



April 27, 2009

Ms. Wallace Coverdale
International Paper
Riegelwood Mill
865 John L. Riegel Road
Riegelwood, North Carolina 28456

Re: Semi-Annual Groundwater
Compliance Monitoring Results (March 2009)
Permit No. 24-02
International Paper, Riegelwood, North Carolina
URS Project No. 31826692.00001

Dear Ms. Coverdale:

URS Corporation (URS) has prepared the attached North Carolina Department of Environment and Natural Resources (NCDENR) Environmental Monitoring Reporting Form and tables presenting the results of the 2009 initial semi-annual groundwater compliance monitoring event in the vicinity of the International Paper Riegelwood Mill solid waste landfill. The sampling activities were conducted in accordance with NCDENR Division of Waste Management – Solid Waste Section requirements for groundwater monitoring.

Sampling events were conducted on February 25, 2009 and on March 24 and 25, 2009. The February sampling event included the collection of three water samples, designated Primary, Secondary, and Under-Drain, obtained from the New Landfill Cell 1. The March sampling event included the collection of groundwater samples from monitoring wells MW-1A, MW-1B, MW-4A, MW-5A, MW-7A, and MW-8A. All samples were submitted to Pace Analytical Services, Inc. (a North Carolina certified laboratory) for analysis.

The following are included as attachments to this document:

- NCDENR Environmental Monitoring Reporting Form
- NCDENR Electronic Data Deliverable (EDD)
- Table 1 – Semi-Annual Groundwater Analysis Results
- Table 2 – Historical Groundwater Analysis Results
- Table 3 – New Landfill Cell 1 Analysis Results
- Figure 1 – Location Map
- Figure 2 – Site Map
- Appendix A – Laboratory Reports
- Appendix B – Field Activity Documentation

URS Corporation
1600 Perimeter Park, Suite 400
Morrisville, NC 27560
Tel: 919.461.1100
Fax: 919.461.1415

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Ms. Wallace Coverdale
April 27, 2009
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URS appreciates the opportunity to be of continued assistance to International Paper on this project. If you have any questions, please do not hesitate to contact Conan Fitzgerald at (919) 461-1260.

Sincerely,

URS CORPORATION

A handwritten signature in blue ink, appearing to read 'Conan Fitzgerald'.

Conan Fitzgerald, P.E.
Project Engineer

**NC DENR ENVIRONMENTAL
MONITORING REPORTING FORM
ELECTRONIC DATA DELIVERABLE**

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)).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- 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):

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

Name: Martha Meyers-Lee Phone: (919) 461-1100
E-mail: martha_meyers-lee@urscorp.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
International Paper	Riegelwood Mill 865 John L. Riegel Road Riegelwood, North Carolina 28456	24-02	.0500	February 25, 2009 and March 24-25, 2009

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

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

Notification attached?

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

Certification

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

Conan Fitzgerald, PE Senior Project Manager (919) 461-1100
 Facility Representative Name (Print) Title (Area Code) Telephone Number
Conan Fitzgerald 4/27/09
 Signature Date

Affix NC Licensed/ Professional Geologist/Engineer Seal here:



FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	Q	METHOD	MDL	SWSL	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
24-02	2402-MW-01A	14808-79-8	315	Sulfate	38.2	mg/L		ASTM D516-90	5	5	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01A		324	Specific Conductance	187	umhos/cm		EPA 120.1	10	10	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01A	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/25/2009	3/26/2009	3/26/2009
24-02	2402-MW-01A		311	Total Dissolved Solids	82	mg/L		SM 2540C		20	1	3/25/2009	3/30/2009	3/30/2009
24-02	2402-MW-01A	16887-00-6	301	Chloride	15.6	mg/L		SM 4500	5	5	1	3/25/2009	3/31/2009	3/31/2009
24-02	2402-MW-01A	16984-48-8	312	Fluoride	0.1	mg/L	U	SM 4500FC	0.1	0.1	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01A		317	Chemical oxygen demand	25	mg/L	U	SM 5220D	25	25	1	3/25/2009	4/1/2009	4/1/2009
24-02	2402-MW-01A		357	Total Organic Carbon	8.5	mg/L		SM 5310B	1	1	1	3/25/2009	4/1/2009	4/1/2009
24-02	2402-MW-01A	7439-89-6	340	Iron	821	ug/L		SW-846 6010B	14	50	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7439-96-5	342	Manganese	9.5	ug/L		SW-846 6010B	0.3	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-22-4	184	Silver	0.1	ug/L	U	SW-846 6010B	0.1	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-38-2	14	Arsenic	2.7	ug/L	U	SW-846 6010B	2.7	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-39-3	15	Barium	83.9	ug/L		SW-846 6010B	0.2	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-47-3	51	Chromium	0.63	ug/L	B	SW-846 6010B	0.4	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-62-2	209	Vanadium	5.7	ug/L		SW-846 6010B	0.2	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7440-66-6	213	Zinc	3.8	ug/L	B	SW-846 6010B	0.4	10	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01A		396	Total Organic Halides	0.03	mg/L		SW-846 9020		0.02	1	3/25/2009	4/2/2009	4/2/2009
24-02	2402-MW-01A		321	pH	4.4	s.u.	J	SW-846 9040	0.1	0.1	1	3/25/2009	3/31/2009	3/31/2009
24-02	2402-MW-01B	14808-79-8	315	Sulfate	31.6	mg/L		ASTM D516-90	5	5	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01B		324	Specific Conductance	585	umhos/cm		EPA 120.1	10	10	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01B	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/25/2009	3/26/2009	3/26/2009
24-02	2402-MW-01B		311	Total Dissolved Solids	312	mg/L		SM 2540C		20	1	3/25/2009	3/30/2009	3/30/2009
24-02	2402-MW-01B	16887-00-6	301	Chloride	12.3	mg/L		SM 4500	5	5	1	3/25/2009	3/31/2009	3/31/2009
24-02	2402-MW-01B	16984-48-8	312	Fluoride	0.1	mg/L	U	SM 4500FC	0.1	0.1	1	3/25/2009	3/27/2009	3/27/2009
24-02	2402-MW-01B		317	Chemical oxygen demand	25	mg/L	U	SM 5220D	25	25	1	3/25/2009	4/1/2009	4/1/2009
24-02	2402-MW-01B		357	Total Organic Carbon	15.6	mg/L		SM 5310B	1	1	1	3/25/2009	4/1/2009	4/1/2009
24-02	2402-MW-01B	7439-89-6	340	Iron	639	ug/L		SW-846 6010B	14	50	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7439-96-5	342	Manganese	25.2	ug/L		SW-846 6010B	0.3	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-22-4	184	Silver	0.1	ug/L	U	SW-846 6010B	0.1	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-38-2	14	Arsenic	4.4	ug/L	J	SW-846 6010B	2.7	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-39-3	15	Barium	18.6	ug/L		SW-846 6010B	0.2	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-47-3	51	Chromium	3.2	ug/L	B	SW-846 6010B	0.4	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-62-2	209	Vanadium	1.3	ug/L	B	SW-846 6010B	0.2	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7440-66-6	213	Zinc	5.9	ug/L	B	SW-846 6010B	0.4	5	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/25/2009	3/27/2009	3/30/2009
24-02	2402-MW-01B		396	Total Organic Halides	0.02	mg/L	U	SW-846 9020		0.02	1	3/25/2009	4/2/2009	4/2/2009
24-02	2402-MW-01B		321	pH	7.5	s.u.	J	SW-846 9040	0.1	0.1	1	3/25/2009	3/31/2009	3/31/2009
24-02	2402-MW-04A	14808-79-8	315	Sulfate	43.7	mg/L		ASTM 516-90	10	10	2	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-04A		324	Specific Conductance	240	umhos/cm		EPA 120.1	10	10	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-04A	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/24/2009	3/25/2009	3/25/2009
24-02	2402-MW-04A		311	Total Dissolved Solids	108	mg/L		SM 2540C		20	1	3/24/2009	3/30/2009	3/30/2009

FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	Q	METHOD	MDL	SWSL	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
24-02	2402-MW-04A	16887-00-6	301	Chloride	24.1	mg/L		SM 4500	5	5	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-04A	16984-48-8	312	Fluoride	0.1	mg/L	U	SM 4500FC	0.1	0.1	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-04A		316	Biochemical oxygen demand	2	mg/L	UJ	sm 5210B	2	2	1	3/24/2009	3/26/2009	3/31/2009
24-02	2402-MW-04A		317	Chemical oxygen demand	25	mg/L	U	SM 5220D	25	25	1	3/24/2009	4/1/2009	4/1/2009
24-02	2402-MW-04A		357	Total Organic Carbon	14.2	mg/L		SM 5310B	1	1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-04A	7439-89-6	340	Iron	1900	ug/L		SW-846 6010B	14	50	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7439-96-5	342	Manganese	50.7	ug/L		SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-22-4	184	Silver	0.2	ug/L	J	SW-846 6010B	0.1	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-38-2	14	Arsenic	2.7	ug/L	U	SW-846 6010B	2.7	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-39-3	15	Barium	66.8	ug/L		SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-47-3	51	Chromium	1.8	ug/L	B	SW-846 6010B	0.4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-50-8	54	Copper	0.75	ug/L	J	SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-62-2	209	Vanadium	0.45	ug/L	B	SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7440-66-6	213	Zinc	17.8	ug/L	B	SW-846 6010B	0.4	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-04A	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/24/2009	3/27/2009	3/30/2009
24-02	2402-MW-04A		396	Total Organic Halides	0.02	mg/L	U	SW-846 9020		0.02	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-04A		321	pH	4.6	s.u.	J	SW-846 9040	0.1	0.1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-05A	14808-79-8	315	Sulfate	5	mg/L	U	ASTM 516-90	5	5	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-05A		324	Specific Conductance	1940	umhos/cm		EPA 120.1	10	10	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-05A	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/24/2009	3/25/2009	3/25/2009
24-02	2402-MW-05A		311	Total Dissolved Solids	1050	mg/L		SM 2540C		20	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-05A	16887-00-6	301	Chloride	115	mg/L		SM 4500	20	20	4	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-05A	16984-48-8	312	Fluoride	0.12	mg/L		SM 4500FC	0.1	0.1	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-05A		316	Biochemical oxygen demand	3.7	mg/L	J	sm 5210B	2	2	1	3/24/2009	3/26/2009	3/31/2009
24-02	2402-MW-05A		317	Chemical oxygen demand	74.5	mg/L		SM 5220D	25	25	1	3/24/2009	4/1/2009	4/1/2009
24-02	2402-MW-05A		357	Total Organic Carbon	34.3	mg/L		SM 5310B	1	1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-05A	7439-89-6	340	Iron	440	ug/L		SW-846 6010B	14	50	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7439-96-5	342	Manganese	232	ug/L		SW-846 6010B	0.3	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-22-4	184	Silver	0.35	ug/L	J	SW-846 6010B	0.1	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-38-2	14	Arsenic	6.6	ug/L		SW-846 6010B	2.7	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-39-3	15	Barium	93	ug/L		SW-846 6010B	0.2	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-47-3	51	Chromium	10.3	ug/L		SW-846 6010B	0.4	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-62-2	209	Vanadium	4.2	ug/L	J	SW-846 6010B	0.2	5	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7440-66-6	213	Zinc	2.3	ug/L	B	SW-846 6010B	0.4	10	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/24/2009	3/27/2009	3/29/2009
24-02	2402-MW-05A	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/24/2009	3/27/2009	3/30/2009
24-02	2402-MW-05A		396	Total Organic Halides	0.2	mg/L		SW-846 9020		0.02	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-05A		321	pH	7.2	s.u.	J	SW-846 9040	0.1	0.1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-07A	14808-79-8	315	Sulfate	69	mg/L		ASTM D516-90	10	10	2	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-07A		324	Specific Conductance	1950	umhos/cm		EPA 120.1	10	10	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-07A	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/24/2009	3/25/2009	3/25/2009
24-02	2402-MW-07A		311	Total Dissolved Solids	1010	mg/L		SM 2540C		20	1	3/24/2009	3/30/2009	3/30/2009

FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	Q	METHOD	MDL	SWSL	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
24-02	2402-MW-07A	16887-00-6	301	Chloride	232	mg/L	J	SM 4500	35	35	7	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-07A	16984-48-8	312	Fluoride	0.2	mg/L		SM 4500FC	0.1	0.1	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-07A		316	Biochemical oxygen demand	2	mg/L	UJ	sm 5210B	2	2	1	3/24/2009	3/26/2009	3/31/2009
24-02	2402-MW-07A		317	Chemical oxygen demand	57.3	mg/L		SM 5220D	25	25	1	3/24/2009	4/1/2009	4/1/2009
24-02	2402-MW-07A		357	Total Organic Carbon	24.6	mg/L		SM 5310B	1	1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-07A	7439-89-6	340	Iron	16900	ug/L		SW-846 6010B	14	50	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7439-96-5	342	Manganese	511	ug/L		SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-22-4	184	Silver	0.29	ug/L	J	SW-846 6010B	0.1	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-38-2	14	Arsenic	13.5	ug/L		SW-846 6010B	2.7	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-39-3	15	Barium	43.8	ug/L		SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-47-3	51	Chromium	2.8	ug/L	B	SW-846 6010B	0.4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-62-2	209	Vanadium	5.8	ug/L		SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7440-66-6	213	Zinc	2.1	ug/L	B	SW-846 6010B	0.4	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-07A	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/24/2009	3/27/2009	3/30/2009
24-02	2402-MW-07A		396	Total Organic Halides	0.6	mg/L		SW-846 9020		0.02	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-07A		321	pH	7	s.u.	J	SW-846 9040	0.1	0.1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-08A	14808-79-8	315	Sulfate	318	mg/L		ASTM D516-90	50	50	10	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-08A		324	Specific Conductance	1110	umhos/cm		EPA 120.1	10	10	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-08A	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	3/24/2009	3/25/2009	3/25/2009
24-02	2402-MW-08A		311	Total Dissolved Solids	718	mg/L		SM 2540C		20	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-08A	16887-00-6	301	Chloride	6.5	mg/L		SM 4500	5	5	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-08A	16984-48-8	312	Fluoride	0.21	mg/L		SM 4500FC	0.1	0.1	1	3/24/2009	3/27/2009	3/27/2009
24-02	2402-MW-08A		316	Biochemical oxygen demand	2	mg/L	UJ	sm 5210B	2	2	1	3/24/2009	3/26/2009	3/31/2009
24-02	2402-MW-08A		317	Chemical oxygen demand	25	mg/L	U	SM 5220D	25	25	1	3/24/2009	4/1/2009	4/1/2009
24-02	2402-MW-08A		357	Total Organic Carbon	35.1	mg/L		SM 5310B	1	1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-MW-08A	7439-89-6	340	Iron	5610	ug/L		SW-846 6010B	14	50	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7439-96-5	342	Manganese	143	ug/L		SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-22-4	184	Silver	1	ug/L	J	SW-846 6010B	0.1	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-38-2	14	Arsenic	8.2	ug/L		SW-846 6010B	2.7	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-39-3	15	Barium	52.6	ug/L		SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-47-3	51	Chromium	1.9	ug/L	B	SW-846 6010B	0.4	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-62-2	209	Vanadium	0.74	ug/L	B	SW-846 6010B	0.2	5	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7440-66-6	213	Zinc	7	ug/L	B	SW-846 6010B	0.4	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7782-49-2	183	Selenium	3.8	ug/L	U	SW-846 6010B	3.8	10	1	3/24/2009	3/26/2009	3/29/2009
24-02	2402-MW-08A	7439-97-6	132	Mercury	0.07	ug/L	U	SW-846 7470	0.07	0.2	1	3/24/2009	3/27/2009	3/30/2009
24-02	2402-MW-08A		396	Total Organic Halides	0.07	mg/L		SW-846 9020		0.02	1	3/24/2009	3/30/2009	3/30/2009
24-02	2402-MW-08A		321	pH	6.5	s.u.	J	SW-846 9040	0.1	0.1	1	3/24/2009	3/26/2009	3/26/2009
24-02	2402-Primary	14808-79-8	315	Sulfate	623	mg/L		ASTM D516-90	85	85	17	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary		324	Specific Conductance	5220	umhos/cm		EPA 120.1	10	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Primary			Orthophosphate	0.28	mg/L	J	EPA 365.1	0.05	0.05	1	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Primary		311	Total Dissolved Solids	3870	mg/L		SM 2540C		20	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Primary	16887-00-6	301	Chloride	119	mg/L		SM 4500CL	20	20	4	2/25/2009	3/2/2009	3/2/2009
24-02	2402-Primary	16984-48-8	312	Fluoride	0.13	mg/L		SM 4500F	0.1	0.1	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Primary		316	Biochemical oxygen demand	5.5	mg/L	J	SM 5210B	2	2	1	2/25/2009	2/27/2009	3/4/2009
24-02	2402-Primary		317	Chemical oxygen demand	366	mg/L		SM 5220D	25	25	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Primary		357	Total Organic Carbon	179	mg/L		SM 5310B	15	15	15	2/25/2009	2/26/2009	2/26/2009

FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	Q	METHOD	MDL	SWSL	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
24-02	2402-Primary	7429-90-5		Aluminum	1170	ug/L		SW-846 6010B	25	100	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7439-96-5	342	Manganese	681	ug/L		SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7439-98-7	397	Molybdenum	1.1	ug/L	U	SW-846 6010B	1.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-22-4	184	Silver	1.3	ug/L	B	SW-846 6010B	0.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-38-2	14	Arsenic	29.3	ug/L		SW-846 6010B	2.7	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-39-3	15	Barium	207	ug/L		SW-846 6010B	0.2	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-47-3	51	Chromium	18.6	ug/L		SW-846 6010B	0.4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-48-4	53	Cobalt	1.5	ug/L	J	SW-846 6010B	0.6	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7440-66-6	213	Zinc	14.2	ug/L		SW-846 6010B	0.4	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Primary	7439-97-6	132	Mercury	0.97	ug/L		SW-846 7470	0.07	0.2	1	2/25/2009	3/2/2009	3/3/2009
24-02	2402-Primary		396	Total Organic Halides	0.27	mg/L		SW-846 9020		0.02	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Primary		321	pH	7	s.u.	J	SW-846 9040	0.1	0.1	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	14808-79-8	315	Sulfate	166	mg/L		ASTM D516-90	25	25	5	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary		324	Specific Conductance	3040	umhos/cm		EPA 120.1	10	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Secondary			Orthophosphate	1.2	mg/L		EPA 365.1	0.1	0.1	2	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Secondary		311	Total Dissolved Solids	2010	mg/L		SM 2540C		20	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Secondary	16887-00-6	301	Chloride	53	mg/L		SM 4500CL	10	10	2	2/25/2009	3/2/2009	3/2/2009
24-02	2402-Secondary	16984-48-8	312	Fluoride	0.66	mg/L		SM 4500F	0.1	0.1	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Secondary		316	Biochemical oxygen demand	5.2	mg/L	J	SM 5210B	2	2	1	2/25/2009	2/27/2009	3/4/2009
24-02	2402-Secondary		317	Chemical oxygen demand	121	mg/L		SM 5220D	25	25	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Secondary		357	Total Organic Carbon	106	mg/L		SM 5310B	10	10	10	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Secondary	7429-90-5		Aluminum	45.5	ug/L	B	SW-846 6010B	25	100	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7439-96-5	342	Manganese	647	ug/L		SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7439-98-7	397	Molybdenum	1.1	ug/L	U	SW-846 6010B	1.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-22-4	184	Silver	0.56	ug/L	B	SW-846 6010B	0.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-38-2	14	Arsenic	2.7	ug/L	U	SW-846 6010B	2.7	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-39-3	15	Barium	60.4	ug/L		SW-846 6010B	0.2	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-47-3	51	Chromium	10.6	ug/L		SW-846 6010B	0.4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-48-4	53	Cobalt	0.6	ug/L	U	SW-846 6010B	0.6	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-50-8	54	Copper	0.43	ug/L	J	SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7440-66-6	213	Zinc	9.7	ug/L	J	SW-846 6010B	0.4	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Secondary	7439-97-6	132	Mercury	0.76	ug/L		SW-846 7470	0.07	0.2	1	2/25/2009	3/2/2009	3/3/2009
24-02	2402-Secondary		396	Total Organic Halides	0.13	mg/L		SW-846 9020		0.02	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Secondary		321	pH	6.8	s.u.	J	SW-846 9040	0.1	0.1	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	14808-79-8	315	Sulfate	7.7	mg/L		ASTM D516-90	5	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain		324	Specific Conductance	4370	umhos/cm		EPA 120.1	10	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	14797-55-8	303	Nitrate	0.1	mg/L	U	EPA 353.2	0.1	0.1	1	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Underdrain			Orthophosphate	0.51	mg/L		EPA 365.1	0.05	0.05	1	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Underdrain		311	Total Dissolved Solids	2920	mg/L		SM 2540C		20	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Underdrain	16887-00-6	301	Chloride	239	mg/L		SM 4500CL	40	40	8	2/25/2009	3/2/2009	3/2/2009
24-02	2402-Underdrain	16984-48-8	312	Fluoride	0.18	mg/L		SM 4500F	0.1	0.1	1	2/25/2009	3/4/2009	3/4/2009
24-02	2402-Underdrain		316	Biochemical oxygen demand	6.3	mg/L	J	SM 5210B	2	2	1	2/25/2009	2/27/2009	3/4/2009

