendix A. Laboratory data sheets for the April 2015 sampling event are presented in Appendix B. Copies of the sample logs are

provided in Appendix C. Groundwater and surface water sample analytical results from the April 2015 sampling event are presented on Figures 4 and 5, respectively. Figure 6 depicts the isoconcentration contours of sulfates in groundwater at the site and Figure 7 presents a hydrogeologic conceptual site model and cross-section. Sulfate concentrations in groundwater and surface water over time are presented graphically on Figures 8 and 9, respectively.

4.0 DESCRIPTION OF WATER QUALITY CONDITIONS

4.1 SITE HYDROGEOLOGY

The site geology consists of fractured bedrock (gneiss and schist) overlain by partially weathered rock and a mantle of residual soils near the surface. The depth to bedrock beneath the site generally ranges from 10 to 50 feet bgs. The first occurrence of groundwater beneath the upper portion of the site is within the fractured bedrock. In the lower portions of the site near the streams, groundwater is encountered within the partially weathered rock above the top of hard bedrock (transition zone).

Shallow groundwater beneath the Site migrates either along the top of bedrock or along the permeable zones within the shallow fractured bedrock zone and discharges into nearby creeks, namely Leak Creek and its tributaries. The regional groundwater flow regime within the lower portion of the deep bedrock aquifer is north-eastward toward the nearest regional drainage feature, Town Fork Creek. The depth to groundwater in the top-of-rock aquifer zone ranges from approximately 0 feet at the creeks to 16 feet in shallow monitor wells. The depth to water in the bedrock aquifer ranges from artesian conditions to approximately 110 feet below ground surface in the measured wells.

Using April 2015 depth to water measurements, site groundwater elevations and hydraulic gradients for the Site were calculated as summarized below.

Horizontal Hydraulic Gradient - Saprolite/PWR

Well Designation	April 2-3, 2015					
	Reference Elevation (ft MSL)	Depth to Water (ft)	Head Elevation (ft)	Head Change (ft)	Distance Change (ft)	Hydraulic Gradient (ft/ft)
W-1	822.68	13.29	809.39	29.39	180	0.1633
Leak Creek[1]	780	0.00	780.0			
W-3	804.43	3.78	800.65	15.15	80	0.1894
Leak Creek[1]	785.5	0.00	785.5			
					Average Hydraulic Gradient	**0.1763**

1 - Leak Creek bed elevation represents groundwater discharge line

Based on the April 2015 hydraulic gradients, the groundwater flow rate (seepage velocity) in the saprolite/PWR aquifer zone was calculated as summarized below.

Groundwater Seepage Velocity Calculation = Ki/n_e

where:					
K = hydraulic conductivity	0.080	ft/day	*(estimated)*		
i = horizontal hydraulic gradient	0.1763	ft/ft	*(measured)*		
n_e = effective porosity	0.25		*(estimated)*		
Groundwater Seepage Velocity (Saprolite/PWR) =					
	= (0.08) (0.1763) / (0.25) =			5.64E-02	ft/day
			or	**21**	**ft/year**

The widely spaced locations of the bedrock monitor wells at the Site does not allow for calculation of the hydraulic gradient and groundwater flow rate of the bedrock aquifer.

4.2 GROUNDWATER

During the April 2015 groundwater sampling event, nine monitor wells and five piezometers were sampled utilizing a low flow, low volume sample collection technique. Presently, groundwater within the Site contains concentrations of sulfates, total dissolved solids, and four metals above the applicable North Carolina groundwater standards (NC 2L standard). Sulfate, the primary constituent related to the landfill, was detected in three groundwater samples in excess of the NC 2L standard. Manganese was detected in six of the 14 groundwater samples in excess of the applicable NC 2L standard. Iron was detected in seven of the 14 groundwater samples in excess of the NC 2L standards. Selenium was detected in three of the 14 groundwater samples in excess of the NC 2L standard. Chromium (total) was detected in one of the 14 groundwater samples in excess of the NC 2L standard. The elevated concentrations of iron and manganese in samples from the site appear to be attributable to their natural occurrence in groundwater as indicated by historical samples results from onsite background monitor wells (W-6 and former W-4).

As noted in Section 1.0, installation of the synthetic cap and construction of drainage improvements over the limits of waste were completed in September 2012. The April 2015 samples were collected approximately 30 months after the cap installation. Sulfate concentrations from the April 2015 samples from the shallow monitor wells W-1 and W-2, located near the limits of waste, decreased slightly compared to the March 2012 results,. During this time period, sulfate concentrations from shallow monitor well W-3, also near the limits of waste, have increased slightly. However, during the same period, sulfate concentrations at bedrock monitor well W-3B, located adjacent to W-3, have decreased substantially. Iron concentrations in W-1, W-2, and W-3 remained stable or had a slight decrease. Manganese and total dissolved solids

concentrations remained stable or decreased in W-1 and W-2, but increased slightly in W-3.

Overall, the April 2015 groundwater quality results indicate that groundwater quality improvements are not yet evident in monitor wells located at the perimeter of the landfill. This is consistent with the findings of groundwater modeling (ERM, April 30, 2012, Oct. 9, 2012 & Oct. 1, 2013) developed to evaluate the simulated changes to groundwater and surface water quality over time with an improved landfill cap. The modeling indicated that concentrations in groundwater would attenuate gradually over a period of years due to the relatively low groundwater flow rates (i.e. low flushing rates) at the site. Based on the modeling and the post-capping groundwater monitoring results, additional time will be required before improvements to shallow groundwater quality occur at the perimeter of the landfill as a result the improved landfill cap.

4.3 SURFACE WATER

During the April 2015 sampling event, 11 surface water samples were collected. Concentrations of sulfates, total dissolved solids, manganese, and iron were below the applicable North Carolina surface water standards (NC 2B standards) in eight of the 11 samples. Sulfate concentrations from the 11 surface water samples display a generally stable to declining trend when compared to the September 2012 surface water sample results. Laboratory results from the surface water samples collected indicate concentrations of aluminum in exceedance of the applicable North Carolina surface water standard (NC 2B standard) at nine of the 11 sample points, including the upstream (background) samples at points SS-20 and SS-50.

Overall, the April 2015 surface water quality results indicate surface water quality improvements at the site. This is consistent with the findings of previous groundwater modeling which indicated reductions in sulfate concentrations in surface waters would occur within the first year after the completion of the synthetic cap installation and the drainage improvements at the landfill.

5.0 PRELIMINARY ANALYSIS

The April 2015 monitoring results demonstrate:

- Sulfate, total dissolved solids and four metals in groundwater samples exceed the NC 2L standards. Concentrations of all detected analytes in groundwater were within the normal range of historical fluctuations.

- Sulfate, manganese, iron, and total dissolved solids concentrations in groundwater samples from the Site have generally remained stable or have trended downward compared to historical results. A notable exception is shallow monitoring well W-3 which shows a continuing trend of increasing sulfate concentrations. The concentration increase correlates with an increasing groundwater elevation at W-3.

- No elevated concentrations of sulfates, metals or total dissolved solids have been detected in the off-site groundwater sample. Sulfate levels observed in the off-site monitoring well W-9 to the southeast and sidegradient of the landfill are comparable to background levels observed in the upgradient monitoring well W-6.

- Concentrations of sulfates, total dissolved solids, and manganese in the 11 surface water samples did not exceed the applicable NC 2B standards. Concentrations of iron detected in surface water samples exceeded the NC 2B standards at three of the ten locations, including the two upstream, background locations. Concentrations of aluminum detected in surface water samples exceeded the NC 2B standards at nine of the 11 locations, including the two upstream, background locations. The presence of aluminum in the surface water samples is attributed to its natural occurrence in Piedmont soils and groundwater. Concentrations of other detected analytes in surface water were within the normal range of historical fluctuations.

- Sulfate, manganese, iron, and total dissolved solids concentrations in surface water samples from the Site have generally trended downward or remained stable compared to historical results.

- Installation of the synthetic cap and construction of drainage improvements over the limits of waste were completed in September 2012. The April 2015 samples were collected approximately 30 months after the cap installation and indicate that, due to the relatively low groundwater flow rates at the site, groundwater quality improvements are not yet evident in the monitoring wells located at the landfill perimeter. Additional time will be required before improvements to shallow groundwater quality occur as a result the improved landfill cap. However, the April 2015 surface water quality results indicate continued surface water quality improvements at the site due to the cap installation and the drainage improvements at the landfill.

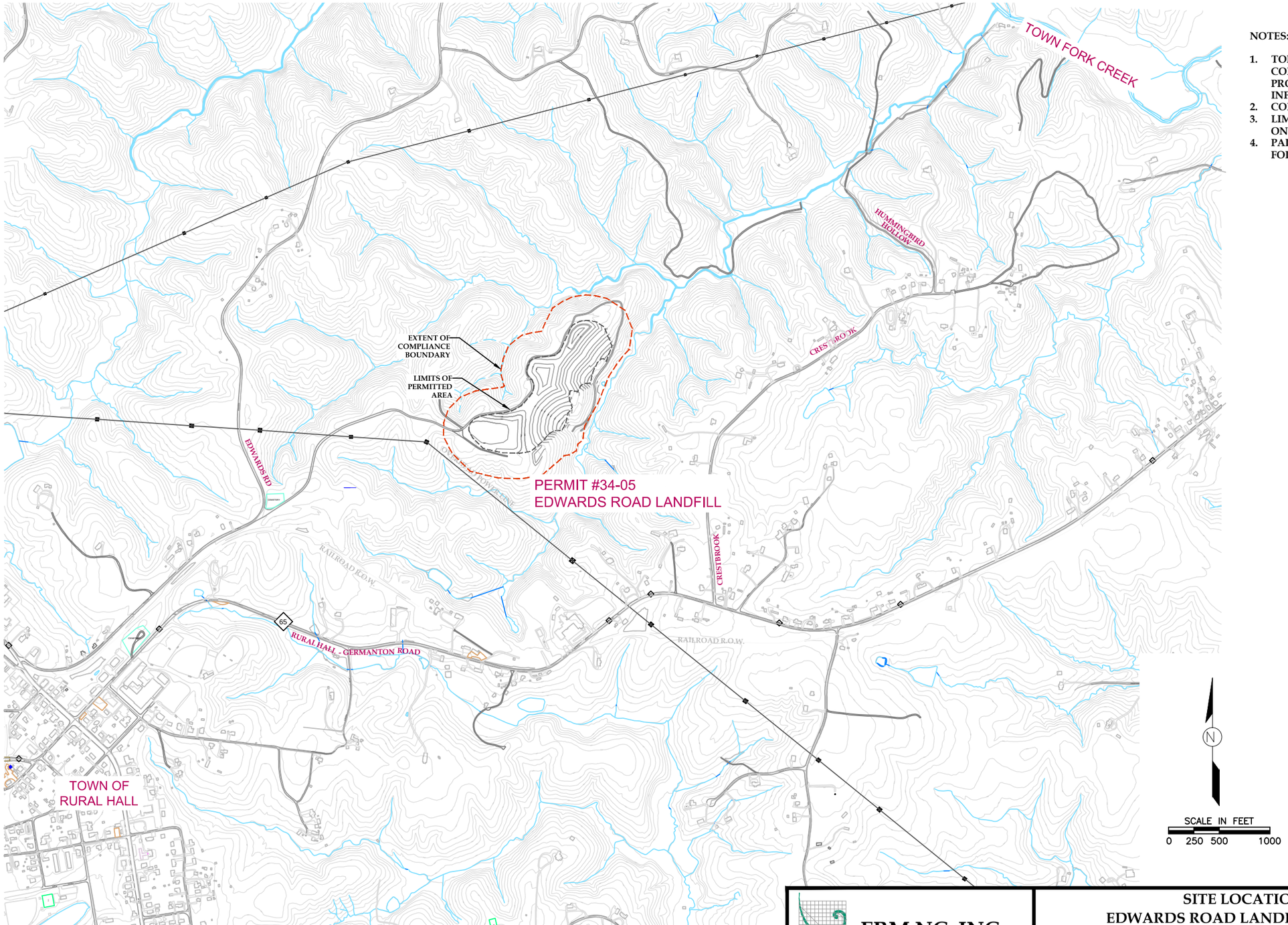
The schedule for routine monitoring activities is summarized below.

Activity	Target Completion Date
Conduct Semi-Annual Water Quality Monitoring Event	September 2015
Submit Water Quality Monitoring Summary Report to NCDENR	December 2015
Conduct Semi-Annual Water Quality Monitoring Event	April 2016
Submit Water Quality Monitoring Summary Report to NCDENR	June 2016

6.0 REFERENCES

Date	Title	Source
1986-05-29	*Solid Waste Permit No. 34-05* issued to R.J. Reynolds Tobacco Company	NCDENR
1999-10-19	*R. J. Reynolds Tobacco Company Ash Landfill Transition Plan*	Geo-Environmental Consultants, Inc.;
2000-01-25	*Work Plan for Upgrading Groundwater Monitoring, Phase II Ash Fill Area*	Geo-Environmental Consultants, Inc.;
2000-03-13	*Upgrade of Groundwater Monitoring Program, Phase II Ash Fill Area*	Shield Environmental Associates, Inc.
2001-01-02	*Modifications to Transition Plan, Permit #34-05*	Shield Environmental Associates, Inc.
2003-12-23	*Post Closure Cover Maintenance Plan, Permit #34-05*	Shield Environmental Associates, Inc.
2009-04-17	*Compliance Order with Administrative Penalty, Facility #34-05*	NCDENR
2009-07-17	*Preliminary Site Assessment Work Plan, Facility #34-05*	ERM
2009-10-29	*Summary Report – Preliminary Site Assessment, Facility #34-05*	ERM
2010-11-15	Letter correspondence to NCDENR DWM regarding Off-Site Well Locations, Facility #34-05	ERM
2011-03-10	*Summary Report – Phase II Site Assessment*	ERM
2011-06-14	*Proposed Closure Modification - Edwards Road Landfill, Permit No. 34-05*	ERM
2011-08-12	Regulatory approval *Letter Of Closure Modification, Permit No. 34-05*	NCDENR
2012-04-30	*Summary Report – Ground Water Modelling for Site Assessment*	ERM
2012-09-21	*Construction Quality Assurance for Closure Modification, Permit No. 34-05*	ERM
2012-10-09	Letter correspondence to NCDENR regarding Groundwater Modeling & Water Quality Monitoring, Facility #34-05	ERM
2012-11-07	*Groundwater Corrective Action Permit Modification Application*	ERM
2013-10-01	*Groundwater Corrective Action Application and Revised Groundwater Modeling Scenarios*	ERM
2013-10-10	Regulatory approval of *Groundwater Corrective Action Application*	NCDENR
2013-10-11	Regulatory approval of *Construction Quality Assurance for Closure Modification, Permit No. 34-05*	NCDENR
2014-02-04	*Corrective Action Plan*, Permit No. 34-05	ERM
2014-02-19	Regulatory approval of *Corrective Action Plan*	NCDENR
Various	*Groundwater and Surface Water Monitoring Summary Reports* – 2010-present	ERM

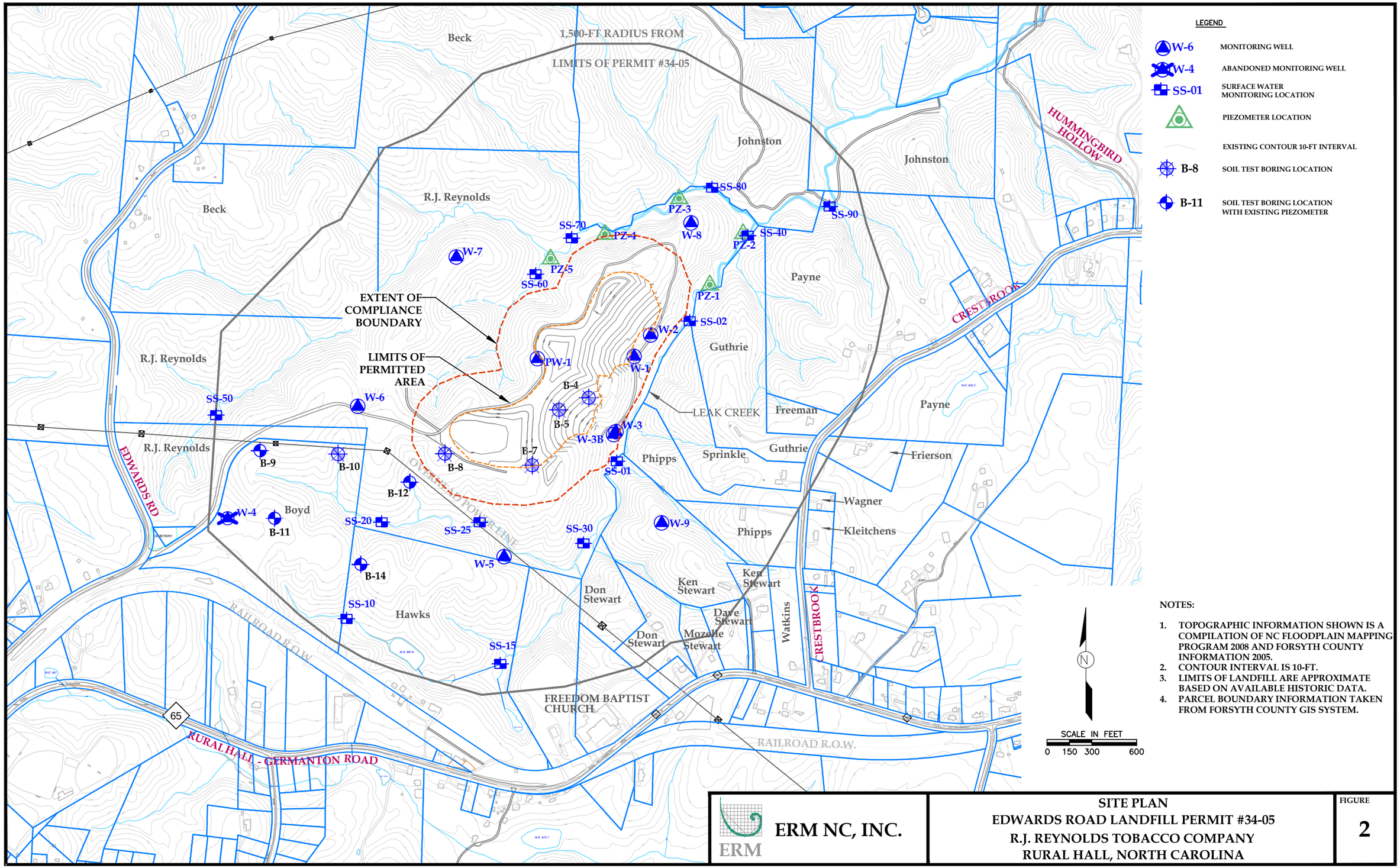
FIGURES



NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.
2. CONTOUR INTERVAL IS 10-FT.
3. LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.
4. PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.

ERM NC, INC.	SITE LOCATION PLAN EDWARDS ROAD LANDFILL PERMIT #34-05 R.J. REYNOLDS TOBACCO COMPANY RURAL HALL, NORTH CAROLINA	FIGURE 1



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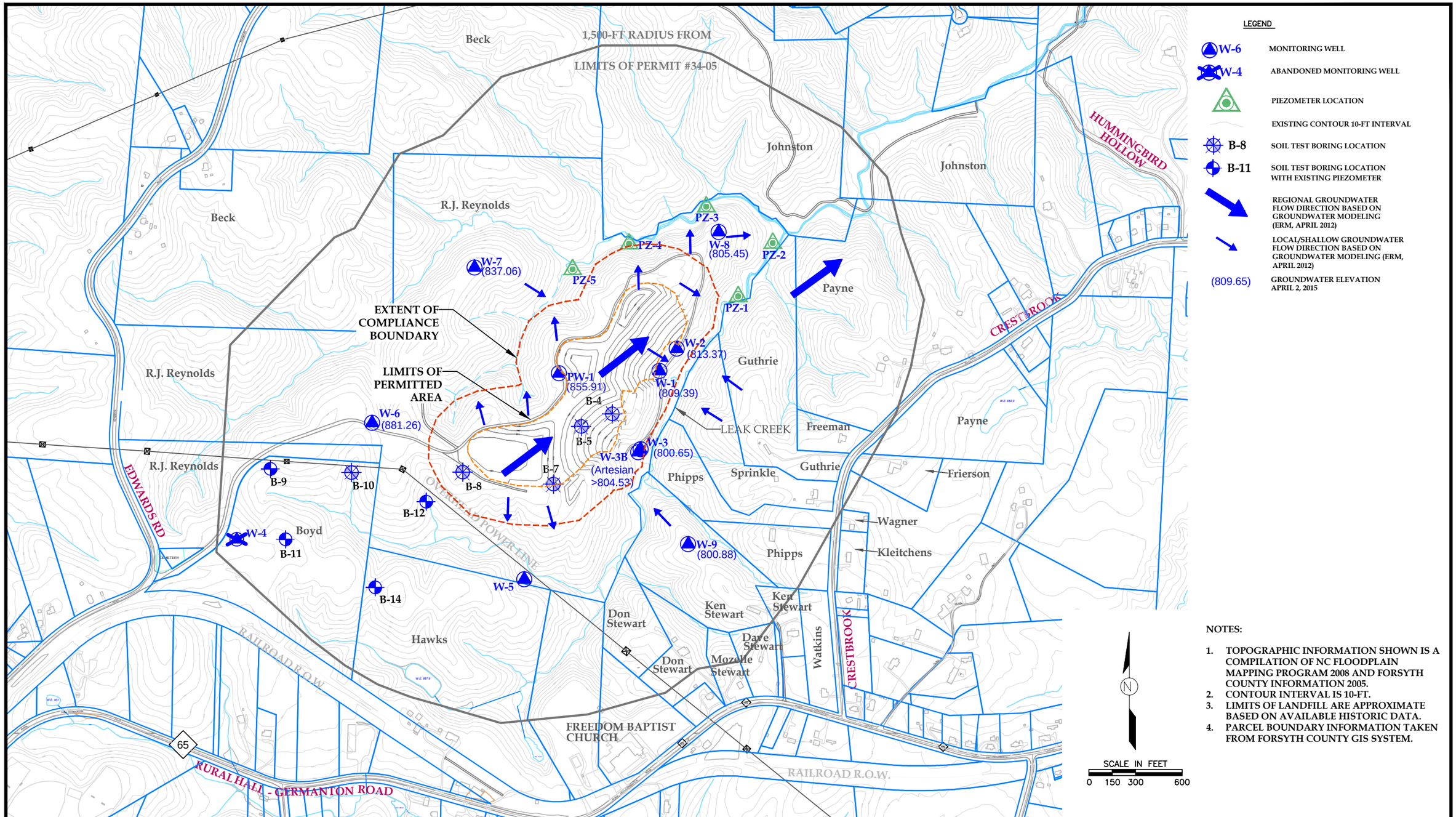
ERM NC, INC.

SITE PLAN
EDWARDS ROAD LANDFILL PERMIT #34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE
2



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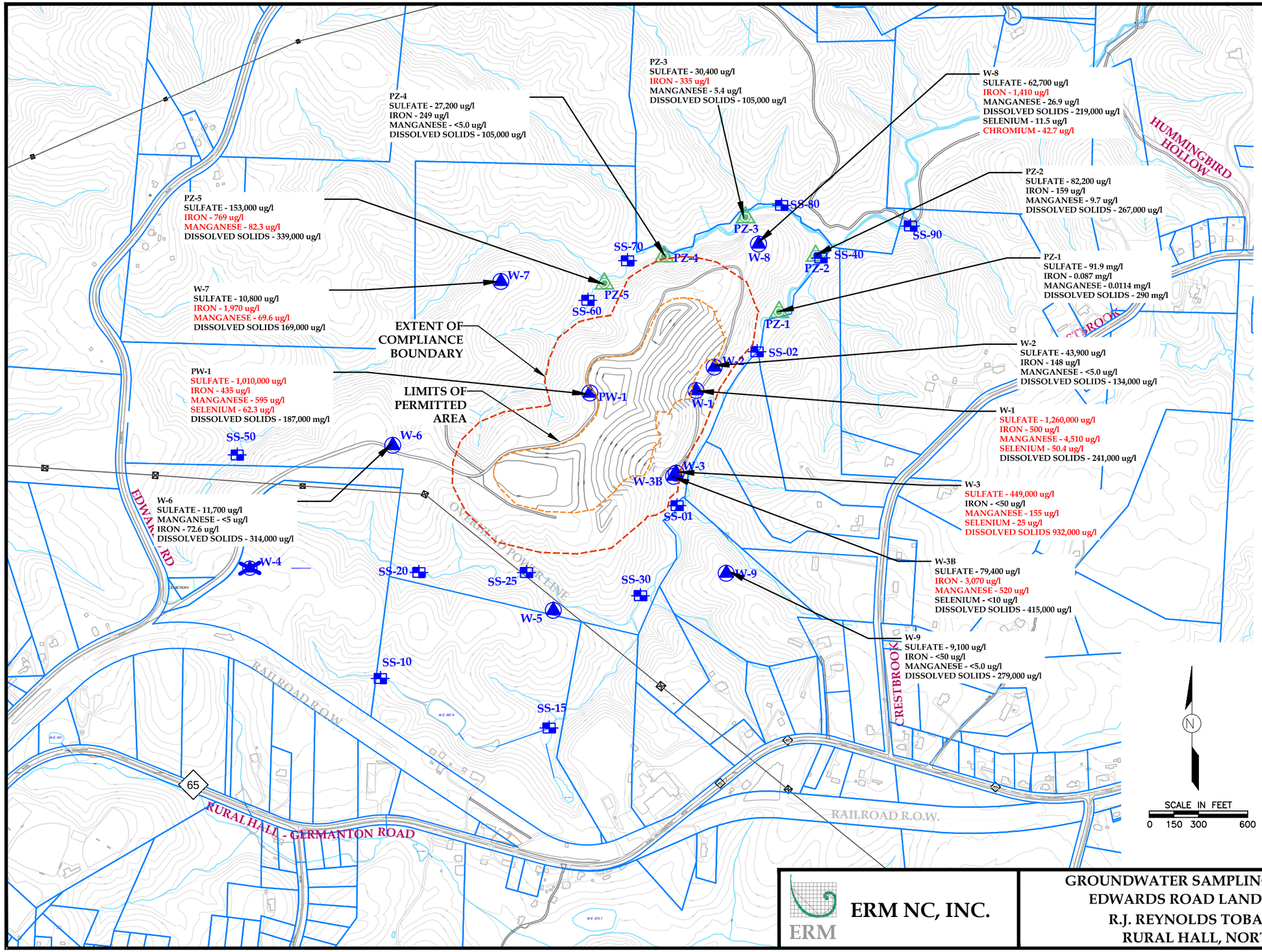
4. PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.

ERM NC, INC.

GROUNDWATER FLOW DIRECTIONS
EDWARDS ROAD LANDFILL PERMIT #34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE 3



LEGEND

W-6	MONITORING WELL
W-4	ABANDONED MONITORING WELL
SS-01	SURFACE WATER MONITORING LOCATION
	PIEZOMETER LOCATION
	EXISTING CONTOUR 10-FT INTERVAL

NC 2L GROUNDWATER STANDARDS

ARSENIC	10
BARIUM	700
CADMIUM	2
CHROMIUM (TOTAL)	10
IRON	300
LEAD	15
MANGANESE	50
SELENIUM	20
SULFATE	250,000
DISSOLVED SOLIDS	500,000
pH	6.5-8.5

NOTE: CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L) UNLESS OTHERWISE INDICATED.

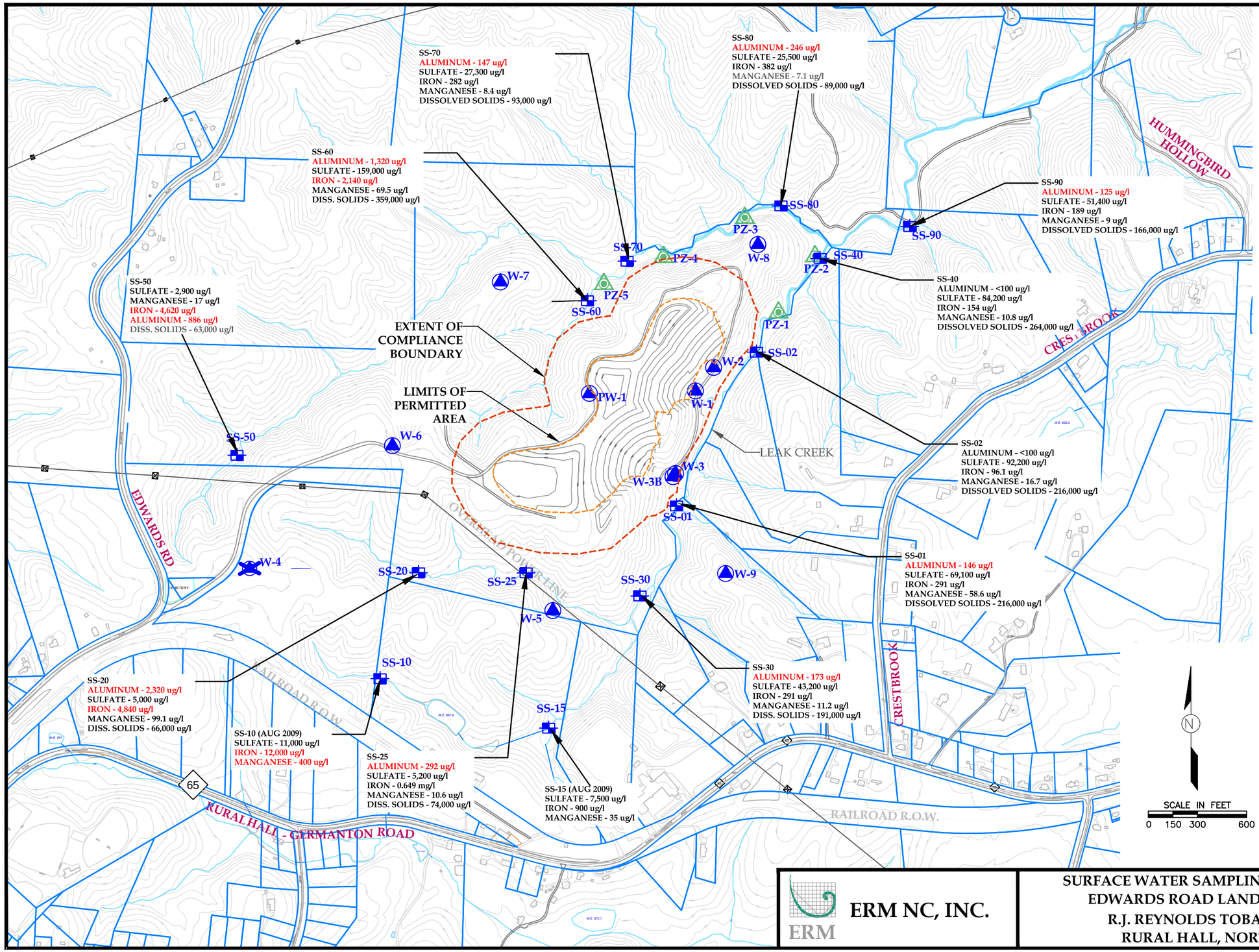
NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.
2. CONTOUR INTERVAL IS 10-FT.
3. LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.
4. PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.
5. MONITOR WELLS SAMPLES IN APRIL 2015 UNLESS OTHERWISE INDICATED.

ERM NC, INC.

