April 28, 2014

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

Re: Semi-Annual Groundwater
Compliance Monitoring Results (February 2014)
Permit No. 24-02
International Paper, Riegelwood, North Carolina
URS Project No. 31829654

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 2014 first 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.

The sampling event was conducted on February 26, 2014. The sampling event included the collection of three water samples, designated Primary, Secondary, and Under-Drain, obtained from the Landfill Cell 1, and 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 ALS (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 –Landfill Cell 1 Analysis Results
- Figure 1 – Location Map
- Figure 2 – Site Map
- Appendix A – Laboratory Report
- Appendix B – Field Activity Documentation

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

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

Conan Fitzgerald, P.E.
Project Engineer

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

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

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

Instructions:

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

Solid Waste Monitoring Data Submittal Information

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

International Paper

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 26, 2014

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

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

Notification attached?

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

Certification

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

Conan Fitzgerald, PE — Senior Project Manager — (919) 461-1100

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

Signature — 4/28/14 Date

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA PROFESSIONAL SEAL 26500 ENGINEER CONAN D. FITZGERALD

URS Corporation, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560

Facility Representative Address

C-2243

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

Revised 6/2009

PRELIMINARY ANALYSIS of the CAUSE and SIGNIFICANCE of EACH VALUE EXCEEDING

NC2L GROUNDWATER STANDARDS

Wells MW-1A and MW-1B are up-gradient background wells indicating natural conditions. Iron, manganese, and vanadium were detected at concentrations above NC2L groundwater standards in one or more of these wells, indicating that these metals are naturally present in groundwater at elevated concentrations. The pH measured in MW-1A was measured to be 4.49 standard units, consistent with previous historic results, indicating that shallow groundwater is naturally acidic.

Vanadium was detected in all six monitoring wells at relatively similar levels (between 5.1J and 14 J µg/L), potentially indicating some type of laboratory contamination. However, the only result qualification is "J" for estimated, since the results were below the laboratory quantitation limit. Historically, vanadium has been detected most frequently in the background wells and MW-7A, indicating that it is naturally occurring. While all February 2014 detections exceeded the groundwater standard, they also were less than the level of 24 µg/L detected in background MW-1A in August 2013.

Iron was detected in all six monitoring wells above the groundwater standard, and manganese was detected in five of the six monitoring wells above the groundwater standard. All results were within the historic range of results for these naturally occurring minerals. In fact, results for iron decreased in all wells from August 2013 to February 2014 except for MW-7A, while manganese decreased in all wells except for MW-5A and MW-7A.

Besides the results discussed above, well MW-4A was found to be 4.97, which is below the groundwater standard range of 6.5 – 8.5 standard units. The acidic pH is also noted to be within historic background data, which has been measured several times to be less than 4.0 standard units. Thus these results are attributed to naturally occurring conditions.

Well MW-5A was found to have Total Dissolved Solids (TDS) above the 2L groundwater standard. As the data does not indicate any obvious contamination, the TDS result is believed to be due to swampy conditions and is therefore naturally occurring.

Well MW-7A was found to have an exceedance of the 2L standard for Arsenic and TDS. Arsenic is demonstrated to be naturally occurring by historic results in the background wells where it has been detected as high as 31 µg/L in MW-1A and 300 µg/L in MW-1B. The TDS

Well MW-8A: TDS, established above as naturally occurring, was detected above the NC 2L standard, but within historic ranges for this well. Sulfate, which historically tests high in this well, was not detected above the 2L groundwater standard. Conversely, cadmium was also detected above the NC 2L standard at 4.2 J µg/L for the first time. The result appears anomalous, since cadmium was not detected in any other monitoring wells, nor has it been detected above quantitation limits in the leachate samples (Table 3) for several monitoring events.

TABLES

TABLE 1
SEMI-ANNUAL GROUNDWATER ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
FEBRUARY 2014 EVENT

		Monitoring Well:	MW-1A		MW-1B		MW-4A		MW-5A		MW-7A		MW-8A		2L	
		Collection Date:	2/26/2014		2/26/2014		2/26/2014		2/26/2014		2/26/2014		2/26/2014			
Method	Parameter	Units	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Standard	SWSL
SW-846 6010C	Arsenic	ug/l	3.6	U	5.7	J	3.6	U	5.8	J	20		6.7	J	10	10
SW-846 6010C	Barium	ug/l	106		19		70		133		40		28		700	100
SW-846 6010C	Cadmium	ug/l	0.17	U	0.17	U	0.21	J	0.17	U	0.56	J	4.2	J	2	1
SW-846 6010C	Chromium	ug/l	5.2	BJ	0.78	BJ	0.71	BJ	3.1	BJ	1.9	BJ	1.1	BJ	10	10
SW-846 6010C	Copper	ug/l	2	U	3.5	J	2	U	2	U	2	U	3.4	J	1,000	10
SW-846 6010C	Iron	ug/l	803		1080		12600		800		22900		9470		300	300
SW-846 6010C	Lead	ug/l	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	3.3	U	15	10
SW-846 6010C	Manganese	ug/l	14		81		60		461		337		132		50	50
SW-846 6010C	Selenium	ug/l	6.2	U	6.2	U	6.2	U	6.2	U	6.2	U	6.2	U	20	10
SW-846 6010C	Silver	ug/l	1.2	U	1.7	J	1.2	U	2.3	J	1.6	J	3	J	20	10
SW-846 6010C	Vanadium	ug/l	6.6	J	5.6	J	9	J	14	J	12	J	5.1	J	0.3 (I)	25
SW-846 6010C	Zinc	ug/l	15	BJ	4.5	BJ	14	BJ	5.8	BJ	6.4	BJ	18	BJ	1,000	10
SW-846 7470A	Mercury	ug/l	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	0.012	U	1	0.2
EPA 120.1	Specific Conductance	umhos/cm	152		355		307		2040		1540		827		NE	NE
EPA 300.0	Chloride	mg/l	7.53		8.43		34.3		207		180		3.22		250	NE
EPA 300.0	Fluoride	mg/l	0.2		0.17	J	0.16	J	0.16	J	0.18	J	0.27		2	2,000
EPA 300.0	Nitrate	mg/l	0.03	U	0.24		0.03	U	0.03	U	0.15	J	0.03	U	10	10,000
EPA 300.0	Sulfate	mg/l	45.6		19.6		79.4		90.8		45.5		228		250	250,000
EPA 410.4	Chemical oxygen demand	mg/l	34		16	U	25		214		75		21		NE	NE
SM 2540C	Total Dissolved Solids	mg/l	93		240		204		1260		1010		620		500	NE
SM 4500H	pH	s.u.	4.39	J	7.49	J	4.97	J	7.28	J	7.48	J	7.47	J	6.5-8.5	NE
SM 5210B	Biochemical oxygen demand	mg/l	2	U	2	U	2	U	3.3	J	6.4	J	2	U	NE	NE
SM 5310B	Total Organic Carbon	mg/l	2		2		7.8		45.6		22.4		3.1		NE	NE
SW-846 9020B	Total Organic Halides	mg/l	0.08	U	0.08	U	0.08	U	0.91		0.28		0.08	U	NE	NE