FACILITY PERMIT	WELL ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	Q	METHOD	MDL	SWSL	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
24-02	2402-Underdrain		317	Chemical oxygen demand	277	mg/L		SM 5220D	25	25	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Underdrain		357	Total Organic Carbon	157	mg/L		SM 5310B	15	15	15	2/25/2009	2/26/2009	2/26/2009
24-02	2402-Underdrain	7429-90-5		Aluminum	490	ug/L		SW-846 6010B	25	100	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7439-92-1	131	Lead	4	ug/L	U	SW-846 6010B	4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7439-96-5	342	Manganese	614	ug/L		SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7439-98-7	397	Molybdenum	1.1	ug/L	U	SW-846 6010B	1.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-22-4	184	Silver	0.95	ug/L	B	SW-846 6010B	0.1	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-38-2	14	Arsenic	7.4	ug/L		SW-846 6010B	2.7	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-39-3	15	Barium	105	ug/L		SW-846 6010B	0.2	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-43-9	34	Cadmium	0.5	ug/L	U	SW-846 6010B	0.5	1	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-47-3	51	Chromium	31.6	ug/L		SW-846 6010B	0.4	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-48-4	53	Cobalt	1.5	ug/L	J	SW-846 6010B	0.6	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-50-8	54	Copper	0.3	ug/L	U	SW-846 6010B	0.3	5	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7440-66-6	213	Zinc	0.4	ug/L	U	SW-846 6010B	0.4	10	1	2/25/2009	2/27/2009	2/27/2009
24-02	2402-Underdrain	7439-97-6	132	Mercury	0.82	ug/L		SW-846 7470	0.07	0.2	1	2/25/2009	3/2/2009	3/3/2009
24-02	2402-Underdrain		396	Total Organic Halides	0.28	mg/L		SW-846 9020		0.02	1	2/25/2009	3/5/2009	3/5/2009
24-02	2402-Underdrain		321	pH	6.8	s.u.	J	SW-846 9040	0.1	0.1	1	2/25/2009	2/27/2009	2/27/2009

TABLES

**TABLE 1
SEMI-ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
MARCH 2009 EVENT**

Monitoring Well:		MW-1A	MW-1B	MW-4A	MW-5A	MW-7A	MW-8A	2L Standard	SWSL							
Collection Date:		3/25/09	3/25/09	3/24/09	3/24/09	3/24/09	3/24/09									
Method	Parameter	Units	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q		
SW-846 6010B	Arsenic	ug/l	2.7	U	4.4	J	2.7	U	6.6		13.5		8.2		50	10
SW-846 6010B	Barium	ug/l	83.9		18.6		66.8		93		43.8		52.6		2,000	100
SW-846 6010B	Cadmium	ug/l	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	1.75	1
SW-846 6010B	Chromium	ug/l	0.63	B	3.2	B	1.8	B	10.3		2.8	B	1.9	B	50	10
SW-846 6010B	Copper	ug/l	0.3	U	0.3	U	0.75	J	0.3	U	0.3	U	0.3	U	1,000	10
SW-846 6010B	Iron	ug/l	821		639		1,900		440		16,900		5,610		300	300
SW-846 6010B	Lead	ug/l	4	U	4	U	4	U	4	U	4	U	4	U	15	10
SW-846 6010B	Manganese	ug/l	9.5		25.2		50.7		232		511		143		50	50
SW-846 6010B	Selenium	ug/l	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	3.8	U	50	10
SW-846 6010B	Silver	ug/l	0.1	U	0.1	U	0.2	J	0.35	J	0.29	J	1	J	17.5	10
SW-846 6010B	Vanadium	ug/l	5.7		1.3	B	0.45	B	4.2	J	5.8		0.74	B	NE	25
SW-846 6010B	Zinc	ug/l	3.8	B	5.9	B	17.8	B	2.3	B	2.1	B	7	B	1,050	10
SW-846 7470	Mercury	ug/l	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	0.07	U	1.05	0.2
ASTM D516-90	Sulfate	ug/l	38,200		31,600		43,700		5,000	U	69,000		318,000		250,000	250,000
EPA 120.1	Specific Conductance	umhos/cm	187		585		240		1,940		1,950		1,110		NE	NE
EPA 353.2	Nitrate	ug/l	100	U	100	U	100	U	100	U	100	U	100	U	10,000	10,000
SM 2540C	Total Dissolved Solids	ug/l	82,000		312,000		108,000		1,050,000		1,010,000		718,000		500,000	NE
SM 4500	Chloride	ug/l	15,600		12,300		24,100		115,000		232,000	J	6,500		250,000	NE
SM 4500FC	Fluoride	ug/l	100	U	100	U	100	U	120		200		210		2,000	2,000
SM 5210B	Biochemical oxygen	ug/l	NS		NS		2,000	UJ	3,700	J	2,000	UJ	2,000	UJ	NE	NE
SM 5220D	Chemical oxygen	ug/l	25,000	U	25,000	U	25,000	U	74,500		57,300		25,000	U	NE	NE
SM 5310B	Total Organic Carbon	ug/l	8,500		15,600		14,200		34,300		24,600		35,100		NE	NE
SW-846 9020A	Total Organic Halides	ug/L	30		20	U	20	U	200		600		70		NE	NE
SW-846 9040	pH	s.u.	4.4	J	7.5	J	4.6	J	7.2	J	7	J	6.5	J	6.5-8.5	NE

Notes

Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

2L Standard - 15A NCAC 2L Groundwater Standards

SWSL - Solid Waste Section Limits

NE = Not Established

NS = Not Sampled

s.u. = Standard unit

ug/L = Micrograms per Liter

umhos/cm = Micromhos per centimeter

Qualifiers (Q):

- U The analyte was analyzed for, but was not detected above the associated detection limit.
- B The analyte was detected in a laboratory blank at a similar concentration.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
- UJ The analyte was not detected and the associated detection limit is estimated

**TABLE 2
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA**

PARAMETER	MONITORING WELL MW-1A																							2L Std	SWSL					
	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008			2009				
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT			MAR				
BOD, mg/L	<2	<2	<2	<2	5	12	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5	<2	<5	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NE	NE			
COD, mg/L	<5	6.34	6.27	<5	46	<5.0	<5.0	<5.0	<5.0	25	<5.0	7	<20.0	<20	<20	<20	21	<20	<20	<20	<20	<20	<20	<20	25	U	NE	NE		
TOX, mg/L	0.0179	0.0119	0.02	<0.005	0.015	<0.010	0.022	0.0271	0.0173	0.0299	0.0156	0.022	<0.010	0.013	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	0.0092	0.026	0.03		NE	NE			
TOC, as C, mg/L	4.99	2.01	2.46	1.72	7	3.3	2.1	3.64	3.40	2.90	<0.5	4.3	2.3	2.6	1.3	1.8	3.8	2.3	2.8	1.9	3.7	43	2.7	8.5		NE	NE			
TDS, mg/L	90	110	110	113	96.4	31	103	123	116	112	133	111	110	100	99	94	210	62	90	86	200	260	74	82		500	NE			
pH	4.75	4.37	4.22	4.19	4.34	3.97	4.23	4.03	3.82	3.90	4.02	3.72	4.20	6.6	4.1	4.4	6.8	3.9	5.2	4.4	6.7	7.9	4.6	4.4	J	6.5-8.5	NE			
Conductivity, umohs/cm	159	189	194	188	178	187.5	176	190	193	188	198	194	190	200	170	170	320	170	150	170	320	410	160	187		NE	NE			
Sulfate, mg/L	29.2	52.2	53.9	61.7	63.5	39	36	61	58	35	59	49	62	55	50	54	38	40	33	42	21	51	42	38.2		250	250			
Chloride, as Cl, mg/L	20.8	12.9	19.7	13.3	14.5	20.5	22.5	9.2	8.2	11.0	8.4	8.8	6.2	9.6	8.3	10.0	11.0	13	12	15	4.8	5.8	14	15.6		250	NE			
Fluoride, as F, mg/L	<0.1	<0.1	<0.1	<0.1	0.14	0.49	0.17	<0.2	0.17	0.16	0.12	0.2	0.2	<0.100	0.11	<0.100	<0.100	<0.10	0.32	<0.10	0.15	0.069	<0.10	0.1	U	2	2			
Nitrate, as NO3-N, mg/L	<0.1	<0.5	<0.5	<0.1	0.09	0.17	0.15	<0.2	<0.2	<0.2	<0.2	<0.2	<0.1	<0.100	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	0.097	<0.10	0.1	U	10	10			
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.01	<0.010	<0.010	0.026	0.031	<0.020	<0.020	<0.020	<0.020	0.018	0.00028	0.0027	U	0.05	0.01			
Barium, as Ba, mg/L	0.082	0.129	0.114	0.152	0.141	0.121	<0.1	0.148	0.156	0.148	0.148	0.139	0.16	0.150	0.140	0.120	0.020	0.11	0.12	0.12	<0.0050	0.028	0.12	0.0839		2	0.1			
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00050	<0.00050	<0.00050	U	0.00175	0.001			
Chromium, as Cr, mg/L	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0006	B	0.05	0.01		
Copper, as Cu, mg/L	0.009	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.021	<0.0050	<0.0010	0.0003	U	1	0.01			
Iron, as Fe, mg/L	0.834	1.5	1.96	2.52	2.28	1.97	2.63	2.73	3.31	2.35	2.34	2.56	2.6	2.80	1.90	1.60	12.00	0.34	1.2	1.7	<0.10	14	1.4	0.821		0.3	0.3			
Lead, as Pb, mg/L	<0.020	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004	U	0.015	0.01		
Manganese, as Mn, mg/L	<0.010	0.017	0.0225	0.0212	0.0244	0.0169	0.017	0.0757	0.0249	0.0208	0.0195	0.0201	0.03	0.020	0.017	0.018	0.330	0.016	0.02	0.014	0.026	0.32	0.013	0.0095		0.05	0.05			
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	7E-05	U	0.00105	0.0002		
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	0.01	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	0.00081	0.0038	U	0.05	0.01			
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.032	<0.010	0.0001	U	0.0175	0.01			
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	0.0044	0.013	0.0057		NE	0.025		
Zinc, as Zn, mg/L	0.01	0.01	<0.100	0.0218	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.044	0.032	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.050	0.025	0.0038	B	1.05	0.01

NOTES:
 < Symbol = Below Laboratory Detectable Limits
 2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
 GWP Std - Ground Water Protection Standard (used when no 2L Standards are established)
 SWSL - Solid Waste Section Limits - target laboratory method detection limits
 Bold text denotes results that exceed NC ground-water standards
 Data is reported in milligrams per liter (mg/L) unless otherwise noted
 NA = Not Analyzed
 NE = Not Established
 Refer to laboratory reports for actual sample dates

Qualifiers (Q):
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TABLE 2 Continued
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

PARAMETER	MONITORING WELL MW-1B																								2L Std	SWSL			
	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008				2009		
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR													
BOD, mg/L	<2	<2	<2	<2	>27*	2	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5	<2	<5	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NS	NE	NE		
COD, mg/L	9.47	8.46	6.55	5.18	6.00	9	5	<5.0	<5.0	<5.0	27	6	<20	<20	94	<20	<20	<20	<20	<20	<20	<20	<20	<20	25	U	NE	NE	
TOX, mg/L	0.007	0.0	0.01	<0.005	<0.01	<0.020	<0.01	0.0463	0.0171	0.0443	0.0195	0.03	<0.010	NR	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.015	0.033	0.02	NE	NE	
TOC, as C, mg/L	8.19	1.54	<0.100	1.02	8.40	5.3	1.7	3.18	16.80	<0.5	<0.5	5.50	1.90	2.3	1.3	1.0	2.1	1.6	2.4	1.5	4	2.4	4	15.6	NE	NE			
TDS, mg/L	293	367	352	391	387	290	411	360	394	339	364	293	320	280	320	310	100	160	190	180	110	76	280	312	500	NE			
pH	7.38	7.42	7.19	7.35	7.27	7.37	7.26	7.47	7.64	7.35	7.42	7.41	7.30	6.4	6.9	7.4	5.0	6.5	6.8	6.8	4.4	4.8	7.2	7.5	J	6.5-8.5	NE		
Conductivity, umohs/cm	449	499	554	564	543	583	599	501	610	513	596	442	540	480	540	500	160	310	280	290	160	160	480	585	NE	NE			
Sulfate Turbidimetric, mg/L	30	48.2	55.2	56.7	49.0	50.0	44.5	49	51	38	60.0	35	42	39	40	34	38	20	15	20	48	48	37	31.6	250	250			
Chloride, as Cl, mg/L	9.01	7.40	12.60	10.00	12.90	13.5	14.0	7.9	6.1	8.1	6.4	12.0	8.0	6.4	5.6	6.4	11.0	6.5	4.2	4.8	11	14	5	12.3	250	NE			
Fluoride, as F, mg/L	0.138	0.155	0.145	0.162	0.150	0.44	0.15	<0.2	0.15	0.13	0.12	0.19	0.15	0.18	0.18	0.14	<0.100	<0.10	0.11	0.12	0.15	0.13	0.14	0.1	U	2	2		
Nitrate, as NO3-N, mg/L	0.11	<0.5	<0.5	<0.1	0.08	0.33	0.13	<0.2	<0.2	0.38	0.2	0.45	<0.1	<0.100	0.22	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	<0.10	0.15	0.1	U	10	10		
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.31	<0.0050	0.0018	0.0044	U	0.05	0.01	
Barium, as Ba, mg/L	0.054	0.041	0.044	0.038	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.0100	0.022	0.016	0.049	0.024	0.095	0.013	0.018	0.016	0.2	0.12	0.022	0.0186	2	0.1			
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00050	<0.00050	0.0005	U	0.00175	0.001	
Chromium, as Cr, mg/L	0.012	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	0.028	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0035	<0.010	0.0032	B	0.05	0.01
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0101	<0.0100	<0.010	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.0010	0.0003	U	1	0.01
Iron, as Fe, mg/L	1.30	0.665	1.79	0.37	<0.1	1.28	<0.1	0.212	0.508	1.37	<0.0102	0.38	0.38	0.29	11.00	3.70	5.40	3.00	3.1	3.5	11	1.9	1.4	0.639	0.3	0.3			
Lead, as Pb, mg/L	0.023	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0103	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004	U	0.015	0.01
Manganese, as Mn, mg/L	0.077	0.046	0.072	0.028	0.026	0.0486	<0.01	<0.0100	0.0161	0.0429	<0.0104	0.0136	<0.01	0.010	0.130	0.300	0.015	0.047	0.16	0.05	1.2	0.015	0.041	0.0252	0.05	0.05			
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0105	<0.0003	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00007	U	0.00105	0.0002
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	0.0142	<0.0100	<0.0106	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	0.00039	0.0038	U	0.05	0.01
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0107	<0.0100	<0.005	<0.005	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0061	<0.010	0.0001	U	0.0175	0.01
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0108	<0.0500	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	0.0013	B	NE	0.025	
Zinc, as Zn, mg/L	0.021	0.012	<0.100	0.0149	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0109	<0.0200	<0.030	<0.030	0.054	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.050	<0.010	0.0059	B	1.05	0.01

NOTES:

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2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
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TABLE 2 Continued
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

PARAMETER	MONITORING WELL MW-4A																								2L Std	SWSL						
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009								
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR								
BOD, mg/L	<2	<2	<2	<2	4	4	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5	<2	<5	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2	UJ	NE	NE				
COD, mg/L	16.7	9.52	11.3	14.5	10	16	9.8	12	6	22	41	<5.0	<20	<20	27	24	<20	<20	<20	<20	<20	<20	<20	18	13	25	U	NE	NE			
TOX, mg/L	0.047	0.039	0.041	0.013	<0.01	0.037	0.019	0.0329	0.0297	0.0255	0.0215	0.027	<0.010	0.018	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	0.019	0.048	0.02			NE	NE				
TOC, as C, mg/L	6.33	4.65	2.06	3.24	7.2	5.3	5	4.99	4.7	3.1	2.7	3.4	4.4	6.7	6.2	6.3	3.4	6.7	5.7	5.6	7.3	4.7	7.8	14.2			NE	NE				
TDS, mg/L	104	155	131	170	117	35	108	153	112	104	186	77	120	190	160	200	200	180	210	110	88	160	95	108			500	NE				
pH	5.00	5.72	5.31	5.08	5.60	5.17	4.72	5.05	4.64	4.65	4.61	4.66	5.40	5.9	4.7	4.8	4.8	5.0	4.7	5.2	3.9	4.2	4.5	4.6	4.6	J	6.5-8.5	NE				
Conductivity, umohs/cm	158	224	202	269	222	198.4	157	216.7	179	152	125	122	200	270	280	310	240	320	310	190	230	250	160	240			NE	NE				
Sulfate Turbidimetric, mg/L	30.6	36.4	40	72.4	48.8	39	34	60	41	35	28	29	46	60	51	75	52	82	77	54	75	76	43	43.7			250	250				
Chloride, as Cl, mg/L	20.2	28.9	29	29	26.5	25.5	29.5	19	17	16	13	9.8	19	24	34	34	24	31	28	10	16	22	14	24.1			250	NE				
Fluoride, as F, mg/L	<0.1	<0.1	<0.1	<0.1	0.29	0.42	0.2	<0.2	0.15	0.11	<0.10	0.18	<0.10	<0.100	<0.100	0.110	0.120	0.180	0.12	<0.10	<0.10	<0.10	0.081	0.1	U	2	2					
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.06	0.22	0.26	<0.2	<0.2	0.38	<0.2	<0.2	<0.1	<0.100	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	<0.10	0.018	0.1	U	10	10					
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0010	<0.0010	0.0027	U	0.05	0.01				
Barium, as Ba, mg/L	0.093	0.04	0.0344	0.0683	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.0100	0.043	0.075	0.066	0.081	0.074	0.071	0.087	0.039	<0.0050	0.051	0.047	0.0668			2	0.1				
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0	0.0002	0.0005	U	0.0018	0.001				
Chromium, as Cr, mg/L	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	0.02	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0018	B	0.05	0.01
Copper, as Cu, mg/L	0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.062	<0.0010	<0.0010	0.00075	U	1	0.01			
Iron, as Fe, mg/L	13.3	1.67	5.32	2.09	2.59	5.61	1.2	3.51	0.345	0.239	<0.100	0.519	6.1	10	9.2	9.3	3.8	11.0	9	8.6	<0.10	6.6	0.7	1.9			0.3	0.3				
Lead, as Pb, mg/L	<0.020	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004	U	0.015	0.01			
Manganese, as Mn, mg/L	0.076	0.096	0.053	0.058	0.055	0.0472	0.0397	0.0480	0.0394	0.0423	0.0301	0.0276	0.054	0.078	0.120	0.110	0.048	0.061	0.064	0.04	0.025	0.062	0.024	0.0507			0.05	0.05				
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0	<0.00020	0.00007	U	0.0011	0.0002			
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.0007	0.0007	0.0038	U	0.05	0.01			
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0002	U	0.0175	0.01			
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00045	B	NE	0.025
Zinc, as Zn, mg/L	0.035	0.038	<0.100	0.019	<0.02	0.0473	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.0035	0.0064	0.0178	B	1.05	0.01		

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
GWP Std - Ground Water Protection Standard (used when no 2L Standards are established)
SWSL - Solid Waste Section Limits - target laboratory method detection limits
Bold text denotes results that exceed NC ground-water standards
Data is reported in milligrams per liter (mg/L) unless otherwise noted
NA = Not Analyzed
NE = Not Established
Refer to laboratory reports for actual sample dates

Qualifiers (Q):
U The analyte was analyzed for, but was not detected above the associated detection limit.
B The analyte was detected in a laboratory blank at a similar concentration.
J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ The analyte was not detected and the associated detection limit is estimated

TABLE 2 Continued
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

PARAMETER	MONITORING WELL MW-5A																								2L Std	SWSL		
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009				
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR																		
BOD, mg/L	11.5	4.23	8.96	10.9	9	12	4	4	<2.0	3	10	16	4	<5	<5	<5	3	<5.0	<5.0	6.3	<5.0	<5.0	9.6	3.7	J	NE	NE	
COD, mg/L	203	193	99.9	181	107	212	125	222	171	93	166	66	160	110	190	52	93	95	120	120	92	74	66	74.5		NE	NE	
TOX, mg/L	3.58	2.5	1.4	3.37	0.099	2.46	1.22	2.68	1.4	0.502	0.574	0.25	1.6	0.870	<4.0	0.170	<1.00	<5.0	<5.0	<0.10	<2.0	0.35	0.46	0.2		NE	NE	
TOC, as C, mg/L	105	62.2	23	46.3	23.5	81.5	22.3	90.3	75.6	7.5	<0.5	30.1	49	40	56	16	13	27	33	<1.0	37	31	35	34.3		NE	NE	
TDS, mg/L	2390	1700	954	1820	1116	1599	1216	2220	1847	1540	879	704	1400	160	1,600	640	970	850	960	1100	980	1100	1000	1050		500	NE	
pH	6.81	6.87	6.51	6.72	6.67	6.71	6.61	6.71	6.96	7.53	7.24	7.54	6.9	6.4	6.5	7.3	6.9	6.8	6.7	6.7	6.8	7.6	7	7.2	J	6.5-8.5	NE	
Conductivity, umohs/cm	3260	2880	1590	3170	1703	3146	1792	2581	2564	1557	1808	1126	2300	1,900	2,900	1,100	1,800	1,500	1700	1900	1700	1800	1700	1940		NE	NE	
Sulfate Turbidimetric, mg/L	25.6	65.2	55.9	26.7	42	62.0	78.0	49	29	21	43.0	32	57	110	<5.0	9.5	<5.00	<5.0	5	<5.0	<5.0	4.1	3.6	5	U	250	250	
Chloride, as Cl, mg/L	600	265	249	479	119	396	211	440	300	130	150	95	280	170	410	64	180	170	170	220	170	130	130	115		250	NE	
Fluoride, as F, mg/L	0.104	<0.1	<0.1	<0.1	0.17	0.34	0.21	<0.2	0.27	<0.10	0.1	0.46	0.13	<0.100	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	0.12		2	2	
Nitrate, as NO3-N, mg/L	0.835	0.948	0.344	5.09	0.57	0.13	0.22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.100	<0.100	<0.100	0.26	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.24	0.1	U	10	10	
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	0.0113	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.00059	0.00066	0.0066		0.05	0.01	
Barium, as Ba, mg/L	0.181	0.193	0.0583	0.032	<0.1	0.139	<0.1	0.112	0.159	<0.100	0.111	<0.0100	0.18	0.140	0.190	0.052	0.032	0.088	0.12	0.13	0.011	0.11	0.12	0.093		2	0.1	
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00050	<0.00050	0.0005	U	0.0018	0.001	
Chromium, as Cr, mg/L	0.014	0.012	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	0.015	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0103		0.05	0.01	
Copper, as Cu, mg/L	0.005	<0.005	<0.005	<0.010	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.021	<0.0010	0.0009	0.0003	U	1	0.01	
Iron, as Fe, mg/L	3.01	6.05	2.6	1.93	1.36	3.79	0.805	5.15	17.9	1.71	4.21	0.248	1.8	21	4.7	0.6	0.1	1.5	2	1.5	0.31	0.46	2.4	0.44		0.3	0.3	
Lead, as Pb, mg/L	0.036	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004	U	0.015	0.01	
Manganese, as Mn, mg/L	0.650	0.745	0.183	0.386	0.273	0.279	0.166	0.995	0.572	0.252	0.259	0.235	0.730	0.540	0.730	0.190	0.016	0.270	0.37	0.45	<0.010	0.34	0.18	0.232		0.05	0.05	
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00020	<0.00020	0.00007	U	0.0011	0.0002	
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	0.0117	0.0159	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.0018	0.0014	0.0038	U	0.05	0.01
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	0.046	<0.010	<0.010	<0.010	<0.010	0.00035	J	0.0175	0.01
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	0.014	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0041	0.0077	0.0042	J	NE	0.025
Zinc, as Zn, mg/L	<0.010	0.029	<0.100	<0.01	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<0.030	<0.030	0.063	<0.030	<0.030	<0.030	<0.030	<0.030	1.0	0.0042	0.0084	0.0023	B	1.05	0.01	