GROUNDWATER SAMPLING RESULTS APRIL 2015
EDWARDS ROAD LANDFILL PERMIT #34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE
4



LEGEND

W-6	MONITORING WELL
W-4	ABANDONED MONITORING WELL
SS-01	SURFACE WATER MONITORING LOCATION
	PIEZOMETER LOCATION
	EXISTING CONTOUR 10-FT INTERVAL

NC 2B SURFACE WATER STANDARDS

ALUMINUM	87
BARIUM	1,000
CADMIUM	2
CHROMIUM (TOTAL)	50
IRON	1,000
LEAD	25
MANGANESE	200
MERCURY	0.012
SELENIUM	5
SULFATE	250,000
pH	6.0-9.0
DISSOLVED SOLIDS	500,000
TEMPERATURE	NE
CONDUCTIVITY	NE
TURBIDITY	NE
ORP	NE
DISSOLVED OXYGEN	NE

NOTE: CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L) UNLESS OTHERWISE INDICATED.

NOTES:

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2. CONTOUR INTERVAL IS 10-FT.
3. LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.
4. PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.
5. SURFACE WATER SAMPLES FROM APRIL 2015, UNLESS OTHERWISE NOTED.

ERM NC, INC.

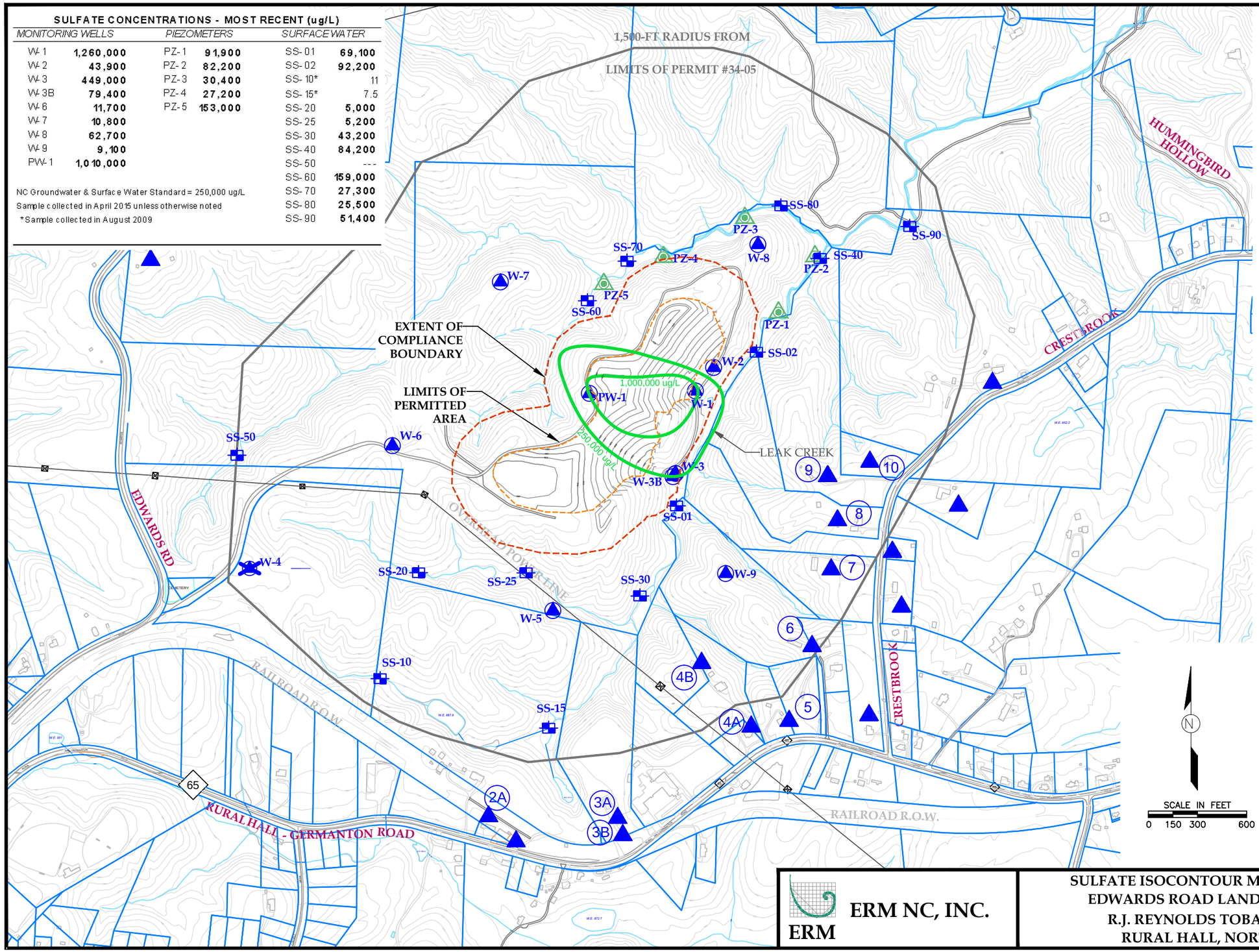
SURFACE WATER SAMPLING RESULTS APRIL 2015
EDWARDS ROAD LANDFILL PERMIT #34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE 5

SULFATE CONCENTRATIONS - MOST RECENT (ug/L)

MONITORING WELLS		PIEZOMETERS		SURFACE WATER	
W-1	1,260,000	PZ-1	91,900	SS-01	69,100
W-2	43,900	PZ-2	82,200	SS-02	92,200
W-3	449,000	PZ-3	30,400	SS-10*	11
W-3B	79,400	PZ-4	27,200	SS-15*	7.5
W-6	11,700	PZ-5	153,000	SS-20	5,000
W-7	10,800			SS-25	5,200
W-8	62,700			SS-30	43,200
W-9	9,100			SS-40	84,200
PW-1	1,010,000			SS-50	---
				SS-60	159,000
				SS-70	27,300
				SS-80	25,500
				SS-90	51,400

NC Groundwater & Surface Water Standard = 250,000 ug/L
Sample collected in April 2015 unless otherwise noted
*Sample collected in August 2009



LEGEND

- W-6 — MONITORING WELL
- W-4 — ABANDONED MONITORING WELL
- SS-01 — SURFACE WATER MONITORING LOCATION
- PIEZOMETER LOCATION
- EXISTING CONTOUR 10-FT INTERVAL
- GROUNDWATER SULFATE ISOCONTOUR
- 5 — WELL ID ASSIGNED DURING SAMPLING (SOME WELLS UNIDENTIFIED); WELL ID CORRESPONDS TO TABLE 1
- WATER SUPPLY WELL IDENTIFIED

NC WATER STANDARDS

	2L	2B
ALUMINUM	-	87
ARSENIC	10	-
BARIUM	700	1,000
CADMIUM	2	2
CHROMIUM (TOTAL)	10	50
IRON	300	1,000
LEAD	15	25
MANGANESE	50	200
MERCURY	1	0.012
SELENIUM	20	5
SULFATE	250,000	250,000
DISSOLVED SOLIDS	500,000	-
pH	6.5-8.5	6.0-9.0

NOTE: CONCENTRATIONS ARE IN MICROGRAMS PER LITER (ug/L) UNLESS OTHERWISE INDICATED.

N

SCALE IN FEET
0 150 300 600

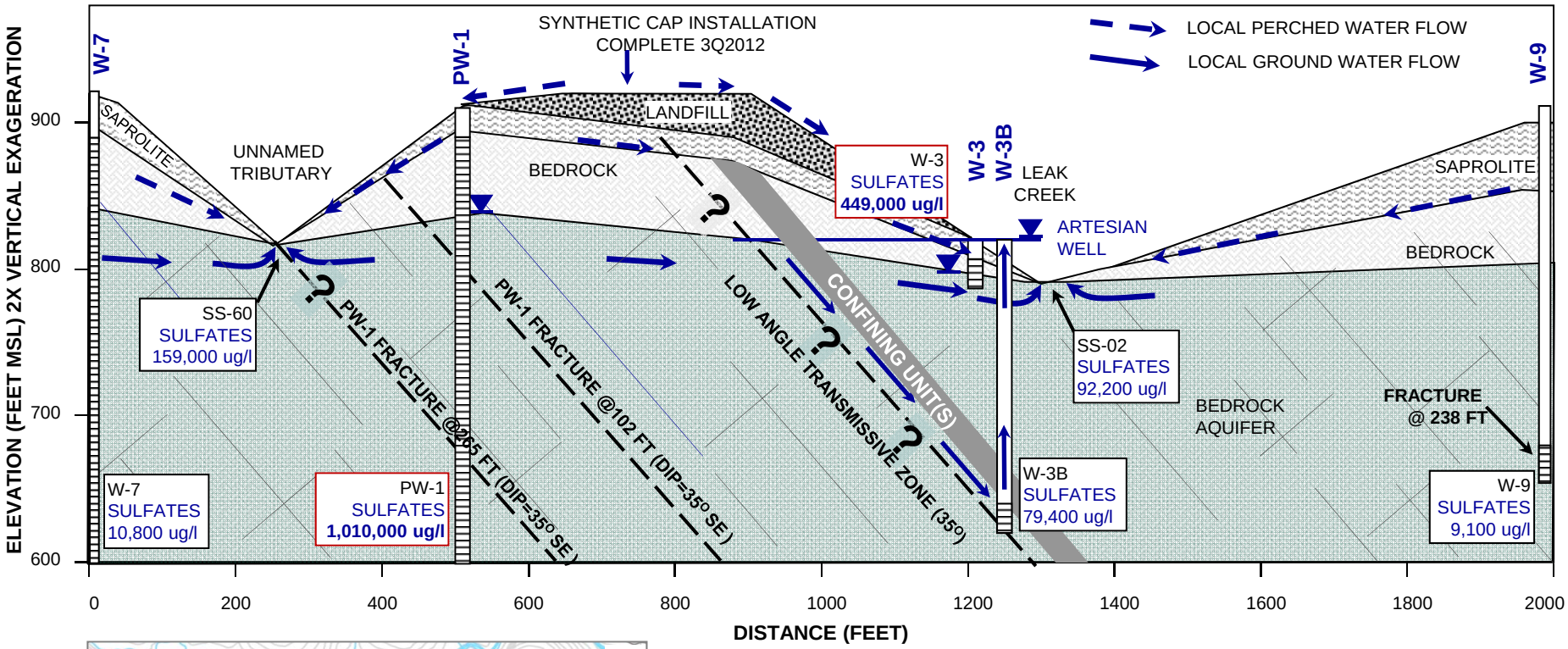
NOTES:

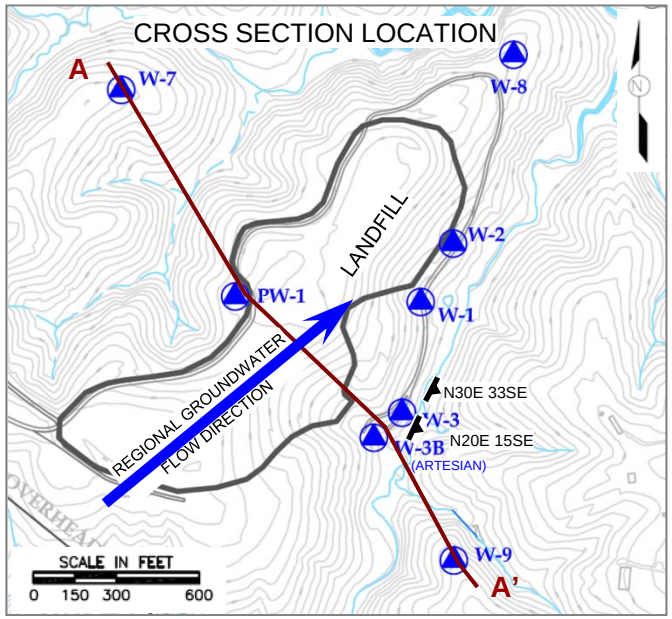
1. TOPOGRAPHIC INFORMATION SHOWN IS A COMPILATION OF NC FLOODPLAIN MAPPING PROGRAM 2008 AND FORSYTH COUNTY INFORMATION 2005.
2. CONTOUR INTERVAL IS 10-FT.
3. LIMITS OF LANDFILL ARE APPROXIMATE BASED ON AVAILABLE HISTORIC DATA.
4. PARCEL BOUNDARY INFORMATION TAKEN FROM FORSYTH COUNTY GIS SYSTEM.

ERM NC, INC.

SULFATE ISOCONTOUR MAP - GROUNDWATER
EDWARDS ROAD LANDFILL PERMIT #34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

FIGURE 6





SULFATE CONCENTRATIONS - MOST RECENT (ug/L)

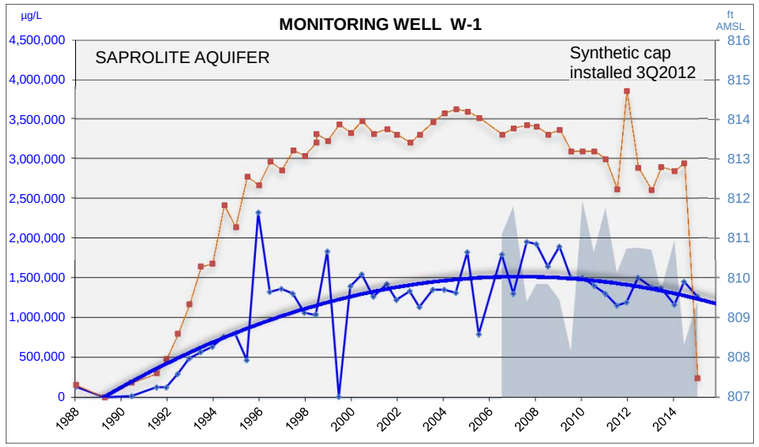
MONITORING WELLS		*PIEZOMETERS*		*SURFACE WATER*	
W-1	**1,260,000**	PZ-1	**91,900**	SS-01	**69,100**
W-2	**43,900**	PZ-2	**82,200**	SS-02	**92,200**
W-3	**449,000**	PZ-3	**30,400**	SS-10*	11
W-3B	**79,400**	PZ-4	**27,200**	SS-15*	7.5
W-6	**11,700**	PZ-5	**153,000**	SS-20	**5,000**
W-7	**10,800**			SS-25	**5,200**
W-8	**62,700**			SS-30	**43,200**
W-9	**9,100**			SS-40	**84,200**
PW-1	**1,010,000**			SS-50	---
				SS-60	**159,000**
				SS-70	**27,300**
				SS-80	**25,500**
				SS-90	**51,400**

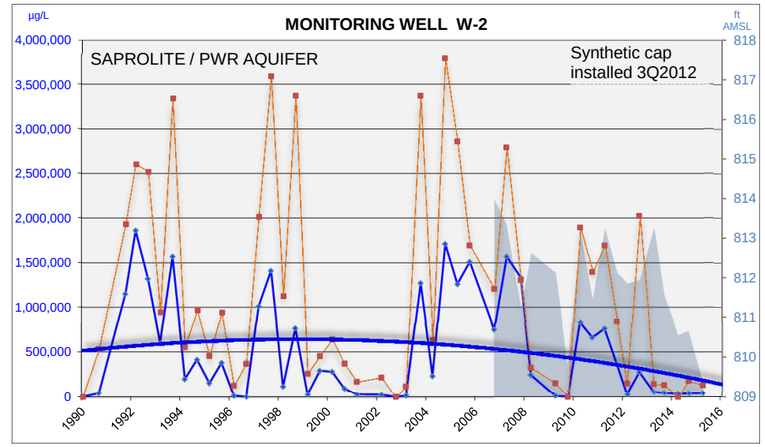
NC Groundwater & Surface Water Standard = 250,000 ug/L
Sample collected in April 2015 unless otherwise noted
* Sample collected in August 2009

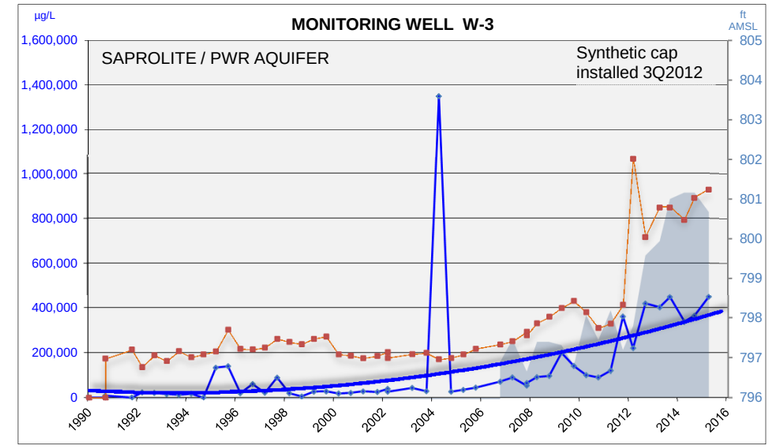
ERM NC, INC.

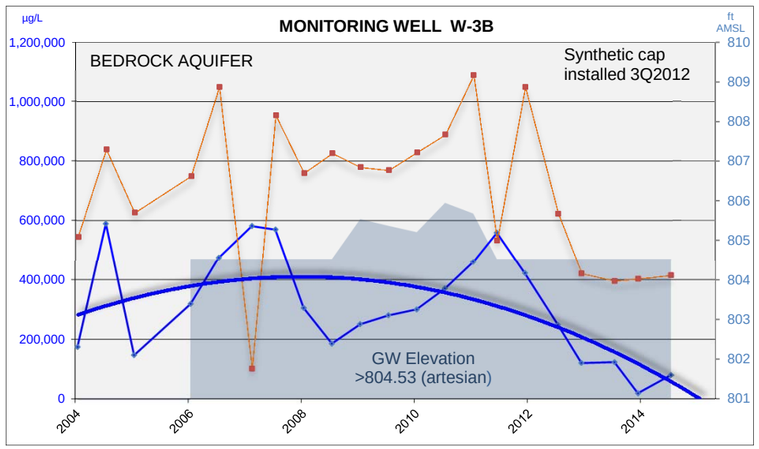
HYDROGEOLOGIC CONCEPTUAL MODEL
EDWARDS ROAD LANDFILL PERMIT # 34-05
R.J. REYNOLDS TOBACCO COMPANY
RURAL HALL, NORTH CAROLINA

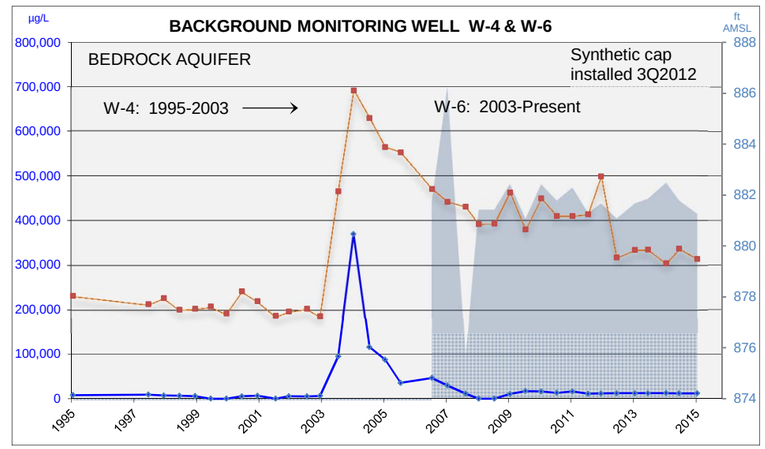
FIGURE
7

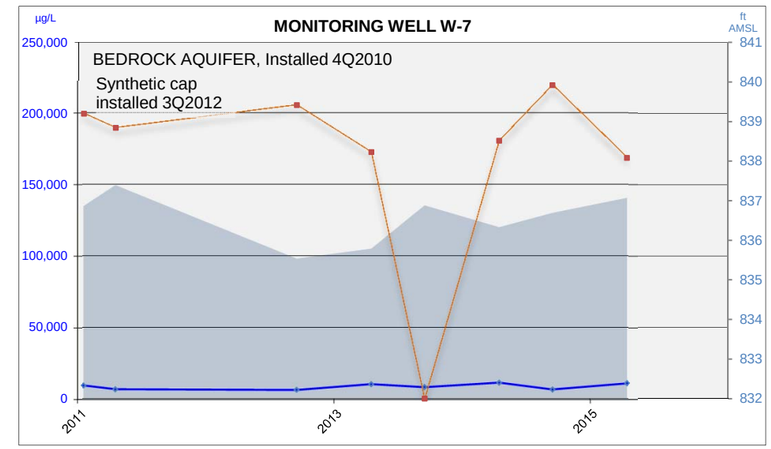


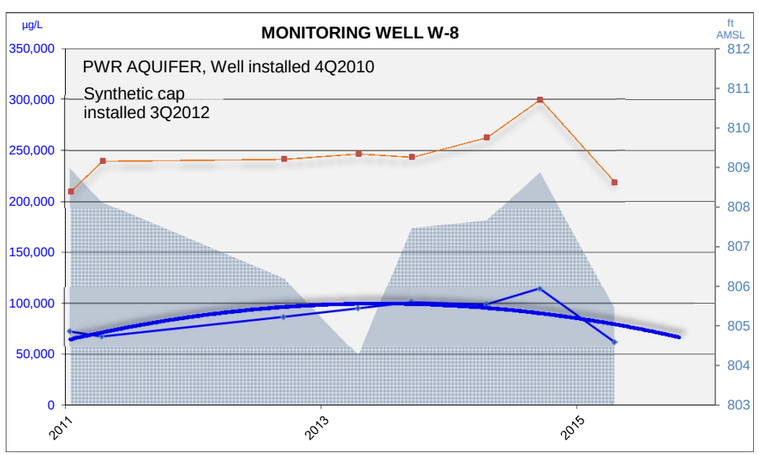


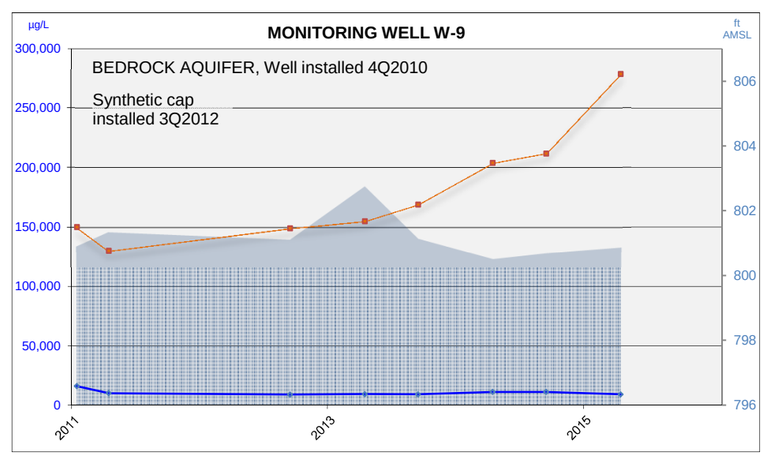


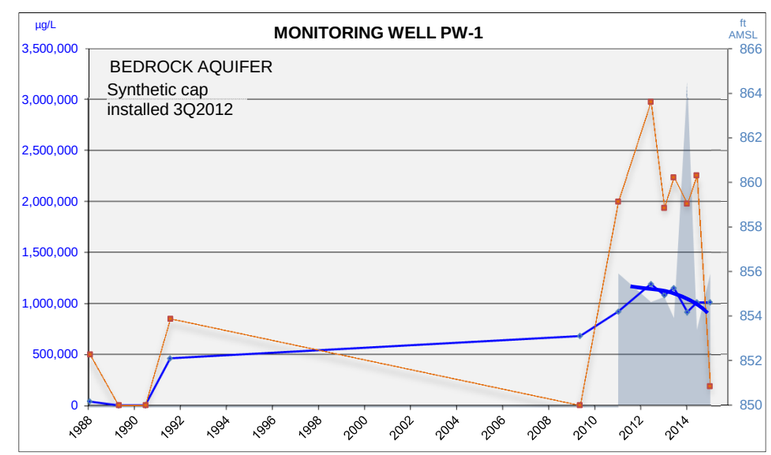












LEGEND

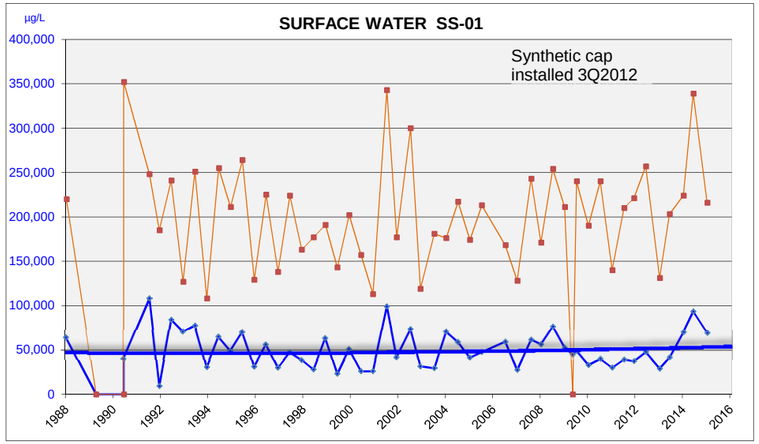
	NC2L GW STD	NC2B SW STD
Sulfates	250,000 µg/L	250,000 µg/L
Total Dissolved Solids	500,000 µg/L	500,000 µg/L
Groundwater Table Elevation (above Mean Sea Level)		

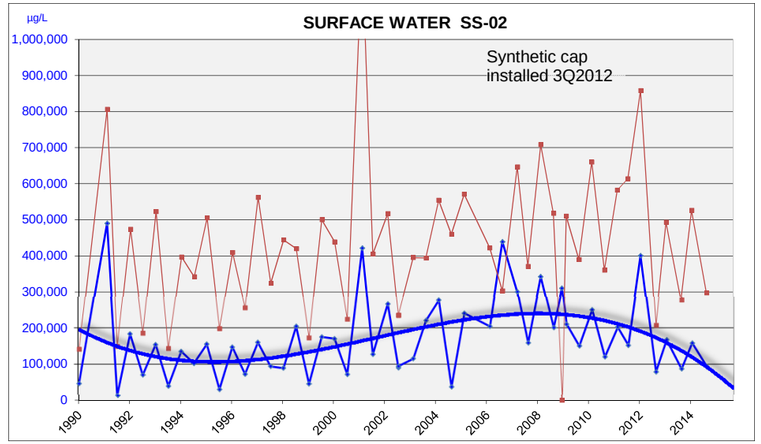
ERM NC, Inc.

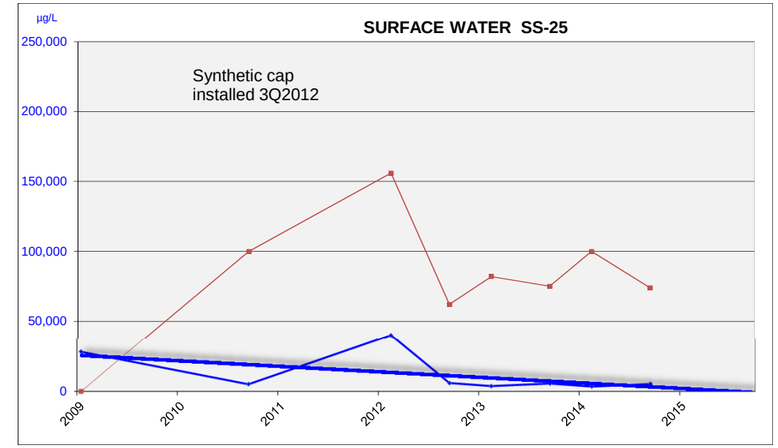
SULFATE TRENDS - GROUNDWATER

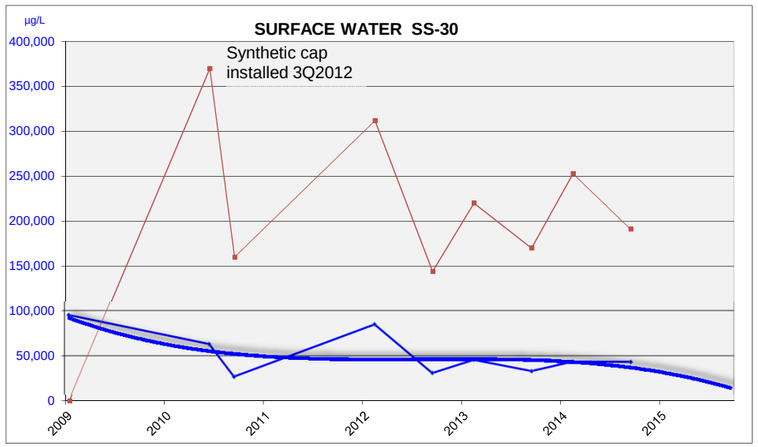
EDWARDS ROAD LANDFILL - PERMIT # 34-05
RURAL HALL, NORTH CAROLINA

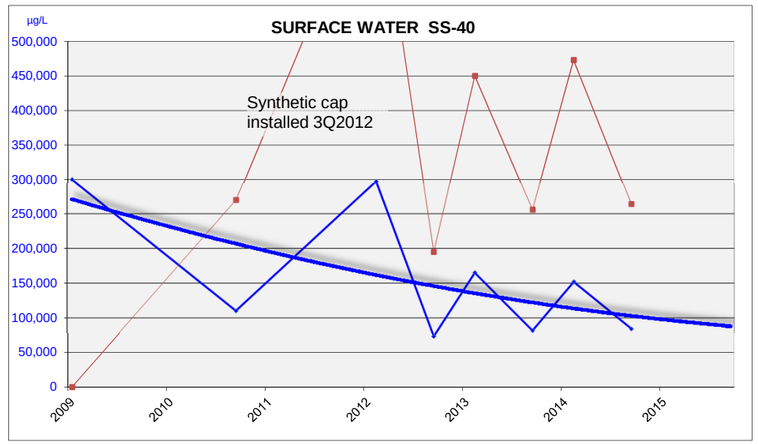
FIGURE 8

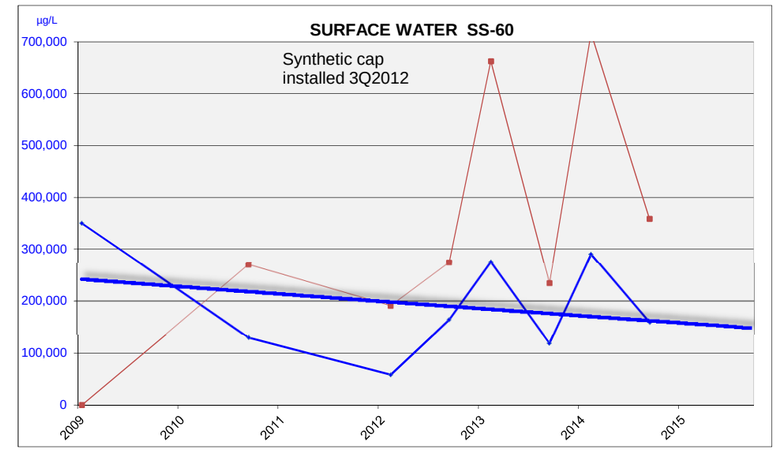


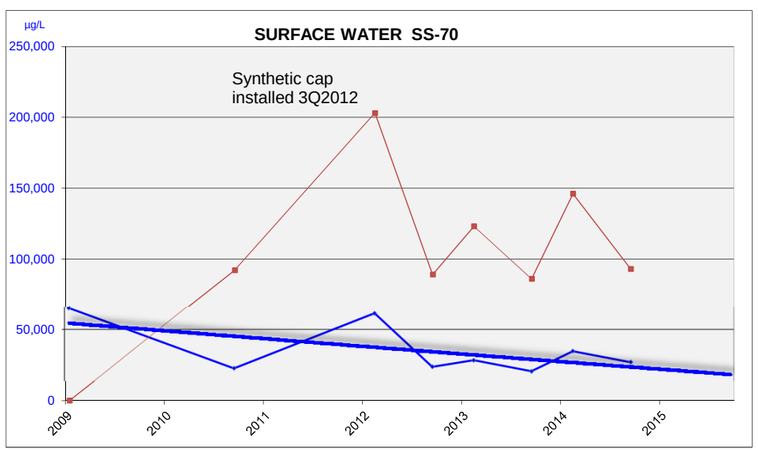


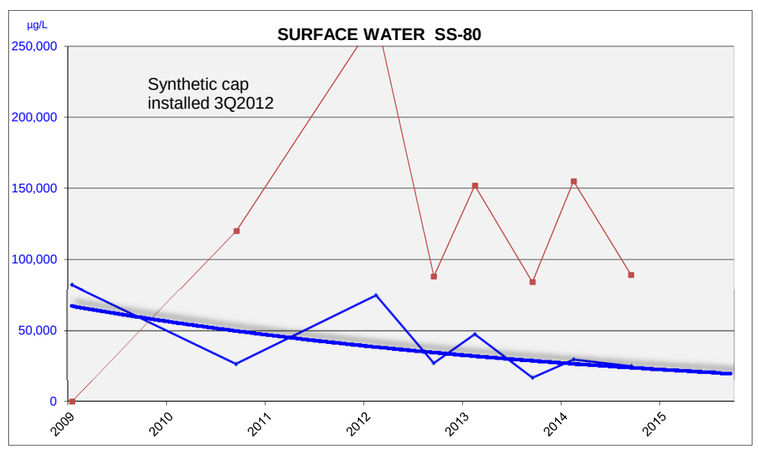


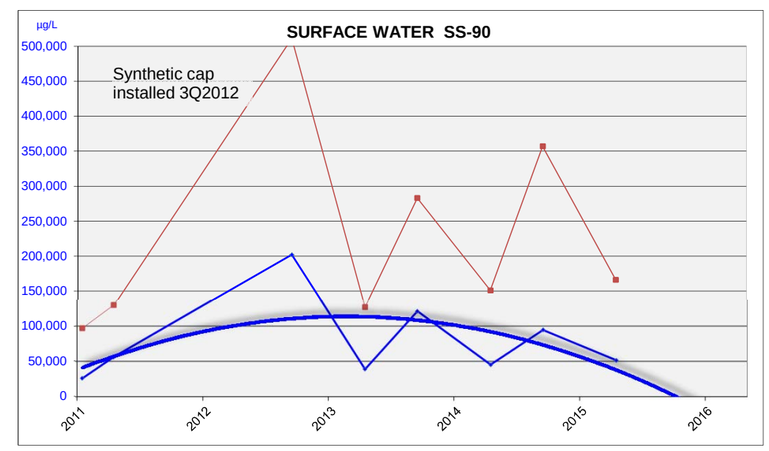












LEGEND

	NC2L GW STD	NC2B SW STD
Sulfates	250,000 µg/L	250,000 µg/L
Total Dissolved Solids	500,000 µg/L	500,000 µg/L

ERM NC, Inc.