Notes

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

2L Standard - 15A NCAC 2L Groundwater Standards

I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.3 ug/L

SWSL - Solid Waste Section Limits

NE = Not Established

s.u. = Standard unit

mg/L = Milligrams per Liter

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

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		2010		2011		2012		2013		2014			
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	AUG	FEB	AUG	FEB	AUG	FEB			
BOD, mg/L	<2	<2	<2	<2	5	12	<1.0	<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	2 U	2 U	2 U	2 U	2 U	4 U	4 UJ	39.4 J	4 U	2 U	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	25 U	25 U	25 U	25 U	4 J	51	16 U	16 U	16 U	16 U	34	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	<.010	0.013	< 0.100	<0.100	<0.100	<0.10	<0.10	<0.10	<0.10	0.0092	0.026	0.03	0.04	3.8	0.1 U	0.0214 B	0.12	0.1 U	0.1 UJ	0.08 U	0.43	0.08 U	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	7	0.05 U	22.3	1.8	1.7	2.4	1.8	27.5	2.1	2	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	20 U	64	82	83	90	90	96	85	94	93	500	NE
pH, s.u.	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	4.5 J	4 J	4.5 J	4.1 J	4.85 J	4.34 J	4.4 J	4.37 J	4.49 J	4.39 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	170	177	159	153	150	159	151	146	148	152	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	35.1	46.1	42	46	47.4	43.2	49.5	51 J	47.1	45.6	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	8.8	8.2	10	9.25	8.84	11.4	8.19	6.73	7.73	7.53	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	0.1 U	0.1 U	0.1 U	0.13 J	0.2 J	0.18 J	0.18 J	0.17 J	0.19 J	0.2	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	0.1 U	0.1 U	0.1 U	0.19 J	0.04 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	10	10
Arsenic, as As, mg/L	<0.025	<0.025	<0.025	<0.025	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.026	0.031	<0.020	<0.020	<0.020	<0.020	0.018	0.00028	0.0027 U	0.0027 U	0.0027 U	0.0027 U	0.003 U	0.0043 B	0.0061 J	0.0042 J	0.004 J	0.004 J	0.0036 U	0.010	0.010
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	0.122	0.106	0.104	0.099	0.109	0.104	0.105	0.111	0.1	0.106	0.700	0.100
Cadmium, as Cd, mg/L	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0050	<0.005	<0.0100	<0.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0005	<0.0005	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.0001 B	0.0002 U	0.0002 U	0.00017 U	0.00017 U	0.00017 U	0.002	0.001
Chromium, as Cr, mg/L	0.01	<0.010	<0.010	<0.010	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.010	< 0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.00063 B	0.0004 U	0.00046 B	0.00053 J	0.001 U	0.001 U	0.00071 J	0.0005 U	0.00041 U	0.00079 BJ	0.0052 BJ	0.010	0.010
Copper, as Cu, mg/L	0.009	<0.005	<0.005	<0.005	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.010	< 0.010	<0.020	<0.020	<0.020	<0.020	<0.020	0.021	<0.0050	<0.0010	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.0004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	1	0.010
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	2.28	0.969	1.65	0.78	1.64	0.909	1.34	0.865	2.83	0.803	0.300	0.300
Lead, as Pb, mg/L	<0.020	<0.020	<0.020	<0.020	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	< 0.005	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.004 U	0.004 U	0.004 U	0.004 U	0.002 U	0.0007 U	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U	0.015	0.010
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	0.0173	0.0146	0.0139	0.012	0.015	0.014	0.014	0.015	0.013	0.014	0.050	0.050
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	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00007 U	0.00007 U	0.00007 U	0.00007 U	0.00008 U	0.00002 U	0.00002 U	0.000012 BJ	0.000012 U	0.000012 U	0.000012 U	0.001	0.0002
Selenium, as Se, mg/L	<0.100	<0.100	<0.100	<0.100	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<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	0.0038 U	0.0038 U	0.0038 U	0.005 U	0.004 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U	0.020	0.010
Silver, as Ag, mg/L	<0.015	<0.015	<0.015	<0.015	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<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	0.0001 U	0.0001 U	0.0001 U	0.001 U	0.0006 U	0.002 U	0.002 U	0.0012 U	0.0012 U	0.0012 U	0.020	0.010
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	0.012	<0.010	0.0044	0.013	0.0057	0.0136	0.0041 J	0.0051	0.002 U	0.0043 J	0.0037 J	0.002 U	0.002 J	0.024	0.0066 J	0.0003 (I)	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	<0.050	0.025	0.0038 B	0.0093 B	0.0065 B	0.0017 J	0.004 J	0.0039 J	0.0054 BJ	0.0044 BJ	0.0067 BJ	0.018 BJ	0.015 BJ	1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
SWSL - Solid Waste Section Limits - target laboratory method detection limits
Bold text denotes results that exceed NC groundwater 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