NOTES:

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TABLE 2 Continued
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

PARAMETER	MONITORING WELL MW-7A																								2L Std	SWSL		
	1997	1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008		2009				
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR				
BOD, mg/L	4.02	6.02	<2	<2	3	2	<1.0	2	<2.0	<2.0	<2.0	3	<2.0	<5	<5	<5	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	11	2	UJ	NE	NE	
COD, mg/L	115	179	156	154	108	118	114	154	96	132	157	61	110	110	120	130	130	120	120	140	120	63	25	57.3	NE	NE		
TOX, mg/L	2.560	2.28	1.97	2.21	0.540	1.02	1.4	1.79	0.976	0.914	0.964	0.91	1.5	1.30	12.00	1.60	<5.0	<5.0	<5.0	0.51	<20	1.1	0.82	0.6	NE	NE		
TOC, as C, mg/L	47.2	35	28.6	25.8	43.1	31.3	50.2	55.8	41.4	22.4	<0.5	29.7	32	42	34	37	50	35	35	35	43	28	24	24.6	NE	NE		
TDS, mg/L	1370	1390	1190	1230	1200	832	1596	1740	1501	2110	1354	1168	1100	1400	1200	1400	1100	1000	1200	1200	1000	1100	740	1010	500	NE		
pH	6.79	6.83	6.59	6.7	6.74	6.94	6.79	6.86	7.07	6.86	6.84	6.66	6.9	6.7	6.9	6.8	6.9	6.9	7.2	7.0	6.9	7.4	6.5	7	J	6.5-8.5	NE	
Conductivity, umohs/cm	2190	2520	2290	2160	2250	1456	1445	2096	1628	1546	1928	1784	1800	2,200	2,100	2,200	1,600	1,800	2000	2000	1700	1900	1200	1950	NE	NE		
Sulfate Turbidimetric, mg/L	0.395	2.26	0.824	7.22	<5.0	<5.0	<5.0	31	38	23	36	28	61	81	71	78	61	45	59	41	41	53	120	69	250	250		
Chloride, as Cl, mg/L	515	527	550	437	477	274	281	360	230	260	330	320	250	290	250	260	180	170	200	200	200	270	160	232	J	250	NE	
Fluoride, as F, mg/L	0.134	0.101	0.108	0.103	0.58	0.49	0.26	0.28	0.32	0.27	0.1	0.25	<0.100	0.140	0.120	<0.100	<0.100	0.110	0.13	<0.10	0.12	0.05	0.18	0.2	2	2		
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.03	0.16	0.39	<0.2	<0.2	<0.2	<0.2	<0.2	<0.100	<0.100	<0.100	<0.100	0.17	<0.10	<0.10	<0.10	<0.10	<0.10	0.27	0.1	U	10	10	
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	0.0338	<0.01	0.0191	0.0105	0.017	<0.0100	0.0109	0.0136	<0.0100	0.016	0.013	<0.010	<0.020	0.035	<0.020	0.024	0.026	<0.020	0.016	0.003	0.0135	0.05	0.01		
Barium, as Ba, mg/L	0.073	0.075	0.0704	0.0876	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	<0.100	<0.100	0.052	0.062	0.042	0.059	0.065	0.037	0.054	0.056	0.07	0.062	0.071	0.0438	2	0.1		
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0005	U	0.00175	0.001
Chromium, as Cr, mg/L	<0.010	<0.010	0.0106	0.0288	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	0.032	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0028	B	0.05	0.01
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.18	<0.0010	0.0014	0.0003	U	1	0.01
Iron, as Fe, mg/L	39.8	40.9	37	57.4	23.2	21.4	11.4	24.4	16.1	15.6	17.3	33.7	23	30	15	22.0	31.0	14.0	21	30	12	28	4.4	16.9	0.3	0.3		
Lead, as Pb, mg/L	0.027	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	0.0051	0.0072	0.0057	<0.0050	<0.0050	0.004	U	0.015	0.01		
Manganese, as Mn, mg/L	0.795	0.794	0.691	0.759	0.522	0.352	0.267	0.404	0.402	0.396	0.463	0.447	0.490	0.610	0.360	0.520	0.230	0.340	0.34	0.51	0.079	0.68	0.094	0.511	0.05	0.05		
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00007	U	0.00105	0.0002
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.0045	0.00081	0.0038	U	0.05	0.01
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.02	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	0.0064	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	0.022	<0.010	<0.010	0.00029	U	0.0175	0.01	
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	0.011	0.022	0.01	0.014	0.017	0.014	0.014	0.028	<0.010	0.0091	0.0041	0.0058	NE	0.025		
Zinc, as Zn, mg/L	<0.010	0.017	<0.100	0.0348	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	0.072	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.67	<0.010	0.0093	0.0021	B	1.05	0.01

NOTES:
 < Symbol = Below Laboratory Detectable Limits
 2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
 GWP Std - Ground Water Protection Standard (used when no 2L Standards are established)
 SWSL - Solid Waste Section Limits - target laboratory method detection limits
 Bold text denotes results that exceed NC ground-water standards
 Data is reported in milligrams per liter (mg/L) unless otherwise noted
 NA = Not Analyzed
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 Refer to laboratory reports for actual sample dates

Qualifiers (Q):
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 UJ The analyte was not detected and the associated detection limit is estimated

TABLE 2 Continued
HISTORICAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

PARAMETER	MONITORING WELL MW-8A																								2L Std	SWSL				
	1997		1998		1999		2000		2001		2002		2003		2004		2005		2006		2007		2008				2009			
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR.	SEPT	MAR			MAR																	
BOD, mg/L	3.48	<2	<2	<2	4	4	<1.0	<2.0	<2.0	6	<2.0	<2.0	<2.0	<2.0	<5	<5	<5	<2.00	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	2	UJ	NE	NE		
COD, mg/L	110	19.3	12.6	9.96	46	8	<5.0	6	<5.0	7	59	8	<20	<20	30	<20	<20	<20	<20	<20	<20	<20	<20	5.9	25	U	NE	NE		
TOX, mg/L	0.012	0.028	0.014	0.028	<0.01	<0.010	0.018	0.0217	0.0198	0.0397	0.041	0.014	<0.01	<0.010	<100	<0.100	<0.100	<5.0	<0.10	0.56	<0.10	0.03	0.018	0.07		NE	NE			
TOC, as C, mg/L	5.04	4.65	3.42	2.11	8.4	3.4	3.9	4	3.3	<0.5	<0.5	4.4	5.9	4	5.2	3.4	6.5	3.0	4	2.9	9	3.9	6.2	35.1		NE	NE			
TDS, mg/L	448	407	464	346	337	256	448	295	480	418	862	399	500	1,100	580	400	480	330	350	300	370	730	510	718		500	NE			
pH	7.32	7.24	7.02	7.03	6.86	7.13	6.89	7.39	7.49	7.44	7.04	7.47	7.1	6.5	6.5	6.9	7.0	6.8	6.8	7.0	7	7.6	6.6	6.5	J	6.5-8.5	NE			
Conductivity, umohs/cm	662	634	701	547	526	619	667	505	670	602	965	442	790	710	830	670	780	600	600	600	640	990	770	1110		NE	NE			
Sulfate Turbidimetric, mg/L	134	26.5	111	80.3	33	43	74	32	100	30	290	28	91	70	130	68	38	21	9.8	13	20	370	89	318		250	250			
Chloride, as Cl, mg/L	9.6	3.82	12.2	6.76	11	13.5	8.5	2.0	3.9	3.9	4.0	2.1	4.4	3	3.0	3.0	4.4	3.8	1.7	2.8	5.1	3.2	2	6.5		250	NE			
Fluoride, as F, mg/L	0.118	0.183	0.168	0.187	0.23	0.45	0.26	<0.2	0.35	0.17	<0.10	0.3	<0.100	0.220	0.320	0.240	0.360	0.220	0.16	0.2	0.21	0.12	0.19	0.21		2	2			
Nitrate, as NO3-N, mg/L	<0.1	<0.1	<0.1	<0.1	0.07	0.19	0.37	<0.2	<0.2	0.38	0.22	<0.2	<0.100	<0.100	<0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	U	10	10	
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	0.011	<0.0100	<0.010	<0.010	<0.010	<0.020	0.021	<0.020	<0.020	<0.020	0.022	<0.0010	0.00034	0.0082		0.05	0.01			
Barium, as Ba, mg/L	0.09	0.054	0.0601	0.0691	<0.1	<0.1	<0.1	<0.100	<0.100	<0.100	0.164	<0.0100	0.081	0.080	0.110	0.072	0.100	0.079	0.13	0.1	0.089	0.074	0.085	0.0526		2	0.1			
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0050	<0.005	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0005	U	0.00175	0.001	
Chromium, as Cr, mg/L	<0.010	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.0100	<0.0100	<0.0100	0.0259	<0.0100	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	0.015	<0.010	<0.010	0.0019	B	0.05	0.01			
Copper, as Cu, mg/L	<0.005	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.32	0.0021	0.001	0.0003	U	1	0.01			
Iron, as Fe, mg/L	0.832	4.24	0.68	0.85	0.25	0.258	0.198	0.230	0.289	0.310	4.33	0.190	0.390	0.68	5.50	2.30	8.40	0.47	1	0.82	5.7	0.33	0.21	5.61		0.3	0.3			
Lead, as Pb, mg/L	0.02	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004	U	0.015	0.01		
Manganese, as Mn, mg/L	0.123	0.171	0.172	0.016	0.035	0.0109	0.066	0.0134	0.0231	0.0158	2.29	0.275	0.500	0.280	2.000	0.068	0.800	0.180	0.1	0.04	0.077	0.015	0.011	0.143		0.05	0.05			
Mercury, as Hg, mg/L	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00007	U	0.00105	0.0002	
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.0100	0.0114	<0.0100	<0.0100	<0.0100	<0.010	<0.010	<0.010	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.00051	0.0038	U	0.05	0.01
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.0100	<0.0100	<0.0100	<0.0100	<0.0100	<0.005	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0033	<0.010	0.001	J	0.0175	0.01	
Vanadium, mg/L	NA	NA	NA	NA	NA	<0.05	<0.05	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00074	B	NE	0.025	
Zinc, as Zn, mg/L	<0.010	0.015	<0.100	<0.01	<0.02	<0.02	<0.02	<0.0200	<0.0200	<0.0200	0.0244	<0.0200	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	0.4	0.017	0.01	0.007	B	1.05	0.01			

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
GWP Std - Ground Water Protection Standard (used when no 2L Standards are established)
SWSL - Solid Waste Section Limits - target laboratory method detection limits
Bold text denotes results that exceed NC ground-water standards
Data is reported in milligrams per liter (mg/L) unless otherwise noted
NA = Not Analyzed
NE = Not Established
Refer to laboratory reports for actual sample dates

Qualifiers (Q):
U The analyte was analyzed for, but was not detected above the associated detection limit.
B The analyte was detected in a laboratory blank at a similar concentration.
J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample
UJ The analyte was not detected and the associated detection limit is estimated

TABLE 3
NEW LANDFILL CELL 1 ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA

Client Sample ID:			Primary Leachate Collection System		Secondary Leachate Collection System		Under-Drain Leachate Collection System		2L Standard	SWSL
Collect Date:			2/25/09		2/25/09		2/25/09			
Method	Parameter	Units	Value	Q	Value	Q	Value	Q		
SW-846 6010B	Aluminum	ug/l	1,170		45.5	B	490		NE	NE
SW-846 6010B	Arsenic	ug/l	29.3		2.7	U	7.4		50	10
SW-846 6010B	Barium	ug/l	207		60.4		105		2,000	100
SW-846 6010B	Cadmium	ug/l	0.5	U	0.5	U	0.5	U	1.75	1
SW-846 6010B	Chromium	ug/l	18.6		10.6		31.6		50	10
SW-846 6010B	Cobalt	ug/l	1.5	J	0.6	U	1.5	J	NE	10
SW-846 6010B	Copper	ug/l	0.3	U	0.43	J	0.3	U	1,000	10
SW-846 6010B	Lead	ug/l	4	U	4	U	4	U	15	10
SW-846 6010B	Manganese	ug/l	681		647		614		50	50
SW-846 6010B	Molybdenum	ug/l	1.1	U	1.1	U	1.1	U	NE	NE
SW-846 6010B	Silver	ug/l	1.3	B	0.56	B	0.95	B	17.5	10
SW-846 6010B	Zinc	ug/l	14.2		9.7	J	0.4	U	1,050	10
SW-846 7470	Mercury	ug/l	0.97		0.76		0.82		1.05	0.2
ASTM D516-90	Sulfate	ug/l	623,000		166,000		7,700		250,000	250,000
EPA 120.1	Specific Conductance	umhos/cm	5,220		3,040		4,370		NE	NE
EPA 353.2	Nitrate	ug/l	100	U	100	U	100	U	10,000	10,000
EPA 365.1	Orthophosphate	ug/l	280	J	1,200		510		NE	NE
SM 2540C	Total Dissolved Solids	ug/l	3,870,000		2,010,000		2,920,000		500,000	NE
SM 4500CL	Chloride	ug/l	119,000		53,000		239,000		250,000	NE
SM 4500F	Fluoride	ug/l	130		660		180		2,000	2,000
SM 5210B	Biochemical oxygen demand	ug/l	5,500	J	5,200	J	6,300	J	NE	NE
SM 5220D	Chemical oxygen demand	ug/l	366,000		121,000		277,000		NE	NE
SM 5310B	Total Organic Carbon	ug/l	179,000		106,000		157,000		NE	NE
SW-846 9020A	Total Organic Halides	ug/L	270		130		280		NE	NE
SW-846 9040	pH	s.u.	7	J	6.8	J	6.8	J	6.5-8.5	NE

Notes:

Bold values indicate concentrations in excess of NC Groundwater quality standards for the protection of the groundwater.

2L Standard - 15A NCAC 2L Groundwater Standards

SWSL - Solid Waste Section Limits

NE = Not Established

s.u. = Standard unit

ug/L = Micrograms per Liter

umhos/cm = Micromhos per centimeter

Qualifiers (Q):

U The analyte was analyzed for, but was not detected above the associated detection limit.

B The analyte was detected in a laboratory blank at a similar concentration.

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample

FIGURES

P:\Jobs4\Projects\International Paper\JP - Riegelwood Geosciences\31826692 Landfill Monitoring\4.0 Deliverables\4.1 2009 1st\Figure 1.dwg April 07, 2009

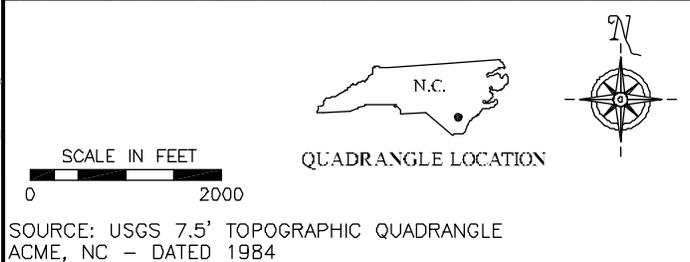
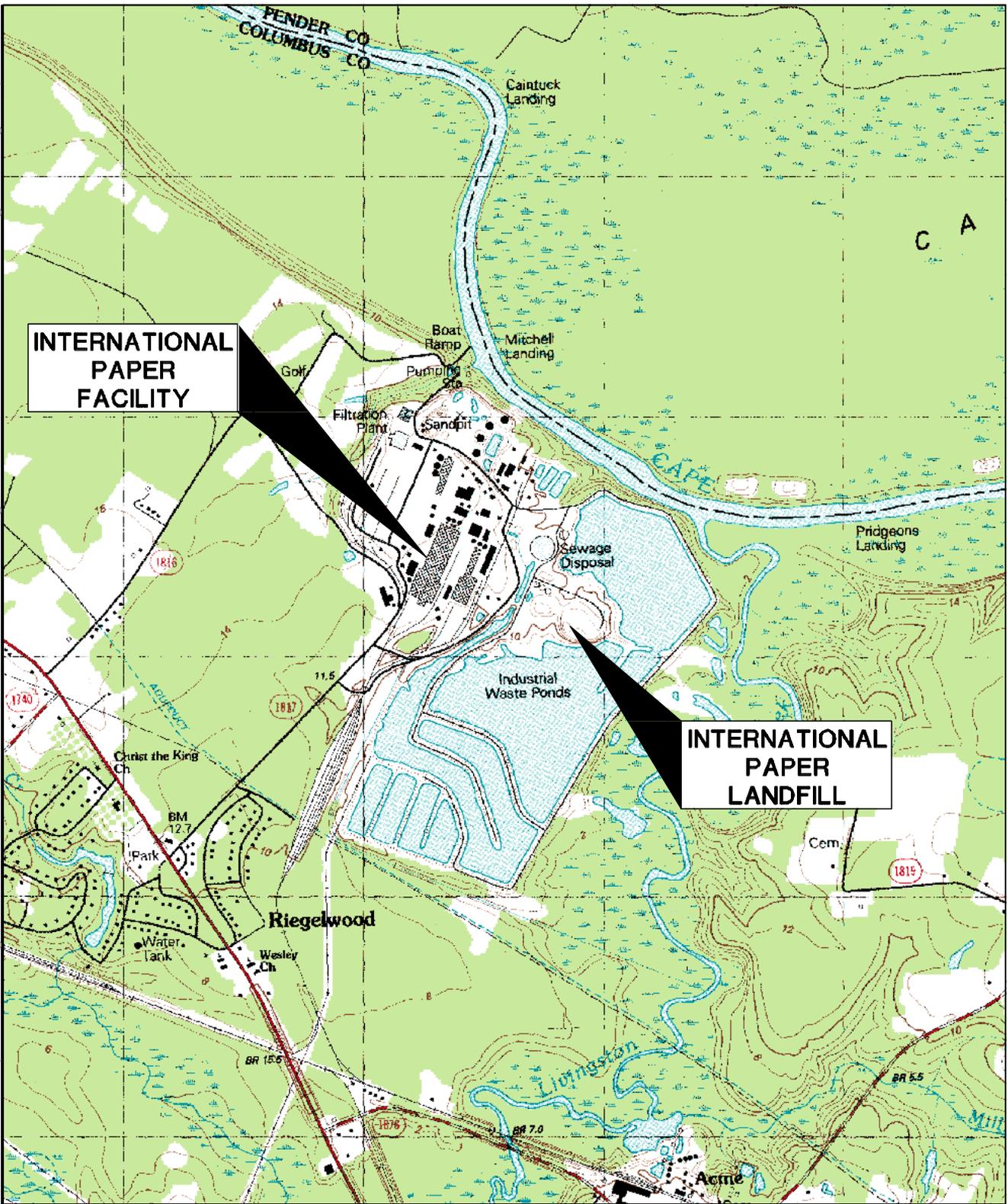
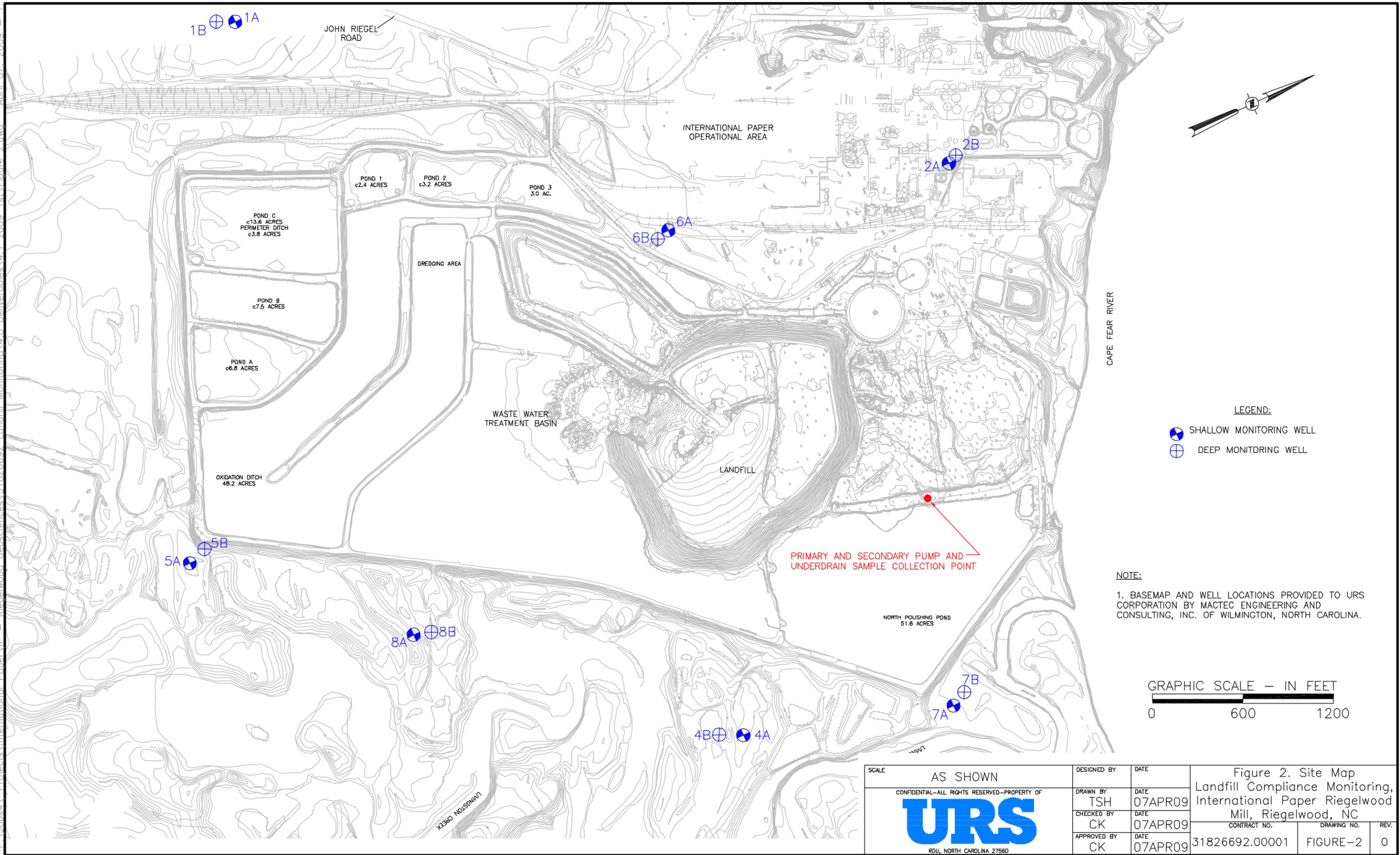