SULFATE TRENDS - SURFACE WATER

EDWARDS ROAD LANDFILL - PERMIT # 34-05
RURAL HALL, NORTH CAROLINA

FIGURE
9

TABLES

TABLE 1
MONITOR WELL CONSTRUCTION DETAILS
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Well ID	Install Date	Latitude	Longitude	Ground Elevation (ft MSL)	TOC Elevation (ft MSL)	Depth to Ground-water (ft BTOC)	Boring Depth (ft BGL)	Outer Casing Depth (ft BGL)	Screened Interval (ft BGL)	Geologic Zone Screened	Comments
PW-1	5/26/87	36.2499455°	-080.2779362°	920.51	920.66	64.75	405 (soft bottom at 326)	21.5	21.5-405	Bedrock	Former supply well, pump removed (8/09): 6 inch dia. galv. casing; Construction details per Clayton Well Drilling log and video inspection by ERM (8/09 & 4/10); Open rock to 405 ft, Total well yield 25 gpm with no other obvious water-bearing zones below 103 ft (Clayton). Silted in to 326 ft (video).
W-1	10/13/87	36.2500121°	-080.2757441°	819.69	822.68	13.29	20.5	NA	10-20	Saprolite	2 inch dia. PVC, Well replaced 11/93, DWM permit-required sample location
W-2	12/6/89	36.2504070°	-080.2753700°	824.21	827.30	13.93	17	NA	7-17	Sap/PWR	2 inch dia. PVC, DWM permit-required sample location, (alternate IDs MW-1A, RH-MW-002)
W-3	12/7/89	36.2486237°	-080.2761346°	802.00	804.43	3.78	17	NA	7-17	Sap/PWR	2 inch dia. PVC, DWM permit-required sample location, (alternate IDs W-3A, W-2A, RH-MW-003)
W-3B	5/14/04	36.2485693°	-080.2761875°	801.23	804.32	Artesian	210	Unknown	190-210	Bedrock	2 inch dia. PVC, DWM permit-required sample location, Artesian well
W-4	6/8/93	36.24693455° *	-80.28491769° *	NE	NE		188	NA	138-188	Bedrock	2 inch dia. PVC, damaged, *abandoned 8/27/03, former background well, replaced with W-6 in 2003.*
W-5	5/17/93	36.24629033° *	-80.27862892° *	NE	NE	NM	24	NA	13-23.5	Bedrock	2 inch dia PVC, Phase 3 permanent MW
W-6	8/22/03	36.2490276°	-080.2819968°	977.93	980.71	99.45	200	NA	170-200	Bedrock	2 inch dia. PVC, DWM permit-required sample location, (alternate IDs MW-6), current background well, replaced W-4 as background well in 2003
W-7	12/15/10	36.2517944°	-080.2798058°	929.51	931.58	94.52	341	NA	42-341	Bedrock	6 inch dia. open-rock hole, 6" galavanized casing to 42 ft bgs, TOC value for 6" casing
W-8	12/14/10	36.2524760°	-080.2744895°	859.39	861.67	56.22	129	NA	45-65	PWR	2 inch dia. PVC
W-9	12/13/10	36.2469581°	-080.2750675°	909.35	911.38	110.50	259	NA	229-259	Bedrock	2 inch dia. PVC, Ken Stewart's pasture,
B-9	5/20/93	36.24819778° *	-80.28420462° *	NE	NE	NM	23	NA	18-22.5	Saprolite	2 inch dia PVC, Phase 3 temporary piezometer, no protective well box around well
B-10	5/19/93	36.24815194° *	-80.28243419° *	NE	NE	NM	14	NA	9-13.5	Saprolite	2 inch dia PVC, Phase 3 temporary piezometer, *not located October 2009*
B-11	5/20/93	36.24695712° *	-80.28385595° *	NE	NE	NM	54	NA	48-53	Saprolite	2 inch dia PVC, Phase 3 temporary piezometer, no protective well box around well
B-12	5/19/93	36.24765518° *	-80.28079913° *	NE	NE	NM	8.5	NA	3.5-8	Saprolite	2 inch dia PVC, Phase 3 temporary piezometer, no protective well box around well
B-14	5/20/93	36.2461299° *	-80.28188639° *	NE	NE	NM	54	NA	48-53	Saprolite	2 inch dia PVC, Phase 3 temporary piezometer, no protective well box around well
PZ-1	12/15/10	36.25134616° *	-80.2740505° *	NE	NE	NM	1.5	NA	1.0 - 1.5	Alluvium	1 inch dia PVC temporary piezometer
PZ-2	12/15/10	36.25229952° *	-80.27330537° *	NE	NE	NM	4.0	NA	3.0 - 4.0	Alluvium	1 inch dia PVC temporary piezometer
PZ-3	12/15/10	36.25292715° *	-80.27477259° *	NE	NE	NM	1.5	NA	0.5 - 1.5	Alluvium	1 inch dia PVC temporary piezometer
PZ-4	12/16/10	36.25225065° *	-80.27644449° *	NE	NE	NM	5.0	NA	4.2 - 5.0	Alluvium	1 inch dia PVC temporary piezometer
PZ-5	12/16/10	36.25178958° *	-80.27767072° *	NE	NE	NM	5.0	NA	3.0 - 5.0	Alluvium	1 inch dia PVC temporary piezometer

NE - Not Established
MSL - above mean sea level
BGL - Below ground level
BTOC - Below top of casing
NM - Not Measured
* - Estimated value
PWR = Partially Weathered Rock
Survey data by Lawrence Associates, P.A., January 4, 2010, January 4, 2011 & February 28, 2011

TABLE 2
GROUND WATER ELEVATIONS
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Gauging Date	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL	Depth ft BTOC	Elevation ft MSL
Well Identification	**PW-1**		**W-1**		**W-2**		**W-3**		**W-3B**		**W-5**		**W-6**		**W-7**	
TOC Elevation:	920.66		822.68		827.30		804.43		804.32		Not Established		980.71		931.58	
Screened Interval (Ft BGL)	21.5-405 (Open hole)		10-20		7-17		7-17		190-210		13-23.5		170-200		42-341 (Open hole)	
Geologic Zone Screened	Bedrock		Saprolite		Saprolite/PWR		Saprolite/PWR		Bedrock		Bedrock		Bedrock		Bedrock	
At Installation	NA	--	13.5	809.18	11	816.30	14	790.43	Artesian	> 804.53	6	--	50	930.71	240	691.58
Historical Data Not Available or Not Presented			--	--	--	--	--	--	--	--	--	--	--	--	--	--
19-Oct-2006	--	--	11.59	811.09	13.32	813.98	7.54	796.89	Artesian	> 804.53	--	--	99.00	881.71	--	--
27-Apr-2007	--	--	10.88	811.80	13.96	813.34	6.98	797.45	Artesian	> 804.53	--	--	94.48	886.23	--	--
19-Nov-2007	--	--	13.29	809.39	16.08	811.22	7.78	796.65	Artesian	> 804.53	--	--	105.00	875.71	--	--
30-Apr-2008	--	--	12.84	809.84	14.68	812.62	7.04	797.39	Artesian	> 804.53	--	--	99.29	881.42	--	--
30-Apr-2009	--	--	13.23	809.45	15.18	812.12	7.12	797.31	Artesian	> 804.53	--	--	98.28	882.43	--	--
12-Oct-2009	72.00	848.66	14.53	808.15	17.50	809.80	7.63	796.80	[1] -1.22	805.54	10.08	--	99.64	881.07	--	--
19-Apr-2010	67.00	853.66	10.75	811.93	14.16	813.14	6.37	798.06	[1] -1.05	805.37	8.38	--	98.29	882.42	--	--
11-Oct-2010	--	--	12.04	810.64	15.85	811.45	6.99	797.44	[1] -0.89	805.21	9.73	--	98.93	881.78	--	--
5-Jan-2011	--	--	11.97	810.71	13.53	813.77	6.88	797.55	[1] -0.98	805.30	9.67	--	98.92	881.79	94.73	836.85
28-Feb-2011	65.30	855.36	11.66	811.02	14.57	812.73	6.65	797.78	[1] -1.37	805.69	9.50	--	99.01	881.70	94.59	836.99
20-Apr-2011	64.75	855.91	10.92	811.76	14.05	813.25	6.25	798.18	[1] -1.63	805.95	7.85	--	98.42	882.29	94.20	837.38
17-Oct-2011	--	--	12.55	810.13	15.18	812.12	7.24	797.19	[1] -1.36	805.68	--	--	99.41	881.30	--	--
6-Feb-2012	64.96	855.70	11.97	810.71	13.52	813.78	6.52	797.91	Artesian	> 804.32	--	--	99.22	881.49	94.71	836.87
16-Mar-2012	--	--	11.95	810.73	15.45	811.85	6.64	797.79	Artesian	> 804.32	--	--	99.05	881.66	--	--
24-Sep-2012	66.03	854.63	11.93	810.75	15.36	811.94	4.87	799.56	Artesian	> 804.53	--	--	99.63	881.08	96.05	835.53
17-Apr-2013	65.80	854.86	11.98	810.70	14.03	813.27	4.51	799.92	Artesian	> 804.53	--	--	99.04	881.67	95.80	835.78
10-Sep-2013	66.75	853.91	13.01	809.67	15.75	811.55	3.45	800.98	Artesian	> 804.53	--	--	98.86	881.85	94.71	836.87
7-Apr-2014	56.15	864.51	11.74	810.94	16.76	810.54	3.29	801.14	Artesian	> 804.53	--	--	98.23	882.48	95.26	836.32
3-Sep-2014	67.28	853.38	14.37	808.31	16.65	810.65	3.29	801.14	Artesian	> 804.53	--	--	98.93	881.78	94.90	836.68
2-Apr-2015	64.75	855.91	13.29	809.39	13.93	813.37	3.78	800.65	Artesian	> 804.53	--	--	99.45	881.26	94.52	837.06

TABLE 2
GROUND WATER ELEVATIONS
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Well Identification	W-8		W-9		B-9		B-10		B-11		B-12		B-14		Leak Creek Stream	
TOC Elevation:	861.67		911.38		Not Established		Not Established		Not Established		Not Established		Not Established		787.16	
Screened Interval (Ft BGL)	45-65		229-259		18-22.5		9-13.5		48-53		3.5-8		48-53		Not Applicable	
Geologic Zone Screened	PWR		Bedrock		Bedrock		Saprolite		Saprolite		Saprolite		Saprolite		Stream Elevation	
At Installation	16.8	--	11.2	--	16.8	--	11.2	--	NA	--	6.4	--	NA	--	Iron rod installed in	
Historical Data Not Available or Not Presented			--	--	--	--	--	--	--	--	--	--	--	--	stream bed 2/28/11	
19-Oct-2006	--	--	--	--	--	--	--	--	--	--	--	--	--	--	immediately east of	
27-Apr-2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	wells W-3 & W-3B. TOC	
19-Nov-2007	--	--	--	--	--	--	--	--	--	--	--	--	--	--	elevation represents top	
30-Apr-2008	--	--	--	--	--	--	--	--	--	--	--	--	--	--	of iron rod.	
30-Apr-2009	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
12-Oct-2009	--	--	--	--	20.40	--	Not located	--	--	--	10.26	--	--	--	--	--
19-Apr-2010	--	--	--	--	18.78	--	--	--	--	--	6.18	--	--	--	--	--
11-Oct-2010	--	--	--	--	21.63	--	--	--	--	--	9.40	--	--	--	--	--
5-Jan-2011	52.67	809.00	110.47	800.91	22.05	--	--	--	--	--	9.05	--	--	--	--	--
28-Feb-2011	53.45	808.22	112.03	799.35	22.63	--	--	--	--	--	--	--	--	--	1.50	785.66
20-Apr-2011	53.54	808.13	110.03	801.35	21.45	--	--	--	--	--	5.46	--	--	--	--	--
17-Oct-2011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
6-Feb-2012	54.74	806.93	109.84	801.54	--	--	--	--	--	--	--	--	--	--	--	--
16-Mar-2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
24-Sep-2012	55.47	806.20	110.26	801.12	--	--	--	--	--	--	--	--	--	--	--	--
17-Apr-2013	57.40	804.27	108.62	802.76	--	--	--	--	--	--	--	--	--	--	--	--
10-Sep-2013	54.20	807.47	110.23	801.15	--	--	--	--	--	--	--	--	--	--	--	--
7-Apr-2014	54.01	807.66	110.86	800.52	--	--	--	--	--	--	--	--	--	--	--	--
3-Sep-2014	52.78	808.89	110.68	800.70	--	--	--	--	--	--	--	--	--	--	--	--
2-Apr-2015	56.22	805.45	110.50	800.88	--	--	--	--	--	--	--	--	--	--	--	--

NE - Not Established
MSL - above mean sea level
BTOC = Below Top of Casing
PWR = Partially Weathered Rock
BGL - Below ground level
[1] - Artesian condition, Value represents water level above permanent TOC. Measured via temporary standpipe installed on permanent casing.

TABLE 3
GROUND WATER AND SURFACE WATER ANALYTICAL RESULTS - APRIL 2015
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Barium	Cadmium	Chromium (Total)	Iron	Lead	Manganese	Selenium	Sulfate	Dissolved Solids
NC 2L Ground Water Standard		NE	700	2	10	300	15	50	20	250,000	500,000
Solid Waste Section Limit		NE	100	1	10	300	10	50	10	250,000	NE
NC 2B Surface Water Standard		87	1,000 [1]	2	50	1,000	25	200 [1]	5	250,000 [1]	500,000 [1]
GROUND WATER MONITORING WELLS											
PW-1 (21'-326' interval)	4/2/15	195	45	<1	<5	**435**	<5	**595**	**62.3**	**1,010,000**	187,000
W-1	4/3/15	212	24.5	<1	<5	**500**	5.3	**4,510**	**50.4**	**1,260,000**	241,000
W-2	4/3/15	114	**255**	<1	<5	148	<5	<5	<10	43,900	134,000
W-3	4/2/15	<100	32.8	<1	<5	<50	<5	**155**	**25**	**449,000**	**932,000**
W-3B	4/2/15	<100	47.8	<1	<5	**3,070**	<5	**520**	<10	79,400	415,000
W-6	4/2/15	<100	35.4	<1	9.4	72.6	<5	<5	<10	11,700	314,000
W-7	4/2/15	402	**136**	<1	<5	**1,970**	<5	**69.6**	<10	10,800	169,000
W-8	4/2/15	873	**206**	<1	**42.7**	**1,410**	<5	26.9	**11.5**	62,700	219,000
W-9	4/3/15	<100	**113**	<1	<5	<50	<5	<5	<10	9,100	279,000
PZ-1	4/1/15	<100	60.1	<1	<5	87	<5	11.4	<10	91,900	290,000
PZ-2	4/1/15	<100	58.4	<1	<5	159	<5	9.7	<10	82,200	267,000
PZ-3	4/1/15	143	57.9	<1	<5	**335**	<5	5.4	<10	30,400	105,000
PZ-4	4/1/15	133	54.6	<1	<5	249	<5	<5	<10	27,200	105,000
PZ-5	4/1/15	494	83.4	<1	<5	**769**	<5	**82.3**	<10	153,000	339,000
SURFACE WATER											
SS-01	4/1/15	**146**	72.2	<1	<5	291	<5	**58.6**	<10	69,100	216,000
SS-02	4/1/15	<100	59	<1	<5	96.1	<5	16.7	<10	92,200	297,000
SS-20	4/1/15	**2,320**	**105**	<1	<5	**4,840**	<5	**99.1**	<10	5,000	66,000
SS-25	4/1/15	**292**	53.4	<1	<5	**649**	<5	10.6	<10	5,200	74,000
SS-30	4/1/15	**173**	67.1	<1	<5	291	<5	11.2	<10	43,200	191,000
SS-40	4/1/15	<100	58.5	<1	<5	154	<5	10.8	<10	84,200	264,000
SS-50	4/1/15	sample collected		---	---	---	---	---	---	---	---
SS-60	4/1/15	**1,320**	93	<1	<5	**2,140**	<5	**69.5**	<10	159,000	359,000
SS-70	4/1/15	**147**	55.1	<1	<5	282	<5	8.4	<10	27,300	93,000
SS-80	4/1/15	**246**	58.1	<1	<5	**382**	<5	7.1	<10	25,500	89,000
SS-90	4/1/15	**125**	58	<1	<5	189	<5	9	<10	51,400	166,000

All concentrations in micrograms per liter (ug/L) unless otherwise noted
--- Not sampled
NE - Not established
J - Estimated value between laboratory method detection limit . (MDL) and practical quantitation limit (PQL)

[1] - No freshwater aquatic life standard established. Water Supply criteria present
Bold indicates exceedance of Solid Waste Section Limits (SWSL)
Gray background indicates exceedance of applicable NC Ground Water or Surfac

TABLE 4
GROUND WATER AND SURFACE WATER FIELD PARAMETER RESULTS - APRIL 2015
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		6.0 - 9.0	NE	NE	50	NE	>5.0
GROUND WATER MONITORING WELLS							
PW-1 (21'-326' interval)	4/2/15	**6.0**	21.6	241	6.6	332	4.6
W-1	4/3/15	**6.4**	17.9	2,676	5.1	77	0.7
W-2	4/3/15	7.6	16.3	256	8.7	20	6.9
W-3	4/2/15	**6.1**	15.7	960	2.1	328	1.5
W-3B	4/2/15	7.2	16.0	500	8.5	123	0.7
W-6	4/2/15	**10.3**	16.3	555	2.6	-142	2.7
W-7	4/2/15	7.5	15.9	284	9.4	6	2.2
W-8	4/2/15	**5.9**	21.6	340	39.9	68	4.6
W-9	4/3/15	**11.7**	16.8	982	3.6	-184	0.7
PZ-1	4/1/15	8.1	16.5	509	2.2	17	7.5
PZ-2	4/1/15	8.2	15.9	466	3.2	19	8.1
PZ-3	4/1/15	**10.4**	10.8	178	4.6	12	9.9
PZ-4	4/1/15	7.5	10.0	162	4.2	17	8.9
PZ-5	4/1/15	7.0	10.5	516	1.1	34	7.2
SURFACE WATER							
SS-01	4/1/15	7.8	17.1	552	3.1	40	9.7
SS-02	4/1/15	8.1	15.0	508	1.8	10	8.1
SS-20	4/1/15	7.7	14.9	103	7.3	7	7.6
SS-25	4/1/15	7.1	15.0	89	9.5	16	5.9
SS-30	4/1/15	7.9	16.5	348	6.3	6	7.7
SS-40	4/1/15	8.0	18.3	469	4.2	14	8.3
SS-50	4/1/15	7.0	13.5	90	18.8	-6.3	13.7
SS-60	4/1/15	7.1	9.7	538	18.8	2	6.6
SS-70	4/1/15	7.4	11.1	159	1.6	5	8.2
SS-80	4/1/15	7.9	12.8	162	4.4	4	9.6
SS-90	4/1/15	8.8	11.4	318	6.0	6	9.9

--- Not sampled

NE - Not established

APPENDIX A
HISTORICAL GROUNDWATER AND SURFACE WATER QUALITY ANALYTICAL DATA

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-1	4/29/1988	8,030	<10	235	8	16	<20	17,400	<5.0	1,100	<0.20	<10	<10	31	2,200	130,000	156,000	2,240	5.9	--	--	--	--	--
	7/13/1989	--	<10	100	<2.0	<20	--	--	<5.0	--	<0.20	5	<10	<20	--	--	--	--	--	--	--	--	--	--
	9/24/1990	5,620	<10	189	<2.0	<20	<20	8,900	<5.0	150	<0.20	59	<10	<20	710	13,500	185,000	13,000	6.3	19.3	195	--	--	--
	10/24/1991	161	<10	346	<2.0	<20	<20	150	<5.0	97	<0.20	23.9	<10	<20	238	126,000	303,000	12,000	6.2	20.3	425	--	--	--
(RHMW-001)	3/26/1992	2,850	<10	736	<2.0	<20	<20	833	<5.0	1,830	0.32	21.9	<10	38	1,250	123,000	482,000	14,000	6.6	9.3	682	--	--	--
	9/30/1992	--	<10	120	<2.0	<20	<20	--	<5.0	310	<0.20	32	<10	<20	382	292,000	798,000	5,000	5.9	17.8	1,153	--	--	--
	3/31/1993	364	<10	137	<2.0	<20	<20	1,130	<5.0	2,230	<0.20	13.2	<10	33	550	486,000	1,169,000	33,000	5.5	16.1	1,587	--	--	--
	9/17/1993	28,600	<10	697	3.8	<20	44	59,700	13	3,490	<0.20	5.1	<10	195	925	565,000	1,643,000	6,000	5.9	18.0	2,310	--	--	--
well replaced 11/93	3/30/1994	5,320	<10	545	<2.0	<20	20	18,800	8	505	<0.20	6	<10	107	390	633,000	1,680,000	--	5.6	15.2	1,250	--	--	--
	9/30/1994	1,810	<10	<250	<2.0	<20	22	9,960	<5.0	4,470	<0.20	13	<10	19	450	758,000	2,420,000	123,000	6.0	18.1	3,010	--	--	--
	3/31/1995	24,000	<10	1,250	<2.0	<20	26	53,900	11	1,580	<0.20	12	<10	115	850	797,000	2,140,000	--	5.9	15.8	2,820	--	--	--
	9/29/1995	7,650	<10	367	4	<20	24	18,800	10	4,020	<0.20	12	<10	--	1,000	464,000	2,780,000	4,040	4.5	16.2	3,720	--	--	--
	3/20/1996	149,000	<10	960	50	200	220	--	63	11,400	<0.20	<10	<10	695	--	2,320,000	2,670,000	8,750	6.5	15.0	3,060	--	--	--
	9/27/1996	7,110	<10	<250	<2.0	<20	<20	22,600	7	2,300	<0.20	<10	<10	51	1,520	1,320,000	2,970,000	3,810	6.1	19.0	3,350	--	--	--
	3/29/1997	2,990	<10	<250	<2.0	<20	<20	--	16	2,340	<0.20	<10	<10	72	1,200	1,360,000	2,860,000	6,870	6.0	14.0	1,890	--	--	--
	9/17/1997	2,940	<10	<250	3	<20	<20	12,900	6	3,680	<0.20	33	<10	136	1,700	1,300,000	3,110,000	5,290	6.3	17.0	3,540	--	--	--
	3/27/1998	2,400	<10	<250	<2.0	<20	<20	7,830	<5.0	2,340	<0.20	16	<10	<20	575	1,060,000	3,040,000	3,640	6.5	19.6	627	--	--	--
	9/30/1998	2,350	<10	<250	<2.0	<20	<20	5,180	15	2,710	<0.20	21	<10	<20	1,050	1,030,000	3,210,000	17,500	6.2	20.0	1,250	--	--	--
	9/30/1998	1,250	<10	<250	<2.0	<20	<20	4,980	<5.0	2,720	<0.20	30	<10	<20	1,100	1,040,000	3,320,000	9,250	--	--	--	--	--	--
	3/31/1999	1,820	<10	<250	<2.0	<20	<20	4,690	10	2,450	<0.20	15	<10	<20	750	1,830,000	3,230,000	8,820	5.6	17.0	1,610	--	--	--
	9/29/1999	1,650	<10	<250	<2.0	<20	<20	4,780	8	2,790	<0.20	31	<10	<20	440	2,060	3,440,000	3,730	5.7	19.0	1,980	--	--	--
	9/15/2000	979	<10	<250	<2.0	<20	<20	3,200	8	2,930	<0.20	22	<10	<20	800	1,540,000	3,480,000	13,300	5.8	18.0	1,040	--	--	--
	3/16/2000	1,820	<10	<250	<2.0	<20	<20	3,360	6	2,840	<0.20	<10	<10	31	402	1,390,000	3,330,000	3,930	--	--	--	--	--	--
	3/23/2001	226	<10	<250	<2.0	<20	<20	1,860	10	3,180	<0.20	<10	<10	<20	370	1,260,000	3,320,000	6,130	6.2	17.0	1,090	--	--	--
	10/4/2001	728	<10	<250	2	<20	<20	3,140	9	2,890	<0.20	<10	<10	37	430	1,420,000	3,380,000	31,000	8.0	21.0	3,300	--	--	--
	3/28/2002	1,010	<10	<250	<2.0	<20	20	3,600	8	3,270	--	<10	<10	48	350	1,220,000	3,310,000	3,430	6.0	15.0	1,090	--	--	--
	10/3/2002	8,960	<10	<250	2	<20	<20	14,000	8	3,910	<0.20	<10	<10	51	740	1,330,000	3,210,000	3,190	6.3	18.0	1,280	--	--	--
	3/25/2003	1,420	<10	<250	<2.0	<20	<20	2,770	7	3,540	<0.20	<10	<10	25	1,210	1,130,000	3,310,000	3,210	6.4	19.0	910	--	--	--
	10/2/2003	402	<10	414	<2.0	<20	<20	2,330	5	3,840	<0.20	<10	<10	<20	1,970	1,350,000	3,470,000	3,520	5.9	20.0	3,210	--	--	--
	4/28/2004	1,440	<10	<250	<2.0	<20	<20	6,890	12	3,920	<0.20	<10	<10	<20	1,130	1,350,000	3,580,000	5,130	--	15.1	3,670	--	--	--
	10/26/2004	7,450	<10	<250	<2.0	<20	21	20,100	10	4,800	<0.20	<10	<10	<20	438	1,310,000	3,630,000	3,100	--	--	3,510	--	--	--
	4/27/2005	697	<10	<250	2	<20	<20	3,990	10	4,080	<0.20	<10	<10	<20	408	1,820,000	3,601,000	3,450	--	--	3,610	--	--	--
	10/20/2005	9,030	<10	<250	<2.0	<20	283	18,400	15	3,920	<0.20	<10	<10	104	449	790,000	3,520,000	52,000	--	--	2,370	--	--	--
	10/19/2006	214	<10	<250	<2.0	<20	<20	926	6	4,160	<0.20	<10	<10	56	383	1,790,000	3,310,000	3,740	--	--	2,120	--	--	--
	4/27/2007	787	<10	<250	<2.0	<20	<20	1,250	<5.0	3,550	<0.20	<10	<10	<20	484	1,300,000	3,390,000	6,350	--	--	4,510	--	--	--
	11/19/2007	186	<10	<250	<2.0	<20	<20	778	<5.0	4,080	<0.20	<10	<10	<20	178	1,950,000	3,430,000	3,950	--	--	3,460	--	--	--
	4/30/2008	291	<10	<250	<2.0	<20	<20	536	<5.0	3,870	<0.20	<10	<10	<20	158	1,920,000	3,410,000	2,990	--	--	3,590	--	--	--