BOD = Biological oxygen demand
COD = Chemical oxygen demand
s.u. = Standard units
TDS = Total Dissolved Solids
TOC = Total organic carbon
TOX = Total organic halides
umohs/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 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		2010		2011		2012		2013		2014			
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	AUG	FEB	AUG	FEB	AUG	FEB			
BOD, mg/L	<2	<2	<2	<2	>27*	2	<1.0	<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	2 U	2 U	2 U	2 U	2 U	4 U	4 UJ	32.2 J	4 U	2 U		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	25 U	25 U	25 U	25 U	4 J	2 J	16 U	16 U	16 U	16 U	16 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	0.015	0.033	0.02	0.04	5	0.1 U	0.0186 B	0.0982	0.1 U	0.1 U	0.078 J	0.27	0.08 U		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	4.6	0.4	10.8	1.8	1.7	1.9	2.1	42.3	1.8	2		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	36	228	282	269	317	238	271	290	203	240		500	NE
pH, s.u.	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	6.4 J	7.4 J	7.2 J	6.85 J	7.75 J	7.63 J	7.43 J	7.43 J	6.93 J	7.49 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	265	431	506	424	522	363	393	439	316	355		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	9.9	22.2	26.1	27.5	24.4	20.2	27.2	22	15.1	19.6		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	10.3	8.9	8.4	6.19	5.28	9.32	8.79	10	8.69	8.43		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	0.17	0.11	0.1 U	0.13 J	0.25	0.19 J	0.16 J	0.15 J	0.18 J	0.17 J		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	0.1 U	0.1 U	0.1 U	0.19 J	0.2	0.18 J	0.18 J	0.17 J	0.16 J	0.24		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	0.31	<0.0050	0.0018	0.0044 U	0.0027 U	0.0097	0.0075	0.003 U	0.0076 B	0.0072 J	0.0071 J	0.006 J	0.0062 J	0.0057 J		0.010	0.010
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	0.0149	0.016	0.0261	0.022	0.032	0.017	0.021	0.022	0.027	0.019		0.700	0.100
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	<0.00050	<0.00050	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.00007 U	0.0002 U	0.0002 U	0.00017 U	0.00017 U	0.00017 U		0.002	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	0.0035	<0.010	0.0032 B	0.0004 U	0.0004 U	0.0004 U	0.001 U	0.001 U	0.0007 J	0.00099 BJ	0.00061 J	0.0011 BJ	0.00078 BJ		0.010	0.010
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	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.0050	<0.0010	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.0004 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0035 J		1	0.010
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	0.676	4.64	2.53	0.94	1.76	0.851	1.47	1.47	2.19	1.08		0.300	0.300
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	0.004 U	0.004 U	0.004 U	0.004 U	0.002 U	0.0007 U	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U		0.015	0.010
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	0.0095	0.0984	0.0794	0.045	0.081	0.043	0.094	0.083	0.142	0.081		0.050	0.050
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	0.00007 U	0.00007 U	0.00007 U	0.00007 U	0.00008 U	0.00002 U	0.00002 U	0.000012 U	0.000012 U	0.000012 U	0.000012 U		0.001	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	<0.0050	0.00039	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.005 U	0.004 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U		0.020	0.010
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	0.0061	<0.010	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.001 U	0.0006 U	0.002 U	0.002 U	0.0012 U	0.0012 J	0.0017 J		0.020	0.010
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	0.015	<0.010	0.0013 B	0.00065 J	0.0019 J	0.0016 J	0.002 U	0.002 U	0.0021 J	0.0039 J	0.0045 J	0.0047 J	0.0056 J		0.0003 (I)	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	<0.050	<0.010	0.0059 B	0.0083 B	0.003 B	0.0004 U	0.004 J	0.0072 J	0.002 U	0.002 U	0.0014 U	0.0014 U	0.0045 BJ		1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
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

BOD = Biological oxygen demand
COD = Chemical oxygen demand
s.u. = Standard units
TDS = Total Dissolved Solids
TOC = Total organic carbon
TOX = Total organic halides
umohs/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 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		2010		2011		2012		2013		2014		
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	AUG	FEB	AUG	FEB	AUG	FEB		
BOD, mg/L	<2	<2	<2	<2	4	4	<1.0	<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	2 UJ	2 U	2 UJ	2 U	2 U	4 U	4 UJ	26.8 J	4 U	2 U	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	18	13	25 U	29.5	25 U	25 U	17 J	9 J	16 U	16 U	16 U	21	25	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	0.06	8.8	0.1	0.586	0.018 U	0.1 U	0.1 U	0.08 U	0.45	0.08 U	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	5.6	0.5	13.2	7.6	4.8	3.9	3.6	16.3	7.1	7.8	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	160	174	183	270	152	134	106	114	220	204	500	NE
pH, s.u.	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 J	4.7 J	5.1 J	4.9 J	4.41 J	4.49 J	4.74 J	5.15 J	4.77 J	5.69 J	4.97 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	205	339	311	436	245	210	158	175	342	307	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	37.7	84.1	64.2 J	113	58	53.1	39.6	45	85.7	79.4	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	26.6	28.9	33.2	50.5	26.4	22.2	16.1	17.9	35.6	34.3	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	0.1 U	0.14	0.1 U	0.14 J	0.17 J	0.16 J	0.14 J	0.14 J	0.16 J	0.16 J	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	0.1 U	0.1 U	0.1 U	0.04 U	0.04 U	0.03 U	0.03 U	0.03 U	0.16 J	0.03 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	<0.0010	<0.0010	0.0027 U	0.0027 U	0.0027 U	0.0028 J	0.003 U	0.0035 B	0.0045 J	0.004 U	0.0036 U	0.0036 U	0.0036 U	0.010	0.010
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	0.0612	0.0579	0.0728	0.11	0.059	0.042	0.033	0.042	0.077	0.07	0.700	0.100
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	0.00022	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.0012 J	0.0002 U	0.0002 U	0.00017 U	0.00019 BJ	0.00021 J	0.002	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	0.0018 B	0.00046 J	0.00098 B	0.0004 U	0.001 B	0.001 U	0.0005 U	0.0005 U	0.00041 U	0.00099 BJ	0.00071 BJ	0.010	0.010
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	0.062	<0.0010	<0.0010	0.00075 U	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.0017 B	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	1	0.010
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	4.22	5.32	8.81	7.5	5.91	4.05	7.03	1.26	10.8	12.6	0.300	0.300
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	0.004 U	0.004 U	0.004 U	0.004 U	0.002 U	0.0007 U	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U	0.015	0.010
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	0.0391	0.0501	0.0577	0.088	0.052	0.049	0.038	0.046	0.077	0.06	0.050	0.050
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	0.00007 U	0.00007 U	0.00007 U	0.00014 J	0.00008 U	0.00002 U	0.00002 U	0.000012 U	0.000012 U	0.000012 U	0.000012 U	0.001	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	0.00066	0.00069	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.005 U	0.004 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U	0.020	0.010
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	0.0002 U	0.0001 U	0.0001 U	0.0001 U	0.001 U	0.0006 U	0.002 U	0.002 U	0.0012 U	0.0012 U	0.0012 U	0.020	0.010
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	0.00045 B	0.0029 J	0.0011 J	0.002 J	0.002 U	0.002 U	0.002 U	0.002 U	0.0016 U	0.0016 U	0.009 J	0.0003 (I)	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	0.0035	0.0064	0.0178 B	0.0385	0.0239	0.0112	0.034	0.017 J	0.0072 BJ	0.0025 BJ	0.0048 BJ	0.01 BJ	0.014 BJ	1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
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