FIGURE 1. LOCATION MAP INTERNATIONAL PAPER RIEGELWOOD MILL RIEGELWOOD, NORTH CAROLINA		
Prepared for: INTERNATIONAL PAPER		
DRAWN BY: TSH	 <small>RDU, NORTH CAROLINA 27560</small>	
DATE: 04/07/09		
PROJECT NO.		
		Fig. 1

SOURCE: USGS 7.5' TOPOGRAPHIC QUADRANGLE
 ACME, NC - DATED 1984

P:\Jobs4\Projects\International Paper\IP - Riegelwood Geosciences\31826692 Landfill Monitoring\4.0 Deliverables\4.1 2009 1st Figure 2.dwg April 07, 2009



SCALE AS SHOWN CONFIDENTIAL—ALL RIGHTS RESERVED—PROPERTY OF URS ROU, NORTH CAROLINA 27560	DESIGNED BY	DATE	Figure 2. Site Map Landfill Compliance Monitoring, International Paper Riegelwood Mill, Riegelwood, NC		
	DRAWN BY TSH	DATE 07APR09			
	CHECKED BY CK	DATE 07APR09	CONTRACT NO.	DRAWING NO.	REV.
	APPROVED BY CK	DATE 07APR09	31826692.00001	FIGURE-2	0

APPENDIX A

March 09, 2009

Ms. Martha Meyers-Lee
URS
1600 Perimeter Park Drive
Morrisville, NC 27560

RE: Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

Dear Ms. Meyers-Lee:

Enclosed are the analytical results for sample(s) received by the laboratory on February 26, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc..



CERTIFICATIONS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Charlotte Certification IDs

West Virginia Certification #: 357

Virginia Certification #: 00213

Tennessee Certification #: 04010

South Carolina Drinking Water Cert. #: 990060003

South Carolina Certification #: 990060001

Pennsylvania Certification #: 68-00784

Connecticut Certification #: PH-0104

North Carolina Field Services Certification #: 5342

North Carolina Drinking Water Certification #: 37706

New Jersey Certification #: NC012

Louisiana/LELAP Certification #: 04034

Kentucky UST Certification #: 84

Florida/NELAP Certification #: E87627

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

West Virginia Certification #: 356

Virginia Certification #: 00072

Connecticut Certification #: PH-0106

Florida/NELAP Certification #: E87648

Tennessee Certification #: 2980

South Carolina Certification #: 99030001

South Carolina Bioassay Certification #: 99030002

Pennsylvania Certification #: 68-03578

North Carolina Wastewater Certification #: 40

North Carolina Drinking Water Certification #: 37712

North Carolina Bioassay Certification #: 9

New Jersey Certification #: NC011

Massachusetts Certification #: M-NC030

Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633

Virginia Drinking Water Certification #: 00424

North Carolina Drinking Water Certification #: 37738

REPORT OF LABORATORY ANALYSIS

Page 2 of 40

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SAMPLE SUMMARY

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9238816001	PRIMARY	Water	02/25/09 11:00	02/26/09 09:45
9238816002	SECONDARY	Water	02/25/09 11:45	02/26/09 09:45
9238816003	INDERDRAIN	Water	02/25/09 12:30	02/26/09 09:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9238816001	PRIMARY	ASTM D516-90	TEE	1
		EPA 120.1	RAB	1
		EPA 353.2	DMN	1
		EPA 365.1	TEE	1
		EPA 6010	SHB	12
		EPA 7470	EWS	1
		EPA 9040	TEE	1
		SM 2540C	SAJ	1
		SM 4500-CI-E	DMN	1
		SM 4500F/C	JMW	1
		SM 5210B	LEP	1
		SM 5220D	JMW	1
		SM 5310B	RAB	1
		9238816002	SECONDARY	ASTM D516-90
EPA 120.1	RAB			1
EPA 353.2	DMN			1
EPA 365.1	TEE			1
EPA 6010	SHB			12
EPA 7470	EWS			1
EPA 9040	TEE			1
SM 2540C	SAJ			1
SM 4500-CI-E	DMN			1
SM 4500F/C	JMW			1
SM 5210B	LEP			1
SM 5220D	JMW			1
SM 5310B	RAB			1
9238816003	INDERDRAIN			ASTM D516-90
		EPA 120.1	RAB	1
		EPA 353.2	DMN	1
		EPA 365.1	TEE	1
		EPA 6010	SHB	12
		EPA 7470	EWS	1
		EPA 9040	TEE	1
		SM 2540C	SAJ	1
		SM 4500-CI-E	DMN	1
		SM 4500F/C	JMW	1
		SM 5210B	LEP	1

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		SM 5220D	JMW	1
		SM 5310B	RAB	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

Method: EPA 6010
Description: 6010 MET ICP
Client: URS - Morrisville, NC
Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/3891

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9238784007

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 242862)
 - Manganese
- MSD (Lab ID: 242863)
 - Manganese

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: EPA 7470

Description: 7470 Mercury

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MERP/2003

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9238809002

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 243853)
 - Mercury
- MSD (Lab ID: 243854)
 - Mercury

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: EPA 120.1

Description: 120.1 Specific Conductance

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: EPA 9040

Description: 9040 pH

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 9040. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- INDERDRAIN (Lab ID: 9238816003)
- PRIMARY (Lab ID: 9238816001)
- SECONDARY (Lab ID: 9238816002)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: SM 4500F/C

Description: 4500FC Fluoride

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: SM 5210B

Description: 5210B BOD, 5 day

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for SM 5210B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: WET/7392

B4: The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.

- LCS (Lab ID: 242814)
- BOD, 5 day

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WET/7392

B3: The dissolved oxygen depletion of the dilution water blank exceeded 0.2 mg/L.

- DUP (Lab ID: 242815)
- BOD, 5 day

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

Method: ASTM D516-90
Description: ASTM D516-90 Sulfate Water
Client: URS - Morrisville, NC
Date: March 09, 2009

General Information:

3 samples were analyzed for ASTM D516-90. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4556

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9238707013

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 242685)
- Sulfate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

Method: EPA 353.2
Description: 353.2 Nitrogen, NO₂/NO₃ unpres
Client: URS - Morrisville, NC
Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4559

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9238815001,9238815010

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 242789)
 - Nitrogen, Nitrate
- MS (Lab ID: 242790)
 - Nitrogen, Nitrate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: EPA 365.1

Description: 365.1 Orthophosphate as P

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for EPA 365.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4555

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9238816001

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 242593)
- Orthophosphate as P

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

Method: SM 4500-CI-E
Description: 4500 Chloride
Client: URS - Morrisville, NC
Date: March 09, 2009

General Information:

3 samples were analyzed for SM 4500-CI-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: SM 5220D

Description: 5220D COD

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for SM 5220D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Method: SM 5310B

Description: 5310B TOC

Client: URS - Morrisville, NC

Date: March 09, 2009

General Information:

3 samples were analyzed for SM 5310B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Sample: PRIMARY		Lab ID: 9238816001		Collected: 02/25/09 11:00		Received: 02/26/09 09:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Aluminum	1170	ug/L	100	25.0	1	02/27/09 10:40	02/27/09 22:19	7429-90-5	Z2
Arsenic	29.3	ug/L	5.0	2.7	1	02/27/09 10:40	02/27/09 22:19	7440-38-2	
Barium	207	ug/L	5.0	0.20	1	02/27/09 10:40	02/27/09 22:19	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	02/27/09 10:40	02/27/09 22:19	7440-43-9	
Chromium	18.6	ug/L	5.0	0.40	1	02/27/09 10:40	02/27/09 22:19	7440-47-3	
Cobalt	1.5J	ug/L	5.0	0.60	1	02/27/09 10:40	02/27/09 22:19	7440-48-4	
Copper	ND	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:19	7440-50-8	
Lead	ND	ug/L	5.0	4.0	1	02/27/09 10:40	02/27/09 22:19	7439-92-1	
Manganese	681	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:19	7439-96-5	
Molybdenum	ND	ug/L	5.0	1.1	1	02/27/09 10:40	02/27/09 22:19	7439-98-7	
Silver	1.3J	ug/L	5.0	0.10	1	02/27/09 10:40	02/27/09 22:19	7440-22-4	Z2
Zinc	14.2	ug/L	10.0	0.40	1	02/27/09 10:40	02/27/09 22:19	7440-66-6	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	0.97	ug/L	0.20	0.070	1	03/02/09 15:45	03/03/09 11:11	7439-97-6	Z2
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	5220	umhos/cm	10.0	10.0	1		02/27/09 13:45		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	3870	mg/L	20.0		1		03/04/09 12:49		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	0.13	mg/L	0.10	0.10	1		03/04/09 15:00	16984-48-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	5.5	mg/L	2.0	2.0	1	02/27/09 08:30	03/04/09 13:28		B4
9040 pH		Analytical Method: EPA 9040							
pH	7.0	Std. Units	0.10	0.10	1		02/27/09 17:30		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		02/26/09 22:21		
365.1 Orthophosphate as P		Analytical Method: EPA 365.1							
Orthophosphate as P	0.28	mg/L	0.050	0.050	1		02/26/09 23:01		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	119	mg/L	20.0	20.0	4		03/02/09 19:16	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	366	mg/L	25.0	25.0	1		03/05/09 15:58		

ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: PRIMARY									
		Lab ID: 9238816001		Collected: 02/25/09 11:00		Received: 02/26/09 09:45		Matrix: Water	
5310B TOC									
		Analytical Method: SM 5310B							
Total Organic Carbon	179	mg/L	15.0	15.0	15		02/26/09 09:30	7440-44-0	
ASTM D516-90 Sulfate Water									
		Analytical Method: ASTM D516-90							
Sulfate	623	mg/L	85.0	85.0	17		02/27/09 18:31	14808-79-8	

ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Sample: SECONDARY		Lab ID: 9238816002	Collected: 02/25/09 11:45	Received: 02/26/09 09:45	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Aluminum	45.5J	ug/L	100	25.0	1	02/27/09 10:40	02/27/09 22:23	7429-90-5	Z2	
Arsenic	ND	ug/L	5.0	2.7	1	02/27/09 10:40	02/27/09 22:23	7440-38-2		
Barium	60.4	ug/L	5.0	0.20	1	02/27/09 10:40	02/27/09 22:23	7440-39-3		
Cadmium	ND	ug/L	1.0	0.50	1	02/27/09 10:40	02/27/09 22:23	7440-43-9		
Chromium	10.6	ug/L	5.0	0.40	1	02/27/09 10:40	02/27/09 22:23	7440-47-3		
Cobalt	ND	ug/L	5.0	0.60	1	02/27/09 10:40	02/27/09 22:23	7440-48-4		
Copper	0.43J	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:23	7440-50-8		
Lead	ND	ug/L	5.0	4.0	1	02/27/09 10:40	02/27/09 22:23	7439-92-1		
Manganese	647	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:23	7439-96-5		
Molybdenum	ND	ug/L	5.0	1.1	1	02/27/09 10:40	02/27/09 22:23	7439-98-7		
Silver	0.56J	ug/L	5.0	0.10	1	02/27/09 10:40	02/27/09 22:23	7440-22-4	Z2	
Zinc	9.7J	ug/L	10.0	0.40	1	02/27/09 10:40	02/27/09 22:23	7440-66-6		
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	0.76	ug/L	0.20	0.070	1	03/02/09 15:45	03/03/09 11:16	7439-97-6	Z2	
120.1 Specific Conductance		Analytical Method: EPA 120.1								
Specific Conductance	3040	umhos/cm	10.0	10.0	1		02/27/09 13:45			
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	2010	mg/L	20.0		1		03/04/09 12:51			
4500FC Fluoride		Analytical Method: SM 4500F/C								
Fluoride	0.66	mg/L	0.10	0.10	1		03/04/09 15:00	16984-48-8		
5210B BOD, 5 day		Analytical Method: SM 5210B								
BOD, 5 day	5.2	mg/L	2.0	2.0	1	02/27/09 08:30	03/04/09 13:28		B4	
9040 pH		Analytical Method: EPA 9040								
pH	6.8	Std. Units	0.10	0.10	1		02/27/09 17:30		H6	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		02/26/09 22:21			
365.1 Orthophosphate as P		Analytical Method: EPA 365.1								
Orthophosphate as P	1.2	mg/L	0.10	0.10	2		02/26/09 23:03			
4500 Chloride		Analytical Method: SM 4500-Cl-E								
Chloride	53.0	mg/L	10.0	10.0	2		03/02/09 19:05	16887-00-6		
5220D COD		Analytical Method: SM 5220D								
Chemical Oxygen Demand	121	mg/L	25.0	25.0	1		03/05/09 15:58			

ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Sample: SECONDARY		Lab ID: 9238816002	Collected: 02/25/09 11:45	Received: 02/26/09 09:45	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	106	mg/L	10.0	10.0	10		02/26/09 09:30	7440-44-0	
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	166	mg/L	25.0	25.0	5		02/27/09 18:24	14808-79-8	

ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Sample: INDERDRAIN		Lab ID: 9238816003		Collected: 02/25/09 12:30		Received: 02/26/09 09:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010		Preparation Method: EPA 3010					
Aluminum	490	ug/L	100	25.0	1	02/27/09 10:40	02/27/09 22:26	7429-90-5	Z2
Arsenic	7.4	ug/L	5.0	2.7	1	02/27/09 10:40	02/27/09 22:26	7440-38-2	
Barium	105	ug/L	5.0	0.20	1	02/27/09 10:40	02/27/09 22:26	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	02/27/09 10:40	02/27/09 22:26	7440-43-9	
Chromium	31.6	ug/L	5.0	0.40	1	02/27/09 10:40	02/27/09 22:26	7440-47-3	
Cobalt	1.5J	ug/L	5.0	0.60	1	02/27/09 10:40	02/27/09 22:26	7440-48-4	
Copper	ND	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:26	7440-50-8	
Lead	ND	ug/L	5.0	4.0	1	02/27/09 10:40	02/27/09 22:26	7439-92-1	
Manganese	614	ug/L	5.0	0.30	1	02/27/09 10:40	02/27/09 22:26	7439-96-5	
Molybdenum	ND	ug/L	5.0	1.1	1	02/27/09 10:40	02/27/09 22:26	7439-98-7	
Silver	0.95J	ug/L	5.0	0.10	1	02/27/09 10:40	02/27/09 22:26	7440-22-4	Z2
Zinc	ND	ug/L	10.0	0.40	1	02/27/09 10:40	02/27/09 22:26	7440-66-6	
7470 Mercury		Analytical Method: EPA 7470		Preparation Method: EPA 7470					
Mercury	0.82	ug/L	0.20	0.070	1	03/02/09 15:45	03/03/09 11:19	7439-97-6	Z2
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	4370	umhos/cm	10.0	10.0	1		02/27/09 13:45		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	2920	mg/L	20.0		1		03/04/09 12:52		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	0.18	mg/L	0.10	0.10	1		03/04/09 15:00	16984-48-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	6.3	mg/L	2.0	2.0	1	02/27/09 08:30	03/04/09 13:28		B4
9040 pH		Analytical Method: EPA 9040							
pH	6.8	Std. Units	0.10	0.10	1		02/27/09 17:30		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		02/26/09 22:21		
365.1 Orthophosphate as P		Analytical Method: EPA 365.1							
Orthophosphate as P	0.51	mg/L	0.050	0.050	1		02/26/09 23:01		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	239	mg/L	40.0	40.0	8		03/02/09 19:17	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	277	mg/L	25.0	25.0	1		03/05/09 15:58		

ANALYTICAL RESULTS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Sample: INDERDRAIN		Lab ID: 9238816003		Collected: 02/25/09 12:30	Received: 02/26/09 09:45	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	157	mg/L	15.0	15.0	15		02/26/09 09:30	7440-44-0	
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	7.7	mg/L	5.0	5.0	1		02/27/09 17:51	14808-79-8	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: MPRP/3891 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242860 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	31.6J	100	02/27/09 20:40	
Arsenic	ug/L	ND	5.0	02/27/09 20:40	
Barium	ug/L	ND	5.0	02/27/09 20:40	
Cadmium	ug/L	ND	1.0	02/27/09 20:40	
Chromium	ug/L	ND	5.0	02/27/09 20:40	
Cobalt	ug/L	ND	5.0	02/27/09 20:40	
Copper	ug/L	ND	5.0	02/27/09 20:40	
Lead	ug/L	ND	5.0	02/27/09 20:40	
Manganese	ug/L	ND	5.0	02/27/09 20:40	
Molybdenum	ug/L	ND	5.0	02/27/09 20:40	
Silver	ug/L	0.35J	5.0	02/27/09 20:40	
Zinc	ug/L	ND	10.0	02/27/09 20:40	

LABORATORY CONTROL SAMPLE: 242861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4750	95	80-120	
Arsenic	ug/L	500	473	95	80-120	
Barium	ug/L	500	484	97	80-120	
Cadmium	ug/L	500	472	94	80-120	
Chromium	ug/L	500	484	97	80-120	
Cobalt	ug/L	500	474	95	80-120	
Copper	ug/L	500	487	97	80-120	
Lead	ug/L	500	481	96	80-120	
Manganese	ug/L	500	479	96	80-120	
Molybdenum	ug/L	500	467	93	80-120	
Silver	ug/L	250	233	93	80-120	
Zinc	ug/L	500	475	95	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 242862 242863

Parameter	Units	9238784007		MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	MS Result	MSD Result						
Aluminum	ug/L	1730	5000	5000	6910	6830	104	102	75-125	1	20		
Arsenic	ug/L	3.2J	500	500	442	451	88	90	75-125	2	20		
Barium	ug/L	163	500	500	594	600	86	87	75-125	1	20		
Cadmium	ug/L	2.2	500	500	437	444	87	88	75-125	2	20		
Chromium	ug/L	5.6	500	500	449	454	89	90	75-125	1	20		
Cobalt	ug/L	15.5	500	500	446	456	86	88	75-125	2	20		
Copper	ug/L	2.7J	500	500	446	455	89	90	75-125	2	20		

Date: 03/09/2009 01:33 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 242862												242863	
Parameter	Units	9238784007 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	Qual	
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits				
Lead	ug/L	ND	500	500	431	439	86	88	75-125	2	20		
Manganese	ug/L	4260	500	500	4550	4500	59	50	75-125	1	20	M0	
Molybdenum	ug/L	ND	500	500	432	443	86	89	75-125	3	20		
Silver	ug/L	0.35J	250	250	214	217	85	87	75-125	1	20		
Zinc	ug/L	7.7J	500	500	450	457	88	90	75-125	2	20		

SAMPLE DUPLICATE: 242864

Parameter	Units	9238784008 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum	ug/L	244	242	.8	20	
Arsenic	ug/L	ND	ND		20	
Barium	ug/L	51.8	52.9	2	20	
Cadmium	ug/L	ND	ND		20	
Chromium	ug/L	0.87J	0.54J		20	
Cobalt	ug/L	2.6J	2.8J		20	
Copper	ug/L	0.58J	0.67J		20	
Lead	ug/L	ND	ND		20	
Manganese	ug/L	86.9	87.6	.8	20	
Molybdenum	ug/L	ND	ND		20	
Silver	ug/L	0.26J	0.35J		20	
Zinc	ug/L	5.0J	5.8J		20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4559 Analysis Method: EPA 353.2
 QC Batch Method: EPA 353.2 Analysis Description: 353.2 Nitrate + Nitrite, Unpres.
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242787 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	02/26/09 22:21	

LABORATORY CONTROL SAMPLE: 242788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	5.2	105	90-110	