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-1 (continued)	10/29/2008	<0.100	<10	25.8	0.32	<10	<10	427	4.9	3,990	<2.0	<10	<10	<10	240	1,640,000	3,310,000	4,950	--	--	3,840	--	--	--
	4/30/2009	<0.100	<10	30.5	3.44	<10	4.9	599	13.1	4,560	<2.0	<10	1.44	<10	101	1,890,000	3,370,000	6,060	--	--	3,860	--	--	--
	10/12/2009	98	2.9	22	<1.0	2	1.1	410	<5.0	4,000	<2.0	<20	0.5	<0.30	280	1,500,000	3,100,000	77,900	6.1	14.9	4,620	14	87	3.32
	4/20/2010	3,500	<10	130	<1.0	12	<10	6,000	<5.0	4,200	<2.0	<20	<5.0	<0.030	670	1,500,000	3,100,000	56,500	6.1	16.5	11,800	58	119	<0.01
	10/11/2010	63	6.7	27	<1.0	0.9	<25	300	1.3	5,000	<2.0	33	1.3	12	780	1,400,000	3,100,000	26,600	6.1	20.4	2,990	110	147	<0.01
	4/22/2011	470	6.8	43	<0.1	<5.0	15	2,900	<1.0	4,800	<0.10	30	<1.0	<10	530	1,300,000	3,000,000	3,400	6.2	13.1	2,780	406	150	0.58
	10/17/2011	1,550	<5.0	66.2	<1.0	<5.0	51.7	2,640	<5.0	4,400	<0.20	<10	<5.0	<10	<0.20	1,150,000	2,620,000	25,700	6.7	20.1	3,740	73	130	0.64
	3/16/2012	<0.10	<5.0	24.4	<1.0	<5.0	5	2,640	<5.0	4,480	<2.0	<10	6.8	<10	270	1,190,000	3,860,000	21,700	6.2	18.2	3,547	1	44	0.48
	9/24/2012	279	<2.7	32.2	<50	<2.0	<2.0	494	<0.0040	4,580	<0.10	<5.0	<2.5	<5.0	450	1,500,000	2,890,000	--	6.5	19.6	3,750	9.6	312	<0.01
	4/18/2013	501	<0.01	35.2	<1.0	<5.0	<5.0	692	<5.0	4,590	<2.0	<0.01	<5.0	<0.01	360	1,380,000	2,610,000	23,500	6.3	17.5	3,354	8.0	-442	0.32
	9/10/2013	117	<0.01	34	<1.0	<5.0	<5.0	290	<5.0	4,920	<2.0	<0.01	<5.0	<0.01	197	1,370,000	2,900,000	27,600	6.2	22.5	3,067	7.3	49	0.29
	4/7/2014	156	NA	24.8	<1.0	<5.0	NA	360	<5.0	4,750	NA	<10	NA	NA	NA	1,160,000	2,850,000	32,300	6.2	11.9	3,406	7.9	374	1.46
	9/4/2014	<0.100	NA	<5.0	<1.0	5.9	NA	297	<5.0	4,600	NA	61.2	NA	NA	NA	1,450,000	2,950,000	NA	6.2	20.0	2,940	6.1	84	0.75
	4/3/2015	212	NA	24.5	<1.0	<5.0	NA	500	5.3	4,510	NA	50.4	NA	NA	NA	1,260,000	241,000	NA	6.4	17.9	2,676	5.1	77	0.66
W-2 (RHMW-002, MW-1A)	1/16/1990	--	<10	210	<2.0	<20	--	--	<5.0	--	0.2	<10	<10	--	--	--	--	--	6.1	--	--	--	--	--
	9/24/1990	850	<10	219	8.3	<20	<20	1,400	<5.0	9,900	<0.20	<10	<10	--	--	41,000	533,000	14,000	6.2	16.7	717	--	--	--
	10/24/1991	169	<10	82	<2.0	<20	<20	9,300	7.4	16,500	<0.20	<10	<10	--	1,670	1,150,000	1,937,000	15,000	6.0	18.7	2,080	--	--	--
	3/26/1992	2,790	<10	<250	3.4	<20	<20	38,400	16	--	<0.20	<10	<10	--	0	1,860,000	2,611,000	12,000	5.8	13.8	2,880	--	--	--
	9/30/1992	--	<10	<250	<2.0	<20	<20	--	<5.0	21,300	<0.20	<10	<10	--	1,030	1,320,000	2,525,000	6,000	6.1	17.9	2,670	--	--	--
	3/31/1993	417	<10	177	<2.0	<20	<20	1,280	7.6	53	<0.20	<10	<10	40	50	600,000	948,000	2,000	5.6	15.2	167	--	--	--
	9/17/1993	5,650	<10	508	3.8	<20	79	34,700	12	22,300	<0.20	<10	<10	62	166	1,570,000	3,350,000	12,000	6.4	20.8	4,030	--	--	--
	3/30/1994	18,700	<10	2,770	3	76	<20	50,900	34	2,400	<0.20	<10	<10	25	6,000	200,000	555,000	--	5.7	16.0	1,640	--	--	--
	9/30/1994	21,400	<10	942	<2.0	37	58	362	13	3,710	<0.20	<10	<10	88	450	415,000	969,000	15,900	6.2	18.3	1,440	--	--	--
	3/31/1995	45,000	<10	1,710	<2.0	78	58	5,050	28	3,660	<0.20	<10	<10	172	850	155,000	460,000	--	6.2	13.7	930	--	--	--
	9/29/1995	109,000	<10	3,950	30	209	142	206,000	68	3,750	<0.20	5	<10	292	313	379,000	944,000	7,370	5.6	16.4	1,345	--	--	--
	3/30/1996	66,500	<10	1,250	12	105	78	96,600	44	3,610	<0.20	<10	<10	183	--	12,600	127,000	4,680	5.6	14.0	316	--	--	--
	9/27/1996	89,100	<10	1,510	<2.0	<20	8.8	150,000	15	3,060	<0.20	<10	<10	98	110	--	373,000	9,220	7.0	21.0	840	--	--	--
	3/29/1997	64,400	<10	1,100	20	102	72	98,000	47	2,500	<0.20	<10	<10	150	90	1,010,000	2,020,000	10,800	6.4	14.0	1,300	--	--	--
	9/17/1997	56,500	<10	1,620	13	87	88	99,900	35	20,200	<0.20	<5.0	<10	201	1,130	1,410,000	3,600,000	11,300	6.6	17.0	3,780	--	--	--
	3/27/1998	10,900	<10	584	<2.0	<20	<20	26,000	<5.0	6,160	<0.20	<10	<10	<20	<50	116,000	1,130,000	6,340	6.8	19.9	743	--	--	--
	9/30/1998	15,400	<10	518	<2.0	39	34	28,800	22	15,000	<0.20	<10	<10	60	780	762,000	3,380,000	15,700	6.4	21.0	753	--	--	--
	3/31/1999	2,380	<10	852	<2.0	45	35	47,000	21	6,920	<0.20	<10	<10	73	320	26,300	262,000	1,410	6.2	18.0	126	--	--	--
	9/29/1999	9,700	<10	296	<2.0	36	<20	26,900	9	203	<0.20	<10	<10	<20	80	293,000	458,000	15,300	6.2	20.0	182	--	--	--
	9/15/2000	5,490	<10	508	<2.0	<20	<20	1,600	7	1,140	<0.20	<10	<10	<20	60	93,400	374,000	1,890	6.6	19.0	170	--	--	--
	3/16/2000	12,700	<10	434	<2.0	28	25	19,400	<5.0	2,160	<0.20	<10	<10	28	136	281,000	642,000	7,360	--	--	--	--	--	--
	3/23/2001	2,600	<10	<250	<2.0	<20	<20	4,740	6	234	<0.20	<10	<10	37	80	26,300	173,000	6,820	6.5	18.0	270	--	--	--
	3/28/2002	17,900	<10	<250	<2.0	47	46	45,300	16	3,030	--	<10	<10	88	<50	23,400	219,000	11,900	6.7	14.0	140	--	--	--
	10/3/2002	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	3/25/2003	6,070	<10	264	<2.0	<20	<20	8,420	<5.0	115	<0.20	<10	<10	25	69	14,400	118,000	5,290	6.1	18.0	140	--	--	--
	10/2/2003	4,630	<10	277	<2.0	<20	<20	10,900	8	11,100	<0.20	<10	<10	<20	122	1,270,000	3,380,000	7,780	6.1	20.0	3,020	--	--	--
	4/28/2004	3,600	<10	<250	<2.0	<20	<20	11,000	6	2,630	<0.20	<10	<10	36	193	233,000	634,000	8,130	--	14.4	1,460	--	--	--
	10/26/2004	30,200	<10	2,140	9	112	83	65,600	21	5,080	<0.20	<10	<10	144	4,170	1,710,000	3,800,000	7,220	--	--	3,690	--	--	--
	4/27/2005	2,750	<10	<250	6	<20	<20	9,150	8	8,950	<0.20	<10	<10	26	1,080	1,260,000	2,868,000	13,800	--	--	3,170	--	--	--
	10/20/2005	9,380	<10	377	2	20	203	26,200	9	6,800	<0.20	<10	<10	116	550	1,510,000	1,700,000	22,000	--	--	1,110	--	--	--

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-2 (continued)	10/19/2006	3,630	<10	<250	<2.0	<20	<20	8,080	6	1,900	<0.20	<10	<10	44	133	749,000	1,210,000	8,990	--	--	1,050	--	--	--
	4/27/2007	46,500	<10	451	<2.0	2	0	55,900	--	--	<0.20	<10	<10	46	452	1,570,000	2,800,000	9,010	--	--	1,880	--	--	--
	11/19/2007	5,750	<10	<250	<2.0	<20	<20	12,000	8	3,030	<0.20	<10	<10	<20	<50	1,330,000	1,310,000	9,710	--	--	1,330	--	--	--
	4/30/2008	<0.100	<10	<250	<2.0	<20	<20	4,450	5	334	<0.20	<10	<10	72	71	246,000	330,000	7,260	--	--	609	--	--	--
	4/30/2009	5,170	<10	268	<1.0	13.9	11.3	12,500	11.8	441	<2.0	<10	<10	37.5	72	10,400	157,000	7,570	--	--	94	--	--	--
	10/15/2009	30,000	13	1,600	4.8	110	67	200,000	36	3,400	<2.0	42	<5.0	410	Not sample	0	0	0	6.4	15.9	900	30	-145	1.21
	4/20/2010	430	<10	180	<1.0	<5.0	<10	490	<5.0	2,400	<2.0	<20	<5.0	<0.030	<0.20	830,000	1,900,000	48,800	8.0	13.8	1,880	411	15	5.88
	10/11/2010	2,300	2.4	240	0.68	8.7	11	6,600	1.7	2,300	<2.0	11	<5.0	81	210	660,000	1,400,000	10,100	6.3	17.0	1,340	712	46	3.99
	4/22/2011	1,700	2.3	150	<0.1	<5.0	1.8	2,100	<1.0	4,000	<0.10	14	<1.0	<10	33	760,000	1,700,000	8,600	Not measured - insufficient sample volume due to limited recharge					
	10/17/2011	2,180	<5.0	113	<1.0	<5.0	6.1	2,710	<5.0	4,020	<0.20	<10	5.8	<5.0	<0.20	365,000	842,000	18,700	Not measured - insufficient sample volume due to limited recharge					
	3/16/2012	2,540	<5.0	122	<1.0	<5.0	6.1	3,270	<5.0	45.4	<2.0	<10	<5.0	<10	<0.20	30,000	153,000	7,700	6.5	16.1	1,144	8	-9	5.75
	9/24/2012	2,020	<2.7	119	<50	<2.0	<2.0	3,910	<4.0	2,870	<0.10	<5.0	<2.5	<5.0	430	276,000	2,030,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/18/2013	192	<0.01	339	<1.0	<5.0	<5.0	182	<5.0	<5.0	<2.0	<0.01	<5.0	<0.01	430	56,800	149,000	5,000	6.5	16.7	261	NM	97	7.37
	9/10/2013	451	<0.01	315	<1.0	<5.0	<5.0	676	<5.0	21	<2.0	<0.01	<5.0	<0.01	89.1	44,600	135,000	10,200	Not measured - insufficient sample volume due to limited recharge					
	4/7/2014	1,800	NA	291	<1.0	<5.0	NA	2,450	<5.0	18.8	NA	<10	NA	NA	NA	37,000	<25.0	7,600	5.8	10.8	247	54.9	252	4.81
	9/4/2014	5,930	NA	183	<1.0	6.3	NA	7,950	<5.0	163	NA	<10	NA	NA	NA	39,000	182,000	NA	5.5	20.1	168	28.2	126	3.08
	4/3/2015	114	NA	255	<1.0	<5.0	NA	148	<5.0	<5.0	NA	<10	NA	NA	NA	43,900	134,000	NA	7.6	16.3	256	8.7	20	6.94
W-3 (RHMW-003 / 003A, W-2A)	1/16/1990	--	<10	300	<2.0	<20	--	--	<5.0	--	<0.20	<10	<10	--	--	--	--	--	7.0	--	--	--	--	--
	9/6/1990	--	<10	8,990	20	810	--	--	330	--	0.5	5.9	<5.0	--	--	--	--	--	6.7	--	--	--	--	--
	9/21/1990	2,170	<10	134	8.1	<0.040	<20	2,000	<5.0	80	<0.20	<5.0	<10	<20	670	8,500	174,000	12,000	6.5	16.2	238	--	--	--
	10/23/1991	213	<10	149	<2.0	<0.040	<20	240	330	116	<0.20	<5.0	<10	<20	<50	<10.0	214,000	12,000	6.7	19.7	207	--	--	--
	3/25/1992	<0.200	<10	119	<2.0	<20	<20	<100	<5.0	<20	<0.20	<5.0	<10	<20	6,810	22,500	136,000	10,000	6.1	13.1	307	--	--	--
	9/29/1992	670	<10	120	<2.0	<20	<20	580	<5.0	410	0.3	<5.0	<10	<20	232	20,000	189,000	1,000	5.9	17.1	223	--	--	--
	3/31/1993	1,170	<10	180	<2.0	<20	<20	2,300	<5.0	<20	<0.20	<5.0	<10	55	<50	14,900	163,000	2,000	5.5	15.7	207	--	--	--
	9/17/1993	9,460	<10	444	2.8	<20	71	20,700	10	173	<0.20	<5.0	<10	106	250	12,000	207,000	2,000	6.2	18.3	282	--	--	--
	3/30/1994	4,420	<10	259	<2.0	<20	24	10,700	150	264	<0.20	<5.0	<10	107	1,480	17,000	180,000	<5	5.7	15.9	180	--	--	--
	9/30/1994	25,400	<10	485	<2.0	26	67	32,000	17	526	<0.20	<5.0	<10	86	<50	<20	193,000	26,100	6.3	18.0	202	--	--	--
	3/31/1995	31,300	<10	466	<2.0	27	55	36,400	25	430	<0.20	<5.0	<10	186	280	133,000	206,000	<5	6.6	12.7	220	--	--	--
	9/29/1995	55,400	<10	813	7	51	122	70,100	42	1,020	<0.20	<5.0	<10	183	200	139,000	302,000	1,320	5.4	15.4	245	--	--	--
	3/30/1996	17,100	<10	436	2	20	46	25,900	19	409	<0.20	<5.0	<10	100	1,250	19,500	217,000	3,410	5.6	13.0	285	--	--	--
	9/27/1996	11,200	<10	257	<2.0	<20	<20	16,400	15	235	<0.20	<5.0	<10	94	110	59,800	215,000	1,100	7.8	18.0	243	--	--	--
	3/29/1997	16,400	<10	347	3	<20	43	23,000	13	384	<0.20	<5.0	<10	51	120	21,100	223,000	7,860	6.6	12.0	153	--	--	--
	9/17/1997	32,200	<10	478	4	27	67	40,200	24	590	<0.20	<5.0	<10	280	1,100	88,900	262,000	1,290	6.9	16.0	366	--	--	--
	3/27/1998	12,200	<10	491	<2.0	<20	<20	21,300	<5.0	604	<0.20	<10	<10	<20	130	19,100	248,000	1,260	6.1	19.9	542	--	--	--
	9/30/1998	4,150	<10	<250	<2.0	<20	<20	5,690	<5.0	151	<0.20	<10	<10	39	300	5,050	238,000	1,340	6.8	20.0	276	--	--	--
	3/31/1999	2,380	<10	<250	<2.0	<20	<20	3,930	<5.0	126	<0.20	<10	<10	73	320	26,300	262,000	1,410	6.2	18.0	126	--	--	--
	9/29/1999	2,130	<10	<250	<2.0	<20	<20	4,230	<5.0	90	<0.20	<10	<10	<20	210	27,300	272,000	1,710	6.8	19.0	315	--	--	--
	9/15/2000	6,590	<10	323	<2.0	<20	26	9,900	11	309	<0.20	17	<10	<20	120	20,900	187,000	1,530	6.7	18.0	390	--	--	--
	3/16/2000	11,700	<10	356	<2.0	<20	35	15,700	7	334	<0.20	16	<10	36	208	17,800	193,000	2,630	--	--	--	--	--	--
	3/23/2001	828	<10	<250	<2.0	<20	<20	1,020	9	45	<0.20	<10	<10	23	200	27,400	175,000	1,560	6.7	17.0	310	--	--	--
	10/4/2001	3,640	<10	<250	<2.0	<20	<20	6,020	8	221	<0.20	13	<10	<20	220	24,700	186,000	3,200	6.1	17.0	200	--	--	--
	3/28/2002	1,720	<10	<250	<2.0	<20	<20	2,820	<5.0	100	--	<10	<10	<20	400	38,500	203,000	1,450	6.7	14.0	470	--	--	--
	3/28/2002	2,370	<10	<250	<2.0	<20	<20	2,820	<5.0	100	<0.20	17	<10	<20	287	25,600	177,000	<1.0	--	--	238	--	--	--
	3/25/2003	15,300	<10	362	<2.0	<20	26	23,800	8	622	<0.20	<10	<10	45	520	42,600	194,000	<1.0	6.2	19.0	210	--	--	--
	10/2/2003	2,460	<10	646	<2.0	<20	<20	4,080	<5.0	212	<0.20	<10	<10	<20	371	28,300	199,000	<1.0	6.7	17.0	243	--	--	--
	4/28/2004	1,490	<10	<250	<2.0	<20	<20	2,820	<5.0	80	<0.20	13	<10	<20	259	1,350,000	171,000	<1.0	--	14.6	225	--	--	--

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-3 (continued)	10/26/2004	2,370	<10	<250	<2.0	<20	<20	3,490	<5.0	129	<0.20	17	<10	<20	287	25,600	177,000	<1.0	--	--	238	--	--	--
	4/27/2005	874	<10	<250	<2.0	<20	<20	1,580	<5.0	66	<0.20	16	<10	40	254	34,400	192,000	740	--	--	277	--	--	--
	10/20/2005	3,500	<10	252	<2.0	<20	107	4,230	<5.0	72	<0.20	30	<10	71	356	44,000	218,000	18,000	--	--	317	--	--	--
	10/19/2006	553	<10	277	<2.0	<20	<20	1,020	<5.0	37	<0.20	48	<10	<20	389	70,400	237,000	690	--	--	330	--	--	--
	4/27/2007	<0.10	<10	262	<2.0	<20	<20	708	<5.0	<10	<0.20	--	<10	<20	452	89,400	251,000	1,510	--	--	388	--	--	--
	11/19/2007	124	<10	263	<2.0	<20	<20	156	<5.0	<10	<0.20	65	<10	<20	190	53,000	293,000	860	--	--	403	--	--	--
	11/19/2007	139	<10	254	<2.0	<20	<20	158	<5.0	12	<0.20	65	<10	<20	203	64,200	278,000	880	--	--	402	--	--	--
	4/30/2008	<0.100	<10	261	<2.0	<20	<20	148	<5.0	<10	<0.20	94	<10	<20	553	91,000	331,000	760	--	--	470	--	--	--
	10/29/2008	<0.100	<10	274	0.33	10.6	<10	216	3.3	124	0.1	95.5	5.15	<10	474	96,000	360,000	1,040	--	--	571	--	--	--
	4/30/2009	442	<10	368	<1.0	<10	<10	638	8.5	61.6	<2.0	154	<10	68.2	535	199,000	399,000	940	--	--	603	--	--	--
	10/12/2009	26	2.7	160	<1.0	0.9	<10	<50	<5.0	16	0.08	150	<5.0	<0.30	740	140,000	430,000	15,800	5.9	15.2	>99,000	9	121	2.82
	4/20/2010	870	<10	280	<1.0	<5.0	<10	940	<5.0	49	<2.0	100	<5.0	<0.030	710	100,000	380,000	9,000	6.0	12.5	644	23	264	3.74
	10/11/2010	<250	<5.0	110	<1.0	1.3	<25	21	<5.0	1.6	<2.0	77	<5.0	20	790	89,000	310,000	4,000	5.9	18.0	497	7	256	1.39
	4/21/2011	<0.040	2.1	140	<0.1	<5.0	<1.0	210	<1.0	67	<0.10	100	<1.0	<10	850	120,000	330,000	1,000	5.8	13.1	399	<1	299	3.68
	10/18/2011	380	<5.0	195	<5.0	<5.0	<5.0	262	<5.0	22.1	<0.20	102	<5.0	<10	1,100	360,000	413,000	7,700	6.9	17.5	764	6	128	1.76
	3/16/2012	<0.10	<5.0	97.5	<1.0	<5.0	<5.0	101	<5.0	10.2	<2.0	112	5.8	<10	1,700	220,000	1,070,000	7,800	5.5	14.3	755	1	126	2.36
	9/24/2012	<50	<2.7	87.4	<50	<2.0	<2.0	<25	<4.0	49.1	<0.10	51.9	<2.5	<5.0	1,000	418,000	719,000	--	5.8	17.8	1,110	1.6	521	<0.01
	4/18/2013	<0.1	<0.01	56.2	<1.0	<5.0	<5.0	<50	<5.0	75.7	<2.0	29.6	<5.0	<0.01	840	401,000	852,000	10,600	5.7	14.0	1,146	1.1	-443	0.54
	9/10/2013	<0.1	<0.01	45.8	<1.0	<5.0	<5.0	<50	<5.0	98.4	<2.0	20	<5.0	<0.01	588	447,000	852,000	9,290	5.9	18.9	959	1.1	222	0.44
	4/7/2014	<0.100	NA	39.8	<1.0	<5.0	NA	<50	<5.0	88.4	NA	20.4	NA	NA	NA	338,000	796,000	10,100	5.9	10.7	1,109	0.7	538	2.39
	9/3/2014	<0.100	NA	34	<1.0	<5.0	NA	<50	<5.0	135	NA	23.4	NA	NA	NA	364,000	895,000	NA	5.7	20.6	1,049	2.8	502	0.74
	4/2/2015	<0.100	NA	32.8	<1.0	<5.0	NA	<50	<5.0	155	NA	25	NA	NA	NA	449,000	932,000	NA	6.1	15.7	960	2.1	328	1.48
W-3B (RHMW-003B)	10/26/2004	2,330	<10	<250	<2.0	<20	<20	3,170	<5.0	157	<0.20	<10	<10	24	<50	174,000	545,000	2,710	--	--	862	--	--	--
	4/27/2005	203	<10	<250	2	<20	<20	1,830	15	907	<0.20	41	<10	36	<50	590,000	840,000	10,100	--	--	1,180	--	--	--
	10/20/2005	3,630	<10	<250	<2.0	<20	29	4,290	5	68	<0.20	<10	<10	75	<50	146,000	627,000	30,000	--	--	550	--	--	--
	10/19/2006	135	<10	<250	<2.0	<20	<20	950	5	811	<0.20	<10	<10	42	<50	318,000	750,000	5,240	--	--	739	--	--	--
	4/27/2007	238	<10	<250	<2.0	<20	<20	901	<5.0	1,280	<0.20	<10	<10	<20	<50	475,000	1,050,000	2,570	--	--	1,240	--	--	--
	11/19/2007	<0.100	<10	<250	<2.0	<20	<20	1,170	<5.0	1,270	<0.20	<10	<10	<20	<50	582,000	101,000	22,600	--	--	1,310	--	--	--
	4/30/2008	<0.100	<10	<250	<2.0	<20	<20	505	<5.0	1,010	<0.20	<10	<10	<20	<50	570,000	955,000	1,180	--	--	1,270	--	--	--
	10/29/2008	<0.100	<10	48	<1.0	4.9	<10	1,950	<10	946	0.07	<10	<10	10.5	<0.05	305,000	760,000	830	--	--	1,080	--	--	--
	4/30/2009	<0.100	<10	42.6	<1.0	<10	<10	490	10.5	999	<2.0	9.7	1.5	8.7	<50	185,000	827,000	5,560	--	--	1,150	--	--	--
	10/12/2009	39	3.6	43	<1.0	0.9	<10	330	<5.0	880	<2.0	<20	<5.0	<0.30	<0.20	250,000	780,000	16,100	7.2	14.6	>99,000	14	-42	3.40
	4/20/2010	<0.10	<10	49	<1.0	<5.0	<10	500	<5.0	970	<2.0	<20	<5.0	<0.30	<0.20	280,000	770,000	11,200	6.8	17.5	2,320	108	-51	0.23
	10/11/2010	<250	5	45	<5.0	<5.0	<25	500	<5.0	980	<2.0	9.9	<5.0	<50	140	300,000	830,000	<0.20	6.7	17.5	1,010	41	-25	<0.01
	4/21/2011	<0.040	2.5	51	<0.1	<5.0	<1.0	970	<1.0	1,200	<0.10	12	<1.0	<10	85	370,000	890,000	1,100	6.6	15.4	956	<1	-72	0.48
	10/18/2011	<50	<5.0	52	<1.0	<5.0	<5.0	606	<5.0	1,320	<0.20	<10	<5.0	<10	<0.20	460,000	1,090,000	9,700	9.5	15.0	1,750	9.4	-86	<0.01
	3/16/2012	<0.10	<5.0	48.5	<1.0	<5.0	<5.0	472	<5.0	1,560	<2.0	<10	<5.0	47.6	<0.20	559,000	533,000	9,800	6.7	14.5	1,474	2.9	-35	0.79
	9/24/2012	<50	<2.7	45.1	<50	<2.0	<2.0	537	<4.0	1,340	<0.10	<5.0	<2.5	27.1	<0.02	422,000	1,050,000	--	7.1	16.0	1,650	3.6	-26	<0.01
	4/18/2013	<0.1	<0.01	40.3	<1.0	<5.0	<5.0	397	<5.0	743	<2.0	<0.01	<5.0	<0.01	<0.02	248,000	623,000	16,800	6.6	14.9	961	0.0	-71	0.47
	9/10/2013	<0.1	<0.01	43.2	<1.0	<5.0	<5.0	258	<5.0	448	<2.0	<0.01	<5.0	<0.01	<0.02	120,000	421,000	6,580	7.2	19.3	1,380	9.2	-43	<0.01
	4/7/2014	<0.100	NA	46.6	<1.0	<5.0	NA	772	<5.0	540	NA	<10	NA	NA	NA	123,000	396,000	49,000	6.9	16.1	987	0.0	-92	0.38
	9/3/2014	<0.100	NA	48.4	<1.0	<5.0	NA	321	<5.0	452	NA	12.5	NA	NA	NA	18,100	403,000	NA	6.9	16.2	988	1.4	-87	2.01
	4/2/2015	<0.100	NA	47.8	<1.0	<5.0	NA	3,070	<5.0	520	NA	<10	NA	NA	NA	79,400	415,000	NA	7.2	16.0	500	8.5	123	0.74

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-4	4/4/1995	9,720	<10	<250	<2.0	<20	<20	15,600	7	564	<0.20	<10	<10	58	1,000	7,880	231,000	136,000	6.1	19.0	234	--	--	--
	9/17/1997	4,420	<10	<250	2	<20	<20	10,000	6	406	<0.20	<10	<10	190	550	8,860	212,000	3,190	7.5	18.0	366	--	--	--
	3/27/1998	3,410	<10	<250	<2.0	<20	<20	6,250	<5.0	--	<0.20	<10	<10	44	<50	7,120	226,000	2,690	6.7	19.2	390	--	--	--
	9/30/1998	219	<10	<250	<2.0	<20	<20	1,610	<5.0	299	<0.20	<10	<10	<20	<50	6,420	200,000	7,260	5.9	21.0	322	--	--	--
(Background)	3/31/1999	637	<10	<250	<2.0	<20	<20	2,150	<5.0	285	<0.20	<10	<10	<20	<50	5,710	202,000	8,530	6.5	16.0	279	--	--	--
(damaged &	9/29/1999	127	<10	<250	<2.0	<20	<20	1,440	5	271	<0.20	<10	<10	24	<50	<5.0	207,000	2,850	6.4	18.0	315	--	--	--
replaced 2003 with	3/16/2000	<0.100	<10	<250	<2.0	<20	<20	1,470	<5.0	298	<0.20	<10	<10	<20	<50	<5.0	191,000	6,050				--	--	--
W-6)	9/15/2000	165	<10	<250	<2.0	<20	<20	1,090	<5.0	252	<0.20	<10	<10	<20	80	5,300	241,000	15,500	6.2	17.0	310	--	--	--
	3/23/2001	2,750	<10	<250	4	<20	<20	9,910	16	447	<0.20	<10	<10	28	<50	6,530	219,000	5,990	6.4	16.0	240	--	--	--
	10/4/2001	204	<10	<250	<2.0	<20	<20	915	7	229	<0.20	<10	<10	<20	<0.05	<5.0	186,000	7,800	6.3	20.0	300	--	--	--
	3/28/2002	<0.100	<10	<250	<2.0	<20	<20	1,460	<5.0	212	--	<10	<10	<20	<50	5,160	196,000	1,680	6.2	14.0	190	--	--	--
	10/3/2002	<0.100	<10	<250	<2.0	<20	<20	1,130	<5.0	237	<0.20	<10	<10	29	<50	5,080	202,000	4,070	6.1	19.0	280	--	--	--
	3/25/2003	<0.100	<10	<250	<2.0	<20	<20	976	<5.0	212	<0.20	<10	<10	<20	<50	6,050	185,000	1,610	6.2	16.0	260	--	--	--
W-6	10/2/2003	1,920	<10	<250	<2.0	268	24	3,220	<5.0	154	<0.20	<10	<10	440	207	95,000	466,000	34,000	7.3	19.0	661	--	--	--
	4/28/2004	1,160	<10	<250	<2.0	30	26	917	7	37	<0.20	<10	<10	149	137	370,000	692,000	139,000	--	14.7	937	--	--	--
	10/26/2004	790	<10	<250	<2.0	89	32	259	<5.0	12	<0.20	<10	<10	87	96	116,000	630,000	79,200	--	--	917	--	--	--
	4/27/2005	389	<10	<250	<2.0	<20	<20	<100	5	<10	<0.20	<10	<10	56	<50	87,500	565,000	13,200	--	--	932	--	--	--
(Background)	10/20/2005	<0.100	<10	<250	<2.0	<20	40	355.7	<5.0	<10	<0.20	<10	<10	60	64	35,400	553,000	27,000	--	--	939	--	--	--
Replaced W-4	10/19/2006	529	<10	<250	<2.0	<20	<20	77	<5.0	12	<0.20	<10	<10	66	<50	46,400	471,000	29,300	--	--	655	--	--	--
9/2003	4/27/2007	2,660	<10	<250	<2.0	29	<20	2,790	<5.0	106	<0.20	<10	<10	168	<50	29,500	442,000	8,840	--	--	776	--	--	--
	11/19/2007	627	<10	<250	<2.0	<20	<20	711	<5.0	24	<0.20	<10	<10	38	<50	11,200	431,000	8,980	--	--	694	--	--	--
	4/30/2008	<0.100	<10	<250	<2.0	<20	<20	<0.100	<5.0	<10	<0.20	<10	<10	37	<50	<10.0	392,000	5,610	--	--	615	--	--	--
	10/29/2008	235	<10	35.8	0.41	6.8	<10	268	<10	9.3	<0.20	<10	<10	67	<50	<10.0	393,000	4,130	--	--	724	--	--	--
	4/30/2009	139	<10	36.6	<1.0	7	<10	33.1	2.9	1.5	<2.0	8.1	<10	33.2	<50	10,500	463,000	10,300	--	--	807	--	--	--
	10/12/2009	140	2.3	28	<1.0	5.5	4.3	44	<5.0	1.7	<2.0	46	<5.0	<0.300	<0.200	17,000	380,000	11,100	10.6	18.9	1,020	33	-243	0.16
	4/20/2010	1,700	<10	59	<1.0	400	14	3,200	<5.0	87	<2.0	<20	<5.0	69	<0.20	16,000	450,000	9,100	10.7	18.9	930	209	-227	0.03
	10/11/2010	320	<5.0	37	<1.0	420	19	2,800	<5.0	56	<2.0	<5.0	<5.0	63	120	13,000	410,000	3,900	10.6	17.7	816	36	-250	<0.01
	4/22/2011	260	1.2	33	<1.0	190	7	1,000	1.3	28	<0.10	1.1	<1.0	17	21	16,000	410,000	3,800	11.1	13.9	562	10	-189	1.01
	10/18/2011	421	<5.0	26.9	<1.0	60.9	89	311	<5.0	6.8	<2.0	<10	<5.0	60.1	<0.20	11,000	414,000	6,100	12.2	18.1	1,040	9	-313	0.37
	3/16/2012	221	<5.0	44.7	<1.0	8.5	<5.0	83	<5.0	<5.0	<2.0	<10	<5.0	10.1	<0.20	11,400	499,000	5,200	11.2	17.3	845	2	-234	0.38
	9/26/2012	202	<2.7	37.3	<50	23.6	<2.0	162	<4.0	<2.5	<0.10	<5.0	<2.5	14.1	<0.02	12,200	317,000	--	11.4	16.3	667	8.9	-21	<0.01
	4/19/2013	517	<0.01	41.1	<1.0	18.3	<5.0	277	<5.0	6.4	<2.0	<0.01	<5.0	21.2	<0.02	12,200	334,000	4,900	10.4	15.8	620	8.6	-451	0.40
	9/11/2013	312	<0.01	46.9	<1.0	21.7	<5.0	397	<5.0	7.7	<2.0	<0.01	<5.0	19.4	--	12,100	335,000	4,390	10.6	17.9	506	6.9	83	0.71
	4/9/2014	154	NA	42.2	<1.0	6.9	NA	141	<5.0	<5.0	NA	<10	NA	NA	NA	12,400	304,000	4,700	10.9	15.1	634	4.2	-43	1.23
	9/5/2014	<0.100	NA	33.7	<1.0	<5.0	NA	<50	<5.0	<5.0	NA	<10	NA	NA	NA	11,800	337,000	NA	10.8	15.7	637	3.9	-37	1.19
	4/2/2015	<0.100	NA	35.4	<1.0	9.4	NA	72.6	<5.0	<5.0	NA	<10	NA	NA	NA	11,700	314,000	NA	10.3	16.3	555	2.6	-142	2.74
W-7	1/6/2011	--	--	110	<0.1	<5.0	--	200	<10	120	--	<10	--	--	--	9,300	200,000	--	7.1	15.4	298	5	83	2.00
	4/21/2011	92	<1.0	80	<0.1	<5.0	<1.0	520	<1.0	160	<0.10	<1.0	<1.0	<10	44	6,600	190,000	<1.0	7.3	15.2	301	<1	12	0.62
Open borehole 42'-	9/25/2012	318	<2.7	77.3	<50	<2.0	<2.0	628	<4.0	173	<0.10	<5.0	<2.5	<5.0	<0.02	6,200	206,000	--	8.1	15.1	403	18.2	46	<0.01
341'	4/18/2013	403	<0.01	140	<1.0	<5.0	6	1,460	<5.0	146	<2.0	<0.01	<5.0	<0.01	<0.02	10,200	173,000	29,000	6.9	15.7	271	17.1	-448	1.70
	9/11/2013	257	<0.01	112	<1.0	<5.0	<5.0	950	<5.0	124	<2.0	<0.01	<5.0	<0.01	--	8,100	<25	3,310	7.4	16.2	271	7.7	4	0.87
	4/9/2014	427	NA	131	<1.0	<5.0	NA	1,830	<5.0	97.1	NA	<10	NA	NA	NA	11,200	181,000	3,500	6.8	15.6	265	21.3	119	2.87
	9/5/2014	797	NA	81.1	<1.0	<5.0	NA	1,580	<5.0	189	NA	<10	NA	NA	NA	6,400	220,000	NA	7.5	15.9	289	8.1	10	1.35
	4/2/2015	402	NA	136	<1.0	<5.0	NA	1,970	<5.0	69.6	NA	<10	NA	NA	NA	10,800	169,000	NA	7.5	15.9	284	9.4	6	2.19