BOD = Biological oxygen demand
COD = Chemical oxygen demand
s.u. = Standard units
TDS = Total Dissolved Solids
TOC = Total organic carbon
TOX = Total organic halides
umohs/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 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		2010		2011		2012		2013		2014			
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	AUG	FEB	AUG	FEB	AUG	FEB			
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	5.8 J	10.9	6.3	5.3	2.5	3.8	4.1 J	33.8 J	4 U	3.3 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	86.1	138	114	124	94	131	98 J	155	105	214		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	0.37	41.1	0.8	3.36	0.982	0.7	0.5	1.1	1	0.91		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	30.4	0.8	46.6	45.4	30.8	44.8	30.7	158	35.6	45.6		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	1180	840	1150	894	934	1320	1110	1250	1000	1260		500	NE
pH, s.u.	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	7.5 J	6.7 J	6.8 J	6.71 J	7.3 J	6.94 J	6.94 J	6.91 J	6.9 J	7.28 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	1800	1700	1600	1580	1660	2190	1770	2020	1660	2040		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	R	5 U	568	5.19	1.15	12.8	1.12	11	118	90.8		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	160	177	234	175	141	278	188	234	129	207		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	0.13	0.1 U	0.1 U	0.1 J	0.19 J	0.18 J	0.17 J	0.15 J	0.19 J	0.16 J		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	<0.100	0.26	<0.10	<0.10	<0.10	<0.10	<0.10	0.24	0.1 U	0.1 U	0.1 U	0.1 U	0.04 U	0.2 J	0.03 U	0.15 J	0.19 J	0.16 J	0.03 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	0.0033 J	0.0027 U	0.0031 J	0.003 U	0.0067 B	0.0092 J	0.0058 J	0.0054 J	0.0053 J	0.0058 J		0.010	0.010
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	0.0968	0.0975	0.13	0.11	0.102	0.141	0.114	0.134	0.137	0.133		0.700	0.100
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	<.005	< 0.0050	< 0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00050	<0.00050	0.0005 U	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.00007 U	0.00037 BJ	0.0002 U	0.0034 J	0.00017 U	0.00017 U		0.002	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	0.0016 J	0.0036 J	0.0033 J	0.004 B	0.0018 J	0.0047 J	0.0022 BJ	0.0056 J	0.0027 BJ	0.0031 BJ		0.010	0.010
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	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.00049 B	0.0046 J	0.002 U	0.002 U	0.002 U	0.002 U		1	0.010
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	0.247	0.762	0.608	0.53	0.261	0.308	0.138	0.306	1.23	0.8		0.300	0.300
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	0.004 U	0.004 U	0.004 U	0.002 B	0.0007 U	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U		0.015	0.010
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	0.26	0.278	0.332	0.33	0.227	0.251	0.244	0.226	0.425	0.461		0.050	0.050
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	0.00007 U	0.00007 U	0.00007 U	0.00008 U	0.00002 U	0.00002 U	0.000012 U	0.000012 U	0.000012 U	0.000012 U		0.001	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	0.0018	0.0014	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.005 U	0.004 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U		0.020	0.010
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	0.046	<0.010	<0.010	<0.010	<0.010	0.00035 J	0.00016 J	0.0001 U	0.0001 U	0.001 U	0.001 B	0.002 U	0.002 U	0.0012 U	0.0013 J	0.0023 J		0.020	0.010
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	0.0041	0.0077	0.0042 J	0.0052	0.0096	0.0077	0.005 J	0.0024 J	0.002 U	0.002 U	0.0097 J	0.0016 U	0.014 J		0.0003 (I)	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	0.0083 B	0.004 B	0.0004 U	0.007 J	0.008 J	0.004 BJ	0.002 U	0.0018 BJ	0.0014 U	0.0058 BJ		1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
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Bold text denotes results that exceed NC ground-water standards
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BOD = Biological oxygen demand
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TDS = Total Dissolved Solids
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TOX = Total organic halides
umohs/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