MATRIX SPIKE SAMPLE: 242789

Parameter	Units	9238815001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	0.12	2	90-110	M0

MATRIX SPIKE SAMPLE: 242790

Parameter	Units	9238815010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	6.7	134	90-110	M0

SAMPLE DUPLICATE: 242791

Parameter	Units	9238816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 242792

Parameter	Units	9238815002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4577 Analysis Method: SM 4500-Cl-E
 QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 243975 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	03/02/09 18:55	

LABORATORY CONTROL SAMPLE: 243976

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	21.1	106	90-110	

MATRIX SPIKE SAMPLE: 243979

Parameter	Units	9238816001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	119	20	137	87	75-125	

SAMPLE DUPLICATE: 243980

Parameter	Units	9238816002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	53.0	53.0	.09	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4583 Analysis Method: SM 5220D
 QC Batch Method: SM 5220D Analysis Description: 5220D COD
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 244365 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	03/05/09 15:58	

LABORATORY CONTROL SAMPLE: 244366

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	717	96	90-110	

MATRIX SPIKE SAMPLE: 244367

Parameter	Units	9238802005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	27.3	750	706	90	75-125	

MATRIX SPIKE SAMPLE: 244369

Parameter	Units	9238470001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	265	750	934	89	75-125	

SAMPLE DUPLICATE: 244368

Parameter	Units	9238805001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 244370

Parameter	Units	9238924001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	157	156	.5	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4556 Analysis Method: ASTM D516-90
 QC Batch Method: ASTM D516-90 Analysis Description: ASTM D516-90 Sulfate Water
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242605 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	02/27/09 17:45	

LABORATORY CONTROL SAMPLE: 242606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	20.3	102	90-110	

MATRIX SPIKE SAMPLE: 242685

Parameter	Units	9238707013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	38.8	194	75-125	M0

SAMPLE DUPLICATE: 242608

Parameter	Units	9238504006 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	8710	9430	8	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE
Pace Project No.: 9238816

QC Batch: MERP/2003 Analysis Method: EPA 7470
QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 243851 Matrix: Water
Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	0.10J	0.20	03/03/09 10:59	

LABORATORY CONTROL SAMPLE: 243852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	3.0	119	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 243853 243854

Parameter	Units	9238809002		MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Conc.	Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits	RPD	
Mercury	ug/L	3.2	25	25	14.0	12.7	43	38	75-125	10	25 M0	

SAMPLE DUPLICATE: 243855

Parameter	Units	9238816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.97	0.76	24	25	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WET/7436

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 244611

Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	0.0J	20.0	03/04/09 12:46	

LABORATORY CONTROL SAMPLE: 244612

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	236	94	80-120	

SAMPLE DUPLICATE: 244613

Parameter	Units	9238816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	3870	3840	.9	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WET/7395

Analysis Method: EPA 120.1

QC Batch Method: EPA 120.1

Analysis Description: 120.1 Specific Conductance

Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242899

Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	02/27/09 13:45	

LABORATORY CONTROL SAMPLE: 242900

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1450	103	90-110	

SAMPLE DUPLICATE: 242901

Parameter	Units	9238120003 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	603	602	.2	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4551 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B TOC
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242144 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	02/26/09 09:30	

LABORATORY CONTROL SAMPLE: 242145

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	24.1	96	90-110	

MATRIX SPIKE SAMPLE: 242146

Parameter	Units	9237900006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	6.3	25	25.4	76	75-125	

SAMPLE DUPLICATE: 242147

Parameter	Units	9237900007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WET/7444 Analysis Method: SM 4500F/C
 QC Batch Method: SM 4500F/C Analysis Description: SM4500FC Fluoride Water
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 244902 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	03/04/09 15:00	

LABORATORY CONTROL SAMPLE: 244903

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.4	96	90-110	

MATRIX SPIKE SAMPLE: 244904

Parameter	Units	92388367001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	1.5	2.5	4.4	116	75-125	

SAMPLE DUPLICATE: 244905

Parameter	Units	9238816001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.13	0.12	8	20	

QUALITY CONTROL DATA

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

QC Batch: WETA/4555 Analysis Method: EPA 365.1
 QC Batch Method: EPA 365.1 Analysis Description: 365.1 Orthophosphate as P
 Associated Lab Samples: 9238816001, 9238816002, 9238816003

METHOD BLANK: 242591 Matrix: Water

Associated Lab Samples: 9238816001, 9238816002, 9238816003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Orthophosphate as P	mg/L	ND	0.050	02/26/09 23:01	

LABORATORY CONTROL SAMPLE: 242592

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	.5	0.55	109	90-110	

MATRIX SPIKE SAMPLE: 242593

Parameter	Units	9238816001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Orthophosphate as P	mg/L	0.28	.5	0.88	119	90-110	M0

SAMPLE DUPLICATE: 242594

Parameter	Units	9238816002 Result	Dup Result	RPD	Max RPD	Qualifiers
Orthophosphate as P	mg/L	1.2	1.2	.2	20	

QUALIFIERS

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

- B3 The dissolved oxygen depletion of the dilution water blank exceeded 0.2 mg/L.
- B4 The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.
- H6 Analysis initiated more than 15 minutes after sample collection.
- M0 Matrix spike recovery was outside laboratory control limits.
- Z2 Analyte present in the associated method blank above the detection limit.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP-RIEGELWOOD LEACHATE

Pace Project No.: 9238816

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9238816001	PRIMARY	SM 5310B	WETA/4551		
9238816002	SECONDARY	SM 5310B	WETA/4551		
9238816003	INDERDRAIN	SM 5310B	WETA/4551		
9238816001	PRIMARY	EPA 365.1	WETA/4555		
9238816002	SECONDARY	EPA 365.1	WETA/4555		
9238816003	INDERDRAIN	EPA 365.1	WETA/4555		
9238816001	PRIMARY	ASTM D516-90	WETA/4556		
9238816002	SECONDARY	ASTM D516-90	WETA/4556		
9238816003	INDERDRAIN	ASTM D516-90	WETA/4556		
9238816001	PRIMARY	EPA 353.2	WETA/4559		
9238816002	SECONDARY	EPA 353.2	WETA/4559		
9238816003	INDERDRAIN	EPA 353.2	WETA/4559		
9238816001	PRIMARY	SM 5210B	WET/7392	SM 5210B	WET/7393
9238816002	SECONDARY	SM 5210B	WET/7392	SM 5210B	WET/7393
9238816003	INDERDRAIN	SM 5210B	WET/7392	SM 5210B	WET/7393
9238816001	PRIMARY	EPA 3010	MPRP/3891	EPA 6010	ICP/3635
9238816002	SECONDARY	EPA 3010	MPRP/3891	EPA 6010	ICP/3635
9238816003	INDERDRAIN	EPA 3010	MPRP/3891	EPA 6010	ICP/3635
9238816001	PRIMARY	EPA 120.1	WET/7395		
9238816002	SECONDARY	EPA 120.1	WET/7395		
9238816003	INDERDRAIN	EPA 120.1	WET/7395		
9238816001	PRIMARY	EPA 9040	WET/7405		
9238816002	SECONDARY	EPA 9040	WET/7405		
9238816003	INDERDRAIN	EPA 9040	WET/7405		
9238816001	PRIMARY	EPA 7470	MERP/2003	EPA 7470	MERC/1984
9238816002	SECONDARY	EPA 7470	MERP/2003	EPA 7470	MERC/1984
9238816003	INDERDRAIN	EPA 7470	MERP/2003	EPA 7470	MERC/1984
9238816001	PRIMARY	SM 4500-CI-E	WETA/4577		
9238816002	SECONDARY	SM 4500-CI-E	WETA/4577		
9238816003	INDERDRAIN	SM 4500-CI-E	WETA/4577		
9238816001	PRIMARY	SM 5220D	WETA/4583		
9238816002	SECONDARY	SM 5220D	WETA/4583		
9238816003	INDERDRAIN	SM 5220D	WETA/4583		
9238816001	PRIMARY	SM 2540C	WET/7436		
9238816002	SECONDARY	SM 2540C	WET/7436		
9238816003	INDERDRAIN	SM 2540C	WET/7436		
9238816001	PRIMARY	SM 4500F/C	WET/7444		
9238816002	SECONDARY	SM 4500F/C	WET/7444		
9238816003	INDERDRAIN	SM 4500F/C	WET/7444		

April 01, 2009

Ms. Martha Meyers-Lee
URS
1600 Perimeter Park Drive
Morrisville, NC 27560

RE: Project: IP-REIGELWOOD LANDFILL
Pace Project No.: 9240657

Dear Ms. Meyers-Lee:

Enclosed are the analytical results for sample(s) received by the laboratory on March 25, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Charlotte Certification IDs

West Virginia Certification #: 357

Virginia Certification #: 00213

Tennessee Certification #: 04010

South Carolina Drinking Water Cert. #: 990060003

South Carolina Certification #: 990060001

Pennsylvania Certification #: 68-00784

Connecticut Certification #: PH-0104

North Carolina Field Services Certification #: 5342

North Carolina Drinking Water Certification #: 37706

New Jersey Certification #: NC012

Louisiana/LELAP Certification #: 04034

Kentucky UST Certification #: 84

Florida/NELAP Certification #: E87627

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

West Virginia Certification #: 356

Virginia Certification #: 00072

Connecticut Certification #: PH-0106

Florida/NELAP Certification #: E87648

Tennessee Certification #: 2980

South Carolina Certification #: 99030001

South Carolina Bioassay Certification #: 99030002

Pennsylvania Certification #: 68-03578

North Carolina Wastewater Certification #: 40

North Carolina Drinking Water Certification #: 37712

North Carolina Bioassay Certification #: 9

New Jersey Certification #: NC011

Massachusetts Certification #: M-NC030

Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633

Virginia Drinking Water Certification #: 00424

North Carolina Drinking Water Certification #: 37738

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SAMPLE SUMMARY

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9240657001	MW-7A	Water	03/24/09 14:40	03/25/09 10:00
9240657002	MW-8A	Water	03/24/09 16:10	03/25/09 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9240657001	MW-7A	ASTM D516-90	TEE	1
		EPA 120.1	RAB	1
		EPA 353.2	DMN	1
		EPA 6010	SHB	12
		EPA 7470	EWS	1
		EPA 9040	TEE	1
		SM 2540C	SAJ	1
		SM 4500-CI-E	TEE	1
		SM 4500F/C	JMW	1
		SM 5220D	SAJ	1
		SM 5310B	RAB	1
		9240657002	MW-8A	ASTM D516-90
EPA 120.1	RAB			1
EPA 353.2	DMN			1
EPA 6010	SHB			12
EPA 7470	EWS			1
EPA 9040	TEE			1
SM 2540C	SAJ			1
SM 4500-CI-E	TEE			1
SM 4500F/C	JMW			1
SM 5220D	SAJ			1
SM 5310B	RAB			1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: EPA 6010

Description: 6010 MET ICP

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/4042

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240470001

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 254692)
 - Manganese
- MSD (Lab ID: 254693)
 - Manganese

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: EPA 7470

Description: 7470 Mercury

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL
Pace Project No.: 9240657

Method: EPA 120.1
Description: 120.1 Specific Conductance
Client: URS - Morrisville, NC
Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: EPA 9040

Description: 9040 pH

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 9040. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- MW-7A (Lab ID: 9240657001)
- MW-8A (Lab ID: 9240657002)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: SM 4500F/C

Description: 4500FC Fluoride

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WET/7706

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240717001,9240746001

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255627)
- Fluoride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: ASTM D516-90

Description: ASTM D516-90 Sulfate Water

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for ASTM D516-90. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: EPA 353.2

Description: 353.2 Nitrogen, NO₂/NO₃ unpres

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: SM 4500-CI-E

Description: 4500 Chloride

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 4500-CI-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4747

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240657001

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255500)
- Chloride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: SM 5220D

Description: 5220D COD

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 5220D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: WETA/4746

R1: RPD value was outside control limits.

- DUP (Lab ID: 255457)
- Chemical Oxygen Demand

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Method: SM 5310B

Description: 5310B TOC

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 5310B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Sample: MW-7A		Lab ID: 9240657001	Collected: 03/24/09 14:40	Received: 03/25/09 10:00	Matrix: Water					
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010								
Arsenic	13.5	ug/L	5.0	2.7	1	03/26/09 11:45	03/29/09 13:37	7440-38-2		
Barium	43.8	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 13:37	7440-39-3		
Cadmium	ND	ug/L	1.0	0.50	1	03/26/09 11:45	03/29/09 13:37	7440-43-9		
Chromium	2.8J	ug/L	5.0	0.40	1	03/26/09 11:45	03/29/09 13:37	7440-47-3		
Copper	ND	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 13:37	7440-50-8		
Iron	1690	ug/L	50.0	14.0	1	03/26/09 11:45	03/29/09 13:37	7439-89-6		
Lead	ND	ug/L	5.0	4.0	1	03/26/09 11:45	03/29/09 13:37	7439-92-1		
Manganese	511	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 13:37	7439-96-5		
Selenium	ND	ug/L	10.0	3.8	1	03/26/09 11:45	03/29/09 13:37	7782-49-2		
Silver	0.29J	ug/L	5.0	0.10	1	03/26/09 11:45	03/29/09 13:37	7440-22-4		
Vanadium	5.8	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 13:37	7440-62-2	Z2	
Zinc	2.1J	ug/L	10.0	0.40	1	03/26/09 11:45	03/29/09 13:37	7440-66-6	Z2	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470								
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:16	7439-97-6		
120.1 Specific Conductance		Analytical Method: EPA 120.1								
Specific Conductance	1950	umhos/cm	10.0	10.0	1		03/27/09 15:30			
2540C Total Dissolved Solids		Analytical Method: SM 2540C								
Total Dissolved Solids	1010	mg/L	20.0		1		03/30/09 13:42			
4500FC Fluoride		Analytical Method: SM 4500F/C								
Fluoride	0.20	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8		
9040 pH		Analytical Method: EPA 9040								
pH	7.0	Std. Units	0.10	0.10	1		03/26/09 21:25		H6	
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2								
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/25/09 23:43			
4500 Chloride		Analytical Method: SM 4500-Cl-E								
Chloride	232	mg/L	35.0	35.0	7		03/26/09 17:23	16887-00-6		
5220D COD		Analytical Method: SM 5220D								
Chemical Oxygen Demand	57.3	mg/L	25.0	25.0	1		04/01/09 10:37			
5310B TOC		Analytical Method: SM 5310B								
Total Organic Carbon	24.6	mg/L	1.0	1.0	1		03/26/09 09:30	7440-44-0		
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90								
Sulfate	69.0	mg/L	10.0	10.0	2		03/27/09 17:19	14808-79-8		

ANALYTICAL RESULTS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Sample: MW-8A		Lab ID: 9240657002		Collected: 03/24/09 16:10		Received: 03/25/09 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	8.2	ug/L	5.0	2.7	1	03/26/09 11:45	03/29/09 13:41	7440-38-2	
Barium	52.6	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 13:41	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	03/26/09 11:45	03/29/09 13:41	7440-43-9	
Chromium	1.9J	ug/L	5.0	0.40	1	03/26/09 11:45	03/29/09 13:41	7440-47-3	
Copper	ND	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 13:41	7440-50-8	
Iron	5610	ug/L	50.0	14.0	1	03/26/09 11:45	03/29/09 13:41	7439-89-6	
Lead	ND	ug/L	5.0	4.0	1	03/26/09 11:45	03/29/09 13:41	7439-92-1	
Manganese	143	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 13:41	7439-96-5	
Selenium	ND	ug/L	10.0	3.8	1	03/26/09 11:45	03/29/09 13:41	7782-49-2	
Silver	1.0J	ug/L	5.0	0.10	1	03/26/09 11:45	03/29/09 13:41	7440-22-4	
Vanadium	0.74J	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 13:41	7440-62-2	Z2
Zinc	7.0J	ug/L	10.0	0.40	1	03/26/09 11:45	03/29/09 13:41	7440-66-6	Z2
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:18	7439-97-6	
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	1110	umhos/cm	10.0	10.0	1		03/27/09 15:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	718	mg/L	20.0		1		03/30/09 13:43		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	0.21	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8	
9040 pH		Analytical Method: EPA 9040							
pH	6.5	Std. Units	0.10	0.10	1		03/26/09 21:25		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/25/09 23:43		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	6.5	mg/L	5.0	5.0	1		03/26/09 16:35	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	ND	mg/L	25.0	25.0	1		04/01/09 10:37		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	35.1	mg/L	1.0	1.0	1		03/26/09 09:30	7440-44-0	
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	318	mg/L	50.0	50.0	10		03/27/09 17:13	14808-79-8	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: MERP/2045 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 255406 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/30/09 14:41	

LABORATORY CONTROL SAMPLE: 255407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	99	80-120	

MATRIX SPIKE SAMPLE: 255410

Parameter	Units	9240483006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.4	96	75-125	

SAMPLE DUPLICATE: 255411

Parameter	Units	9240526001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.81	0.89	10	25	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WETA/4746 Analysis Method: SM 5220D
 QC Batch Method: SM 5220D Analysis Description: 5220D COD
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 255454 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	04/01/09 10:37	

LABORATORY CONTROL SAMPLE: 255455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	737	98	90-110	

MATRIX SPIKE SAMPLE: 255456

Parameter	Units	9240287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3710	3000	6390	89	75-125	

MATRIX SPIKE SAMPLE: 255458

Parameter	Units	9240405002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	732	750	1420	92	75-125	

SAMPLE DUPLICATE: 255457

Parameter	Units	9240300005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	320	135	81	20	R1

SAMPLE DUPLICATE: 255459

Parameter	Units	9240809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WET/7706 Analysis Method: SM 4500F/C
 QC Batch Method: SM 4500F/C Analysis Description: SM4500FC Fluoride Water
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 255625 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	03/27/09 11:20	

LABORATORY CONTROL SAMPLE: 255626

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	92	90-110	

MATRIX SPIKE SAMPLE: 255627

Parameter	Units	9240746001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	20.0	2.5	21.0	40	75-125	M0

MATRIX SPIKE SAMPLE: 255722

Parameter	Units	9240717001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	1.4	2.5	4.0	104	75-125	

SAMPLE DUPLICATE: 255628

Parameter	Units	9240746002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	18.0	18.0	0	20	

SAMPLE DUPLICATE: 255723

Parameter	Units	9240717002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.52	0.44	17	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WETA/4754 Analysis Method: ASTM D516-90
 QC Batch Method: ASTM D516-90 Analysis Description: ASTM D516-90 Sulfate Water
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 256072 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	03/27/09 15:49	

LABORATORY CONTROL SAMPLE: 256073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 256076

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	33.5	78	75-125	

MATRIX SPIKE SAMPLE: 256077

Parameter	Units	9240768007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.2	94	75-125	

MATRIX SPIKE SAMPLE: 256130

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	39.5	109	75-125	

SAMPLE DUPLICATE: 256074

Parameter	Units	9240657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	69.0	69.3	.4	20	

SAMPLE DUPLICATE: 256075

Parameter	Units	9240657002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	318	310	2	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WET/7729

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 256483

Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	0.0J	20.0	03/30/09 13:37	

LABORATORY CONTROL SAMPLE: 256484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	260	104	80-120	

SAMPLE DUPLICATE: 256485

Parameter	Units	9240584001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	74.0	74.0	0	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WET/7709

Analysis Method: EPA 120.1

QC Batch Method: EPA 120.1

Analysis Description: 120.1 Specific Conductance

Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 255671

Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	03/27/09 15:30	

LABORATORY CONTROL SAMPLE: 255672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1420	101	90-110	

SAMPLE DUPLICATE: 255673

Parameter	Units	9240464002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	432	431	.2	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WETA/4736 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B TOC
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 254952 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	03/26/09 09:30	

LABORATORY CONTROL SAMPLE: 254953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.1	100	90-110	

MATRIX SPIKE SAMPLE: 254954

Parameter	Units	9240290002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	8.8	25	36.4	111	75-125	

MATRIX SPIKE SAMPLE: 254955

Parameter	Units	9240290003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.2	25	29.3	104	75-125	

SAMPLE DUPLICATE: 254956

Parameter	Units	9240309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	2.7	2.7	2	20	

SAMPLE DUPLICATE: 254957

Parameter	Units	9240309002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	5.2	5.2	.6	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: MPRP/4042 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 254690 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	5.0	03/27/09 15:22	
Barium	ug/L	ND	5.0	03/27/09 15:22	
Cadmium	ug/L	ND	1.0	03/27/09 15:22	
Chromium	ug/L	ND	5.0	03/27/09 15:22	
Copper	ug/L	ND	5.0	03/27/09 15:22	
Iron	ug/L	ND	50.0	03/27/09 15:22	
Lead	ug/L	ND	5.0	03/27/09 15:22	
Manganese	ug/L	ND	5.0	03/27/09 15:22	
Selenium	ug/L	ND	10.0	03/27/09 15:22	
Silver	ug/L	ND	5.0	03/27/09 15:22	
Vanadium	ug/L	0.25J	5.0	03/27/09 15:22	
Zinc	ug/L	0.72J	10.0	03/27/09 15:22	

LABORATORY CONTROL SAMPLE: 254691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	463	93	80-120	
Barium	ug/L	500	465	93	80-120	
Cadmium	ug/L	500	468	94	80-120	
Chromium	ug/L	500	465	93	80-120	
Copper	ug/L	500	463	93	80-120	
Iron	ug/L	5000	4800	96	80-120	
Lead	ug/L	500	471	94	80-120	
Manganese	ug/L	500	471	94	80-120	
Selenium	ug/L	500	460	92	80-120	
Silver	ug/L	250	229	92	80-120	
Vanadium	ug/L	500	466	93	80-120	
Zinc	ug/L	500	466	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254692 254693

Parameter	Units	9240470001		MSD		MS		MSD		% Rec Limits	RPD	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec					
Arsenic	ug/L	5.0	500	500	492	487	97	96	75-125	1	20		
Barium	ug/L	5.9	500	500	450	447	89	88	75-125	.7	20		
Cadmium	ug/L	ND	500	500	450	444	90	89	75-125	1	20		
Chromium	ug/L	ND	500	500	456	448	91	89	75-125	2	20		
Copper	ug/L	ND	500	500	470	468	94	94	75-125	.4	20		
Iron	ug/L	1200	5000	5000	5950	5890	95	94	75-125	1	20		
Lead	ug/L	6.0	500	500	442	438	87	86	75-125	.9	20		

Date: 04/01/2009 04:02 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254692												254693	
Parameter	Units	9240470001 Result	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	RPD	Qual	
			Spike Conc.	Spike Conc.	Result	Result	% Rec	% Rec	Limits				
Manganese	ug/L	10100	500	500	10900	11000	144	174	75-125	1	20	M0	
Selenium	ug/L	ND	500	500	481	476	96	95	75-125	1	20		
Silver	ug/L	ND	250	250	235	231	94	92	75-125	2	20		
Vanadium	ug/L	ND	500	500	462	456	92	91	75-125	1	20		
Zinc	ug/L	ND	500	500	460	452	92	90	75-125	2	20		

SAMPLE DUPLICATE: 254694

Parameter	Units	9240470002	Dup	RPD	Max RPD	Qualifiers
		Result	Result			
Arsenic	ug/L	6.8	4.3J		20	
Barium	ug/L	ND	2.4J		20	
Cadmium	ug/L	ND	0.70J		20	
Chromium	ug/L	ND	ND		20	
Copper	ug/L	ND	ND		20	
Iron	ug/L	14600	14800	1	20	
Lead	ug/L	ND	ND		20	
Manganese	ug/L	11900	12100	1	20	
Selenium	ug/L	ND	6.7J		20	
Silver	ug/L	ND	1.0J		20	
Vanadium	ug/L	ND	0.77J		20	
Zinc	ug/L	ND	3.8J		20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WETA/4747 Analysis Method: SM 4500-Cl-E
 QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
 Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 255498 Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	03/26/09 16:35	

LABORATORY CONTROL SAMPLE: 255499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.9	105	90-110	

MATRIX SPIKE SAMPLE: 255500

Parameter	Units	9240657001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	232	20	244	64	75-125	M0

SAMPLE DUPLICATE: 255501

Parameter	Units	9240657002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.5	6.2	5	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

QC Batch: WETA/4733

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 9240657001, 9240657002

METHOD BLANK: 254877

Matrix: Water

Associated Lab Samples: 9240657001, 9240657002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	03/25/09 23:43	

LABORATORY CONTROL SAMPLE: 254878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE SAMPLE: 254879

Parameter	Units	9240671002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	4.6	93	90-110	

MATRIX SPIKE SAMPLE: 254880

Parameter	Units	9240671003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	4.8	97	90-110	

SAMPLE DUPLICATE: 254881

Parameter	Units	9240657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 254882

Parameter	Units	9240671004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

QUALIFIERS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

H6 Analysis initiated more than 15 minutes after sample collection.