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
W-8	1/6/2011	--	--	330	0.12	<.0050	--	2,900	<10	65	--	<10	--	--	--	73,000	210,000	--	7.5	14.8	300	50	182	7.88
	4/20/2011	390	1.2	180	<0.1	<5.0	<1.0	940	<1.0	20	<0.10	8.9	<1.0	<10	240	68,000	240,000	1,100	5.7	15.1	391	133	203	7.06
	9/26/2012	643	<2.7	166	<50	25.2	7.7	777	<0.0040	64	<0.10	<5.0	<2.5	151	250	86,800	242,000	--	6.1	20.5	382	6.2	158	5.9
	4/18/2013	5,940	<0.01	465	<1.0	86.4	85.6	9,760	<5.0	220	<2.0	<0.01	<5.0	122	290	95,000	247,000	5,200	5.8	19.5	330	9.6	-428	5.3
	9/10/2013	1,180	<0.01	407	<1.0	41.7	40	1,900	<5.0	37.1	<2.0	<0.01	<5.0	67.1	290	101,000	244,000	5,600	5.7	21.8	310	9.3	95	6.0
	4/9/2014	1,670	NA	147	<1.0	7.5	NA	2,940	<5.0	86.5	NA	<10	NA	NA	NA	98,800	263,000	4,900	5.6	18.1	371	11.9	195	5.9
	9/3/2014	318	NA	136	<1.0	<5.0	NA	463	<5.0	23	NA	13.4	NA	NA	NA	114,000	300,000	NA	5.4	14.8	329	8.4	154	5.9
	4/2/2015	873	NA	206	<1.0	42.7	NA	1,410	<5.0	26.9	NA	11.5	NA	NA	NA	62,700	219,000	NA	5.9	21.6	340	39.9	68	4.6
W-9	1/5/2011	--	--	27	<0.1	<5.0	--	440	<10	32	--	<10	--	--	--	16,000	150,000	--	8.4	15.9	274	119	22	<0.01
	4/20/2011	83	<1.0	39	<0.1	<5.0	<1.0	170	<1.0	23	<0.10	<1.0	<1.0	<10	42	10,000	130,000	<1.0	8.8	16.8	286	121	-10	0.45
	9/26/2012	116	<2.7	102	<50	10	<2.0	108	<0.0040	10.1	<0.10	<5.0	<2.5	<5.0	<0.02	8,800	149,000	--	11.0	16.3	350	7.9	12	<0.01
	4/19/2013	281	<0.01	115	<1.0	8.5	<5.0	157	<5.0	8	<2.0	<0.01	<5.0	<0.01	<0.02	9,300	155,000	2,400	9.6	16.5	286	9.7	-455	0.22
	9/10/2013	114	<0.01	94	<1.0	<5.0	<5.0	68.6	<5.0	<5.0	<2.0	<0.01	<5.0	<0.01	<0.02	9,100	169,000	2,410	10.5	16.5	272	4.0	-73	0.27
	4/9/2014	<0.100	NA	54.8	<1.0	<5.0	NA	<50	<5.0	<5.0	NA	<10	NA	NA	NA	11,100	204,000	3,100	9.4	14.4	257	4.7	-421	0.18
	9/4/2014	134	NA	60.2	<1.0	<5.0	NA	222	<5.0	7.3	NA	<10	NA	NA	NA	11,100	212,000	NA	9.7	19.9	303	11.2	33	3.54
	4/3/2015	<0.100	NA	113	<1.0	<5.0	NA	<50	<5.0	<5.0	NA	<10	NA	NA	NA	9,100	279,000	NA	11.7	16.8	982	3.6	-184	0.70
PW-1	4/29/1988	152	<0.011	59	8	<0.016	57	57	<0.024	314	<0.20	<5.0	<0.014	576	1,520	37,000	500,000	1,280	6.9	--	--	--	--	--
	7/13/1989	--	<10	100	<0.008	--	<20	--	<0.100	--	<0.20	<5.0	<0.006	--	--	--	--	--	--	--	--	--	--	--
	9/6/1990	--	<10	90	<1.0	<10	--	--	9.9	--	<0.20	<5.0	<5.0	--	--	--	--	--	6.8	--	--	--	--	--
	10/23/1991	130	<10	<0.080	<2.0	0	<20	620	<5.0	1,230	<0.20	<5.0	<10	3,310	50	460,000	850,000	8,000	6.4	15.1	1,247	--	--	--
	8/10/2009	--	--	35	<1.0	<5.0	--	4,800	<5.0	1,800	--	<20	--	--	--	680,000	--	--	7.0	15.3	2,860	32	13	<0.01
Packer interval - 95'-115'	5/14/2010	<0.100	<10	34	<1.0	<5.0	<10	2,900	<5.0	2,000	<0.20	<20	<5.0	560	--	800,000	1,900,000	--	6.8	15.0	2,430	217	-20	14.9
Packer interval - 180'-200'	5/14/2010	<0.100	<10	44	<1.0	<5.0	<10	6,300	9.4	2,400	<0.20	<20	<5.0	21,000	--	940,000	2,100,000	--	6.8	16.1	2,570	166	-50	13.2
Packer interval - 250'-270'	5/13/2010	<0.100	<10	46	<1.0	<5.0	<10	6,800	<5.0	2,500	<0.20	<20	<5.0	5,100	--	1,000,000	2,100,000	--	6.7	16.5	2,580	215	-54	13.5
Packer interval - 300'-326'	5/13/2010	Dry, no s	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Open borehole - 21'-326'	4/21/2011	280	11	46	<0.1	<5.0	<1.0	4,400	<1.0	3,000	<0.10	54	<1.0	<10	<20	920,000	2,000,000	2,100	6.2	16.6	2,250	<1	24	0.60
Open Borehole 21'-326'	9/26/2012	1,060	<2.7	52.2	<50	<2.0	<2.0	4,280	<0.0040	2,780	<0.10	<5.0	<2.5	13.5	450	1,190,000	2,980,000	--	6.8	15.9	2,890	8.7	2.0	<0.01
	4/18/2013	1,080	<0.01	55.4	<1.0	<5.0	<5.0	3,830	<5.0	2,700	<2.0	<0.01	<5.0	10.1	630	1,080,000	1,940,000	14,200	6.2	16.2	2,401	3.0	-453	0.60
	9/10/2013	1,010	<0.01	52.4	<1.0	<5.0	<5.0	5,680	<5.0	2,990	<2.0	<0.01	<5.0	18.8	<0.02	1,150,000	2,240,000	20,500	6.2	17.7	2,191	5.2	44	0.40
	4/7/2014	628	NA	48.9	<1.0	<5.0	NA	4,780	<5.0	3,130	NA	<10	NA	NA	NA	914,000	1,980,000	16,600	6.2	15.3	2,689	3.2	41	0.83
	9/5/2014	1,370	NA	32.3	<1.0	8.4	NA	6,160	<5.0	3,080	NA	49.9	NA	NA	NA	1,010,000	2,260,000	NA	6.1	16.7	2,552	5.7	-16	3.93
	4/2/2015	195	NA	45	<1.0	<5.0	NA	435	<5.0	595	NA	62.3	NA	NA	NA	1,010,000	187,000	NA	6.0	21.6	241	6.6	332	4.59
PZ-1	1/4/2011	--	--	81	<0.1	<5.0	--	1,600	<10	78	--	<10	--	--	--	98,000	180,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/20/2011	40	<1.0	63	<0.1	<5.0	1.9	2,700	1.6	110	<0.10	<1.0	<1.0	<10	110	30,000	100,000	4,200	Not measured - insufficient sample volume due to limited recharge					
	9/25/2012	<50	<2.7	99.7	<50	<2.0	<2.0	138	<0.0040	119	<0.10	<5.0	<2.5	<5.0	1,900	319,000	806,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/17/2013	182	<0.01	64.3	<1.0	<5.0	<5.0	200	<5.0	55.6	<2.0	<0.01	<5.0	<0.01	240	95,500	217,000	5,000	Not measured - insufficient sample volume due to limited recharge					
	9/10/2013	<0.1	<0.01	82.7	<1.0	<5.0	<5.0	72.1	<5.0	17.8	<2.0	<0.01	<5.0	<0.01	1,580	179,000	485,000	6,530	Not measured - insufficient sample volume due to limited recharge					
	4/6/2014	<0.100	NA	56.7	<1.0	<5.0	NA	148	<5.0	28.3	NA	<10	NA	NA	NA	98,900	1,430,000	5,000	Not measured - insufficient sample volume due to limited recharge					
	9/3/2014	52,800	NA	778	<1.0	280	NA	69,200	27	3,130	NA	<10	NA	NA	NA	162,000	503,000	NA	Not measured - insufficient sample volume due to limited recharge					
	4/1/2015	<0.100	NA	60.1	<1.0	<5.0	NA	87	<5.0	11.4	NA	<10	NA	NA	NA	91,900	290,000	NA	8.13	16.48	509	2.19	17.40	7.51

APPENDIX A1
GROUND WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
PZ-2	1/4/2011	--	--	**120**	<0.1	<5.0	--	**770**	<10	**410**	--	<10	--	--	--	180,000	360,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/20/2011	**4,200**	<1.0	9.9	<0.1	6.9	2.7	**7,400**	3.4	**410**	0.14	<1.0	<1.0	<10	100	82,000	250,000	6,700	Not measured - insufficient sample volume due to limited recharge					
	9/25/2012	<50	<2.7	**113**	<50	<2.0	<2.0	106	<0.0040	38.9	<0.10	<5.0	<2.5	<5.0	2,000	**306,000**	**767,000**	--	Not measured - insufficient sample volume due to limited recharge					
	4/17/2013	222	<0.01	63.7	<1.0	<5.0	<5.0	247	<5.0	28.4	<2.0	<0.01	<5.0	<0.01	180	98,200	197,000	4,600	Not measured - insufficient sample volume due to limited recharge					
	9/10/2013	<0.1	<0.01	83.9	<1.0	<5.0	<5.0	83.8	<5.0	13.8	<2.0	<0.01	<5.0	<0.01	1,690	169,000	455,000	6,250	Not measured - insufficient sample volume due to limited recharge					
	4/6/2014	114	NA	54	<1.0	<5.0	NA	180	<5.0	12	NA	<10	NA	NA	NA	93,800	255,000	4,000	Not measured - insufficient sample volume due to limited recharge					
	4/1/2015	<0.100	NA	58.4	<1.0	<5.0	NA	159	<5.0	9.7	NA	<10	NA	NA	NA	82,200	267,000	NA	8.15	15.93	466	3.17	18.70	8.05
PZ-3	1/5/2011	--	--	**140**	<0.1	9.4	--	**14,000**	<10	**1,700**	--	<10	--	--	--	24,000	140,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/21/2011	<0.04	<1.0	55	<0.1	<5.0	<1.0	**6,700**	<1.0	**560**	<0.10	<1.0	<1.0	<10	49	25,000	100,000	3,000	Not measured - insufficient sample volume due to limited recharge					
	9/25/2012	Could no	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/17/2013	914	<0.01	55.7	<1.0	<5.0	<5.0	**1,090**	<5.0	10.2	<2.0	<0.01	<5.0	<0.01	<0.02	30,500	87,000	3,200	Not measured - insufficient sample volume due to limited recharge					
	9/9/2013	<0.1	<0.01	68.6	<1.0	<5.0	<5.0	179	<5.0	7.2	<2.0	<0.01	<5.0	<0.01	67.5	45,200	158,000	13,300	Not measured - insufficient sample volume due to limited recharge					
	4/6/2014	205	NA	51.2	<1.0	<5.0	NA	265	<5.0	<5.0	NA	<10	NA	NA	NA	25,200	119,000	2,500	Not measured - insufficient sample volume due to limited recharge					
	9/4/2014	<0.100	NA	80	<1.0	<5.0	NA	233	<5.0	**62.5**	NA	<10	NA	NA	NA	37,300	177,000	NA	Not measured - insufficient sample volume due to limited recharge					
	4/1/2015	143	NA	57.9	<1.0	<5.0	NA	**335**	<5.0	5.4	NA	<10	NA	NA	NA	30,400	105,000	NA	10.39	10.78	178	4.58	12.00	9.91
PZ-4	1/5/2011	--	--	**170**	<0.1	**12**	--	**10,000**	<10	**89**	--	<10	--	--	--	46,000	190,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/21/2011	170	<1.0	58	<0.1	<5.0	<1.0	**450**	<1.0	15	<0.10	<1.0	<1.0	<10	52	24,000	<10	2,300	Not measured - insufficient sample volume due to limited recharge					
	9/25/2012	168	<2.7	81.7	<50	<2.0	<2.0	285	<0.0040	40.5	<0.10	<5.0	<2.5	<5.0	<0.02	58,400	181,000	--	Not measured - insufficient sample volume due to limited recharge					
	4/17/2013	889	<0.01	53.7	<1.0	<5.0	<5.0	**1,050**	<5.0	12.4	<2.0	<0.01	<5.0	<0.01	<0.02	30,000	89,000	3,300	Not measured - insufficient sample volume due to limited recharge					
	9/9/2013	155	<0.01	61.7	<1.0	<5.0	<5.0	**307**	<5.0	15.8	<2.0	<0.01	<5.0	<0.01	54	31,500	131,000	3,530	Not measured - insufficient sample volume due to limited recharge					
	4/6/2014	295	NA	53.3	<1.0	<5.0	NA	**399**	<5.0	5.1	NA	<10	NA	NA	NA	24,200	113,000	2,500	Not measured - insufficient sample volume due to limited recharge					
	9/4/2014	<0.100	NA	77.5	<1.0	<5.0	NA	**394**	<5.0	**52.4**	NA	<10	NA	NA	NA	41,200	183,000	NA	Not measured - insufficient sample volume due to limited recharge					
	4/1/2015	133	NA	54.6	<1.0	<5.0	NA	249	<5.0	<5.0	NA	<10	NA	NA	NA	27,200	105,000	NA	7.48	9.98	162	4.21	16.60	8.91
PZ-5	1/5/2011	--	--	92	<0.1	<5.0	--	**1,300**	<10	**1,300**	--	<10	--	--	--	130,000	**510,000**	--	Not measured - insufficient sample volume due to limited recharge					
	4/21/2011	**5,300**	<1.0	81	<0.1	10	**14**	**13,000**	2.9	**710**	<0.10	2.2	<1.0	**20**	60	85,000	230,000	11,000	Not measured - insufficient sample volume due to limited recharge					
	9/25/2012	Dry, no s	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/17/2013	Dry, no s	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	9/9/2013	Dry, no s	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	4/6/2014	<0.100	NA	66	<1.0	<5.0	NA	128	<5.0	<5.0	NA	<10	NA	NA	NA	115,000	270,000	3,500	Not measured - insufficient sample volume due to limited recharge					
	9/4/2014	143	NA	**129**	<1.0	<5.0	NA	**877**	<5.0	**567**	NA	**12.9**	NA	NA	NA	**306,000**	**765,000**	NA	Not measured - insufficient sample volume due to limited recharge					
	4/1/2015	494	NA	83.4	<1.0	<5.0	NA	**769**	<5.0	**82.3**	NA	<10	NA	NA	NA	153,000	339,000	NA	7.04	10.53	516	1.06	34.00	7.17

All concentrations in micrograms per liter (ug/L) unless otherwise noted
NE - Not established
-- - Not sampled

[1] - No 2L standard established. NCDWM SWS Groundwater Protection presented
[2] - No freshwater aquatic life standard established. Water Supply criteria presented

Bold indicates exceedance of Solid Waste Section Limits (SWSL)
Gray background indicates exceedance of NC Ground Water Standard

Analysis for arsenic, copper, mercury, silver, zinc, nitrates & TOC discontinued in 2014 per Corrective Action Plan (ERM, 2/2014).

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
SS-01 (RHSS-001) Surface Water - Upstream	04/29/88	<152	<10	**118**	**8**	<16	<19	86	<24	<14	<0.20	<5.0	<14	**15**	220	64,000	220,000	2,810	6.8	--	--	--	--	--
	07/13/89	--	<10	100	<2.0	<20	--	--	<5.0	--	<0.20	<10	<10	--	--	--	--	--	--	--	--	--	--	--
	09/06/90	--	<10	64	<1.0	--	--	--	<2.5	--	<0.20	<5.0	<5.0	--	--	--	--	--	7.9	--	--	--	--	--
	09/21/90	**140**	<10	<80	**4.8**	<40	<20	200	<5.0	<20	<0.20	<5.0	<10	<20	520	40,000	352,000	12,000	7.2	11.6	490	--	--	--
	10/23/91	**109**	<10	<80	<2.0	<20	<20	<100	<5.0	<20	<0.20	<5.0	<10	<20	150	108,000	248,000	12,000	7.9	17.2	381	--	--	--
	03/25/92	**4,150**	<10	<80	**3.4**	<20	<20	**5,000**	**15.8**	**64**	<0.20	<5.0	<10	<20	250	9,400	185,000	14,000	5.8	11.3	126	--	--	--
	09/29/92	<100	<10	<100	<2.0	<40	<20	160	<5.0	**85**	<0.20	<5.0	<10	<20	190	84,000	241,000	2,000	5.7	13.8	356	--	--	--
	03/31/93	<200	<10	<100	<2.0	<20	<20	**400**	<5.0	**77**	<0.20	<5.0	<10	**29**	1,340	70,400	127,000	2,000	5.9	13.0	207	--	--	--
	09/17/93	**240**	<10	<125	<2.0	<20	<20	**598**	<5.0	28	<0.20	<5.0	<10	<20	450	77,400	251,000	3,000	7.1	20.9	360	--	--	--
	03/30/94	**220**	<10	<120	<2.0	<20	<20	**873**	<5.0	30	<0.20	<5.0	<10	<20	250	30,600	108,000	5,000	5.9	14.0	380	--	--	--
	09/30/94	**1,300**	<10	<250	<2.0	<20	<20	**1,690**	6	**84**	<0.20	<5.0	<10	<20	430	64,800	255,000	30,000	7.1	19.1	332	--	--	--
	03/31/95	**3,580**	<10	<250	<2.0	<20	<20	**2,440**	<5.0	**106**	<0.20	<5.0	<10	**246**	190	48,900	211,000	<5.0	7.8	13.9	290	--	--	--
	09/29/95	**200**	<10	<250	<2.0	<20	<20	**358**	7	38	<0.20	<5.0	<10	<20	500	70,000	264,000	3,740	5.2	13.9	458	--	--	--
	03/30/96	**279**	<10	<250	<2.0	<20	<20	**547**	<5.0	14	<0.20	<5.0	<10	<20	185	31,300	129,000	1,790	6.7	11.0	193	--	--	--
	09/27/96	**125**	<10	<250	<2.0	<20	<20	300	5	21	<0.20	<5.0	<10	**95**	290	56,100	225,000	2,360	7.7	19.0	336	--	--	--
	03/29/97	**307**	<10	<250	<2.0	<20	<20	**552**	<5.0	16	<0.20	<5.0	<10	**13**	225	30,000	138,000	3,040	7.6	16.0	94	--	--	--
	09/17/97	**476**	<10	<250	<2.0	<20	<20	**835**	<5.0	40	<0.20	<5.0	<10	**169**	625	47,400	224,000	1,670	7.9	19.0	319	--	--	--
	03/27/98	**190**	<10	<250	<2.0	<20	<20	**685**	<5.0	12	<0.20	<10	<10	**61**	680	38,700	163,000	5,230	7.6	18.6	473	--	--	--
	09/30/98	**126**	<10	<250	<2.0	<20	<20	**540**	6	33	<0.20	<10	<10	<20	300	28,000	177,000	4,090	7.2	18.0	322	--	--	--
	03/31/99	**239**	<10	<250	<2.0	<20	<20	**332**	<5.0	44	<0.20	<10	<10	<20	120	63,200	191,000	2,490	7.1	16.0	247	--	--	--
	09/29/99	**1,530**	<10	<250	<2.0	<20	<20	**3,330**	5	**88**	<0.20	<10	<10	<20	90	23,200	143,000	8,810	7.8	16.0	308	--	--	--
	09/15/00	**327**	<10	<250	<2.0	<20	<20	166	<5.0	38	<0.20	<10	<10	<20	160	26,100	157,000	5,080	7.3	19.0	410	--	--	--
	03/16/00	**117**	<10	<250	<2.0	<20	<20	**1,940**	<5.0	**922**	<0.20	<10	<10	<20	199	50,900	202,000	3,780	--	--	--	--	--	--
	03/23/01	<100	<10	<250	<2.0	<20	<20	158	<5.0	10	<0.20	<10	<10	<20	<50	26,100	113,000	2,810	6.9	16.0	150	--	--	--
	10/04/01	**116**	<10	<250	<2.0	<20	<20	<100	<5.0	29	<0.20	<10	<10	<20	300	99,000	343,000	5,300	7.4	19.0	440	--	--	--
	03/28/02	<100	<10	<250	<2.0	<20	<20	201	<5.0	10	--	<10	<10	**27**	320	41,900	177,000	3,180	7.0	11.0	400	--	--	--
	10/03/02	**317**	<10	<250	<2.0	<20	<20	**767**	<5.0	**52**	<0.20	<10	<10	<20	750	73,300	300,000	3,070		19.0	330	--	--	--
	03/25/03	**673**	<10	<250	<2.0	<20	<20	**607**	<5.0	24	<0.20	<10	<10	<20	115	31,600	119,000	2,080	6.9	18.0	440	--	--	--
	10/02/03	<100	<10	<250	<2.0	<20	<20	**705**	<5.0	**72**	<0.20	<10	<10	<20	446	29,400	181,000	2,380	6.3	15.0	249	--	--	--
	04/28/04	<100	<10	<250	<2.0	<20	<20	179	<5.0	**80**	<0.20	<10	<10	<20	374	70,400	176,000	2,060	--	11.7	281	--	--	--
	10/26/04	**145**	<10	<250	<2.0	<20	<20	132	<5.0	36	<0.20	<10	<10	<20	209	58,800	217,000	2,620	--	--	397	--	--	--
	04/27/05	<100	<10	<250	<2.0	<20	<20	105	<5.0	11	<0.20	<10	<10	<20	149	41,400	174,000	2,150	--	--	294	--	--	--
	10/20/05	**347**	<10	<250	<2.0	<20	**84**	**453**	<5.0	15	<0.20	<10	<10	**55**	288	47,600	213,000	9,500	--	--	232	--	--	--
	10/19/06	**937**	<10	<250	<2.0	<20	<20	**1,630**	<5.0	**130**	<0.20	<10	<10	**22**	226	59,200	168,000	2,970	--	--	423	--	--	--
	04/27/07	**446**	<10	<250	<2.0	<20	<20	**1,240**	<5.0	18	<0.20	<10	<10	<20	188	27,400	128,000	3,600	--	--	209	--	--	--
	11/19/07	<100	<10	<250	<2.0	<20	<20	104	<5.0	11	<0.20	<10	<10	<20	117	61,500	243,000	3,540	--	--	371	--	--	--
	04/30/08	**170**	<10	<250	<2.0	<20	<20	242	<5.0	21	<0.20	<10	<10	<20	238	56,300	171,000	2,690	--	--	260	--	--	--
	10/29/08	<100	<10	56.4	0.3	<10	3	20.6	<10	6	**0.05**	<10	<10	**50.9**	229	76,300	254,000	2,870	--	--	392	--	--	--
	04/30/09	<100	<10	64.8	<1.0	<10	<10	77.8	5.4	8.3	<0.20	**9.9**	<10	**15.9**	302	52,300	211,000	4,470	--	--	325	--	--	--
	08/26/09	--	--	72	<1.0	<5.0	--	160	<5.0	14	--	<20	--	--	--	45,000	--	--	8.1	22.0	1,490	10.0	94	9.1
	10/12/09	**89**	2.7	63	<1.0	0.8	1.1	86	<5.0	7.3	<0.20	<20	<5.0	<0.30	370	49,000	240,000	8,600	7.8	13.1	2,380	8.9	160	12.7
	04/19/10	**190**	<10	64	<1.0	<5.0	<10	240	<5.0	12	<0.20	<20	<5.0	<0.030	400	33,000	190,000	4,900	8.1	12.0	557	63.1	199	10.7
	10/11/10	52	1.1	71	<1.0	1.6	<0.025	160	<5.0	16	<0.20	<5.0	<5.0	**36**	640	40,000	240,000	3,300	7.8	16.5	455	8.0	107	12.8
	04/20/11	62	<1.0	66	<0.1	<5.0	<1.0	280	<1.0	13	<0.10	<1.0	<1.0	<10	300	30,000	140,000	3,400	7.6	18.0	270	4.0	211	9.7
	10/18/11	**153**	<5.0	76.7	<1.0	<5.0	<5.0	190	<5.0	9.6	<0.20	<10	<5.0	<10	250	39,200	210,000	5,700	7.5	16.9	289	8.3	236	9.6