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		2010		2011		2012		2013		2014			
	SEPT	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR.	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	AUG	FEB	AUG	FEB	AUG	FEB			
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	2.9 J	2 U	15 J	5.1	5.5	2.9	4 UJ	50.9 J	4 U	6.4 J		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	117	117	126	69	91	48	71	49	53	75		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	0.04	45.4	1.1	0.449	0.442	0.4	0.7	0.6	0.96	0.28		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	34.3	1	55.4	26.7	27.2	17.1	23.8	100	18.4	22.4		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	1020	1250	1190	770	1030	680	1080	848	690	1010		500	NE
pH, s.u.	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	6.8 J	6.9 J	6.9 J	6.86 J	7.25 J	7.25 J	7.06 J	7.12 J	7.17 J	7.48 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	1790	2410	1980	1300	1750	1070	1640	1240	1120	1540		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	48.7 J	76.2	56	57.3	80.1	58.3	55.5	50.1	36	45.5		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	193	223	227	144	186	114	196	141	119	180		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	0.23	0.13	0.1 U	0.17 J	0.2	0.21	0.18 J	0.18 J	0.26	0.18 J		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	0.1 U	0.1 U	0.1 U	0.19 J	0.2	0.18 J	0.03 U	0.17 J	0.14 J	0.15 J		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	0.0394	0.0165	0.0146	0.029	0.02	0.023	0.015	0.013	0.016	0.02		0.010	0.010
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	<0.0100	0.052	0.062	0.042	0.059	0.065	0.037	0.054	0.056	0.07	0.062	0.071	0.0438	0.0782	0.0497	0.0433	0.06	0.052	0.029	0.038	0.036	0.032	0.04		0.700	0.100
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	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.0011 J	0.00032 BJ	0.0002 U	0.001 J	0.0002 BJ	0.00056 J		0.002	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	0.0028 B	0.0018 J	0.003 J	0.0033 J	0.005 B	0.0038 J	0.0097 J	0.0021 BJ	0.006 J	0.0027 BJ	0.0019 BJ		0.010	0.010
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	0.18	<0.0010	0.0014	0.0003 U	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.0011 B	0.002 J	0.002 U	0.002 U	0.002 U	0.002 U		1	0.010
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	36	24.9	16	40	19.7	16.2	13.4	14.5	12.4	22.9		0.300	0.300
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	<0.0050	0.0051	0.0072	0.0057	<0.0050	<0.0050	0.004 U	0.004 U	0.004 U	0.004 U	0.003 B	0.0007 U	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U		0.015	0.010
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	0.409	0.505	0.398	0.31	0.374	0.18	0.301	0.232	0.211	0.337		0.050	0.050
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	<0.00020	<0.00020	<0.00020	<0.00020	0.00007 U	0.00007 U	0.00007 U	0.00007 U	0.00008 U	0.00002 U	0.00002 U	0.000012 U	0.000016 J	0.000012 U	0.000012 U		0.001	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	0.0045	0.00081	0.0038 U	0.0038 U	0.0038 U	0.0038 U	0.005 U	0.004 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U		0.020	0.010
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	0.00011 J	0.0001 U	0.0001 U	0.001 U	0.0006 U	0.002 U	0.002 U	0.0012 U	0.0012 U	0.0016 J		0.020	0.010
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	0.0225	0.0111	0.0126	0.013 J	0.0075 J	0.016 J	0.002 J	0.01 J	0.0055 J	0.012 J		0.0003 (I)	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	0.67	<0.010	0.0093	0.0021 B	0.0085 B	0.0054 B	0.0004 U	0.011 J	0.023	0.0045 BJ	0.002 U	0.0031 BJ	0.0014 U	0.0064 BJ		1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
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

BOD = Biological oxygen demand
COD = Chemical oxygen demand
s.u. = Standard units
TDS = Total Dissolved Solids
TOC = Total organic carbon
TOX = Total organic halides
umohs/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 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		2010		2011	2012		2013		2014			
	SEPT.	APRIL	SEPT	MAR	NOV	MAR	SEPT	MAR.	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	SEPT	MAR	AUG	MAR	AUG	FEB	FEB	AUG	FEB	AUG	FEB		
BOD, mg/L	3.48	<2	<2	<2	4	4	<1.0	<2.0	<2.0	6	<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	2 UJ	2 U	2 UJ	2 U	4 U	4 UJ	26.1 J	4 U	2 U	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	5.9	25 U	25 U	25 U	25 U	13 J	16 U	22	16 U	16 U	21	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	0.05	7.7	0.1 U	0.271	0.1 U	0.1 U	0.08 U	0.61	0.08 U	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	11.2	0.4	17	3.4	3.3	3.9	66.8	4	3.1	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	1020	580	998	495	872	1210	511	836	620	500	NE
pH, s.u.	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	6.7 J	6.9 J	6.7 J	6.87 J	6.84 J	6.68 J	7.02 J	6.64 J	7.47 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	1300	836	1250	739	1070	1360	747	1060	827	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	452	233	259	156	422	631	131	424	228	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	7	5 U	6.7	3.68	3.36	5.02	2.2	3.45	3.22	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	0.3	0.1 U	0.1 U	0.19 J	0.23	0.51	0.22	0.36	0.27	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	0.1 U	0.1 U	0.1 U	0.1 U	0.04 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 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	0.0074	0.0046 J	0.0073	0.003 U	0.011	0.009 J	0.0051 J	0.0071 J	0.0067 J	0.010	0.010
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	0.0757	0.0494	0.0578	0.072	0.042	0.046	0.041	0.056	0.028	0.700	0.100
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	0.0005 U	0.0005 U	0.0005 U	0.001 U	0.00021 BJ	0.0002 U	0.00017 U	0.00017 U	0.0042 J	0.002	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	0.002 J	0.00063 B	0.00041 J	0.001 B	0.0005 U	0.0005 U	0.00041 U	0.00041 U	0.0011 BJ	0.010	0.010
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	0.0003 U	0.0003 U	0.0003 U	0.002 U	0.0022 J	0.002 U	0.002 U	0.002 U	0.0034 J	1	0.010
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	27.6	1.68	16.4	0.95	7.15	38.9	2.67	30	9.47	0.300	0.300
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	0.004 U	0.004 U	0.004 U	0.004 U	0.002 B	0.004 U	0.004 U	0.0033 U	0.0033 U	0.0033 U	0.015	0.010
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	2.05	0.0547	1.03	0.024	0.673	1.67	0.082	1.19	0.132	0.050	0.050
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	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00007 U	0.00007 U	0.00007 U	0.00007 U	0.00008 U	0.00002 U	0.000012 U	0.000012 U	0.000012 U	0.000012 U	0.001	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	<0.0010	0.00051	0.0038 U	0.0072 J	0.0038 U	0.0038 U	0.005 U	0.007 U	0.007 U	0.0062 U	0.0062 U	0.0062 U	0.020	0.010
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	0.0033	<0.010	0.001 J	0.001 J	0.0001 U	0.00024 J	0.001 U	0.002 U	0.002 U	0.0012 U	0.0024 J	0.003 J	0.020	0.010
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	0.00074 B	0.0036 J	0.00084 J	0.0002 U	0.002 U	0.002 U	0.002 U	0.0016 U	0.0016 U	0.0051 J	0.0003 (I)	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	0.0362	0.0085 B	0.0066 J	0.009 J	0.0036 BJ	0.002 U	0.0033 BJ	0.012 BJ	0.018 BJ	1	0.010