M0 Matrix spike recovery was outside laboratory control limits.

R1 RPD value was outside control limits.

Z2 Analyte present in the associated method blank above the detection limit.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240657

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9240657001	MW-7A	EPA 3010	MPRP/4042	EPA 6010	ICP/3773
9240657002	MW-8A	EPA 3010	MPRP/4042	EPA 6010	ICP/3773
9240657001	MW-7A	EPA 353.2	WETA/4733		
9240657002	MW-8A	EPA 353.2	WETA/4733		
9240657001	MW-7A	SM 5310B	WETA/4736		
9240657002	MW-8A	SM 5310B	WETA/4736		
9240657001	MW-7A	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240657002	MW-8A	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240657001	MW-7A	SM 5220D	WETA/4746		
9240657002	MW-8A	SM 5220D	WETA/4746		
9240657001	MW-7A	EPA 9040	WET/7697		
9240657002	MW-8A	EPA 9040	WET/7697		
9240657001	MW-7A	SM 4500-CI-E	WETA/4747		
9240657002	MW-8A	SM 4500-CI-E	WETA/4747		
9240657001	MW-7A	SM 4500F/C	WET/7706		
9240657002	MW-8A	SM 4500F/C	WET/7706		
9240657001	MW-7A	EPA 120.1	WET/7709		
9240657002	MW-8A	EPA 120.1	WET/7709		
9240657001	MW-7A	ASTM D516-90	WETA/4754		
9240657002	MW-8A	ASTM D516-90	WETA/4754		
9240657001	MW-7A	SM 2540C	WET/7729		
9240657002	MW-8A	SM 2540C	WET/7729		

April 01, 2009

Ms. Martha Meyers-Lee
URS
1600 Perimeter Park Drive
Morrisville, NC 27560

RE: Project: IP REIGELWOOD LANDFILL
Pace Project No.: 9240675

Dear Ms. Meyers-Lee:

Enclosed are the analytical results for sample(s) received by the laboratory on March 25, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Charlotte Certification IDs

West Virginia Certification #: 357

Virginia Certification #: 00213

Tennessee Certification #: 04010

South Carolina Drinking Water Cert. #: 990060003

South Carolina Certification #: 990060001

Pennsylvania Certification #: 68-00784

Connecticut Certification #: PH-0104

North Carolina Field Services Certification #: 5342

North Carolina Drinking Water Certification #: 37706

New Jersey Certification #: NC012

Louisiana/LELAP Certification #: 04034

Kentucky UST Certification #: 84

Florida/NELAP Certification #: E87627

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

West Virginia Certification #: 356

Virginia Certification #: 00072

Connecticut Certification #: PH-0106

Florida/NELAP Certification #: E87648

Tennessee Certification #: 2980

South Carolina Certification #: 99030001

South Carolina Bioassay Certification #: 99030002

Pennsylvania Certification #: 68-03578

North Carolina Wastewater Certification #: 40

North Carolina Drinking Water Certification #: 37712

North Carolina Bioassay Certification #: 9

New Jersey Certification #: NC011

Massachusetts Certification #: M-NC030

Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633

Virginia Drinking Water Certification #: 00424

North Carolina Drinking Water Certification #: 37738

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9240675001	MW-7A	Water	03/24/09 14:40	03/25/09 10:00
9240675002	MW-8A	Water	03/24/09 16:10	03/25/09 10:00
9240675003	MW-4A	Water	03/24/09 15:30	03/25/09 10:00
9240675004	MW-5A	Water	03/24/09 16:50	03/25/09 10:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9240675001	MW-7A	SM 5210B	RAB	1
9240675002	MW-8A	SM 5210B	RAB	1
9240675003	MW-4A	ASTM D516-90	TEE	1
		EPA 120.1	RAB	1
		EPA 353.2	DMN	1
		EPA 6010	SHB	12
		EPA 7470	EWS	1
		EPA 9040	TEE	1
		SM 2540C	SAJ	1
		SM 4500-CI-E	TEE	1
		SM 4500F/C	JMW	1
		SM 5210B	RAB	1
		SM 5220D	SAJ	1
		SM 5310B	RAB	1
9240675004	MW-5A	ASTM D516-90	TEE	1
		EPA 120.1	RAB	1
		EPA 353.2	DMN	1
		EPA 6010	SHB	12
		EPA 7470	EWS	1
		EPA 9040	TEE	1
		SM 2540C	SAJ	1
		SM 4500-CI-E	TEE	1
		SM 4500F/C	JMW	1
		SM 5210B	RAB	1
		SM 5220D	SAJ	1
		SM 5310B	RAB	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: EPA 6010

Description: 6010 MET ICP

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/4042

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240470001

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 254692)
 - Manganese
- MSD (Lab ID: 254693)
 - Manganese

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: EPA 7470

Description: 7470 Mercury

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: EPA 120.1

Description: 120.1 Specific Conductance

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: EPA 9040

Description: 9040 pH

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 9040. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- MW-4A (Lab ID: 9240675003)
- MW-5A (Lab ID: 9240675004)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 4500F/C

Description: 4500FC Fluoride

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WET/7706

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240717001,9240746001

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255627)
- Fluoride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 5210B

Description: 5210B BOD, 5 day

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

4 samples were analyzed for SM 5210B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: WET/7688

B4: The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.

- LCS (Lab ID: 254899)
- BOD, 5 day

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WET/7688

B2: Oxygen usage is less than 2.0 for all dilutions set. The reported value is an estimated less than value and is calculated for the dilution using the most amount of sample.

- DUP (Lab ID: 254900)
- BOD, 5 day

B6: The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

- DUP (Lab ID: 254900)
- BOD, 5 day
- LCS (Lab ID: 254899)
- BOD, 5 day
- MW-4A (Lab ID: 9240675003)
- BOD, 5 day
- MW-5A (Lab ID: 9240675004)
- BOD, 5 day

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 5210B

Description: 5210B BOD, 5 day

Client: URS - Morrisville, NC

Date: April 01, 2009

Analyte Comments:

QC Batch: WET/7688

B6: The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.

- MW-7A (Lab ID: 9240675001)
 - BOD, 5 day
- MW-8A (Lab ID: 9240675002)
 - BOD, 5 day

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: ASTM D516-90

Description: ASTM D516-90 Sulfate Water

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for ASTM D516-90. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: EPA 353.2

Description: 353.2 Nitrogen, NO₂/NO₃ unpres

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 4500-CI-E

Description: 4500 Chloride

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 4500-CI-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4747

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240657001

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255500)
- Chloride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 5220D

Description: 5220D COD

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 5220D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: WETA/4746

R1: RPD value was outside control limits.

- DUP (Lab ID: 255457)
- Chemical Oxygen Demand

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Method: SM 5310B

Description: 5310B TOC

Client: URS - Morrisville, NC

Date: April 01, 2009

General Information:

2 samples were analyzed for SM 5310B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-7A									
Lab ID: 9240675001									
Collected: 03/24/09 14:40 Received: 03/25/09 10:00 Matrix: Water									
Analytical Method: SM 5210B									
BOD, 5 day	ND	mg/L	2.0	2.0	1	03/26/09 08:15	03/31/09 08:45		B4, B6

ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-8A									
Lab ID: 9240675002									
Collected: 03/24/09 16:10 Received: 03/25/09 10:00 Matrix: Water									
Analytical Method: SM 5210B									
BOD, 5 day	ND	mg/L	2.0	2.0	1	03/26/09 08:15	03/31/09 08:45		B4, B6

ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Sample: MW-4A		Lab ID: 9240675003		Collected: 03/24/09 15:30		Received: 03/25/09 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010		Preparation Method: EPA 3010					
Arsenic	ND	ug/L	5.0	2.7	1	03/26/09 11:45	03/29/09 14:02	7440-38-2	
Barium	66.8	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 14:02	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	03/26/09 11:45	03/29/09 14:02	7440-43-9	
Chromium	1.8J	ug/L	5.0	0.40	1	03/26/09 11:45	03/29/09 14:02	7440-47-3	
Copper	0.75J	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 14:02	7440-50-8	
Iron	1900	ug/L	50.0	14.0	1	03/26/09 11:45	03/29/09 14:02	7439-89-6	
Lead	ND	ug/L	5.0	4.0	1	03/26/09 11:45	03/29/09 14:02	7439-92-1	
Manganese	50.7	ug/L	5.0	0.30	1	03/26/09 11:45	03/29/09 14:02	7439-96-5	
Selenium	ND	ug/L	10.0	3.8	1	03/26/09 11:45	03/29/09 14:02	7782-49-2	
Silver	0.20J	ug/L	5.0	0.10	1	03/26/09 11:45	03/29/09 14:02	7440-22-4	
Vanadium	0.45J	ug/L	5.0	0.20	1	03/26/09 11:45	03/29/09 14:02	7440-62-2	Z2
Zinc	17.8	ug/L	10.0	0.40	1	03/26/09 11:45	03/29/09 14:02	7440-66-6	Z2
7470 Mercury		Analytical Method: EPA 7470		Preparation Method: EPA 7470					
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:21	7439-97-6	
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	240	umhos/cm	10.0	10.0	1		03/27/09 15:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	108	mg/L	20.0		1		03/30/09 13:46		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	ND	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	ND	mg/L	2.0	2.0	1	03/26/09 08:15	03/31/09 08:45		B4,B6
9040 pH		Analytical Method: EPA 9040							
pH	4.6	Std. Units	0.10	0.10	1		03/26/09 21:25		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/25/09 23:43		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	24.1	mg/L	5.0	5.0	1		03/26/09 16:35	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	ND	mg/L	25.0	25.0	1		04/01/09 10:37		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	14.2	mg/L	1.0	1.0	1		03/26/09 09:30	7440-44-0	

ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Sample: MW-4A		Lab ID: 9240675003		Collected: 03/24/09 15:30		Received: 03/25/09 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	43.7	mg/L	10.0	10.0	2		03/27/09 17:22	14808-79-8	

ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Sample: MW-5A		Lab ID: 9240675004		Collected: 03/24/09 16:50		Received: 03/25/09 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	6.6	ug/L	5.0	2.7	1	03/27/09 10:00	03/29/09 20:12	7440-38-2	
Barium	93.0	ug/L	5.0	0.20	1	03/27/09 10:00	03/29/09 20:12	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	03/27/09 10:00	03/29/09 20:12	7440-43-9	
Chromium	10.3	ug/L	5.0	0.40	1	03/27/09 10:00	03/29/09 20:12	7440-47-3	
Copper	ND	ug/L	5.0	0.30	1	03/27/09 10:00	03/29/09 20:12	7440-50-8	
Iron	440	ug/L	50.0	14.0	1	03/27/09 10:00	03/29/09 20:12	7439-89-6	
Lead	ND	ug/L	5.0	4.0	1	03/27/09 10:00	03/29/09 20:12	7439-92-1	
Manganese	232	ug/L	5.0	0.30	1	03/27/09 10:00	03/29/09 20:12	7439-96-5	
Selenium	ND	ug/L	10.0	3.8	1	03/27/09 10:00	03/29/09 20:12	7782-49-2	
Silver	0.35J	ug/L	5.0	0.10	1	03/27/09 10:00	03/29/09 20:12	7440-22-4	
Vanadium	4.2J	ug/L	5.0	0.20	1	03/27/09 10:00	03/29/09 20:12	7440-62-2	Z2
Zinc	2.3J	ug/L	10.0	0.40	1	03/27/09 10:00	03/29/09 20:12	7440-66-6	
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:23	7439-97-6	
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	1940	umhos/cm	10.0	10.0	1		03/27/09 15:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	1050	mg/L	20.0		1		03/30/09 13:54		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	0.12	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8	
5210B BOD, 5 day		Analytical Method: SM 5210B							
BOD, 5 day	3.7	mg/L	2.0	2.0	1	03/26/09 08:15	03/31/09 08:45		B4,B6
9040 pH		Analytical Method: EPA 9040							
pH	7.2	Std. Units	0.10	0.10	1		03/26/09 21:25		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/25/09 23:43		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	115	mg/L	20.0	20.0	4		03/26/09 16:54	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	74.5	mg/L	25.0	25.0	1		04/01/09 10:37		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	34.3	mg/L	1.0	1.0	1		03/26/09 09:30	7440-44-0	

ANALYTICAL RESULTS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Sample: MW-5A									
Lab ID: 9240675004									
Collected: 03/24/09 16:50									
Received: 03/25/09 10:00									
Matrix: Water									
Analytical Method: ASTM D516-90									
Sulfate	ND	mg/L	5.0	5.0	1		03/27/09 15:51	14808-79-8	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: MERP/2045

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 255406

Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/30/09 14:41	

LABORATORY CONTROL SAMPLE: 255407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	99	80-120	

MATRIX SPIKE SAMPLE: 255410

Parameter	Units	9240483006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.4	96	75-125	

SAMPLE DUPLICATE: 255411

Parameter	Units	9240526001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.81	0.89	10	25	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WETA/4746 Analysis Method: SM 5220D
 QC Batch Method: SM 5220D Analysis Description: 5220D COD
 Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 255454 Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	04/01/09 10:37	

LABORATORY CONTROL SAMPLE: 255455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	737	98	90-110	

MATRIX SPIKE SAMPLE: 255456

Parameter	Units	9240287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3710	3000	6390	89	75-125	

MATRIX SPIKE SAMPLE: 255458

Parameter	Units	9240405002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	732	750	1420	92	75-125	

SAMPLE DUPLICATE: 255457

Parameter	Units	9240300005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	320	135	81	20	R1

SAMPLE DUPLICATE: 255459

Parameter	Units	9240809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WET/7706 Analysis Method: SM 4500F/C
 QC Batch Method: SM 4500F/C Analysis Description: SM4500FC Fluoride Water
 Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 255625 Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	03/27/09 11:20	

LABORATORY CONTROL SAMPLE: 255626

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	92	90-110	

MATRIX SPIKE SAMPLE: 255627

Parameter	Units	9240746001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	20.0	2.5	21.0	40	75-125	M0

MATRIX SPIKE SAMPLE: 255722

Parameter	Units	9240717001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	1.4	2.5	4.0	104	75-125	

SAMPLE DUPLICATE: 255628

Parameter	Units	9240746002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	18.0	18.0	0	20	

SAMPLE DUPLICATE: 255723

Parameter	Units	9240717002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.52	0.44	17	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WETA/4754 Analysis Method: ASTM D516-90
 QC Batch Method: ASTM D516-90 Analysis Description: ASTM D516-90 Sulfate Water
 Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 256072 Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	03/27/09 15:49	

LABORATORY CONTROL SAMPLE: 256073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 256076

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	33.5	78	75-125	

MATRIX SPIKE SAMPLE: 256077

Parameter	Units	9240768007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.2	94	75-125	

MATRIX SPIKE SAMPLE: 256130

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	39.5	109	75-125	

SAMPLE DUPLICATE: 256074

Parameter	Units	9240657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	69.0	69.3	.4	20	

SAMPLE DUPLICATE: 256075

Parameter	Units	9240657002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	318	310	2	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WET/7729

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 256483

Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	0.0J	20.0	03/30/09 13:37	

LABORATORY CONTROL SAMPLE: 256484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	260	104	80-120	

SAMPLE DUPLICATE: 256485

Parameter	Units	9240584001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	74.0	74.0	0	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WET/7709

Analysis Method: EPA 120.1

QC Batch Method: EPA 120.1

Analysis Description: 120.1 Specific Conductance

Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 255671

Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	03/27/09 15:30	

LABORATORY CONTROL SAMPLE: 255672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1420	101	90-110	

SAMPLE DUPLICATE: 255673

Parameter	Units	9240464002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	432	431	.2	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WETA/4736 Analysis Method: SM 5310B
 QC Batch Method: SM 5310B Analysis Description: 5310B TOC
 Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 254952 Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	03/26/09 09:30	

LABORATORY CONTROL SAMPLE: 254953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.1	100	90-110	

MATRIX SPIKE SAMPLE: 254954

Parameter	Units	9240290002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	8.8	25	36.4	111	75-125	

MATRIX SPIKE SAMPLE: 254955

Parameter	Units	9240290003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	3.2	25	29.3	104	75-125	

SAMPLE DUPLICATE: 254956

Parameter	Units	9240309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	2.7	2.7	2	20	

SAMPLE DUPLICATE: 254957

Parameter	Units	9240309002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	5.2	5.2	.6	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WET/7688

Analysis Method: SM 5210B

QC Batch Method: SM 5210B

Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 9240675001, 9240675002, 9240675003, 9240675004

METHOD BLANK: 254898

Matrix: Water

Associated Lab Samples: 9240675001, 9240675002, 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/31/09 08:45	

LABORATORY CONTROL SAMPLE: 254899

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	144	73	84-115	B4,B6

SAMPLE DUPLICATE: 254900

Parameter	Units	9240659002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2.4	ND		20	B2,B4,B6

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: MPRP/4048 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 9240675004

METHOD BLANK: 255656 Matrix: Water

Associated Lab Samples: 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	5.0	03/29/09 19:54	
Barium	ug/L	ND	5.0	03/29/09 19:54	
Cadmium	ug/L	ND	1.0	03/29/09 19:54	
Chromium	ug/L	ND	5.0	03/29/09 19:54	
Copper	ug/L	ND	5.0	03/29/09 19:54	
Iron	ug/L	ND	50.0	03/29/09 19:54	
Lead	ug/L	ND	5.0	03/29/09 19:54	
Manganese	ug/L	ND	5.0	03/29/09 19:54	
Selenium	ug/L	ND	10.0	03/29/09 19:54	
Silver	ug/L	ND	5.0	03/29/09 19:54	
Vanadium	ug/L	0.44J	5.0	03/29/09 19:54	
Zinc	ug/L	ND	10.0	03/29/09 19:54	

LABORATORY CONTROL SAMPLE: 255657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	552	110	80-120	
Barium	ug/L	500	470	94	80-120	
Cadmium	ug/L	500	491	98	80-120	
Chromium	ug/L	500	489	98	80-120	
Copper	ug/L	500	512	102	80-120	
Iron	ug/L	5000	4940	99	80-120	
Lead	ug/L	500	461	92	80-120	
Manganese	ug/L	500	489	98	80-120	
Selenium	ug/L	500	564	113	80-120	
Silver	ug/L	250	256	102	80-120	
Vanadium	ug/L	500	492	98	80-120	
Zinc	ug/L	500	528	106	80-120	

MATRIX SPIKE SAMPLE: 255658

Parameter	Units	9240675004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	6.6	500	518	102	75-125	
Barium	ug/L	93.0	500	537	89	75-125	
Cadmium	ug/L	ND	500	455	91	75-125	
Chromium	ug/L	10.3	500	475	93	75-125	
Copper	ug/L	ND	500	497	99	75-125	
Iron	ug/L	440	5000	5130	94	75-125	
Lead	ug/L	ND	500	450	90	75-125	
Manganese	ug/L	232	500	687	91	75-125	