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
SS-01 (continued)	03/16/12	170	<5.0	82.5	<1.0	<5.0	<5.0	238	<5.0	11	<0.20	<10	<5.0	<10	<0.20	37,400	221,000	4,800	7.8	15.7	359	2.5	-27	11.3
	09/24/12	147	<2.7	94.1	<50	<2.0	<2.0	146	<4.0	10.2	<0.10	<5.0	<2.5	<5.0	450	47,700	257,000	--	7.7	15.7	589	21.3	153	8.7
	04/17/13	366	<10	73.5	<1.0	<5.0	<5.0	492	<5.0	12.4	<0.20	<10	<5.0	<10	140	29,000	131,000	4,400	8.0	20.9	297	4.9	76	6.9
	09/09/13	179	<10	87.1	<1.0	<5.0	<5.0	240	<5.0	18.1	<0.20	<10	<5.0	<10	470	41,700	203,000	7,210	8.4	20.6	347	5.4	-173	9.4
	04/06/14	<100	NA	62.2	<1.0	<5.0	NA	137	<5.0	60.6	NA	<10	NA	NA	NA	70,000	224,000	4,100	7.9	9.6	381	5.1	142	11.7
	09/03/14	122	NA	82.6	<1.0	<5.0	NA	264	<5.0	64.7	NA	<10	NA	NA	NA	93,400	339,000	NA	8.0	21.1	396	8.0	47	7.3
	04/01/15	146	NA	72.2	<1.0	<5.0	NA	291	<5.0	58.6	NA	<10	NA	NA	NA	69,100	216,000	NA	7.8	17.1	552	3.1	40	9.7
SS-02	09/21/90	130	<10	94	4.6	<20	<20	100	<5.0	--	<0.20	<10	<10	<20	1,140	47,000	141,000	15,000	7.5	14.6	607	--	--	--
	10/23/91	--	<10	170	<2.0	<20	<20	820	<5.0	711	<0.20	<10	<10	80	1,020	490,000	806,000	10,000	7.8	18.0	1,280	--	--	--
	03/26/92	7,650	<10	<250	2.1	<20	<20	8,070	12.9	130	<0.20	<10	<10	<20	250	13,100	149,000	12,000	6.0	11.5	111	--	--	--
	09/30/92	330	<10	<250	<2.0	<20	<20	--	<5.0	--	<0.20	7.3	<10	<20	550	183,000	474,000	3,000	6.1	15.1	778	--	--	--
RHSS-002	03/31/93	208	<10	<250	<2.0	<20	<20	675	<5.0	327	<0.20	<10	<10	<20	350	70,400	185,000	4,000	5.8	14.1	341	--	--	--
Surface Water - Downstream	09/17/93	470	<10	<250	<2.0	<20	<20	1,270	<5.0	722	<0.20	<10	<10	<20	2,300	154,000	523,000	4,000	7.5	22.2	754	--	--	--
	03/30/94	220	<10	<250	<2.0	32	<20	1,120	<5.0	117	<0.20	<10	<10	165	320	40,000	143,000	--	6.0	14.4	692	--	--	--
	09/30/94	120	<10	<250	<2.0	<20	28	470	<5.0	356	<0.20	<10	<10	24	325	135,000	397,000	37,900	7.4	18.6	573	--	--	--
	03/31/95	165	<10	<250	<2.0	<20	<20	526	<5.0	332	<0.20	<10	<10	41	750	102,000	342,000	--	7.9	14.5	496	--	--	--
	09/29/95	406	<10	<250	<2.0	<20	<20	1,020	6	598	<0.20	<10	<10	<20	1,030	155,000	505,000	2,680	5.6	13.5	1,095	--	--	--
	03/30/96	426	<10	<250	<2.0	<20	<20	787	<5.0	250	<0.20	<10	<10	<20	190	30,600	198,000	2,990	6.5	12.0	282	--	--	--
	09/27/96	61	<10	<250	<2.0	<20	<20	227	10	262	<0.20	<10	<10	47	750	147,000	409,000	3,190	7.6	20.0	613	--	--	--
	03/29/97	209	<10	<250	<2.0	<20	<20	644	<5.0	246	<0.20	<10	<10	10	450	72,800	255,000	2,470	7.8	16.0	224	--	--	--
	09/17/97	165	<10	<250	<2.0	<20	<20	428	6	333	<0.20	<5.0	<10	153	2,210	160,000	562,000	2,430	7.8	18.0	826	--	--	--
	03/27/98	220	<10	<250	<2.0	<20	<20	960	<5.0	363	<0.20	<10	<10	32	550	94,200	324,000	3,960	7.8	17.5	724	--	--	--
	09/30/98	100	<10	<250	<2.0	<20	<20	595	<5.0	351	<0.20	<10	<10	<20	1,550	89,200	444,000	6,850	7.4	19.0	368	--	--	--
	03/31/99	129	<10	<250	<2.0	<20	<20	947	<5.0	587	<0.20	<10	<10	<20	1,550	204,000	420,000	3,260	7.4	17.0	340	--	--	--
	09/29/99	1,380	<10	<250	<2.0	<20	<20	3,030	<5.0	147	<0.20	<10	<10	21	160	45,700	173,000	8,100	7.6	17.0	623	--	--	--
	09/15/00	283	<10	<250	<2.0	<20	<20	225	<5.0	416	<0.20	<10	<10	<20	1,240	170,000	439,000	6,580	7.4	20.0	640	--	--	--
	03/16/00	<100	<10	<250	<2.0	<20	<20	960	<5.0	464	<0.20	<10	<10	<20	1,180	175,000	500,000	3,750	--	--	--	--	--	--
	03/23/01	108	<10	<250	<2.0	<20	<20	260	7	135	<0.20	<10	<10	34	103	71,900	224,000	3,080	6.6	16.0	170	--	--	--
	10/04/01	166	<10	<250	<2.0	<20	<20	746	8	910	<0.20	<10	<10	<20	6,320	421,000	1,250,000	27,000	7.2	19.0	680	--	--	--
	03/28/02	121	<10	<250	<2.0	<20	<20	502	<5.0	206	--	<10	<10	<20	320	127,000	405,000	2,970	7.4	11.0	510	--	--	--
	10/03/02	220	<10	<250	<2.0	<20	<20	494	<5.0	549	<0.20	<10	<10	<20	1,110	266,000	517,000	4,280	5.8	18.0	130	--	--	--
	03/25/03	1,570	<10	<250	<2.0	<20	<20	1,280	6	264	<0.20	<10	<10	24	162	90,300	234,000	1,910	6.0	18.0	1,260	--	--	--
duplicate	03/25/03	1,750	<10	<250	<2.0	<20	<20	1,320	<5.0	265	<0.20	<10	<10	24	194	94,600	235,000	2,000	6.0	18.0	1,260	--	--	--
	10/02/03	<100	<10	<250	<2.0	<20	<20	1,010	<5.0	546	<0.20	<10	<10	<20	610	115,000	395,000	2,500	6.5	14.0	556	--	--	--
	04/28/04	109	<10	<250	<2.0	<20	<20	400	<5.0	417	<0.20	<10	<10	<20	608	220,000	394,000	2,260	--	12.7	623	--	--	--
	10/26/04	216	<10	<250	<2.0	<20	<20	839	<5.0	582	<0.20	<10	<10	<20	2,000	276,000	554,000	3,060	--	--	807	--	--	--
	04/27/05	<100	<10	<250	<2.0	<20	<20	356	<5.0	272	<0.20	<10	<10	<20	648	37,600	460,000	2,480	--	--	737	--	--	--
	10/20/05	<100	<10	<250	<2.0	<20	72	1,120	<5.0	330	<0.20	<10	<10	48	546	240,000	571,000	3,400	--	--	419	--	--	--
	10/19/06	530	<10	<250	<2.0	<20	<20	1,060	<5.0	534	<0.20	<10	<10	32	299	204,000	422,000	3,490	--	--	550	--	--	--
	04/27/07	389	<10	<250	<2.0	<20	<20	811	<5.0	488	<0.20	<10	<10	<20	333	439,000	303,000	4,420	--	--	511	--	--	--
	11/19/07	<100	<10	<250	<2.0	<20	<20	136	<5.0	308	<0.20	<10	<10	23	258	300,000	647,000	3,540	--	--	908	--	--	--
	04/30/08	<100	<10	<250	<2.0	<20	<20	278	<5.0	254	<0.20	<10	<10	46	285	159,000	371,000	2,740	--	--	569	--	--	--
	10/29/08	<100	<10	56.3	0.24	<10	<10	128	<10	318	<0.20	<10	<10	14.2	407	342,000	708,000	3,430	--	--	1,070	--	--	--
	04/30/09	<100	<10	60.8	<1.0	<10	<10	89.4	<10	222	<0.20	<10	<10	19.2	499	201,000	518,000	3,390	--	--	821	--	--	--
	08/26/09	--	--	71	<1.0	<5.0	--	110	<5.0	220	--	<20	--	--	--	310,000	--	--	7.8	21.6	2,120	6.4	101	6.4
	10/12/09	43	5.1	60	<1.0	0.8	<10	45	<5.0	48	<0.20	<20	<5.0	<0.30	320	210,000	510,000	10,300	7.8	13.3	3,360	8.7	123	13.0
	04/19/10	<100	<10	64	<1.0	<5.0	<10	260	<5.0	260	<0.20	<20	<5.0	<0.030	420	150,000	390,000	6,300	7.6	10.6	632	60.1	181	10.2

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
SS-02 (continued)	10/11/10	<250	1.1	69	<1.0	1.4	<0.025	270	<5.0	**310**	<0.20	**8.9**	<5.0	6.4	1,200	250,000	**660,000**	4,700	7.6	15.2	999	0.0	113	8.3
	04/20/11	<40	<1.0	63	<0.1	<5.0	<1.0	270	<1.0	**150**	<0.10	4	<1.0	<10	630	120,000	360,000	3,000	7.6	18.6	602	4.2	241	9.7
	10/18/11	<100	<5.0	74.9	<1.0	<5.0	<5.0	181	<5.0	**266**	<0.20	<10	<5.0	<10	470	202,000	**582,000**	7,300	7.4	17.6	536	4.6	248	9.7
	03/16/12	<100	<5.0	71.8	<1.0	<5.0	<5.0	171	<5.0	**65.8**	<0.20	<10	<5.0	<10	1,600	152,000	**614,000**	6,300	7.6	15.4	781	3.4	15	11.5
	09/25/12	<50	<2.7	97.6	<50	<2.0	<2.0	236	<4.0	**301**	<0.10	<5.0	<2.5	<5.0	1,600	**400,000**	**858,000**	--	8.5	16.2	1,420	9.7	181	9.1
	04/17/13	**194**	<10	71.4	<1.0	<5.0	<5.0	242	<5.0	**110**	<0.20	<10	<5.0	<10	210	79,100	207,000	5,000	8.1	20.8	382	4.7	79.6	8.0
	09/10/13	<100	<10	83	<1.0	<5.0	<5.0	135	<5.0	**102**	<0.20	<10	<5.0	<10	1,160	167,000	493,000	6,290	8.0	19.8	657	8.2	99.8	7.1
	04/06/14	**133**	NA	56.4	<1.0	<5.0	NA	194	<5.0	21.2	NA	<10	NA	NA	NA	87,000	277,000	5,000	8.9	14.0	445	7.5	138.1	12.1
	09/03/14	<100	NA	83.7	<1.0	<5.0	NA	68.6	<5.0	11.1	NA	<10	NA	NA	NA	158,000	**526,000**	NA	8.1	23.4	733	2.5	61.3	5.1
	04/01/15	<100	NA	59	<1.0	<5.0	NA	96.1	<5.0	16.7	NA	<10	NA	NA	NA	92,200	297,000	NA	8.1	15.0	508	1.8	9.6	8.1
SS-10	08/11/09	--	--	65	<1.0	<5.0	--	**12,000**	<5.0	**400**	--	<20	--	--	--	11,000	--	--	7.1	20.6	1,890	42.9	-40	3.4
SS-15	08/11/09	--	--	52	<1.0	<5.0	--	**900**	<5.0	35	--	<20	--	--	--	7,500	--	--	7.8	20.7	1,840	52.5	114	9.7
SS-20	08/11/09	--	--	58	<1.0	<5.0	--	**800**	<5.0	46	--	<20	--	--	--	8,200	--	--	8.4	23.9	1,112	27.3	58	7.6
	04/21/11	**190**	<10	54	<0.1	<5.0	<1.0	**550**	<1.0	17	<0.10	<1.0	<1.0	<10	100	4,800	96,000	1,900	7.7	14.6	87	14.2	128	9.4
	09/24/12	**378**	<2.7	51.4	<50	<2.0	<2.0	**1,580**	<4.0	**51.1**	<0.10	<5.0	<2.5	<5.0	<0.02	3,600	89,000	--	7.3	15.6	146	10.3	159	8.6
	04/17/13	**788**	<10	56	<1.0	<5.0	<5.0	**1,050**	<5.0	19.8	<0.20	<10	<5.0	<10	<0.02	5,600	55,000	2,800	7.5	19.8	283	7.2	158	8.7
	09/09/13	**456**	<10	60.3	<1.0	<5.0	<5.0	**1,170**	<5.0	48.4	<0.20	<10	<5.0	<10	274	3,610	78,000	2,280	7.4	21.7	97	9.7	24.2	8.4
	04/06/14	**126**	NA	54.2	<1.0	<5.0	NA	269	<5.0	6	NA	<10	NA	NA	NA	5,200	68,000	1,900	8.1	9.6	212	14.4	134.7	10.3
	09/03/14	**818**	NA	73.7	<1.0	<5.0	NA	**2,450**	<5.0	**71.4**	NA	<10	NA	NA	NA	3,600	97,000	NA	7.4	20.6	100	20.9	-12.5	5.3
	04/01/15	**2,320**	NA	**105**	<1.0	<5.0	NA	**4,840**	<5.0	**99.1**	NA	<10	NA	NA	NA	5,000	66,000	NA	7.7	14.9	103	7.3	7.2	7.6
SS-25	08/11/09	--	--	60	<1.0	<5.0	--	**590**	<5.0	**53**	--	<20	--	--	--	28,000	--	--	8.4	22.1	1,830	32.1	75	7.6
	04/21/11	**150**	<10	50	<0.1	<5.0	<1.0	47	<1.0	8.2	<0.10	<1.0	<1.0	<10	40	5,000	100,000	1,900	7.6	14.8	89	15.5	128	9.7
	09/24/12	**508**	<2.7	52.2	<50	<2.0	<2.0	**1,580**	<4.0	**103**	<0.10	<5.0	<2.5	<5.0	20	39,800	156,000	--	7.2	15.9	257	13.6	145	8.4
	04/17/13	**820**	<10	54.9	<1.0	<5.0	<5.0	**1,170**	<5.0	32.6	<0.20	<10	<5.0	<10	<0.02	5,800	62,000	2,900	7.5	19.6	336	6.8	163	8.9
	09/09/13	**345**	<10	54.3	<1.0	<5.0	<5.0	**809**	<5.0	23.8	<0.20	<10	<5.0	<10	60.9	3,650	82,000	2,590	7.4	20.3	134	5.9	23.7	8.3
	04/06/14	**310**	NA	51.1	<1.0	<5.0	NA	**555**	<5.0	13.8	NA	<10	NA	NA	NA	5,500	75,000	2,000	7.1	9.6	83	11.9	86.6	10.4
	09/03/14	**2,000**	NA	83.3	<1.0	<5.0	NA	**3,880**	<5.0	**79.3**	NA	<10	NA	NA	NA	3,400	100,000	NA	7.4	21.4	92	32.1	-11.9	5.6
	04/01/15	**292**	NA	53.4	<1.0	<5.0	NA	**649**	<5.0	10.6	NA	<10	NA	NA	NA	5,200	74,000	NA	7.1	15.0	89	9.5	16.3	5.9
SS-30	08/11/09	--	--	72	<1.0	<5.0	--	150	<5.0	25	--	<20	--	--	--	95,000	--	--	8.5	22.8	5,250	21.7	57	8.1
	01/05/11	--	--	77	<0.1	<5.0	--	**330**	<10	**130**	--	<10	--	--	--	63,000	370,000	--	8.6	3.9	388	6.9	132	10.4
	04/20/11	<40	<1.0	67	<0.1	<5.0	<1.0	220	<1.0	**89**	<0.10	<1.0	<1.0	<10	330	27,000	160,000	2,800	7.4	17.9	283	3.9	238	9.5
	09/24/12	**163**	<2.7	88	<50	<2.0	<2.0	175	<4.0	19.8	<0.10	<5.0	<2.5	<5.0	280	84,700	312,000	--	7.8	15.4	567	14.9	152	8.8
	04/17/13	**352**	<10	76.4	<1.0	<5.0	<5.0	**455**	<5.0	13.2	<0.20	<10	<5.0	<10	190	31,000	144,000	18,200	7.8	21.1	268	8.7	62.1	6.2
	09/09/13	**158**	<10	86.2	<1.0	<5.0	<5.0	237	<5.0	18.6	<0.20	<10	<5.0	<10	498	45,600	220,000	4,990	8.1	20.4	318	4.6	17.9	7.1
	04/06/14	<100	NA	61.6	<1.0	<5.0	NA	159	<5.0	<5.0	NA	<10	NA	NA	NA	33,200	170,000	4,000	8.0	9.5	270	5.5	159.3	16.2
	09/03/14	**145**	NA	84.3	<1.0	<5.0	NA	277	<5.0	16.4	NA	<10	NA	NA	NA	43,600	253,000	NA	8.4	21.4	308	11.0	16.6	7.0
	04/01/15	**173**	NA	67.1	<1.0	<5.0	NA	291	<5.0	11.2	NA	<10	NA	NA	NA	43,200	191,000	NA	7.9	16.5	348	6.3	6.2	7.7
SS-40	08/26/09	--	--	91	<1.0	<5.0	--	80	<5.0	22	--	<20	--	--	--	**300,000**	--	--	7.8	21.3	2,050	7.1	89	7.9
	04/20/11	57	<1.0	59	<0.1	<5.0	<1.0	**330**	<1.0	**59**	**0.25**	2.1	<1.0	<10	810	110,000	270,000	2,900	7.3	17.5	494	4.6	223	10.2
	09/25/12	<50	<2.7	**112**	<50	<2.0	<2.0	139	<4.0	39	<0.10	<5.0	<2.5	<5.0	2,000	**297,000**	**755,000**	--	8.0	14.8	1,260	9.8	174	9.3
	04/17/13	**221**	<10	60.7	<1.0	<5.0	<5.0	294	<5.0	25.7	<0.20	<10	<5.0	<10	180	73,200	195,000	5,000	8.2	19.9	329	4.9	68.9	6.9
	09/10/13	<100	<10	89.6	<1.0	<5.0	<5.0	92.5	<5.0	15.5	<0.20	<10	<5.0	**20.4**	1,440	165,000	450,000	6,230	7.9	19.8	610	5.7	87.8	8.4

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
SS-40 (continued)	04/06/14	<100	NA	53.2	<1.0	<5.0	NA	185	<5.0	11.5	NA	<10	NA	NA	NA	81,600	256,000	16,200	9.2	14.0	397	8.3	138.7	11.4
	09/03/14	<100	NA	86.5	<1.0	<5.0	NA	58.1	<5.0	9.5	NA	<10	NA	NA	NA	152,000	473,000	NA	8.1	23.7	689	2.5	69.4	4.9
	04/01/15	<100	NA	58.5	<1.0	<5.0	NA	154	<5.0	10.8	NA	<10	NA	NA	NA	84,200	264,000	NA	8.0	18.3	469	4.2	13.5	8.3
SS-50	08/11/09	--	--	29	<1.0	<5.0	--	2,900	<5.0	180	--	<20	--	--	--	5,600	--	--	7.8	25.4	1,180	32.0	-21	8.5
	04/21/11	120	<1.0	36	<0.1	<5.0	<1.0	1,100	<1.0	85	<0.10	<1.0	<1.0	<10	130	3,700	71,000	2,000	6.9	14.7	85	16.3	92	9.9
	09/25/12	410	<2.7	41.9	<50	<2.0	<2.0	1,640	<4.0	110	<0.10	<5.0	<2.5	<5.0	140	<2.0	72,000	--	8.7	17.6	161	9.6	16	8.8
	04/17/13	Dry, no	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/09/13	Dry, no	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/06/14	Dry, no	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	09/03/14	Dry, no	0	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	04/01/15	886	NA	49.4	<1.0	<5.0	NA	4,620	<5.0	170	NA	<10	NA	NA	NA	2,900	63,000	NA	7.0	13.5	90	18.8	-6.3	13.7
SS-60	08/26/09	--	--	140	<1.0	<5.0	--	280	<5.0	980	--	<20	--	--	--	350,000	--	--	7.1	20.3	4,040	65.9	10	6.7
	04/21/11	68	<1.0	61	<0.1	<5.0	<1.0	240	<1.0	11	<0.10	4.1	<1.0	<10	120	130,000	270,000	2,700	7.2	15.9	446	14.3	177	8.9
	09/25/12	120	<2.7	75.9	<50	<2.0	<2.0	312	<4.0	85	<0.10	<5.0	<2.5	<5.0	<0.02	58,100	191,000	--	8.4	12.5	337	11.7	179	8.8
	04/17/13	534	<10	63.4	<1.0	<5.0	<5.0	667	<5.0	43.8	<0.20	<10	<5.0	<10	<0.02	164,000	274,000	4,200	7.8	20.2	380	8.6	70.6	10.8
	09/10/13	103	<10	120	<1.0	<5.0	<5.0	116	<5.0	75.5	<0.20	<10	<5.0	<10	2,120	275,000	663,000	6,150	7.5	21.0	423	8.4	87.6	8.2
	04/06/14	154	NA	64.9	<1.0	<5.0	NA	175	<5.0	5.7	NA	<10	NA	NA	NA	119,000	234,000	3,300	7.6	13.6	421	5.9	186.4	12.8
	09/04/14	<100	NA	127	<1.0	<5.0	NA	709	<5.0	537	NA	16.8	NA	NA	NA	290,000	717,000	NA	7.1	20.8	845	7.3	-3.4	4.5
	04/01/15	1,320	NA	93	<1.0	<5.0	NA	2,140	<5.0	69.5	NA	<10	NA	NA	NA	159,000	359,000	NA	7.1	9.7	538	18.8	1.56	6.6
SS-70	08/26/09	--	--	120	<1.0	<5.0	--	1,100	<5.0	250	--	<20	--	--	--	65,000	--	--	6.9	20.6	2,520	6.8	91	6.4
	04/21/11	160	<1.0	50	<0.1	<5.0	<1.0	380	<1.0	5.8	0.12	<1.0	<1.0	<10	53	23,000	92,000	2,300	7.0	16.4	138	8.3	189	10.3
	09/25/12	120	<2.7	82.4	<50	<2.0	<2.0	303	<4.0	58.7	<0.10	<5.0	<2.5	<5.0	<0.02	61,300	203,000	--	8.2	12.6	367	10.1	143	8.3
	04/17/13	694	<10	51.3	<1.0	<5.0	<5.0	986	<5.0	13.4	<0.20	<10	<5.0	<10	<0.02	24,100	89,000	3,300	8.0	19.3	129	7.3	60.9	7.7
	09/10/13	135	<10	58.8	<1.0	<5.0	<5.0	299	<5.0	13.6	<0.20	<10	<5.0	<10	1,390	28,600	123,000	3,510	7.9	20.9	419	7.6	85.3	8.1
	04/06/14	374	NA	47.7	<1.0	<5.0	NA	479	<5.0	5.3	NA	<10	NA	NA	NA	21,000	86,000	2,300	7.5	13.3	125	8.3	165	9.9
	09/04/14	<100	NA	79.9	<1.0	<5.0	NA	305	<5.0	71.1	NA	<10	NA	NA	NA	35,000	146,000	NA	7.7	21.0	217	3.7	22.3	7.3
	04/01/15	147	NA	55.1	<1.0	<5.0	NA	282	<5.0	8.4	NA	<10	NA	NA	NA	27,300	93,000	NA	7.4	11.1	159	1.6	5.01	8.2
SS-80	08/26/09	--	--	120	<1.0	<5.0	--	250	<5.0	25	--	<20	--	--	--	82,000	--	--	7.1	20.6	5,190	5.8	100	8.3
	04/21/11	110	<1.0	56	<0.1	<5.0	<1.0	310	<1.0	<5.0	<0.10	<1.0	<1.0	<10	99	27,000	120,000	2,100	6.8	15.5	161	6.8	92	10.6
	09/25/12	192	<2.7	87	<50	<2.0	<2.0	263	<4.0	15.9	<0.10	<5.0	<2.5	<5.0	<0.02	74,600	270,000	--	8.5	11.7	399	4.8	205	9.1
	04/17/13	643	<10	52.5	<1.0	<5.0	<5.0	921	<5.0	7.5	<0.20	<10	<5.0	<10	<0.02	27,600	88,000	3,200	7.4	20.1	139	7.6	70.8	7.1
	09/10/13	110	<10	71.5	<1.0	<5.0	<5.0	211	<5.0	8.3	<0.20	<10	<5.0	<10	265	47,600	152,000	3,430	7.7	21.6	417	6.9	87.9	7.9
	04/06/14	180	NA	53.7	<1.0	<5.0	NA	328	<5.0	<5.0	NA	<10	NA	NA	NA	17,500	84,000	2,400	7.4	13.9	106	8.7	136.2	11.8
	09/04/14	149	NA	81.1	<1.0	<5.0	NA	436	<5.0	16.8	NA	<10	NA	NA	NA	30,100	155,000	NA	8.1	21.2	245	11.3	17.5	7.0
	04/01/15	246	NA	58.1	<1.0	<5.0	NA	382	<5.0	7.1	NA	<10	NA	NA	NA	25,500	89,000	NA	7.9	12.8	162	4.4	4.37	9.6
SS-90	01/04/11	--	--	44	<0.1	<5.0	--	1,200	<10	16	--	<10	--	--	--	26,000	97,000	--	8.4	3.0	390	4.2	152	10.6
	04/20/11	83	<1.0	57	<0.1	<5.0	<1.0	330	<1.0	21	<0.10	2.1	<1.0	<10	330	56,000	130,000	2,600	6.7	16.9	292	4.6	293	11.7
	09/25/12	121	<2.7	115	<50	<2.0	<2.0	212	<4.0	30.4	<0.10	<5.0	<2.5	<5.0	980	202,000	511,000	--	8.1	11.9	840	12.1	207	9.0
	04/17/13	491	<10	56	<1.0	<5.0	<5.0	709	<5.0	17.4	<0.20	<10	<5.0	<10	35	38,900	127,000	3,700	7.9	19.7	203	6.9	66	7.6
	09/10/13	148	<10	86.6	<1.0	<5.0	<5.0	265	<5.0	32.4	<0.20	<10	<5.0	<10	642	121,000	283,000	4,920	7.9	22.2	429	7.9	91.6	7.3
	04/06/14	154	NA	48.5	<1.0	<5.0	NA	274	<5.0	9.4	NA	<10	NA	NA	NA	45,300	151,000	3,300	8.9	15.1	255	5.6	120.9	15.4
	09/03/14	<100	NA	90.8	<1.0	<5.0	NA	77.5	<5.0	16	NA	<10	NA	NA	NA	94,500	357,000	NA	7.5	23.5	518	5.6	65.3	6.4
	04/01/15	125	NA	58	<1.0	<5.0	NA	189	<5.0	9	NA	<10	NA	NA	NA	51,400	166,000	NA	8.8	11.4	318	6.0	5.95	9.9

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
RETENTION POND MW-001	09/30/94	2,580	16	<250	<2.0	<20	44	23,200	<5.0	6,490	<0.20	<10	<10	35	2,950	787,000	2,230,000	258,000	7.4	22.5	3,140	--	--	--
	03/31/95	660	<10	<250	<2.0	<20	<20	5,150	<5.0	2,360	<0.20	<10	<10	155	8,880	794,000	2,540,000	459,000	7.8	17.5	3,680	--	--	--
	09/29/95	156	<10	<250	<2.0	<20	<20	5,240	8	4,880	<0.20	<10	<10	<20	1,030	801,000	2,660,000	4,950	5.4	14.8	4,220	--	--	--
	03/30/96	112	<10	<250	2	<20	<20	5,020	<5.0	5,400	<0.20	<10	<10	<20	2,080	--	2,340,000	6,650	7.2	15.0	3,050	--	--	--
Water from Sediment Basin at W-1	09/27/96	167	<10	<250	<2.0	<20	<20	--	9	4,530	<0.20	<10	<10	66	1,700	1,010,000	2,700,000	4,040	7.3	23.0	1,510	--	--	--
	03/29/97	97	<10	<250	<2.0	<20	<20	6,180	<5.0	5,460	<0.20	<10	<10	10	1,290	1,050,000	2,460,000	4,310	7.5	22.0	1,770	--	--	--
	03/17/97	164	<10	<250	<2.0	<20	<20	3,660	<5.0	5,400	<0.20	<10	<10	55	608	1,160,000	3,000,000	6,430	7.2	22.0	3,660	--	--	--
duplicate	03/27/98	<100	10	<250	<2.0	<20	<20	11,400	<5.0	5,900	<0.20	<10	<10	21	290	942,000	2,780,000	4,430	7.2	23.4	1,419	--	--	--
	09/30/98	274	<10	<250	<2.0	<20	<20	--	<5.0	4,940	<0.20	<10	<10	<20	--	666,000	2,700,000	15,400	7.6	20.0	1,200	--	--	--
	03/31/99	<100	<10	<250	<2.0	<20	<20	7,550	6	4,450	<0.20	<10	<10	<20	600	1,560,000	2,930,000	7,920	7.3	18.0	1,021	--	--	--
	09/29/99	877	<10	<250	<2.0	<20	<20	6,770	<5.0	862	<0.20	<10	<10	80	3,360	330,000	715,000	13,300	7.1	18.0	2,930	--	--	--
	03/16/00	410	<10	<250	<2.0	<20	<20	72,000	<5.0	4,540	<0.20	<10	<10	<20	1,090	948,000	2,610,000	10,600	--	--	--	--	--	--
	09/15/00	<100	<10	<250	<2.0	<20	<20	2,020	<5.0	3,480	<0.20	<10	<10	<20	6,270	894,000	2,470,000	5,210	6.6	19.0	980	--	--	--
	03/23/01	144	<10	<250	4	<20	<20	35,900	12	4,070	<0.20	<10	<10	<20	480	926,000	2,630,000	5,850	6.5	17.0	480	--	--	--
duplicate	03/23/01	<100	<10	<250	<2.0	<20	<20	6,900	7	4,190	<0.20	<10	<10	<20	350	939,000	2,640,000	7,520	6.5	17.0	480	--	--	--
	10/04/01	204	<10	<250	<2.0	<20	<20	915	7	229	<0.20	<10	<10	<20	<0.05	<5.00	186,000	7,800	6.3	20.0	300	--	--	--
	03/28/02	<100	<10	<250	<2.0	<20	<20	5,100	<5.0	3,660	--	<10	<10	<20	280	1,000,000	3,010,000	3,770	6.4	12.0	1,080	--	--	--
	10/03/02	<100	<10	<250	2	<20	27	1,520	<5.0	3,340	<0.20	<10	<10	<20	1,820	1,030,000	2,940,000	4,940	6.7	18.0	370	--	--	--
duplicate	10/03/02	<100	<10	<250	2	<20	24	1,580	<5.0	3,330	<0.20	<10	<10	<20	1,780	1,040,000	2,860,000	5,120	5.7	18.0	370	--	--	--
	03/25/03	<100	<10	<250	<2.0	<20	<20	6,690	6	3,560	<0.20	<10	<10	25	406	846,000	2,530,000	3,720	6.6	17.0	330	--	--	--
	10/02/03	<100	<10	<250	<2.0	<20	<20	11,300	7	3,880	<0.20	<10	<10	42	174	916,000	2,710,000	3,920	5.6	15.0	3,050	--	--	--
duplicate	10/02/03	<100	<10	<250	<2.0	<20	<20	11,400	6	3,880	<0.20	<10	<10	<20	<50	958,000	2,690,000	3,900	5.6	15.0	3,170	--	--	--
	04/28/04	<100	<10	<250	<2.0	<20	<20	11,100	6	6,080	<0.20	<10	<10	<20	<50	1,460,000	2,550,000	5,360	--	17.3	2,860	--	--	--
	10/26/04	<100	<10	<250	<2.0	<20	<20	5,250	<5.0	4,550	<0.20	<10	<10	<20	287	1,190,000	2,950,000	3,640	--	--	3,480	--	--	--
	04/27/05	<100	<10	<250	2	<20	<20	7,630	7	5,730	<0.20	<10	<10	<20	<50	1,100,000	2,550,000	4,710	--	--	2,870	--	--	--
	10/20/05	1,630	<10	<250	4	<20	28	103,000	6	4,880	<0.20	<10	<10	57	428	403,000	3,010,000	89,000	--	--	529	--	--	--
	10/19/06	172	<10	<250	2	<20	347	27,400	<5.0	3,600	<0.20	<10	<10	27	139	1,320,000	2,850,000	4,370	--	--	2,000	--	--	--
	04/27/07	<100	<10	<250	<2.0	<20	<20	5,360	<5.0	2,380	<0.20	<10	<10	<20	287	1,380,000	2,750,000	4,010	--	--	4,830	--	--	--
	11/19/07	<100	42	<250	2	<20	<20	48,200	<5.0	3,280	<0.20	<10	<10	25	<50	1,560,000	3,060,000	3,820	--	--	3,300	--	--	--
	04/30/08	<100	<10	<250	<2.0	<20	<20	9,680	<5.0	2,990	<0.20	<10	<10	22	155	1,100,000	2,910,000	3,380	--	--	4,880	--	--	--
	10/29/08	<100	<10	68.7	<1.0	<10	<10	4,840	3.5	2,880	<0.20	<10	<10	<10	<50	188,000	3,060,000	3,510	--	--	4,200	--	--	--
	04/30/09	<100	<10	77.4	1.8	<10	3.6	4,080	4.4	3,100	<0.20	<10	<10	<10	264	37,700	2,904,000	3,940	--	--	4,070	--	--	--