NOTES:
< Symbol = Below Laboratory Detectable Limits
2L Std - Title 15, North Carolina Administrative Code, Subchapter 2L, class GA groundwater standard.
I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.0003 mg/L
SWSL - Solid Waste Section Limits - target laboratory method detection limits
Bold text denotes results that exceed NC ground-water standards
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BOD = Biological oxygen demand
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umohs/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.
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TABLE 3
NEW LANDFILL CELL 1 ANALYSIS RESULTS
INTERNATIONAL PAPER
RIEGELWOOD, NORTH CAROLINA
FEBRUARY 2014 EVENT

		Client Sample ID:	Primary Leachate Collection System		Secondary Leachate Collection System		Under-Drain Leachate Collection System		2L Standard	SWSL
		Collect Date:	2/26/2014		2/26/2014		2/26/2014			
Method	Parameter	Units	Value	Q	Value	Q	Value	Q		
SW-846 6010C	Arsenic	ug/l	155		9.2	J	7.1	J	10	10
SW-846 6010C	Barium	ug/l	201		31		111		700	100
SW-846 6010C	Cadmium	ug/l	0.28	J	0.17	U	0.17	U	2	1
SW-846 6010C	Chromium	ug/l	130		1750		15	B	10	10
SW-846 6010C	Copper	ug/l	2	U	14		2.4	J	1,000	10
SW-846 6010C	Iron	ug/l	8190		22700		9960		300	300
SW-846 6010C	Lead	ug/l	3.3	U	3.3	U	3.3	U	15	10
SW-846 6010C	Manganese	ug/l	377		1150		757		50	50
SW-846 6010C	Selenium	ug/l	6.2	U	6.2	U	6.2	U	20	10
SW-846 6010C	Silver	ug/l	3.6	J	1.2	U	1.9	J	20	10
SW-846 6010C	Vanadium	ug/l	1280		32		48		0.3 (I)	25
SW-846 6010C	Zinc	ug/l	20	B	52		13	BJ	1,000	10
SW-846 7470A	Mercury	ug/l	0.07	J	0.012	U	0.02	J	1	0.2
EPA 120.1	Specific Conductance	umhos/cm	9830		2350		3030		NE	NE
EPA 300.0	Chloride	mg/l	154		38		233		250	NE
EPA 300.0	Fluoride	mg/l	0.2	U	1.5	J	0.32	J	2	2
EPA 300.0	Nitrate	mg/l	0.3	U	0.3	U	0.06	U	10	10
EPA 300.0	Orthophosphate	mg/l	1.8		0.2	U	0.04	U	NE	NE
EPA 300.0	Sulfate	mg/l	884		1020		135		250	250
EPA 410.4	Chemical oxygen demand	mg/l	1350		166		204		NE	NE
SM 2540C	Total Dissolved Solids	mg/l	8290		1870		2120		500	NE
SM 4500H	Laboratory pH	s.u.	7.88	J	5.78	J	7.34	J	6.5-8.5	NE
SM 5210B	Biochemical oxygen demand	mg/l	525	J	25.9	J	23.3	J	NE	NE
SM 5310B	Total Organic Carbon	mg/l	1.3		42.5		55.3		NE	NE
SW-846 9020B	Total Organic Halides	mg/l	0.46		0.08	U	0.47		NE	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

I - Ground Water Protection Standard (used when no 2L Standards are established). *The GWP Standard for vanadium is 0.3 ug/L.