Date: 04/01/2009 04:03 PM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

MATRIX SPIKE SAMPLE: 255658

Parameter	Units	9240675004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Selenium	ug/L	ND	500	490	98	75-125	
Silver	ug/L	0.35J	250	247	99	75-125	
Vanadium	ug/L	4.2J	500	476	94	75-125	
Zinc	ug/L	2.3J	500	500	100	75-125	

SAMPLE DUPLICATE: 255659

Parameter	Units	9240758002 Result	Dup Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	22.9	21.7	5	20	
Barium	ug/L	129	127	2	20	
Cadmium	ug/L	2.3	2.1	8	20	
Chromium	ug/L	24.4	23.7	3	20	
Copper	ug/L	4.8J	4.7J		20	
Iron	ug/L	52700	51900	1	20	
Lead	ug/L	22.6	22.2	2	20	
Manganese	ug/L	693	680	2	20	
Selenium	ug/L	11.0	8.1J		20	
Silver	ug/L	0.51J	0.55J		20	
Vanadium	ug/L	57.8	56.7	2	20	
Zinc	ug/L	295	291	1	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: MPRP/4042 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 9240675003

METHOD BLANK: 254690 Matrix: Water

Associated Lab Samples: 9240675003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	5.0	03/27/09 15:22	
Barium	ug/L	ND	5.0	03/27/09 15:22	
Cadmium	ug/L	ND	1.0	03/27/09 15:22	
Chromium	ug/L	ND	5.0	03/27/09 15:22	
Copper	ug/L	ND	5.0	03/27/09 15:22	
Iron	ug/L	ND	50.0	03/27/09 15:22	
Lead	ug/L	ND	5.0	03/27/09 15:22	
Manganese	ug/L	ND	5.0	03/27/09 15:22	
Selenium	ug/L	ND	10.0	03/27/09 15:22	
Silver	ug/L	ND	5.0	03/27/09 15:22	
Vanadium	ug/L	0.25J	5.0	03/27/09 15:22	
Zinc	ug/L	0.72J	10.0	03/27/09 15:22	

LABORATORY CONTROL SAMPLE: 254691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	463	93	80-120	
Barium	ug/L	500	465	93	80-120	
Cadmium	ug/L	500	468	94	80-120	
Chromium	ug/L	500	465	93	80-120	
Copper	ug/L	500	463	93	80-120	
Iron	ug/L	5000	4800	96	80-120	
Lead	ug/L	500	471	94	80-120	
Manganese	ug/L	500	471	94	80-120	
Selenium	ug/L	500	460	92	80-120	
Silver	ug/L	250	229	92	80-120	
Vanadium	ug/L	500	466	93	80-120	
Zinc	ug/L	500	466	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254692 254693

Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		9240470001 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
Arsenic	ug/L	5.0	500	500	492	487	97	96	75-125	1	20	
Barium	ug/L	5.9	500	500	450	447	89	88	75-125	.7	20	
Cadmium	ug/L	ND	500	500	450	444	90	89	75-125	1	20	
Chromium	ug/L	ND	500	500	456	448	91	89	75-125	2	20	
Copper	ug/L	ND	500	500	470	468	94	94	75-125	.4	20	
Iron	ug/L	1200	5000	5000	5950	5890	95	94	75-125	1	20	
Lead	ug/L	6.0	500	500	442	438	87	86	75-125	.9	20	

Date: 04/01/2009 04:03 PM

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QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 254692												254693	
Parameter	Units	9240470001 Result	MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
			Spike Conc.	Spike Conc.									
Manganese	ug/L	10100	500	500	10900	11000	144	174	75-125	1	20	M0	
Selenium	ug/L	ND	500	500	481	476	96	95	75-125	1	20		
Silver	ug/L	ND	250	250	235	231	94	92	75-125	2	20		
Vanadium	ug/L	ND	500	500	462	456	92	91	75-125	1	20		
Zinc	ug/L	ND	500	500	460	452	92	90	75-125	2	20		

SAMPLE DUPLICATE: 254694

Parameter	Units	9240470002 Result	Dup Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	6.8	4.3J		20	
Barium	ug/L	ND	2.4J		20	
Cadmium	ug/L	ND	0.70J		20	
Chromium	ug/L	ND	ND		20	
Copper	ug/L	ND	ND		20	
Iron	ug/L	14600	14800	1	20	
Lead	ug/L	ND	ND		20	
Manganese	ug/L	11900	12100	1	20	
Selenium	ug/L	ND	6.7J		20	
Silver	ug/L	ND	1.0J		20	
Vanadium	ug/L	ND	0.77J		20	
Zinc	ug/L	ND	3.8J		20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WETA/4747 Analysis Method: SM 4500-Cl-E
 QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
 Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 255498 Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	03/26/09 16:35	

LABORATORY CONTROL SAMPLE: 255499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	20.9	105	90-110	

MATRIX SPIKE SAMPLE: 255500

Parameter	Units	9240657001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	232	20	244	64	75-125	M0

SAMPLE DUPLICATE: 255501

Parameter	Units	9240657002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	6.5	6.2	5	20	

QUALITY CONTROL DATA

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

QC Batch: WETA/4733

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 9240675003, 9240675004

METHOD BLANK: 254877

Matrix: Water

Associated Lab Samples: 9240675003, 9240675004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	03/25/09 23:43	

LABORATORY CONTROL SAMPLE: 254878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE SAMPLE: 254879

Parameter	Units	9240671002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	4.6	93	90-110	

MATRIX SPIKE SAMPLE: 254880

Parameter	Units	9240671003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	4.8	97	90-110	

SAMPLE DUPLICATE: 254881

Parameter	Units	9240657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 254882

Parameter	Units	9240671004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

QUALIFIERS

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

- B2 Oxygen usage is less than 2.0 for all dilutions set. The reported value is an estimated less than value and is calculated for the dilution using the most amount of sample.
- B4 The glucose/glutamic acid standard exceeded the range of 198 plus or minus 30.5 mg/L.
- B6 The calculated seed correction exceeded the range of 0.6 to 1.0 mg/L.
- H6 Analysis initiated more than 15 minutes after sample collection.
- M0 Matrix spike recovery was outside laboratory control limits.
- R1 RPD value was outside control limits.
- Z2 Analyte present in the associated method blank above the detection limit.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP REIGELWOOD LANDFILL

Pace Project No.: 9240675

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9240675003	MW-4A	EPA 3010	MPRP/4042	EPA 6010	ICP/3773
9240675003	MW-4A	EPA 353.2	WETA/4733		
9240675004	MW-5A	EPA 353.2	WETA/4733		
9240675001	MW-7A	SM 5210B	WET/7688	SM 5210B	WET/7692
9240675002	MW-8A	SM 5210B	WET/7688	SM 5210B	WET/7692
9240675003	MW-4A	SM 5210B	WET/7688	SM 5210B	WET/7692
9240675004	MW-5A	SM 5210B	WET/7688	SM 5210B	WET/7692
9240675003	MW-4A	SM 5310B	WETA/4736		
9240675004	MW-5A	SM 5310B	WETA/4736		
9240675003	MW-4A	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240675004	MW-5A	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240675003	MW-4A	SM 5220D	WETA/4746		
9240675004	MW-5A	SM 5220D	WETA/4746		
9240675003	MW-4A	EPA 9040	WET/7697		
9240675004	MW-5A	EPA 9040	WET/7697		
9240675003	MW-4A	SM 4500-CI-E	WETA/4747		
9240675004	MW-5A	SM 4500-CI-E	WETA/4747		
9240675003	MW-4A	SM 4500F/C	WET/7706		
9240675004	MW-5A	SM 4500F/C	WET/7706		
9240675004	MW-5A	EPA 3010	MPRP/4048	EPA 6010	ICP/3780
9240675003	MW-4A	EPA 120.1	WET/7709		
9240675004	MW-5A	EPA 120.1	WET/7709		
9240675003	MW-4A	ASTM D516-90	WETA/4754		
9240675004	MW-5A	ASTM D516-90	WETA/4754		
9240675003	MW-4A	SM 2540C	WET/7729		
9240675004	MW-5A	SM 2540C	WET/7729		

April 03, 2009

Ms. Martha Meyers-Lee
URS
1600 Perimeter Park Drive
Morrisville, NC 27560

RE: Project: IP-REIGELWOOD LANDFILL
Pace Project No.: 9240809

Dear Ms. Meyers-Lee:

Enclosed are the analytical results for sample(s) received by the laboratory on March 26, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

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

Sincerely,



Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Charlotte Certification IDs

West Virginia Certification #: 357

Virginia Certification #: 00213

Tennessee Certification #: 04010

South Carolina Drinking Water Cert. #: 990060003

South Carolina Certification #: 990060001

Pennsylvania Certification #: 68-00784

Connecticut Certification #: PH-0104

North Carolina Field Services Certification #: 5342

North Carolina Drinking Water Certification #: 37706

New Jersey Certification #: NC012

Louisiana/LELAP Certification #: 04034

Kentucky UST Certification #: 84

Florida/NELAP Certification #: E87627

North Carolina Wastewater Certification #: 12

Asheville Certification IDs

West Virginia Certification #: 356

Virginia Certification #: 00072

Connecticut Certification #: PH-0106

Florida/NELAP Certification #: E87648

Tennessee Certification #: 2980

South Carolina Certification #: 99030001

South Carolina Bioassay Certification #: 99030002

Pennsylvania Certification #: 68-03578

North Carolina Wastewater Certification #: 40

North Carolina Drinking Water Certification #: 37712

North Carolina Bioassay Certification #: 9

New Jersey Certification #: NC011

Massachusetts Certification #: M-NC030

Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633

Virginia Drinking Water Certification #: 00424

North Carolina Drinking Water Certification #: 37738

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9240809001	MW-1A	Water	03/25/09 08:20	03/26/09 09:30
9240809002	MW-1B	Water	03/25/09 08:55	03/26/09 09:30

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Lab ID	Sample ID	Method	Analysts	Analytes Reported		
9240809001	MW-1A	ASTM D516-90	TEE	1		
		EPA 120.1	RAB	1		
		EPA 353.2	DMN	1		
		EPA 6010	SHB	12		
		EPA 7470	EWS	1		
		EPA 9040	TEE	1		
		SM 2540C	SAJ	1		
		SM 4500-CI-E	DMN	1		
		SM 4500F/C	JMW	1		
		SM 5220D	SAJ	1		
		SM 5310B	RAB	1		
		9240809002	MW-1B	ASTM D516-90	TEE	1
				EPA 120.1	RAB	1
EPA 353.2	DMN			1		
EPA 6010	SHB			12		
EPA 7470	EWS			1		
EPA 9040	TEE			1		
SM 2540C	SAJ			1		
SM 4500-CI-E	DMN			1		
SM 4500F/C	JMW			1		
SM 5220D	SAJ			1		
SM 5310B	RAB			1		

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: EPA 6010

Description: 6010 MET ICP

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for EPA 6010. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 3010 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/4056

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240804004

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255884)
- Iron

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: EPA 7470

Description: 7470 Mercury

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: EPA 120.1

Description: 120.1 Specific Conductance

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: EPA 9040

Description: 9040 pH

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for EPA 9040. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated more than 15 minutes after sample collection.

- MW-1A (Lab ID: 9240809001)
- MW-1B (Lab ID: 9240809002)

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: SM 4500F/C

Description: 4500FC Fluoride

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for SM 4500F/C. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WET/7706

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240717001,9240746001

M0: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255627)
- Fluoride

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: ASTM D516-90

Description: ASTM D516-90 Sulfate Water

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for ASTM D516-90. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: EPA 353.2

Description: 353.2 Nitrogen, NO2/NO3 unpres

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/4748

A matrix spike and matrix spike duplicate (MS/MSD) were performed on the following sample(s): 9240835001,9240841005

MO: Matrix spike recovery was outside laboratory control limits.

- MS (Lab ID: 255597)
- Nitrogen, Nitrate

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: SM 4500-CI-E

Description: 4500 Chloride

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for SM 4500-CI-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

APPENDIX B

PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: SM 5220D

Description: 5220D COD

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for SM 5220D. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: WETA/4746

R1: RPD value was outside control limits.

- DUP (Lab ID: 255457)
- Chemical Oxygen Demand

Additional Comments:

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PROJECT NARRATIVE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Method: SM 5310B

Description: 5310B TOC

Client: URS - Morrisville, NC

Date: April 03, 2009

General Information:

2 samples were analyzed for SM 5310B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Sample: MW-1A		Lab ID: 9240809001		Collected: 03/25/09 08:20		Received: 03/26/09 09:30		Matrix: Water	
Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
6010 MET ICP		Analytical Method: EPA 6010		Preparation Method: EPA 3010					
Arsenic	ND	ug/L	5.0	2.7	1	03/27/09 14:00	03/30/09 22:08	7440-38-2	
Barium	83.9	ug/L	5.0	0.20	1	03/27/09 14:00	03/30/09 22:08	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	03/27/09 14:00	03/30/09 22:08	7440-43-9	
Chromium	0.63J	ug/L	5.0	0.40	1	03/27/09 14:00	03/30/09 22:08	7440-47-3	Z2
Copper	ND	ug/L	5.0	0.30	1	03/27/09 14:00	03/30/09 22:08	7440-50-8	
Iron	821	ug/L	50.0	14.0	1	03/27/09 14:00	03/30/09 22:08	7439-89-6	
Lead	ND	ug/L	5.0	4.0	1	03/27/09 14:00	03/30/09 22:08	7439-92-1	
Manganese	9.5	ug/L	5.0	0.30	1	03/27/09 14:00	03/30/09 22:08	7439-96-5	
Selenium	ND	ug/L	10.0	3.8	1	03/27/09 14:00	03/30/09 22:08	7782-49-2	
Silver	ND	ug/L	5.0	0.10	1	03/27/09 14:00	03/30/09 22:08	7440-22-4	
Vanadium	5.7	ug/L	5.0	0.20	1	03/27/09 14:00	03/30/09 22:08	7440-62-2	
Zinc	3.8J	ug/L	10.0	0.40	1	03/27/09 14:00	03/30/09 22:08	7440-66-6	Z2
7470 Mercury		Analytical Method: EPA 7470		Preparation Method: EPA 7470					
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:33	7439-97-6	
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	187	umhos/cm	10.0	10.0	1		03/27/09 15:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	82.0	mg/L	20.0		1		03/30/09 14:07		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	ND	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8	
9040 pH		Analytical Method: EPA 9040							
pH	4.4	Std. Units	0.10	0.10	1		03/31/09 18:10		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/26/09 22:54		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	15.6	mg/L	5.0	5.0	1		03/31/09 16:12	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	ND	mg/L	25.0	25.0	1		04/01/09 10:37		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	8.5	mg/L	1.0	1.0	1		04/01/09 12:24	7440-44-0	
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	38.2	mg/L	5.0	5.0	1		03/27/09 15:54	14808-79-8	

ANALYTICAL RESULTS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Sample: MW-1B		Lab ID: 9240809002		Collected: 03/25/09 08:55		Received: 03/26/09 09:30		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP		Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Arsenic	4.4J	ug/L	5.0	2.7	1	03/27/09 14:00	03/30/09 22:11	7440-38-2	
Barium	18.6	ug/L	5.0	0.20	1	03/27/09 14:00	03/30/09 22:11	7440-39-3	
Cadmium	ND	ug/L	1.0	0.50	1	03/27/09 14:00	03/30/09 22:11	7440-43-9	
Chromium	3.2J	ug/L	5.0	0.40	1	03/27/09 14:00	03/30/09 22:11	7440-47-3	Z2
Copper	ND	ug/L	5.0	0.30	1	03/27/09 14:00	03/30/09 22:11	7440-50-8	
Iron	639	ug/L	50.0	14.0	1	03/27/09 14:00	03/30/09 22:11	7439-89-6	
Lead	ND	ug/L	5.0	4.0	1	03/27/09 14:00	03/30/09 22:11	7439-92-1	
Manganese	25.2	ug/L	5.0	0.30	1	03/27/09 14:00	03/30/09 22:11	7439-96-5	
Selenium	ND	ug/L	10.0	3.8	1	03/27/09 14:00	03/30/09 22:11	7782-49-2	
Silver	ND	ug/L	5.0	0.10	1	03/27/09 14:00	03/30/09 22:11	7440-22-4	
Vanadium	1.3J	ug/L	5.0	0.20	1	03/27/09 14:00	03/30/09 22:11	7440-62-2	
Zinc	5.9J	ug/L	10.0	0.40	1	03/27/09 14:00	03/30/09 22:11	7440-66-6	Z2
7470 Mercury		Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	0.070	1	03/27/09 14:00	03/30/09 15:41	7439-97-6	
120.1 Specific Conductance		Analytical Method: EPA 120.1							
Specific Conductance	585	umhos/cm	10.0	10.0	1		03/27/09 15:30		
2540C Total Dissolved Solids		Analytical Method: SM 2540C							
Total Dissolved Solids	312	mg/L	20.0		1		03/30/09 14:10		
4500FC Fluoride		Analytical Method: SM 4500F/C							
Fluoride	ND	mg/L	0.10	0.10	1		03/27/09 11:20	16984-48-8	
9040 pH		Analytical Method: EPA 9040							
pH	7.5	Std. Units	0.10	0.10	1		03/31/09 18:10		H6
353.2 Nitrogen, NO2/NO3 unpres		Analytical Method: EPA 353.2							
Nitrogen, Nitrate	ND	mg/L	0.10	0.10	1		03/26/09 22:54		
4500 Chloride		Analytical Method: SM 4500-Cl-E							
Chloride	12.3	mg/L	5.0	5.0	1		03/31/09 16:12	16887-00-6	
5220D COD		Analytical Method: SM 5220D							
Chemical Oxygen Demand	ND	mg/L	25.0	25.0	1		04/01/09 10:37		
5310B TOC		Analytical Method: SM 5310B							
Total Organic Carbon	15.6	mg/L	1.0	1.0	1		04/01/09 12:47	7440-44-0	
ASTM D516-90 Sulfate Water		Analytical Method: ASTM D516-90							
Sulfate	31.6	mg/L	5.0	5.0	1		03/27/09 15:54	14808-79-8	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: MERP/2045 Analysis Method: EPA 7470
 QC Batch Method: EPA 7470 Analysis Description: 7470 Mercury
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255406 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/30/09 14:41	

LABORATORY CONTROL SAMPLE: 255407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2.5	2.5	99	80-120	

MATRIX SPIKE SAMPLE: 255410

Parameter	Units	9240483006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.4	96	75-125	

SAMPLE DUPLICATE: 255411

Parameter	Units	9240526001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	0.81	0.89	10	25	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: MPRP/4056 Analysis Method: EPA 6010
 QC Batch Method: EPA 3010 Analysis Description: 6010 MET
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255882 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	ug/L	ND	5.0	03/30/09 21:03	
Barium	ug/L	ND	5.0	03/30/09 21:03	
Cadmium	ug/L	ND	1.0	03/30/09 21:03	
Chromium	ug/L	0.70J	5.0	03/30/09 21:03	
Copper	ug/L	ND	5.0	03/30/09 21:03	
Iron	ug/L	ND	50.0	03/30/09 21:03	
Lead	ug/L	ND	5.0	03/30/09 21:03	
Manganese	ug/L	ND	5.0	03/30/09 21:03	
Selenium	ug/L	ND	10.0	03/30/09 21:03	
Silver	ug/L	ND	5.0	03/30/09 21:03	
Vanadium	ug/L	ND	5.0	03/30/09 21:03	
Zinc	ug/L	5.0J	10.0	03/30/09 21:03	

LABORATORY CONTROL SAMPLE: 255883

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	500	482	96	80-120	
Barium	ug/L	500	479	96	80-120	
Cadmium	ug/L	500	494	99	80-120	
Chromium	ug/L	500	488	98	80-120	
Copper	ug/L	500	469	94	80-120	
Iron	ug/L	5000	4950	99	80-120	
Lead	ug/L	500	492	98	80-120	
Manganese	ug/L	500	487	97	80-120	
Selenium	ug/L	500	479	96	80-120	
Silver	ug/L	250	243	97	80-120	
Vanadium	ug/L	500	473	95	80-120	
Zinc	ug/L	500	490	98	80-120	

MATRIX SPIKE SAMPLE: 255884

Parameter	Units	9240804004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	4.3J	500	476	94	75-125	
Barium	ug/L	12.3	500	461	90	75-125	
Cadmium	ug/L	ND	500	465	93	75-125	
Chromium	ug/L	ND	500	456	91	75-125	
Copper	ug/L	ND	500	455	91	75-125	
Iron	ug/L	43000	5000	45500	51	75-125 M0	
Lead	ug/L	31.2	500	488	91	75-125	
Manganese	ug/L	35.6	500	484	90	75-125	

Date: 04/03/2009 08:30 AM

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

MATRIX SPIKE SAMPLE: 255884

Parameter	Units	9240804004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Selenium	ug/L	7.7J	500	475	93	75-125	
Silver	ug/L	ND	250	236	94	75-125	
Vanadium	ug/L	0.64J	500	450	90	75-125	
Zinc	ug/L	20.6	500	484	93	75-125	

SAMPLE DUPLICATE: 255885

Parameter	Units	9240804005 Result	Dup Result	RPD	Max RPD	Qualifiers
Arsenic	ug/L	6.9	6.3	9	20	
Barium	ug/L	31.3	31.9	2	20	
Cadmium	ug/L	ND	ND		20	
Chromium	ug/L	6.8	6.6	3	20	
Copper	ug/L	48.7	49.8	2	20	
Iron	ug/L	65200	66300	2	20	
Lead	ug/L	21.1	19.9	6	20	
Manganese	ug/L	203	207	2	20	
Selenium	ug/L	ND	ND		20	
Silver	ug/L	ND	0.12J		20	
Vanadium	ug/L	15.6	15.6	0	20	
Zinc	ug/L	1110	1140	2	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WETA/4746 Analysis Method: SM 5220D
 QC Batch Method: SM 5220D Analysis Description: 5220D COD
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255454 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	04/01/09 10:37	