APPENDIX A2
SURFACE WATER ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (Celsius)	Conductivity (µmhos/cm)	Turbidity (NTUs)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)
NC 2L Ground Water Standard		3,500 [1]	10	700	2	10	1,000	300	15	50	1	20	20	1,000	10,000	250,000	500,000	NE	6.5 - 8.5	NE	NE	NE	NE	NE
Solid Waste Section Limit		NE	10	100	1	10	10	300	10	50	0.2	10	10	10	10,000	250,000	NE	NE	NE	NE	NE	NE	NE	NE
NC 2B Surface Water Standard		87	50	1,000 [2]	2	50	7	1,000	25	200 [2]	0.012	5	0.06	50	10,000 [2]	250,000 [2]	500,000 [2]	NE	6.0 - 9.0	NE	NE	50	NE	>5.0
RETENTION POND MW-003	09/30/94	**1,770**	<10	<250	<2.0	<20	**113**	**3,370**	<5.0	**2,200**	<0.20	<10	<10	**96**	200	159,000	415,000	20,100	6.9	19.6	519	--	--	--
	03/31/95	--	<10	<250	<2.0	<20	<20	**4,860**	<5.0	**5,980**	<0.20	<10	<10	**32**	100	**294,000**	**625,000**	--	7.6	13.6	896	--	--	--
	09/29/95	**1,640**	<10	<250	<2.0	<20	<20	**3,420**	7	**2,940**	<0.20	<10	<10	**104**	463	**314,000**	**740,000**	3,740	4.9	14.0	1,040	--	--	--
	03/30/96	**11,400**	<10	<250	**2**	<20	<20	**23,300**	9	**3,160**	<0.20	<10	<10	**126**	130	222,000	**552,000**	3,830	7.2	12.0	750	--	--	--
Water from Sediment Basin at W-3	09/27/96	**110**	<10	<250	<2.0	<20	<20	**1,010**	7	**2,360**	<0.20	<10	<10	**30**	160	**283,000**	**737,000**	6,730	7.6	20.0	974	--	--	--
	03/29/97	**238**	<10	<250	<2.0	<20	<20	**1,930**	<5.0	**3,050**	<0.20	**13**	<10	**20**	180	**809,000**	**807,000**	4,170	7.8	16.0	590	--	--	--
	09/17/97	**169**	<10	<250	<2.0	<20	<20	**715**	5	**3,060**	<0.20	**6**	<10	**212**	330	**562,000**	**1,290,000**	5,290	7.7	19.0	1,650	--	--	--
	03/27/98	**270**	<10	<250	<2.0	<20	<20	**2,500**	<5.0	**3,370**	<0.20	**13**	<10	**41**	250	--	**929,000**	6,980	7.2	20.0	1,214	--	--	--
	09/30/98	**353**	<10	<250	<2.0	<20	<20	**1,380**	<5.0	--	<0.20	**17**	<10	<20	780	**367,000**	**1,280,000**	10,100	6.9	19.0	920	--	--	--
	03/31/99	<100	<10	<250	<2.0	<20	<20	**4,830**	<5.0	**5,550**	<0.20	<10	<10	<20	190	**482,000**	**842,000**	7,580	7.1	16.0	592	--	--	--
	09/29/99	**677**	<10	<250	<2.0	<20	<20	**1,940**	<5.0	**894**	<0.20	<10	<10	<20	100	**258,000**	413,000	8,140	7.7	19.0	741	--	--	--
	09/15/00	**224**	<10	<250	<2.0	<20	<20	**2,380**	<5.0	**2,800**	<0.20	<10	<10	<20	160	**550,000**	**1,260,000**	8,580	7.1	21.0	680	--	--	--
	03/23/01	<100	<10	<250	<2.0	<20	<20	**3,690**	10	**2,250**	<0.20	<10	<10	**30**	230	**530,000**	**1,230,000**	5,720	6.6	17.0	640	--	--	--
	10/04/01	<100	<10	<250	<2.0	<20	<20	**4,240**	6	**3,650**	<0.20	<10	<10	<20	80	**592,000**	**1,440,000**	30,000	7.0	20.0	600	--	--	--
	03/28/02	<100	<10	<250	<2.0	<20	<20	**5,620**	<5.0	**2,180**	--	<10	<10	<20	110	**682,000**	**1,590,000**	5,360	6.4	13.0	680	--	--	--
	10/03/02	<100	<10	<250	**2**	<20	<20	**6,510**	<5.0	**5,290**	<0.20	<10	<10	<20	<50	**932,000**	**1,900,000**	8,510	6.2	19.0	150	--	--	--
	03/25/03	**3,280**	<10	<250	<2.0	<20	<20	**6,170**	8	**4,290**	<0.20	<10	<10	**78**	88	**784,000**	**1,520,000**	1,340	6.4	18.0	110	--	--	--
	10/02/03	**634**	<10	<250	<2.0	<20	<20	**5,950**	8	**6,750**	<0.20	<10	<10	**50**	174	**765,000**	**1,420,000**	3,970	6.1	14.0	1,460	--	--	--
	04/28/04	**152**	<10	<250	<2.0	<20	<20	**8,370**	<5.0	**6,720**	<0.20	<10	<10	<20	224	**1,040,000**	**1,810,000**	3,890	--	12.1	2,030	--	--	--
	10/26/04	**554**	<10	<250	**5**	<20	<20	**16,300**	<5.0	**4,220**	<0.20	<10	<10	**36**	289	**1,070,000**	**2,140,000**	5,160	--	--	2,150	--	--	--
	04/27/05	<100	<10	<250	**2**	<20	<20	**4,470**	<5.0	**6,110**	<0.20	<10	<10	<20	246	**1,075,000**	**2,090,000**	4,050	--	--	2,320	--	--	--
	10/20/05	<100	<10	<250	**5**	<20	**27**	**7,900**	<5.0	**5,870**	<0.20	<10	<10	**44**	279	**1,300,000**	**2,090,000**	30,000	--	--	1,060	--	--	--
	10/19/06	<100	<10	**1,460**	<2.0	<20	<20	**6,040**	<5.0	**4,550**	<0.20	<10	<10	**21**	281	**1,170,000**	**1,920,000**	4,200	--	--	1,370	--	--	--
	04/27/07	<100	<10	<250	<2.0	<20	<20	**8,330**	<5.0	**4,190**	<0.20	<10	<10	<20	290	**1,130,000**	**2,130,000**	3,830	--	--	2,230	--	--	--
	11/19/07	<100	<10	<250	<2.0	<20	<20	**8,200**	<5.0	**6,000**	<0.20	<10	<10	<20	64	**1,680,000**	**2,550,000**	4,590	--	--	2,710	--	--	--
	04/30/08	<100	<10	<250	<2.0	<20	<20	**3,360**	<5.0	**3,800**	<0.20	<10	<10	**37**	297	**2,090,000**	**2,110,000**	3,560	--	--	2,290	--	--	--
	10/29/08	<100	<10	59.3	<1.0	<10	<10	**2,880**	2.3	**4,360**	<0.20	<10	<10	<10	171	**988,000**	**2,360,000**	3,480	--	--	2,740	--	--	--
	04/30/09	<100	<10	53.2	<1.0	<10	<10	**4,620**	7.2	**4,960**	<0.20	<10	<10	**14.6**	337	**261,000**	**2,460,000**	4,110	--	--	2,930	--	--	--

All concentrations in micrograms per liter (ug/L) unless otherwise noted
NE - Not established
-- - Not sampled

[1] - No 2L standard established. NCDWM SWS Groundwater Protection presented
[2] - No freshwater aquatic life standard established. Water Supply criteria presented

Bold indicates exceedance of Solid Waste Section Limits (SWSL)
Gray background indicates exceedance of NC Ground Water Standard

Analysis for arsenic, copper, mercury, silver, zinc, nitrates & TOC discontinued in 2014 per Corrective Action Plan (ERM, 2/2014).

APPENDIX A3
QA/QC ANALYTICAL RESULTS SUMMARY
EDWARDS ROAD LANDFILL - PERMIT 34-05
RURAL HALL, NORTH CAROLINA

Sample Location / ID	Date	Aluminum	Arsenic	Barium	Cadmium	Chromium (Total)	Copper	Iron	Lead	Manganese	Mercury	Selenium	Silver	Zinc	Nitrate-nitrogen	Sulfate	Dissolved Solids	Total Organic Carbon	pH	Temperature (degrees Celsius)	Conductivity (µmhos/cm)
NC 2L Ground Water Standard		3.5 [1]	0.010	0.700	0.002	0.010	1.0	0.300	0.015	0.050	0.001	0.020	0.020	1.00	10.0	250	500	NE	6.5 - 8.5	NE	NE
Solid Waste Section Limit		NE	0.010	0.100	0.001	0.010	0.010	0.300	0.010	0.050	0.0002	0.010	0.01	0.01	10.0	250	NE	NE	NE	NE	NE
Field Blank	9/30/98	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<1.0	NS	NS	NS
	3/31/99	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.19	<5.00	<5.00	2.18	NS	NS	NS
	9/15/00	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.0	<1.0	NS	NS	NS
	3/23/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	0.006	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	14	<1.0	NS	NS	NS
	10/4/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	0.006	<0.010	<0.00020	<0.010	<0.010	<0.020	0.3	<5.00	15	<2.0	NS	NS	NS
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	NS	<0.010	<0.010	<0.020	<0.050	<5.00	14	<1.0	NS	NS	NS
	10/3/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	6	<1.0	NS	NS	NS
	3/25/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.198	<5.00	<5.00	<1.0	NS	NS	NS
	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<1.0	NS	NS	NS
	4/28/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	6	<1.0	NS	NS	NS
	10/26/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.151	<5.00	10	2.18	NS	NS	NS
	4/27/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	12	1.79	NS	NS	<30
	10/20/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.101	<5.00	<5.00	<0.50	NS	NS	<30
	10/19/06	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	4/27/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.336	<5.00	<5.00	<0.50	NS	NS	<30
	10/29/08	<0.100	<0.010	0.0031	<0.001	<0.010	<0.010	<0.050	<0.010	<0.010	0.00002	<0.010	0.0022	0.010	<0.050	<10	<5.00	<0.50	NS	NS	<30
	4/30/09	<0.100	<0.010	0.0077	<0.001	<0.010	<0.010	<0.050	0.0045	0.008	<0.0002	<0.010	<0.010	<0.010	<0.050	<10	90	<0.50	NS	NS	109
Travel Blank (Trip)	9/30/98	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<1.0	NS	NS	NS
	3/31/99	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.22	<5.00	15	<1.00	NS	NS	NS
	9/15/00	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.0	<1.0	NS	NS	NS
	3/23/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	14	1.03	NS	NS	NS
	10/4/01	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.4	<5.00	12	2.0	NS	NS	NS
	3/28/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	NS	<0.010	<0.010	<0.020	<0.050	<5.00	14	1.03	NS	NS	NS
	10/3/02	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	NS
	3/25/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	0.197	<5.00	7	<1.0	NS	NS	NS
	10/2/03	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	7	<1.0	NS	NS	NS
	4/28/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	16	<1.0	NS	NS	NS
	10/26/04	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	8	1.29	NS	NS	NS
	4/27/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	14	1.76	NS	NS	<30
	10/20/05	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	6	<0.50	NS	NS	<30
	10/19/06	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	4/27/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	11/19/07	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	4/30/08	<0.100	<0.010	<0.250	<0.002	<0.020	<0.020	<0.100	<0.005	<0.010	<0.00020	<0.010	<0.010	<0.020	<0.050	<5.00	<5.00	<0.50	NS	NS	<30
	10/29/08	<0.100	<0.010	0.0046	<0.001	<0.010	<0.010	<0.050	<0.010	<0.010	0.00001	<0.010	<0.010	<0.010	<0.050	<10	<5.00	<0.50	NS	NS	<30
	4/30/09	<0.100	<0.010	0.0086	0.0003	<0.010	<0.010	<0.050	<0.010	0.0071	<0.0002	<0.010	<0.010	<0.010	<0.050	<10	85	<0.50	NS	NS	115

All concentrations in milligrams per liter. NE - Not established NS - Not sampled [1] - No 2L standard established. NCDWM SWS Groundwater Protection presented

APPENDIX B
ANALYTICAL LABORATORY DATA SHEETS – GROUNDWATER AND SURFACE WATER

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

April 14, 2015

Mr. Alan Martin
ERM
8000 Corporate Center Drive
Suite 200
Charlotte, NC 28226

RE: Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Dear Mr. Martin:
Enclosed are the analytical results for sample(s) received by the laboratory on April 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted 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,

Kevin Herring
kevin.herring@pacelabs.com
HORIZON Database Administrator

Enclosures

cc: Amanda Freeman, ERM

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CERTIFICATIONS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Asheville Certification IDs
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92244012001	**W-1**	Water	04/03/15 11:00	04/04/15 09:15
92244012002	**W-2**	Water	04/03/15 11:45	04/04/15 09:15
92244012003	**W-3**	Water	04/02/15 16:50	04/04/15 09:15
92244012004	**W-3B**	Water	04/02/15 18:00	04/04/15 09:15
92244012005	**W-6**	Water	04/02/15 13:30	04/04/15 09:15
92244012006	**W-7**	Water	04/02/15 14:30	04/04/15 09:15
92244012007	**W-8**	Water	04/02/15 18:15	04/04/15 09:15
92244012008	**W-9**	Water	04/03/15 09:15	04/04/15 09:15
92244012009	**PW-1**	Water	04/02/15 11:30	04/04/15 09:15
92244012010	**SS-01**	Water	04/01/15 15:30	04/04/15 09:15
92244012011	**SS-02**	Water	04/01/15 14:30	04/04/15 09:15
92244012012	**SS-20**	Water	04/01/15 16:15	04/04/15 09:15
92244012013	**SS-25**	Water	04/01/15 16:40	04/04/15 09:15
92244012014	**SS-30**	Water	04/01/15 15:45	04/04/15 09:15
92244012015	**SS-40**	Water	04/01/15 13:50	04/04/15 09:15
92244012016	**SS-50**	Water	04/01/15 17:00	04/04/15 09:15
92244012017	**SS-60**	Water	04/01/15 11:50	04/04/15 09:15
92244012018	**SS-70**	Water	04/01/15 11:30	04/04/15 09:15
92244012019	**SS-80**	Water	04/01/15 10:50	04/04/15 09:15
92244012020	**SS-90**	Water	04/01/15 10:30	04/04/15 09:15
92244012021	**PZ-1**	Water	04/01/15 14:15	04/04/15 09:15
92244012022	**PZ-2**	Water	04/01/15 14:00	04/04/15 09:15
92244012023	**PZ-3**	Water	04/01/15 11:10	04/04/15 09:15
92244012024	**PZ-4**	Water	04/01/15 11:20	04/04/15 09:15
92244012025	**PZ-5**	Water	04/01/15 11:40	04/04/15 09:15
92244012026	**DUP-01**	Water	04/01/15 00:00	04/04/15 10:35

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SAMPLE ANALYTE COUNT

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92244012001	**W-1**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012002	**W-2**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012003	**W-3**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012004	**W-3B**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012005	**W-6**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012006	**W-7**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012007	**W-8**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012008	**W-9**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012009	**PW-1**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	JTJ	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012010	**SS-01**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012011	**SS-02**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012012	**SS-20**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012013	**SS-25**	EPA 200.7	JMW	8	PASI-A

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SAMPLE ANALYTE COUNT

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012014	**SS-30**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012015	**SS-40**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012016	**SS-50**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012017	**SS-60**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012018	**SS-70**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012019	**SS-80**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012020	**SS-90**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012021	**PZ-1**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012022	**PZ-2**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012023	**PZ-3**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012024	**PZ-4**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A
92244012025	**PZ-5**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A

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SAMPLE ANALYTE COUNT

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 300.0	AES2	1	PASI-A
92244012026	**DUP-01**	EPA 200.7	JMW	8	PASI-A
		SM 2540C	MDW	1	PASI-A
		EPA 300.0	AES2	1	PASI-A

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-1 **Lab ID: 92244012001** Collected: 04/03/15 11:00 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**212**	ug/L	100	1	04/07/15 13:30	04/08/15 14:22	7429-90-5	
Barium	**24.5**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:22	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 14:22	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:22	7440-47-3	
Iron	**500**	ug/L	50.0	1	04/07/15 13:30	04/08/15 14:22	7439-89-6	
Lead	**5.3**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:22	7439-92-1	
Manganese	**4510**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:22	7439-96-5	
Selenium	**50.4**	ug/L	10.0	1	04/07/15 13:30	04/08/15 14:22	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**241**	mg/L	25.0	1		04/08/15 16:49		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**1260**	mg/L	100	50		04/07/15 21:29	14808-79-8	M6

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-2 **Lab ID: 92244012002** Collected: 04/03/15 11:45 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**114**	ug/L	100	1	04/07/15 13:30	04/08/15 14:46	7429-90-5	
Barium	**255**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:46	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 14:46	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:46	7440-47-3	
Iron	**148**	ug/L	50.0	1	04/07/15 13:30	04/08/15 14:46	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:46	7439-92-1	
Manganese	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:46	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 14:46	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**134**	mg/L	25.0	1		04/08/15 16:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**43.9**	mg/L	4.0	2		04/08/15 10:17	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-3 **Lab ID: 92244012003** Collected: 04/02/15 16:50 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 14:50	7429-90-5	
Barium	**32.8**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:50	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 14:50	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:50	7440-47-3	
Iron	ND	ug/L	50.0	1	04/07/15 13:30	04/08/15 14:50	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:50	7439-92-1	
Manganese	**155**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:50	7439-96-5	
Selenium	**25.0**	ug/L	10.0	1	04/07/15 13:30	04/08/15 14:50	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**932**	mg/L	25.0	1		04/08/15 12:14		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**449**	mg/L	40.0	20		04/08/15 10:31	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-3B **Lab ID: 92244012004** Collected: 04/02/15 18:00 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 14:56	7429-90-5	
Barium	**47.8**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:56	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 14:56	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:56	7440-47-3	
Iron	**3070**	ug/L	50.0	1	04/07/15 13:30	04/08/15 14:56	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:56	7439-92-1	
Manganese	**520**	ug/L	5.0	1	04/07/15 13:30	04/08/15 14:56	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 14:56	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**415**	mg/L	25.0	1		04/08/15 12:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**79.4**	mg/L	10.0	5		04/08/15 10:44	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-6 **Lab ID: 92244012005** Collected: 04/02/15 13:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 15:00	7429-90-5	
Barium	**35.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:00	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:00	7440-43-9	
Chromium	**9.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:00	7440-47-3	
Iron	**72.6**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:00	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:00	7439-92-1	
Manganese	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:00	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:00	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**314**	mg/L	25.0	1		04/08/15 12:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**11.7**	mg/L	2.0	1		04/07/15 23:17	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-7 **Lab ID: 92244012006** Collected: 04/02/15 14:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**402**	ug/L	100	1	04/07/15 13:30	04/08/15 15:04	7429-90-5	
Barium	**136**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:04	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:04	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:04	7440-47-3	
Iron	**1970**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:04	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:04	7439-92-1	
Manganese	**69.6**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:04	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:04	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**169**	mg/L	25.0	1		04/08/15 12:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**10.8**	mg/L	2.0	1		04/07/15 23:31	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-8 **Lab ID: 92244012007** Collected: 04/02/15 18:15 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**873**	ug/L	100	1	04/07/15 13:30	04/08/15 15:07	7429-90-5	
Barium	**206**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:07	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:07	7440-43-9	
Chromium	**42.7**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:07	7440-47-3	
Iron	**1410**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:07	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:07	7439-92-1	
Manganese	**26.9**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:07	7439-96-5	
Selenium	**11.5**	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:07	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**219**	mg/L	25.0	1		04/08/15 12:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**62.7**	mg/L	10.0	5		04/07/15 23:45	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: W-9 **Lab ID: 92244012008** Collected: 04/03/15 09:15 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 15:11	7429-90-5	
Barium	**113**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:11	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:11	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:11	7440-47-3	
Iron	ND	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:11	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:11	7439-92-1	
Manganese	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:11	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:11	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**279**	mg/L	25.0	1		04/08/15 16:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**9.1**	mg/L	2.0	1		04/07/15 23:58	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PW-1 **Lab ID: 92244012009** Collected: 04/02/15 11:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**195**	ug/L	100	1	04/07/15 13:30	04/08/15 15:25	7429-90-5	
Barium	**45.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:25	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:25	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:25	7440-47-3	
Iron	**435**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:25	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:25	7439-92-1	
Manganese	**595**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:25	7439-96-5	
Selenium	**62.3**	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:25	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**187**	mg/L	25.0	1		04/08/15 12:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**1010**	mg/L	100	50		04/08/15 00:12	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-01 **Lab ID: 92244012010** Collected: 04/01/15 15:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**146**	ug/L	100	1	04/07/15 13:30	04/08/15 15:33	7429-90-5	
Barium	**72.2**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:33	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:33	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:33	7440-47-3	
Iron	**291**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:33	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:33	7439-92-1	
Manganese	**58.6**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:33	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:33	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**216**	mg/L	25.0	1		04/07/15 10:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**69.1**	mg/L	4.0	2		04/08/15 10:58	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-02 **Lab ID: 92244012011** Collected: 04/01/15 14:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 15:37	7429-90-5	
Barium	**59.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:37	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:37	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:37	7440-47-3	
Iron	**96.1**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:37	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:37	7439-92-1	
Manganese	**16.7**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:37	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:37	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**297**	mg/L	25.0	1		04/07/15 10:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**92.2**	mg/L	10.0	5		04/08/15 00:39	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-20 **Lab ID: 92244012012** Collected: 04/01/15 16:15 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2320**	ug/L	100	1	04/07/15 13:30	04/08/15 15:49	7429-90-5	
Barium	**105**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:49	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:49	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:49	7440-47-3	
Iron	**4840**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:49	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:49	7439-92-1	
Manganese	**99.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:49	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:49	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**66.0**	mg/L	25.0	1		04/07/15 10:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**5.0**	mg/L	2.0	1		04/08/15 01:47	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-25 **Lab ID: 92244012013** Collected: 04/01/15 16:40 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**292**	ug/L	100	1	04/07/15 13:30	04/08/15 15:52	7429-90-5	
Barium	**53.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:52	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:52	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:52	7440-47-3	
Iron	**649**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:52	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:52	7439-92-1	
Manganese	**10.6**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:52	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:52	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**74.0**	mg/L	25.0	1		04/07/15 10:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**5.2**	mg/L	2.0	1		04/08/15 02:00	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-30 **Lab ID: 92244012014** Collected: 04/01/15 15:45 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**173**	ug/L	100	1	04/07/15 13:30	04/08/15 15:55	7429-90-5	
Barium	**67.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:55	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:55	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:55	7440-47-3	
Iron	**291**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:55	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:55	7439-92-1	
Manganese	**11.2**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:55	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:55	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**191**	mg/L	25.0	1		04/07/15 10:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**43.2**	mg/L	4.0	2		04/08/15 11:12	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-40 **Lab ID: 92244012015** Collected: 04/01/15 13:50 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 15:59	7429-90-5	
Barium	**58.5**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:59	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 15:59	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:59	7440-47-3	
Iron	**154**	ug/L	50.0	1	04/07/15 13:30	04/08/15 15:59	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:59	7439-92-1	
Manganese	**10.8**	ug/L	5.0	1	04/07/15 13:30	04/08/15 15:59	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 15:59	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**264**	mg/L	25.0	1		04/07/15 10:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**84.2**	mg/L	10.0	5		04/08/15 02:28	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-50 **Lab ID: 92244012016** Collected: 04/01/15 17:00 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**886**	ug/L	100	1	04/07/15 13:30	04/08/15 16:03	7429-90-5	
Barium	**49.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:03	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:03	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:03	7440-47-3	
Iron	**4620**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:03	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:03	7439-92-1	
Manganese	**168**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:03	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:03	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**63.0**	mg/L	25.0	1		04/07/15 10:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**2.9**	mg/L	2.0	1		04/08/15 02:41	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-60 **Lab ID: 92244012017** Collected: 04/01/15 11:50 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**1320**	ug/L	100	1	04/07/15 13:30	04/08/15 16:17	7429-90-5	
Barium	**93.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:17	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:17	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:17	7440-47-3	
Iron	**2140**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:17	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:17	7439-92-1	
Manganese	**69.5**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:17	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:17	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**359**	mg/L	25.0	1		04/07/15 10:13		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**159**	mg/L	20.0	10		04/08/15 02:55	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-70 **Lab ID: 92244012018** Collected: 04/01/15 11:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**147**	ug/L	100	1	04/07/15 13:30	04/08/15 16:20	7429-90-5	
Barium	**55.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:20	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:20	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:20	7440-47-3	
Iron	**282**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:20	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:20	7439-92-1	
Manganese	**8.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:20	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:20	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**93.0**	mg/L	25.0	1		04/07/15 10:16		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**27.3**	mg/L	2.0	1		04/08/15 03:08	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-80 **Lab ID: 92244012019** Collected: 04/01/15 10:50 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**246**	ug/L	100	1	04/07/15 13:30	04/08/15 16:24	7429-90-5	
Barium	**58.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:24	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:24	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:24	7440-47-3	
Iron	**382**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:24	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:24	7439-92-1	
Manganese	**7.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:24	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:24	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**89.0**	mg/L	25.0	1		04/07/15 10:16		D6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**25.5**	mg/L	2.0	1		04/08/15 03:22	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: SS-90 **Lab ID: 92244012020** Collected: 04/01/15 10:30 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**125**	ug/L	100	1	04/07/15 13:30	04/08/15 16:27	7429-90-5	
Barium	**58.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:27	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:27	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:27	7440-47-3	
Iron	**189**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:27	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:27	7439-92-1	
Manganese	**9.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:27	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:27	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**166**	mg/L	25.0	1		04/07/15 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**51.4**	mg/L	4.0	2		04/08/15 03:36	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PZ-1 **Lab ID: 92244012021** Collected: 04/01/15 14:15 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 16:49	7429-90-5	
Barium	**60.1**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:49	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 16:49	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:49	7440-47-3	
Iron	**87.0**	ug/L	50.0	1	04/07/15 13:30	04/08/15 16:49	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:49	7439-92-1	
Manganese	**11.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 16:49	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 16:49	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**290**	mg/L	25.0	1		04/07/15 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**91.9**	mg/L	10.0	5		04/08/15 15:47	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PZ-2 **Lab ID: 92244012022** Collected: 04/01/15 14:00 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	ND	ug/L	100	1	04/07/15 13:30	04/08/15 17:20	7429-90-5	
Barium	**58.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:20	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 17:20	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:20	7440-47-3	
Iron	**159**	ug/L	50.0	1	04/07/15 13:30	04/08/15 17:20	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:20	7439-92-1	
Manganese	**9.7**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:20	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 17:20	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**267**	mg/L	25.0	1		04/07/15 10:17		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**82.2**	mg/L	10.0	5		04/08/15 16:28	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PZ-3 **Lab ID: 92244012023** Collected: 04/01/15 11:10 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**143**	ug/L	100	1	04/07/15 13:30	04/08/15 17:24	7429-90-5	
Barium	**57.9**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:24	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 17:24	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:24	7440-47-3	
Iron	**335**	ug/L	50.0	1	04/07/15 13:30	04/08/15 17:24	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:24	7439-92-1	
Manganese	**5.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:24	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 17:24	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**105**	mg/L	25.0	1		04/07/15 10:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**30.4**	mg/L	2.0	1		04/08/15 16:42	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PZ-4 **Lab ID: 92244012024** Collected: 04/01/15 11:20 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**133**	ug/L	100	1	04/07/15 13:30	04/08/15 17:28	7429-90-5	
Barium	**54.6**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:28	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 17:28	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:28	7440-47-3	
Iron	**249**	ug/L	50.0	1	04/07/15 13:30	04/08/15 17:28	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:28	7439-92-1	
Manganese	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:28	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 17:28	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**105**	mg/L	25.0	1		04/07/15 10:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**27.2**	mg/L	2.0	1		04/08/15 16:55	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: PZ-5 **Lab ID: 92244012025** Collected: 04/01/15 11:40 Received: 04/04/15 09:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**494**	ug/L	100	1	04/07/15 13:30	04/08/15 17:31	7429-90-5	
Barium	**83.4**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:31	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 17:31	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:31	7440-47-3	
Iron	**769**	ug/L	50.0	1	04/07/15 13:30	04/08/15 17:31	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:31	7439-92-1	
Manganese	**82.3**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:31	7439-96-5	
Selenium	ND	ug/L	10.0	1	04/07/15 13:30	04/08/15 17:31	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**339**	mg/L	25.0	1		04/07/15 10:18		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**153**	mg/L	20.0	10		04/08/15 17:09	14808-79-8	

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ANALYTICAL RESULTS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Sample: DUP-01 **Lab ID: 92244012026** Collected: 04/01/15 00:00 Received: 04/04/15 10:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**126**	ug/L	100	1	04/07/15 13:30	04/08/15 17:37	7429-90-5	
Barium	**21.0**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:37	7440-39-3	
Cadmium	ND	ug/L	1.0	1	04/07/15 13:30	04/08/15 17:37	7440-43-9	
Chromium	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:37	7440-47-3	
Iron	**300**	ug/L	50.0	1	04/07/15 13:30	04/08/15 17:37	7439-89-6	
Lead	ND	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:37	7439-92-1	
Manganese	**4540**	ug/L	5.0	1	04/07/15 13:30	04/08/15 17:37	7439-96-5	
Selenium	**53.7**	ug/L	10.0	1	04/07/15 13:30	04/08/15 17:37	7782-49-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	**2710**	mg/L	250	1		04/07/15 10:19		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Sulfate	**1210**	mg/L	100	50		04/09/15 11:07	14808-79-8	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: MPRP/18221 — Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 — Analysis Description: 200.7 MET
Associated Lab Samples: 92244012001, 92244012002, 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012008, 92244012009, 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020

METHOD BLANK: 1428087 — Matrix: Water
Associated Lab Samples: 92244012001, 92244012002, 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012008, 92244012009, 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	100	04/08/15 14:03	
Barium	ug/L	ND	5.0	04/08/15 14:03	
Cadmium	ug/L	ND	1.0	04/08/15 14:03	
Chromium	ug/L	ND	5.0	04/08/15 14:03	
Iron	ug/L	ND	50.0	04/08/15 14:03	
Lead	ug/L	ND	5.0	04/08/15 14:03	
Manganese	ug/L	ND	5.0	04/08/15 14:03	
Selenium	ug/L	ND	10.0	04/08/15 14:03	

LABORATORY CONTROL SAMPLE: 1428088

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4920	98	85-115	
Barium	ug/L	500	479	96	85-115	
Cadmium	ug/L	500	481	96	85-115	
Chromium	ug/L	500	477	95	85-115	
Iron	ug/L	5000	4860	97	85-115	
Lead	ug/L	500	478	96	85-115	
Manganese	ug/L	500	477	95	85-115	
Selenium	ug/L	500	486	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428089 1428090

Parameter	Units	92244012001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	212	5000	5000	6010	6070	116	117	70-130	1	20	
Barium	ug/L	24.5	500	500	478	481	91	91	70-130	1	20	
Cadmium	ug/L	ND	500	500	362	366	72	73	70-130	1	20	
Chromium	ug/L	ND	500	500	451	455	90	91	70-130	1	20	
Iron	ug/L	500	5000	5000	4980	5020	90	90	70-130	1	20	
Lead	ug/L	5.3	500	500	434	436	86	86	70-130	0	20	
Manganese	ug/L	4510	500	500	4990	4980	97	94	70-130	0	20	
Selenium	ug/L	50.4	500	500	596	600	109	110	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428091 1428092