SWSL - Solid Waste Section Limits

mg/L = Milligrams per Liter

NE = Not Established

s.u. = Standard unit

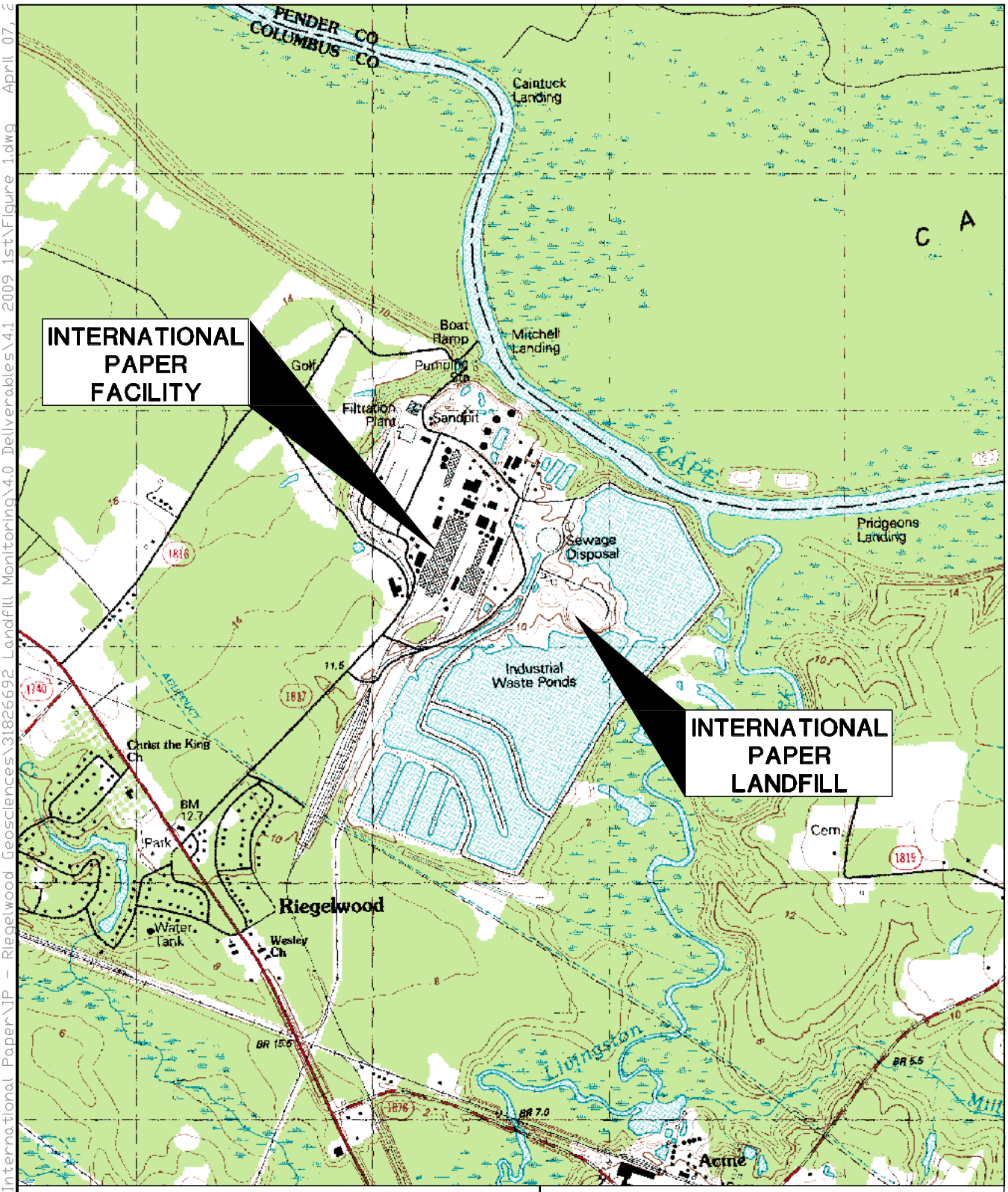
ug/L = Micrograms per Liter

umhos/cm = Micromhos per centimeter

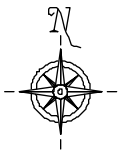
Qualifiers (Q):

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
R	Unusable data

FIGURES



QUADRANGLE LOCATION



SCALE IN FEET

0 2000

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

FIGURE 1. LOCATION MAP

INTERNATIONAL PAPER
RIEGELWOOD MILL
RIEGELWOOD, NORTH CAROLINA

Prepared for:
INTERNATIONAL PAPER

URS
RDU, NORTH CAROLINA 27560

DRAWN BY: TSH
DATE: 04/07/09
PROJECT NO.

Fig. 1

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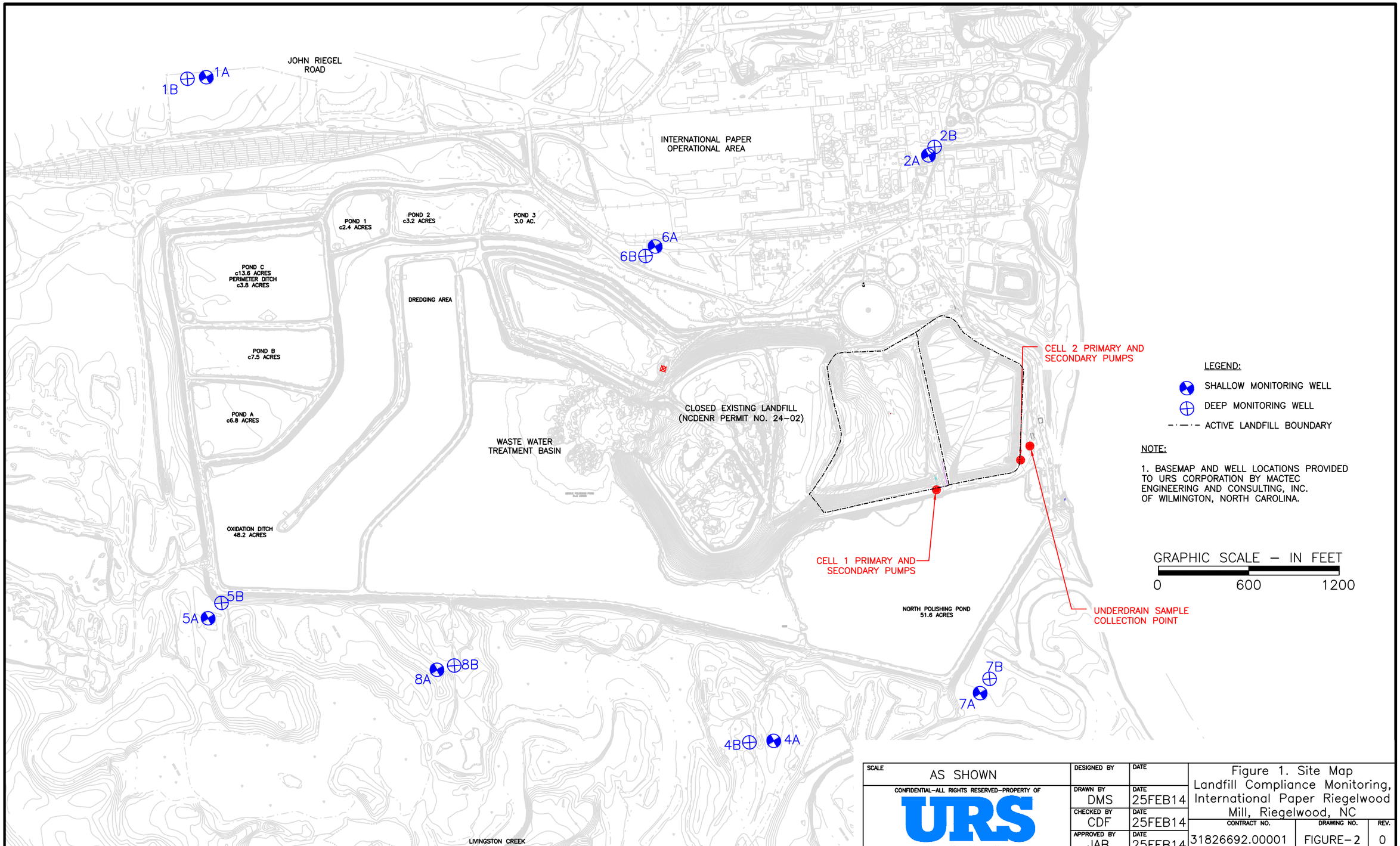