LABORATORY CONTROL SAMPLE: 255455

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	750	737	98	90-110	

MATRIX SPIKE SAMPLE: 255456

Parameter	Units	9240287001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3710	3000	6390	89	75-125	

MATRIX SPIKE SAMPLE: 255458

Parameter	Units	9240405002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	732	750	1420	92	75-125	

SAMPLE DUPLICATE: 255457

Parameter	Units	9240300005 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	320	135	81	20	R1

SAMPLE DUPLICATE: 255459

Parameter	Units	9240809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WET/7706 Analysis Method: SM 4500F/C
 QC Batch Method: SM 4500F/C Analysis Description: SM4500FC Fluoride Water
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255625 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Fluoride	mg/L	ND	0.10	03/27/09 11:20	

LABORATORY CONTROL SAMPLE: 255626

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.3	92	90-110	

MATRIX SPIKE SAMPLE: 255627

Parameter	Units	9240746001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	20.0	2.5	21.0	40	75-125	M0

MATRIX SPIKE SAMPLE: 255722

Parameter	Units	9240717001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	1.4	2.5	4.0	104	75-125	

SAMPLE DUPLICATE: 255628

Parameter	Units	9240746002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	18.0	18.0	0	20	

SAMPLE DUPLICATE: 255723

Parameter	Units	9240717002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.52	0.44	17	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WETA/4754 Analysis Method: ASTM D516-90
 QC Batch Method: ASTM D516-90 Analysis Description: ASTM D516-90 Sulfate Water
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 256072 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	5.0	03/27/09 15:49	

LABORATORY CONTROL SAMPLE: 256073

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	20	19.4	97	90-110	

MATRIX SPIKE SAMPLE: 256076

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	33.5	78	75-125	

MATRIX SPIKE SAMPLE: 256077

Parameter	Units	9240768007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	ND	20	22.2	94	75-125	

MATRIX SPIKE SAMPLE: 256130

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.8	20	39.5	109	75-125	

SAMPLE DUPLICATE: 256074

Parameter	Units	9240657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	69.0	69.3	.4	20	

SAMPLE DUPLICATE: 256075

Parameter	Units	9240657002 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	318	310	2	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WET/7729

Analysis Method: SM 2540C

QC Batch Method: SM 2540C

Analysis Description: 2540C Total Dissolved Solids

Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 256483

Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	0.0J	20.0	03/30/09 13:37	

LABORATORY CONTROL SAMPLE: 256484

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	250	260	104	80-120	

SAMPLE DUPLICATE: 256485

Parameter	Units	9240584001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	74.0	74.0	0	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WET/7709

Analysis Method: EPA 120.1

QC Batch Method: EPA 120.1

Analysis Description: 120.1 Specific Conductance

Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255671

Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	10.0	03/27/09 15:30	

LABORATORY CONTROL SAMPLE: 255672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1420	101	90-110	

SAMPLE DUPLICATE: 255673

Parameter	Units	9240464002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	432	431	.2	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WETA/4770

Analysis Method: SM 5310B

QC Batch Method: SM 5310B

Analysis Description: 5310B TOC

Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 257217

Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Organic Carbon	mg/L	ND	1.0	04/01/09 11:59	

LABORATORY CONTROL SAMPLE: 257218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	25	25.2	101	90-110	

MATRIX SPIKE SAMPLE: 257219

Parameter	Units	9240809001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	8.5	25	35.2	107	75-125	

MATRIX SPIKE SAMPLE: 257220

Parameter	Units	9240809002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Organic Carbon	mg/L	15.6	25	40.5	99	75-125	

SAMPLE DUPLICATE: 257221

Parameter	Units	9240848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	6.7	6.5	4	20	

SAMPLE DUPLICATE: 257222

Parameter	Units	9240848002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Organic Carbon	mg/L	8.2	8.2	.7	20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WETA/4748

Analysis Method: EPA 353.2

QC Batch Method: EPA 353.2

Analysis Description: 353.2 Nitrate + Nitrite, Unpres.

Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 255594

Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Nitrate	mg/L	ND	0.10	03/26/09 22:54	

LABORATORY CONTROL SAMPLE: 255595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	5	4.9	98	90-110	

MATRIX SPIKE SAMPLE: 255596

Parameter	Units	9240841005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	ND	5	5.3	105	90-110	

MATRIX SPIKE SAMPLE: 255597

Parameter	Units	9240835001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Nitrate	mg/L	1.3	5	7.7	129	90-110	M0

SAMPLE DUPLICATE: 255598

Parameter	Units	9240809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

SAMPLE DUPLICATE: 255599

Parameter	Units	9240809002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Nitrate	mg/L	ND	ND		20	

QUALITY CONTROL DATA

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

QC Batch: WETA/4767 Analysis Method: SM 4500-Cl-E
 QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
 Associated Lab Samples: 9240809001, 9240809002

METHOD BLANK: 256982 Matrix: Water

Associated Lab Samples: 9240809001, 9240809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	5.0	03/31/09 16:12	

LABORATORY CONTROL SAMPLE: 256983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	20	21.0	105	90-110	

MATRIX SPIKE SAMPLE: 256986

Parameter	Units	9240759002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	19.1	20	39.1	100	75-125	

MATRIX SPIKE SAMPLE: 256987

Parameter	Units	9240768007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	11.6	20	30.0	92	75-125	

SAMPLE DUPLICATE: 256984

Parameter	Units	9240809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	15.6	15.6	.1	20	

SAMPLE DUPLICATE: 256985

Parameter	Units	9240809002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	12.3	12.3	.3	20	

QUALIFIERS

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

H6 Analysis initiated more than 15 minutes after sample collection.

M0 Matrix spike recovery was outside laboratory control limits.

R1 RPD value was outside control limits.

Z2 Analyte present in the associated method blank above the detection limit.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: IP-REIGELWOOD LANDFILL

Pace Project No.: 9240809

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9240809001	MW-1A	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240809002	MW-1B	EPA 7470	MERP/2045	EPA 7470	MERC/2038
9240809001	MW-1A	SM 5220D	WETA/4746		
9240809002	MW-1B	SM 5220D	WETA/4746		
9240809001	MW-1A	EPA 353.2	WETA/4748		
9240809002	MW-1B	EPA 353.2	WETA/4748		
9240809001	MW-1A	SM 4500F/C	WET/7706		
9240809002	MW-1B	SM 4500F/C	WET/7706		
9240809001	MW-1A	EPA 120.1	WET/7709		
9240809002	MW-1B	EPA 120.1	WET/7709		
9240809001	MW-1A	EPA 3010	MPRP/4056	EPA 6010	ICP/3783
9240809002	MW-1B	EPA 3010	MPRP/4056	EPA 6010	ICP/3783
9240809001	MW-1A	ASTM D516-90	WETA/4754		
9240809002	MW-1B	ASTM D516-90	WETA/4754		
9240809001	MW-1A	SM 2540C	WET/7729		
9240809002	MW-1B	SM 2540C	WET/7729		
9240809001	MW-1A	EPA 9040	WET/7742		
9240809002	MW-1B	EPA 9040	WET/7742		
9240809001	MW-1A	SM 4500-CI-E	WETA/4767		
9240809002	MW-1B	SM 4500-CI-E	WETA/4767		
9240809001	MW-1A	SM 5310B	WETA/4770		
9240809002	MW-1B	SM 5310B	WETA/4770		

APPENDIX B

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-7A WELL NO. MW-7A

DATE/TIME COLLECTED 3-24-09 / 1440 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO

SAMPLE QC DUPLICATE: YES NO

MS/MSD REQUESTED YES NO

SPLIT SAMPLE NO. -

DUPLICATE SAMPLE NO. -

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1- 250ml Poly	HNO ₃	TOC
2- 40ml vora	H ₂ SO ₄	BOD
1- 1 Liter Poly	None	TDS
1- 500ml Poly	None	COD TOX
1- 250ml Harder	H ₂ SO ₄	Chloride/Nitrate, Fluoride/pH, Sulfate, Sp Cond.
4- 250ml Poly	None	COD
1- 125ml Poly	H ₂ SO ₄	

WELL PURGING DATA

Date	<u>3-24-09</u>	Well Depth (ft. BTOC)	<u>13.00</u>
Time Started	<u>1415</u>	Depth to Water (ft BTOC)	<u>2.78</u>
Time Completed	<u>1440</u>	Water Column Length	<u>10.22</u>
<u>Hnu Measurements</u>		Volume of Water in Well (liters)	<u>6.18</u>
Background	NA	Purge rate (liters/min.)	<u>0.33</u>
Breathing Zone	NA	Level of Drawdown (ft. BTOC)	<u>2.82</u>
Well Head	NA	Actual Purge (liters)	<u>5</u>

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1421	1	7.12	13.70	0.745	1.58	-37.1	160
1424	2	6.34	13.85	0.952	1.01	-38.9	290
1427	3	6.53	13.80	1.032	1.07	-48.7	160
1430	4	6.66	13.91	1.022	1.12	-56.1	100
1433	5	6.70	14.01	1.031	1.20	-59.7	85

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	<u>Heron 200 ft.</u>	<u>NA</u>
Water Quality Meter	<u>YSI 556</u>	<u>per manufacturers instructions</u>

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-4A WELL NO. MW-4A

DATE/TIME COLLECTED 3-24-09/1530 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO

SAMPLE QC DUPLICATE: YES NO

MS/MSD REQUESTED YES NO

SPLIT SAMPLE NO. —

DUPLICATE SAMPLE NO. —

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
1-250ml Poly	HNO ₃	Metals
2-400ml VOA	H ₂ SO ₄	TOC
1-1 liter Poly	None	BOD
1-500ml poly	None	TDS
1-250ml Amber	H ₂ SO ₄	TOX
4-250ml Poly	None	Chloride, Nitrate, Fluoride/pH, SV/Fats, SpCond.
1-125ml Poly	H ₂ SO ₄	COD

WELL PURGING DATA

Date 3-24-09 Well Depth (ft. BTOC) 11.90

Time Started 1500 Depth to Water (ft BTOC) 4.48

Time Completed 1530 Water Column Length 7.42

Hnu Measurements Volume of Water in Well (liters) 4.49

Background NA Purge rate (liters/min.) 0.33

Breathing Zone NA Level of Drawdown (ft. BTOC) 4.50

Well Head NA Actual Purge (liters) 5

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1510	1	4.45	15.70	0.171	6.01	270.2	24
1513	2	3.93	15.65	0.155	4.09	299.2	14
1516	3	3.95	15.61	0.158	3.44	293.2	9.5
1519	4	3.92	15.65	0.146	3.35	285.2	5.1
1522	5	3.93	15.60	0.145	3.27	279.2	5.1

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Heron 200 ft.	NA
Water Quality Meter	YSI 556	per manufacturers instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-8A WELL NO. MW-8A

DATE/TIME COLLECTED 3-24-09/1610 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO

SAMPLE QC DUPLICATE: YES NO

MS/MSD REQUESTED YES NO

SPLIT SAMPLE NO. —

DUPLICATE SAMPLE NO. —

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1-250ml Poly	HNO ₃	Metals
2-40ml vora	H ₂ SO ₄	TOC
1-1 Liter Poly	None	BOD
1-500ml Poly	None	TDS
1-250ml Amber	H ₂ SO ₄	TOX
4-250ml Poly	None	Chloride, Nitrate, Fluoride, pH, Sulfate, Sp Cond
1-125ml Poly	H ₂ SO ₄	COD

WELL PURGING DATA

Date 3-24-09 Well Depth (ft. BTOC) 12.50

Time Started 1545 Depth to Water (ft. BTOC) 3.92

Time Completed 1610 Water Column Length 8.58

Hnu Measurements Volume of Water in Well (liters) 5.20

Background NA Purge rate (liters/min.) 0.33

Breathing Zone NA Level of Drawdown (ft. BTOC) 3.94

Well Head NA Actual Purge (liters) 5

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1552	1	6.66	13.99	0.697	2.68	120.9	29
1555	2	6.75	13.24	0.686	1.96	136.8	25
1558	3	6.76	12.98	0.675	1.64	139.1	24
1601	4	6.77	12.78	0.646	1.60	136.8	14
1604	5	6.69	12.67	0.642	1.58	134.2	10

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Heron 200 ft.	NA
Water Quality Meter	YSI 556	per manufacturers instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-5A WELL NO. MW-5A

DATE/TIME COLLECTED 3-24-09 / 1650 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO

SAMPLE QC DUPLICATE: YES NO

MS/MSD REQUESTED YES NO

SPLIT SAMPLE NO. —

DUPLICATE SAMPLE NO. —

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1-250ml Poly	HNO ₃	TOC
2-40ml VOA	H ₂ SO ₄	BOD
1-1 liter Poly	None	TDS
1-500ml Poly	None	TOX
1-250ml Amber	H ₂ SO ₄	Chloride, Nitrate, Fluoride, pH, sulfate, Sp Cond.
4-250ml Poly	None	CO ₂
1-75 ml Poly	H ₂ SO ₄	

WELL PURGING DATA

Date 3-24-09 Well Depth (ft. BTOC) 20.00

Time Started 1620 Depth to Water (ft BTOC) 8.56

Time Completed 1650 Water Column Length 9.44

H₂O Measurements Volume of Water in Well (liters) 5.72

Background NA Purge rate (liters/min.) 0.33

Breathing Zone NA Level of Drawdown (ft. BTOC) 8.60

Well Head NA Actual Purge (liters) 5

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1629	1	7.23	15.88	1.154	5.02	-64.4	25
1632	2	7.22	15.48	1.154	2.24	-88.5	11
1635	3	7.20	15.29	1.155	2.23	-92.1	7.2
1638	4	7.15	15.24	1.155	2.18	-92.0	5.6
1641	5	7.17	15.15	1.154	2.16	-96.6	5.3

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Heron 200 ft.	NA
Water Quality Meter	YSI 556	per manufacturers instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-1A WELL NO. MW-1A

DATE/TIME COLLECTED 3-25-09/0820 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. —

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. —

MS/MSD REQUESTED YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1-250ml Poly	HNO ₃	TOC
2-40ml VOA	H ₂ SO ₄	BOD
1-1L Poly	None	TDS
1-500ml Poly	None	TOX
1-250ml Amber	H ₂ SO ₄	Chloride/Nitrate, Fluoride, pH, Sulfate, Sp Cond
4-250ml Poly	None	COD
1-125ml Poly	H ₂ SO ₄	

WELL PURGING DATA

Date 3-25-09 Well Depth (ft. BTOC) 29.50

Time Started 0750 Depth to Water (ft BTOC) 15.67

Time Completed 0820 Water Column Length 13.83

Hnu Measurements Volume of Water in Well (liters) 8.38

Background NA Purge rate (liters/min.) 0.33

Breathing Zone NA Level of Drawdown (ft. BTOC) 15.70

Well Head NA Actual Purge (liters) 5

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
0801	1	4.27	16.11	0.157	2.52	256.5	15
0804	2	3.87	17.15	0.125	2.47	295.9	12
0807	3	3.71	17.28	0.121	2.43	290.1	7.4
0810	4	3.69	17.31	0.119	2.40	289.2	4.4
0813	5	3.74	17.35	0.116	2.44	286.7	3.4

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Heron 200 ft.	NA
Water Quality Meter	YSI 556	per manufacturers instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

(Low-Flow)

GENERAL INFORMATION

SITE NAME IP-Reigelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. MW-1B WELL NO. MW-1B

DATE/TIME COLLECTED 3-25-09 / 0855 PERSONNEL Mike Meese
Tim Dickey

SAMPLE METHOD Peristaltic Pump

SAMPLE MEDIA: Groundwater Surface Water

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. —

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. —

MS/MSD REQUESTED YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
1-250ml Poly	HNO ₃	metals
2-40ml VOA	H ₂ SO ₄	TOC
1-1L iten Poly	None	BOD
1-500ml Poly	None	TDS
1-250ml Amber	H ₂ SO ₄	Tox
4-250ml Poly	None	Chloride, Nitrate, Fluoride, pH, sulfate, sp Cond.
1-125ml Poly	H ₂ SO ₄	COD

WELL PURGING DATA

Date 3-25-09 Well Depth (ft. BTOC) 50.00

Time Started 0825 Depth to Water (ft. BTOC) 15.07

Time Completed 0855 Water Column Length 34.93

Hnu Measurements Volume of Water in Well (liters) 21.16

Background NA Purge rate (liters/min.) 0.33

Breathing Zone NA Level of Drawdown (ft. BTOC) 15.08

Well Head NA Actual Purge (liters) 5

FIELD MEASUREMENTS

Time	Amount Purged (L)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
832	1	6.95	17.40	0.358	7.73	169.7	2.1
835	2	7.30	17.82	0.369	7.06	168.8	2.0
838	3	7.33	17.82	0.370	7.00	168.2	2.0
841	4	7.34	17.84	0.370	7.00	167.6	1.9
844	5	7.35	17.81	0.371	7.02	166.3	1.8

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Heron 200 ft.	NA
Water Quality Meter	YSI 556	per manufacturers instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME IP-Riegelwood Landfill PROJECT NO. 31826692.00001
 SAMPLE NO. Primary WELL NO. NA
 DATE/TIME COLLECTED 2/25/09 / 1100 PERSONNEL Mike Meese
 SAMPLE METHOD Collected from existing pump system Sample Port Jerry Maciejewski
 SAMPLE MEDIA: Groundwater Waste Surface Water
 SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. —
 SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. —
 MS/MSD REQUESTED YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1- 250 ml poly	HNO ₃	TOC
2- 40 ml VOA	H ₂ SO ₄	BOD
1- 1L Poly	None	TDS
1- 500 ml Poly	None	TOX
1- 250 ml Amber	H ₂ SO ₄	Cl, F, NO ₃ , pH, SO ₄
5- 250 ml Poly	None	CO ₂
1- 125 ml Poly	H ₂ SO ₄	

Sp Cond., Ortho Phos

WELL PURGING DATA

Date 2/25/09 Well Depth (ft. BTOC) NA
 Time Started 1100 Depth to Water (ft BTOC) NA
 Time Completed NA Water Column Length (ft) NA
Hnu Measurements
 Background NA Static Casing Volume (gal) NA
 Breathing Zone NA 3 Static Casing Volumes (gal) NA
 Well Head NA Amount Purged (gal) ~ 10 gal

FIELD MEASUREMENTS

Time	Amount Purged (gal)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1100	~10 gal	6.91	16.58	5.852	3.63	-30.7	NA

FIELD EQUIPMENT AND CALIBRATION

Water Level Probe Model NA Calibration NA
 Water Quality Meter YSI 556 per manufactures instructions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME IP-Riegelwood Landfill PROJECT NO. 31826692.00001
 SAMPLE NO. Secondary WELL NO. NA
 DATE/TIME COLLECTED 2/25/09 1145 PERSONNEL Mike Meese
 SAMPLE METHOD Collected from existing pump Jerry Maciejewski
 SAMPLE MEDIA: Groundwater Waste Surface Water System Sample Post
 SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. —
 SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. —
 MS/MSD REQUESTED YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
1-250 ml Poly	HNO ₃	Metals
2-40 ml VOA	H ₂ SO ₄	TOC
1-1L Poly	None	BOD
1-500ml Poly	None	TDS
1-250 mL Amber	H ₂ SO ₄	TOX
5-250 mL Poly	None	Cl/NO ₃ , F/pH, SO ₄ , sp
1-125 ml Poly	H ₂ SO ₄	(low), ortho, Phos

WELL PURGING DATA

Date 2/25/09 Well Depth (ft. BTOC) NA
 Time Started 1145 Depth to Water (ft BTOC) NA
 Time Completed NA Water Column Length (ft) NA
Hnu Measurements
 Background NA Static Casing Volume (gal) NA
 Breathing Zone NA 3 Static Casing Volumes (gal) NA
 Well Head NA Amount Purged (gal) ~10 gal

FIELD MEASUREMENTS

Time	Amount Purged (gal)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
<u>1145</u>	<u>~10 gal</u>	<u>6.68</u>	<u>15.96</u>	<u>3.242</u>	<u>0.81</u>	<u>-106.8</u>	<u>NM</u>

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	<u>NA</u>	<u>NA</u>
Water Quality Meter	<u>YSI 556</u>	<u>per manufactures instructions</u>

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME IP-Riegelwood Landfill PROJECT NO. 31826692.00001

SAMPLE NO. Under Drain WELL NO. NA

DATE/TIME COLLECTED 2/25/09 11230 PERSONNEL Mike Meese

SAMPLE METHOD Vault sampled via boiler Under Drain Jerry Maciejewski
discharges into vault

SAMPLE MEDIA: Groundwater ~~Surface Water~~

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. —

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. —

MS/MSD REQUESTED YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Metals Analysis Requested
1 - 250 ml Poly	HNO3	Metals
2 - 40 ml VOA	H2SO4	TOC
1 - 1 L Poly	None	BOD
1 - 500 mL Poly	None	TDS
1 - 250 mL Amber	H2SO4	TOX
5 - 250 ml Poly	None	Cl/NO3, F/PH, SO4, sp Cond, ortho Phos
1 - 125 ml Poly	H2SO4	

WELL PURGING DATA

Date 2/25/09 Well Depth (ft. BTOC) NA

Time Started 1230 Depth to Water (ft BTOC) NA

Time Completed NA Water Column Length (ft) NA

Hnu Measurements

Background NA Static Casing Volume (gal) NA

Breathing Zone NA 3 Static Casing Volumes (gal) NA

Well Head NA Amount Purged (gal) Water discharging into vault at sample collection time.

FIELD MEASUREMENTS

Time	Amount Purged (gal)	pH	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU's)
1230	NA	6.69	19.36	4.588	1.01	-135.6	NM

FIELD EQUIPMENT AND CALIBRATION

Water Level Probe Model NA Calibration NA

Water Quality Meter YSI 556 per manufactures instructions

GENERAL COMMENTS