Parameter	Units	92244012011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	5080	5160	101	102	70-130	1	20	
Barium	ug/L	59.0	500	500	521	530	92	94	70-130	2	20	
Cadmium	ug/L	ND	500	500	458	461	92	92	70-130	1	20	
Chromium	ug/L	ND	500	500	467	470	93	94	70-130	1	20	
Iron	ug/L	96.1	5000	5000	4810	4860	94	95	70-130	1	20	
Lead	ug/L	ND	500	500	462	463	92	92	70-130	0	20	
Manganese	ug/L	16.7	500	500	476	480	92	93	70-130	1	20	
Selenium	ug/L	ND	500	500	489	493	97	98	70-130	1	20	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: MPRP/18222 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

METHOD BLANK: 1428097 Matrix: Water
Associated Lab Samples: 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	100	04/08/15 16:42	
Barium	ug/L	ND	5.0	04/08/15 16:42	
Cadmium	ug/L	ND	1.0	04/08/15 16:42	
Chromium	ug/L	ND	5.0	04/08/15 16:42	
Iron	ug/L	ND	50.0	04/08/15 16:42	
Lead	ug/L	ND	5.0	04/08/15 16:42	
Manganese	ug/L	ND	5.0	04/08/15 16:42	
Selenium	ug/L	ND	10.0	04/08/15 16:42	

LABORATORY CONTROL SAMPLE: 1428098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4900	98	85-115	
Barium	ug/L	500	477	95	85-115	
Cadmium	ug/L	500	479	96	85-115	
Chromium	ug/L	500	475	95	85-115	
Iron	ug/L	5000	4820	96	85-115	
Lead	ug/L	500	477	95	85-115	
Manganese	ug/L	500	476	95	85-115	
Selenium	ug/L	500	483	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428099 1428100

Parameter	Units	92244012021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	5000	5110	99	101	70-130	2	20	
Barium	ug/L	60.1	500	500	516	527	91	93	70-130	2	20	
Cadmium	ug/L	ND	500	500	446	455	89	91	70-130	2	20	
Chromium	ug/L	ND	500	500	455	465	91	93	70-130	2	20	
Iron	ug/L	87.0	5000	5000	4700	4790	92	94	70-130	2	20	
Lead	ug/L	ND	500	500	452	460	90	92	70-130	2	20	
Manganese	ug/L	11.4	500	500	459	469	90	92	70-130	2	20	
Selenium	ug/L	ND	500	500	483	487	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428101 1428102

Parameter	Units	92244058001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	5000	5000	4770	4880	95	97	70-130	2	20	
Barium	ug/L	ND	500	500	459	470	92	94	70-130	2	20	
Cadmium	ug/L	ND	500	500	452	462	90	92	70-130	2	20	
Chromium	ug/L	ND	500	500	456	468	91	93	70-130	3	20	
Iron	ug/L	ND	5000	5000	4660	4770	93	95	70-130	2	20	
Lead	ug/L	ND	500	500	454	462	90	92	70-130	2	20	
Manganese	ug/L	ND	500	500	453	463	90	92	70-130	2	20	
Selenium	ug/L	ND	500	500	458	473	91	94	70-130	3	20	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: WET/36661 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020, 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

METHOD BLANK: 1427890 — Matrix: Water
Associated Lab Samples: 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020, 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	04/07/15 10:10	

LABORATORY CONTROL SAMPLE: 1427891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	246	98	90-110	

SAMPLE DUPLICATE: 1427893

Parameter	Units	92244012019 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	89.0	95.0	7	5	D6

SAMPLE DUPLICATE: 1427894

Parameter	Units	92244012010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	216	208	4	5	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: WET/36691 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012009

METHOD BLANK: 1429196 Matrix: Water
Associated Lab Samples: 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	04/08/15 12:12	

LABORATORY CONTROL SAMPLE: 1429197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	256	102	90-110	

SAMPLE DUPLICATE: 1429198

Parameter	Units	92243964001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	96.0	86.0	11	5	D6

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: WET/36703 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 92244012001, 92244012002, 92244012008

METHOD BLANK: 1429712 Matrix: Water
Associated Lab Samples: 92244012001, 92244012002, 92244012008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	25.0	04/08/15 16:49	

LABORATORY CONTROL SAMPLE: 1429713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	230	92	90-110	

SAMPLE DUPLICATE: 1429714

Parameter	Units	92244012001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	241	258	7	5	D6

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: WETA/22473 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92244012001, 92244012002, 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012008, 92244012009, 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020

METHOD BLANK: 1428378 — Matrix: Water
Associated Lab Samples: 92244012001, 92244012002, 92244012003, 92244012004, 92244012005, 92244012006, 92244012007, 92244012008, 92244012009, 92244012010, 92244012011, 92244012012, 92244012013, 92244012014, 92244012015, 92244012016, 92244012017, 92244012018, 92244012019, 92244012020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	04/07/15 21:02	

LABORATORY CONTROL SAMPLE: 1428379

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428380 — 1428381

Parameter	Units	92244012001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	1260	20	20	1250	1250	-46	-62	90-110	0	10	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1428382 — 1428383

Parameter	Units	92244012011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	92.2	20	20	111	111	95	96	90-110	0	10	

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QUALITY CONTROL DATA

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

QC Batch: WETA/22485 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

METHOD BLANK: 1429095 Matrix: Water
Associated Lab Samples: 92244012021, 92244012022, 92244012023, 92244012024, 92244012025, 92244012026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.0	04/08/15 15:20	

LABORATORY CONTROL SAMPLE: 1429096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.3	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1429097 1429098

Parameter	Units	92244012021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	91.9	20	20	110	110	92	92	90-110	0	10	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1429099 1429100

Parameter	Units	92243895007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	2.1	20	20	20.4	20.4	92	92	90-110	0	10	

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QUALIFIERS

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

Acid preservation may not be appropriate for 2 Chloroethylvinyl ether, Styrene, and Vinyl chloride.

A separate vial preserved to a pH of 4-5 is recommended in SW846 Chapter 4 for the analysis of Acrolein and Acrylonitrile by EPA Method 8260.

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 TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92244012001	**W-1**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012002	**W-2**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012003	**W-3**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012004	**W-3B**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012005	**W-6**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012006	**W-7**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012007	**W-8**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012008	**W-9**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012009	**PW-1**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012010	**SS-01**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012011	**SS-02**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012012	**SS-20**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012013	**SS-25**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012014	**SS-30**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012015	**SS-40**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012016	**SS-50**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012017	**SS-60**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012018	**SS-70**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012019	**SS-80**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012020	**SS-90**	EPA 200.7	MPRP/18221	EPA 200.7	ICP/16368
92244012021	**PZ-1**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012022	**PZ-2**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012023	**PZ-3**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012024	**PZ-4**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012025	**PZ-5**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012026	**DUP-01**	EPA 200.7	MPRP/18222	EPA 200.7	ICP/16369
92244012001	**W-1**	SM 2540C	WET/36703		
92244012002	**W-2**	SM 2540C	WET/36703		
92244012003	**W-3**	SM 2540C	WET/36691		
92244012004	**W-3B**	SM 2540C	WET/36691		
92244012005	**W-6**	SM 2540C	WET/36691		
92244012006	**W-7**	SM 2540C	WET/36691		
92244012007	**W-8**	SM 2540C	WET/36691		
92244012008	**W-9**	SM 2540C	WET/36703		
92244012009	**PW-1**	SM 2540C	WET/36691		
92244012010	**SS-01**	SM 2540C	WET/36661		
92244012011	**SS-02**	SM 2540C	WET/36661		
92244012012	**SS-20**	SM 2540C	WET/36661		
92244012013	**SS-25**	SM 2540C	WET/36661		
92244012014	**SS-30**	SM 2540C	WET/36661		
92244012015	**SS-40**	SM 2540C	WET/36661		
92244012016	**SS-50**	SM 2540C	WET/36661		
92244012017	**SS-60**	SM 2540C	WET/36661		
92244012018	**SS-70**	SM 2540C	WET/36661		
92244012019	**SS-80**	SM 2540C	WET/36661		
92244012020	**SS-90**	SM 2540C	WET/36661		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: RJRT RURAL HALL 0263289
Pace Project No.: 92244012

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92244012021	**PZ-1**	SM 2540C	WET/36661		
92244012022	**PZ-2**	SM 2540C	WET/36661		
92244012023	**PZ-3**	SM 2540C	WET/36661		
92244012024	**PZ-4**	SM 2540C	WET/36661		
92244012025	**PZ-5**	SM 2540C	WET/36661		
92244012026	**DUP-01**	SM 2540C	WET/36661		
92244012001	**W-1**	EPA 300.0	WETA/22473		
92244012002	**W-2**	EPA 300.0	WETA/22473		
92244012003	**W-3**	EPA 300.0	WETA/22473		
92244012004	**W-3B**	EPA 300.0	WETA/22473		
92244012005	**W-6**	EPA 300.0	WETA/22473		
92244012006	**W-7**	EPA 300.0	WETA/22473		
92244012007	**W-8**	EPA 300.0	WETA/22473		
92244012008	**W-9**	EPA 300.0	WETA/22473		
92244012009	**PW-1**	EPA 300.0	WETA/22473		
92244012010	**SS-01**	EPA 300.0	WETA/22473		
92244012011	**SS-02**	EPA 300.0	WETA/22473		
92244012012	**SS-20**	EPA 300.0	WETA/22473		
92244012013	**SS-25**	EPA 300.0	WETA/22473		
92244012014	**SS-30**	EPA 300.0	WETA/22473		
92244012015	**SS-40**	EPA 300.0	WETA/22473		
92244012016	**SS-50**	EPA 300.0	WETA/22473		
92244012017	**SS-60**	EPA 300.0	WETA/22473		
92244012018	**SS-70**	EPA 300.0	WETA/22473		
92244012019	**SS-80**	EPA 300.0	WETA/22473		
92244012020	**SS-90**	EPA 300.0	WETA/22473		
92244012021	**PZ-1**	EPA 300.0	WETA/22485		
92244012022	**PZ-2**	EPA 300.0	WETA/22485		
92244012023	**PZ-3**	EPA 300.0	WETA/22485		
92244012024	**PZ-4**	EPA 300.0	WETA/22485		
92244012025	**PZ-5**	EPA 300.0	WETA/22485		
92244012026	**DUP-01**	EPA 300.0	WETA/22485		

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Pace Analytical	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: September 22. 2014 Page 1 of 2
	Document Number: **F-CHR-CS-003-rev.15**	Issuing Authority: Pace Huntersville Quality Office

Client Name: ERM

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

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

Optional
Proj. Due Date:
Proj. Name:

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

Thermometer Used: IR Gun T1401 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor **T1401** No Correction

Corrected Cooler Temp.: 13 °C **Biological Tissue is Frozen:** Yes No N/A

Date and Initials of person examining contents: 4/4/14

Temp should be above freezing to 6°C

		Comments:
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:_____		
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	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
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: NMG Date: 4/4/15

SRF Review: NB Date: 04/07/15

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)

WO# : 92244012

92244012

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

1905241

Section A Required Client Information:

Company: ERM
Address: 15720 BRIXHAM HILL AVE STE 120
SW CHARLOTTE, NC 28277
Email To: ALAN.MARTIN@ERM.COM
Phone: 704-541-8345 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: ALAN MARTIN
Copy To:
Purchase Order No.:
Project Name: RJRT RURAL HALL
Project Number: 0263289

Section C Invoice Information:

Attention: ALAN MARTIN
Company Name: (SAME)
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

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

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): 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 (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE	TDS 160.1	METALS 200.7* SEE COMMENT	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	W-1	WT	G	~~4/3/15~~	~~1100~~	4/3/15	1100		3	2		1						Y	Y	Y		92244012 001
2	W-2	↓	↓			4/3/15	1145		↓	↓		↓						↓	↓	↓		002
3	W-3	↓	↓			4/2/15	1650		↓	↓		↓						↓	↓	↓		003
4	W-3B	↓	↓			4/2/15	1800		↓	↓		↓						↓	↓	↓		004
5	W-6	↓	↓			4/2/15	1330		↓	↓		↓						↓	↓	↓		005
6	W-7	↓	↓			4/2/15	1430		↓	↓		↓						↓	↓	↓		006
7	W-8	↓	↓			4/2/15	1815		↓	↓		↓						↓	↓	↓		007
8	W-9	↓	↓			4/3/15	0915		↓	↓		↓						↓	↓	↓		008
9	PW-1	↓	↓			4/2/15	1130		↓	↓		↓						↓	↓	↓		009
10	SS-01	↓	↓			4/1/15	1530		↓	↓		↓						↓	↓	↓		010
11	SS-02	↓	↓			4/1/15	1430		↓	↓		↓						↓	↓	↓		011
12	SS-20	↓	↓			4/1/15	1615		↓	↓		↓						↓	↓	↓		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*METALS ARE ONLY: Al, Ba, Cd, Cr, Fe, Pb, Mn, Se	TOM NAUMANN / ERM	4/3/15	1530		~~4/4~~ 4/4/15	~~9:15~~ 915	T.J

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*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.

Pace Analytical®
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CHAIN-OF-CUSTODY / Analytical Request Document

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1905240

Section A Required Client Information:

Company: ERM
Address: 15720 BRIXHAM HILL AVE
CHARLOTTE, NC 28277
Email To: ALAN.MARTIN@ERM.COM
Phone: 704-541-8545 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: ALAN MARTIN
Copy To: SITE 120
Purchase Order No.:
Project Name: RJRT RURAL HALL
Project Number: 263289

Section C Invoice Information:

Attention: ALAN MARTIN
Company Name: (SAME)
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: _____

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE	TDS 160.1	METALS 200.7*	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92244012
1	SS-25	WT	G			4/1/15	1640		3	2		1						1	1	1		013
2	SS-30						1545															014
3	SS-40						1350															015
4	SS-50						1700															016
5	SS-60						1150															017
6	SS-70						1130															018
7	SS-80						1050															019
8	SS-90						1030															020
9	PZ-1						1415															021
10	PZ-2						1400															022
11	PZ-3						1110															023
12	PZ-4						1120															024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
*METALS ONLY Al, Ba, Cd, Cr, Fe, Pb, Mn, + Se	Tom NAUMANN / ERM	4/3/15	1530		4/4/15	915	1.5	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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

*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.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

1905239

Section A Required Client Information:

Company: ERM
Address: 15720 BRIXHAM HILL AVE, ST 120 CHARLOTTE, NC 28277
Email To: ALAN.MARTIN@ERM.COM
Phone: 704-541-8345 Fax:
Requested Due Date/TAT: STANDARD

Section B Required Project Information:

Report To: ALAN MARTIN
Copy To:
Purchase Order No.:
Project Name: RJRT RURAL HALL
Project Number: 0263289

Section C Invoice Information:

Attention: ALAN MARTIN
Company Name: (SAME)
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: NC

Section D Required Client Information

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

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): SULFATE	TDS 160.1	METALS 200.7 *SEE COMMENTS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92244012
1	PZ-5	WT	G			4/1/15	1140		3	2		1						1	1	1		025
2	DUP-01	WT	G			–	–		4	4		4						4	4	4		026
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
METALS ARE ONLY: Al, Ba, Cd, Fe, Pb, Mn, Se	Tom Naumann / ERM	4/3/15	1530		4/4	0:15	1.5	y	n	y
					4/4/15	9:15				

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER:
SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

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

*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.

F-ALL-Q-020rev.07, 15-May-2007

APPENDIX C
GROUNDWATER SAMPLING LOGS

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-1

Date: 4/3/15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: 1800

Well Type: Flush Surface Completion, Stick Up Completion

Well Tag Present: Yes, No

Well Locked: Yes, ~~No~~

Lock Present: Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No N/A

Well Cap: Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 20.5

Screen Length: 5, 10, 15, 20 feet other:

Depth to Water (D.T.W): (1) 13.29

Well Diameter: 2, 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: PVC, Steel other:

Purge Rate: 0.1 L ~~mL~~/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: Polyethylene, Teflon, Other:

Measuring Point: TOC other:

Pump Intake (ft below M.P.): 17.5

Color:

Odor: Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L ~~(gallons)~~	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
~~1005~~ 1025	0.5	13.35	17.42	6.42	2.624	2.21	74.7	6.88	
1030	1.0	13.37	17.29	6.40	2.615	1.81	75.3	6.21	
1035	1.5	13.39	17.69	6.39	2.641	1.22	75.8	5.75	
1040	2.0	13.41	17.88	6.38	2.650	0.77	76.0	5.27	
1045	2.5	13.43	17.91	6.37	2.676	0.66	76.9	5.09	DUP-01 COLLECTED FROM THIS WELL.

Official Sampling Date & Time: 4/3/15 1100

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements.

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).

(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-2

Date: 4/3/15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: 1130

Well Type: Flush Surface Completion, Stick Up Completion

Well Tag Present: Yes, No

Well Locked: Yes, No **Lock Present:** Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No N/A **Well Cap:** Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 17'

Screen Length: 5, 10, 15, 20 feet other:

Depth to Water (D.T.W): (1) 13.93

Well Diameter: 2, 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: PVC, Steel other:

Purge Rate: N/A mL/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: Polyethylene, Teflon, Other: N/A

Measuring Point: TOC other:

Pump Intake (ft below M.P.): N/A

Color: CLEAR **Odor:** Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1130	—	-	16.31	7.62	0.256	6.94	19.8	8.74	BAILED SAMPLE DUE
									TO LOW RECHARGE. ~~AND~~
									INSUFFICIENT WATER
									TO COLLECT MORE THAN
									ONE READING.

Official Sampling Date & Time: 4/3/15 1145

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements.

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).

(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: MW-3

Date: ~~4/3/15~~ 4/2/15

Sampling Personnel: (Andy Neal) Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, (Cloudy) Rain, Other _____

Time: 1615

Well Type: Flush Surface Completion, (Stick Up Completion)

Well Tag Present: (Yes) No

Well Locked: (Yes) No **Lock Present:** (Yes) No

Well ID info on Tag: (Yes) No

Well Bolted: Yes, No N/A **Well Cap:** (Yes) No

Well Cap Condition: (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____

Well Location: (Grass) Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 17

Screen Length: 5, (10) 15, 20 feet other:

Depth to Water (D.T.W): (1) 3.78

Well Diameter: (2) 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: (PVC) Steel other:

Purge Rate: 0.1 L mL/min

Sampling Device: (Peristaltic) Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: (Polyethylene) Teflon, Other:

Measuring Point: (TOC) other:

Pump Intake (ft below M.P.): 12'

Color: CLEAR **Odor:** Yes, (No)

Time: (min) Stabalization Criteria[2]	Volume Purged (gallons)	DTW: (feet) (see note below)[3]	Temp (°C) +/- 3%	pH (std units) +/- 0.1 unit	SpC (uS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP mV +/- 10 mV	Turb NTU +/- 10%[4]	Comments:
1620	0.5	3.78	15.28	6.38	0.975	5.11	226.8	4.51	
1625	1.0	3.80	15.11	6.21	0.956	3.19	293.7	5.30	
1630	1.5	3.84	14.96	6.09	0.947	2.12	362.8	6.04	
1635	2.0	3.88	15.21	6.06	0.950	1.80	355.7	3.39	
1640	2.5	3.89	15.49	6.06	0.956	1.59	333.1	2.51	
1645	3.0	3.90	15.68	6.06	0.960	1.48	327.6	2.11	

Official Sampling Date & Time: ~~4/3/15~~ 4/2/15 1650

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements.

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).

(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-3B

Date: 4/2/15

Sampling Personnel: (Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, (Cloudy, Rain, Other _____

Time: 1715

Well Type: Flush Surface Completion, (Stick Up Completion) **Well Tag Present:** (Yes) No

Well Locked: (Yes) No **Lock Present:** (Yes) No **Well ID info on Tag:** (Yes) No

Well Bolted: Yes, No N/A **Well Cap:** (Yes) No **Well Cap Condition:** (Good) Replace, Other: _____

Well Pad Condition: (Good) Cracked, Replace, Other: _____ **Well Location:** (Grass) Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 210 **Screen Length:** 5, 10, 15, (20) feet other:

Depth to Water (D.T.W): (1) 0.0 (ARTISIAN) **Well Diameter:** (2) 4, 6, 8 inches other:

Field Parameters measured with: YSI **Casing Type:** (PVC) Steel other:

Purge Rate: 0.1 L ~~mL~~/min **Sampling Device:** (Peristaltic) Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: (Polyethylene) Teflon, Other: **Measuring Point:** (TOC) other:

Pump Intake (ft below M.P.): 20' **Color:** CLEAR **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L (~~gallons~~)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1720	0.5	1.27	15.38	7.20	0.496	1.07	157.5	15.8	
1725	1.0	1.34	15.42	7.20	0.495	0.76	150.1	16.8	
1730	1.5	1.39	15.42	7.20	0.495	0.76	149.2	16.7	
1735	2.0	1.43	15.31	7.21	0.492	0.76	136.1	14.6	
1740	2.5	1.45	15.60	7.21	0.494	0.72	133.3	10.1	
1745	3.0	1.45	15.90	7.21	0.498	0.76	123.3	8.9	
1750	3.5	1.46	15.93	7.21	0.498	0.75	122.1	8.3	
1755	4.0	1.47	15.98	7.21	0.500	0.74	122.7	8.5	

Official Sampling Date & Time: 4/2/15 1800

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-6

Date: 4/2/15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: 1330

Well Type: ~~Flush Surface Completion~~, Stick Up Completion

Well Tag Present: Yes, No

Well Locked: Yes, No **Lock Present:** Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No N/A **Well Cap:** Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 200

Screen Length: 5, 10, 15, 20 feet other: 30

Depth to Water (D.T.W): (1) 99.45

Well Diameter: 2, 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: PVC, Steel other:

Purge Rate: 0.25 L ~~mL~~/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: ~~Polyethylene~~, Teflon, Other:

Measuring Point: TOC other:

Pump Intake (ft below M.P.): 185

Color: CLEAR **Odor:** Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L ~~(gallons)~~	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1305	1.25	99.46	17.35	10.10	0.574	14.63	-67.4	4.0	
1310	2.50	99.48	16.44	10.23	0.559	3.79	-126.9	3.16	
1315	3.75	99.49	16.51	10.26	0.555	3.19	-139.0	~~3.14~~ 2.58	
1320	5.00	99.50	16.33	10.27	0.556	2.92	-146.7	2.54	
1325	6.25	99.51	16.31	10.26	0.555	2.74	-142.1	2.62	

Official Sampling Date & Time: 4/2/15 1330

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements.

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).

(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-7

Date: 4/2/15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: 1400

Well Type: Flush Surface Completion, Stick Up Completion TN

Well Tag Present: Yes, No

Well Locked: Yes, No **Lock Present:** Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No N/A **Well Cap:** Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 341

Depth to Water (D.T.W): (1) 94.52

Field Parameters measured with: YSI

Purge Rate: 0.5 L mL/min

Tubing Type: Polyethylene, Teflon, Other:

Pump Intake (ft below M.P.): 200'

Screen Length: 5, 10, 15, 20 feet other:

Well Diameter: 2, 4, 6, 8 inches other:

Casing Type: PVC, Steel other:

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Measuring Point: TOC other:

Color: CLEAR **Odor:** Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L (~~gallons~~)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1405	2.5	94.52	16.01	6.98	271	7.63	2.1	12.3	
1410	5.0	94.63	15.97	7.29	279	3.61	5.0	10.9	
1415	7.5	94.65	15.90	7.47	283	2.25	5.9	10.2	
1420	10.0	94.66	15.88	7.49	284	2.23	6.1	9.92	
1425	12.5	94.67	15.87	7.50	284	2.19	6.3	9.37	

Official Sampling Date & Time: 4/2/15 1430

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-8

Date: 4/2/15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: ~~1455~~ 1530 (PROBLEM WITH PUMP)

Well Type: Flush Surface Completion, Stick Up Completion

Well Tag Present: Yes, No

Well Locked: Yes, No **Lock Present:** Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No N/A **Well Cap:** Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: _____

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 65

Screen Length: 5, 10, 15, 20 feet other:

Depth to Water (D.T.W): (1) 56.22

Well Diameter: 2, 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: PVC, Steel other:

Purge Rate: 0.2 L ~~mL~~/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: Polyethylene, Teflon, Other:

Measuring Point: TOC other:

Pump Intake (ft below M.P.): 55'

Color: CLEAR **Odor:** Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L ~~(gallons)~~	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1535	1.0	55.39	16.65	6.38	0.394	6.10	40.8	167	
1540	2.0	58.56	16.48	5.86	0.367	5.43	64.3	155	
1545	3.0	58.35	19.04	5.76	0.356	6.85	67.1	149	
1550	4.0	57.89	18.36	5.75	0.354	6.62	68.2	125	
1555	5.0	59.07	18.01	5.74	0.352	6.53	69.6	96.9	
1600	6.0	59.25	17.60	5.72	0.350	11.02	77.0	75.8	YSI TURNED OFF, RESTARTED.
1605	7.0	60.42	18.35	5.71	0.354	6.19	69.7	51.4	
1610	8.0	61.63	18.12	5.70	0.352	6.10	72.3	49.4	
1615	9.0	62.81	18.34	5.73	0.349	5.92	80.4	35.7	
1620	10.0	64.5	19.65	5.75	0.344	5.83	79.1	27.4	WELL DRY
1735	11.0	61.75	14.94	5.88	0.322	9.59	72.6	69.8	RESTARTED AFTER RECHARGE.
1740	12.0	62.01	15.45	5.90	0.316	8.43	73.4	96.6	
1745	13.0	62.09	16.67	5.91	0.314	8.33	72.1	59.9	
1750	14.0	63.12	17.90	5.93	0.314	6.96	70.6	52.5	
1755	15.0	63.96	18.45	5.94	0.314	6.60	69.5	51.6	
1800	16.0	64.34	21.58	5.93	0.314	4.64	68.4	44.6	
								39.9 ←	FINAL TURBIDITY, MST SAMPLE

Official Sampling Date & Time: 4/2/15 1815

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well), DPT, Surface Water, Potable WSW; other) _____

Sample ID: W-9

Date: 4/3/15

Sampling Personnel: (Andy Neal, Tom Naumann)

Weather Conditions: Sunny, Partly Cloudy, (Cloudy), Rain, Other DRIZZLE / LIGHT RAIN

Time: 0815

Well Type: Flush Surface Completion, (Stick Up Completion) — **Well Tag Present:** (Yes) No

Well Locked: (Yes) No — **Lock Present:** (Yes) No — **Well ID info on Tag:** (Yes) No

Well Bolted: Yes, No N/A — **Well Cap:** (Yes) No — **Well Cap Condition:** (Good), Replace, Other: _____

Well Pad Condition: (Good), Cracked, Replace, Other: _____ — **Well Location:** (Grass), Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): 259 — **Screen Length:** 5, 10, 15, 20 feet (other: 30')

Depth to Water (D.T.W): (1) 110.50 — **Well Diameter:** (2) 4, 6, 8 inches other:

Field Parameters measured with: YSI — **Casing Type:** (PVC), Steel other:

Purge Rate: 0.200 L~~mL~~/min — **Sampling Device:** Peristaltic, Monsoon, (Grundfos), Bailer, Other: _____

Tubing Type: (Polyethylene), Teflon, Other: — **Measuring Point:** (TOC) other:

Pump Intake (ft below M.P.): 225' — **Color:** CLEAR — **Odor:** Yes, (No)

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	L ~~(gallons)~~	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
0820	1.0 ~~14.33~~	110.63	14.33	9.59	0.368	15.17	-105.8	51.1	
0825	2.0	110.65	14.62	9.91	0.378	7.23	-122.4	65.8	
0830	3.0	110.65	14.81	10.01	0.393	4.10	-139.3	71.5	
0835	4.0	110.65	16.25	11.08	0.595	1.44	-176.8	46.1	
0840	5.0	110.65	16.41	11.48	0.790	1.21	-176.7	25.5	
0845	6.0	110.65	16.54	11.60	0.903	1.07	-181.8	11.7	
0850	7.0	110.66	16.73	11.63	0.945	0.92	-181.6	6.96	
0855	8.0	110.66	16.76	11.64	0.969	0.83	-181.7	4.74	
0900	9.0	110.66	16.82	11.65	0.978	0.76	-181.1	3.88	
0905	10.0	110.66	16.84	11.66	0.982	0.70	-184.4	3.57	PARAMETERS STABLE

Official Sampling Date & Time: 4/3/15 0915

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.
(2) - Stabilization criteria based on three most recent consecutive measurements.
(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).
(4) +/- 10% when turbidity is over 10 NTUs.

WATER MATRIX SAMPLING

FIELD DATA FORM

ERM

Site Name: RJRT Rural Hall, NC

Sample Type: (Monitor Well, DPT, Surface Water, Potable WSW; other) _____

Sample ID: PW-1

Date: 4-2-15

Sampling Personnel: Andy Neal, Tom Naumann

Weather Conditions: Sunny, Partly Cloudy, Cloudy, Rain, Other _____

Time: 1100

Well Type: Flush Surface Completion, Stick Up Completion

Well Tag Present: Yes, No

Well Locked: Yes, No **Lock Present:** Yes, No

Well ID info on Tag: Yes, No

Well Bolted: Yes, No **Well Cap:** Yes, No

Well Cap Condition: Good, Replace, Other: _____

Well Pad Condition: Good, Cracked, Replace, Other: NA

Well Location: Grass, Asphault, Concrete, Woods, Other: _____

Additional Comments:

Total Depth of Well (T.D.): >295

Screen Length: 5, 10, 15, 20 feet other: UNKNOWN

Depth to Water (D.T.W): (1) 65.20

Well Diameter: 2, 4, 6, 8 inches other:

Field Parameters measured with: YSI

Casing Type: PVC, Steel other:

Purge Rate: 0.5 mL/min

Sampling Device: Peristaltic, Monsoon, Grundfos, Bailer, Other: _____

Tubing Type: Polyethylene, Teflon, Other:

Measuring Point: TOC other:

Pump Intake (ft below M.P.): ~285

Color: Clear **Odor:** Yes, No

Time: (min)	Volume Purged	DTW: (feet)	Temp (°C)	pH (std units)	SpC (uS/cm)	DO (mg/L)	ORP mV	Turb NTU	
Stabalization Criteria[2]	(gallons)	(see note below)[3]	+/- 3%	+/- 0.1 unit	+/- 3%	+/- 10%	+/- 10 mV	+/- 10%[4]	Comments:
1105	0.5	65.20	18.80	5.96	0.237	6.08	408.3	24.6	
1110	1.0	65.22	19.77	5.96	0.238	6.25	378.5	22.4	
1115	1.5	65.18	20.64	5.97	0.239	5.20	347.2	16.7	
1120	2.0	65.18	21.22	5.99	0.239	5.02	340.5	9.6	
1125	2.5	65.15	21.42	6.00	0.240	4.71	314.0	8.9	
1130	3.0	65.15	21.63	5.98	0.241	4.59	332.0	6.6	
1130 — SAMPLE TIME									

Official Sampling Date & Time: 4/2/15 1130

Samples Collected:	Analysis Requested:	Preservative:	Hold Time (days):	Lab:
TDS	TDS	None	>7 days	Pace Analytical
Sulfate	Sulfate	None	>7 days	Pace Analytical
Metals	6010	HNO3	>7 days	Pace Analytical

Notes:

(1) - Do not measure depth to bottom of well until after purging and sampling to reduce resuspending fines that may be resting on the well bottom.

(2) - Stabilization criteria based on three most recent consecutive measurements.

(3) - Total drawdown in well to be less than 0.1 m (0.32 ft). Purging rate to be lowered as necessary to keep drawdown below 0.1 m (0.32 ft).

(4) +/- 10% when turbidity is over 10 NTUs.

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