SCALE	DESIGNED BY	DATE	Figure 1. Site Map Landfill Compliance Monitoring, International Paper Riegelwood Mill, Riegelwood, NC
AS SHOWN			
CONFIDENTIAL–ALL RIGHTS RESERVED–PROPERTY OF URS RDU, NORTH CAROLINA 27560	DRAWN BY DMS	DATE 25FEB14	
	CHECKED BY CDF	DATE 25FEB14	CONTRACT NO. 31826692.00001 / DRAWING NO. FIGURE–2 / REV. 0
	APPROVED BY JAB	DATE 25FEB14	

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APPENDIX A

Data Validation Checklist
Organic and Inorganic Analyses

Project:	IP – Riegelwood, NC (Landfill Monitoring)	Project No:	31829654.00001
Work Order:	J1401424 & J1401428	Methods:	EPA 120.1 (Specific Conductance), 300.0 (Chloride, Fluoride, Nitrate, Orthophosphate, and Sulfate), 410.4 (COD), 6010C (ICP Metals[1]), 7470A (Mercury), and 9020B (TOX); Standard Methods 2540C (Total Dissolved Solids), 4500-H + B (pH), 5210B (BOD), and 5310B (TOC)
Laboratory:	ALS Environmental,[2] Jacksonville, FL	Associated Sample IDs:	MW-1A, MW-1B, MW-4A, MW-5A, MW-7A, MW-8A, Primary, Secondary, & Underdrain
Sample Matrix:	Water	Date(s) Sampled:	02/26/2014
Reviewer:	Nicole Lancaster, URS Corporation	Date:	04/07/2014
Concurrence[3]:	Martha Meyers-Lee, URS Corporation	Date:	04/14/2014

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
1. Were holding times met?	✓			• EPA 6010: ≤180 days	
	✓			• EPA 7470: ≤ 28 days	
	✓			• EPA 120.1: ≤ 28 days	
	✓			• EPA 300: ○ ≤ 48 hours (Nitrate and Orthophosphate) ○ ≤ 28 days (Chloride, Fluoride, and Sulfate)	
	✓			• EPA 410.4: ≤ 28 days	
		✓		• SM 4500-H: ≤15 minutes. Samples were analyzed more than 15 minutes after sample collection. J-flag positive results.	J
	✓			• SM 2540C: ≤7 days	
	✓			• SM 5210B: ≤ 48 hours and after 5-day (±6 hours) incubation period.	
	✓			• SM 5310B: ≤ 28 days	
	✓			• EPA 9020B: ≤ 28 days	

[1] As, Ba, Cd, Cr, Cu, Fe, Pb, Mn, Se, Ag, V, and Zn
[2] ALS subcontracted the TOX analysis to Summit Environmental Technologies, Inc. of Cuyahoga Falls, OH. TOX analyses were conducted under Work Order numbers 14022185 and 14022187.
[3] Independent Technical Reviewer

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
2. Were sample storage and preservation requirements met?	✓			• Temperatures of sample containers upon receipt were 2.5, 0.1, and 0.4°C (≤6°C).	
	✓			• The laboratory verified that all samples were properly preserved in the field.	
3. Was a method blank analyzed with each batch?	✓			• EPA 6010: MB-01500-02	
	✓			• EPA 7470: MB-01533-02	
	✓			• EPA 120.1: J1401424-MB & J1401428-MB1	
	✓			• EPA 300: J1401424-MB, J1401428-MB1, & J1401428-MB2	
	✓			• EPA 410.4: J1401424-MB & J1401428-MB1	
			✓	• SM 4500-H: Not applicable	
	✓			• SM 2540C: J1401424-MB & J1401428-MB1	
	✓			• SM 5210B: J1401424-MB & J1401428-MB1	
	✓			• SM 5310B: J1401424-MB & J1401428-MB1	
	✓			• EPA 9020B: MB-R14165	

4. Were target analytes reported in the method/calibration blank above the Detection Limit (DL)?	✓			• EPA 6010:
				  • ICB of 3/3/14 @18:10: Iron @ 4.00 J µg/L (RL 100.00, MDL 2.50)
				  • CCB of 3/4/14 @ 01:11[4]: Iron @ 3.20 J µg/L (RL 100.00, MDL 2.50)
				  • MB of 3/3/14 @ 23:53:
				  ○ Chromium @ 8.570 J µg/L (RL 10.000, MDL 0.410)
				  ○ Iron @ 87.00 J µg/L (RL 100.00, MDL 2.50)
				  ○ Zinc @ 4.110 µg/L (RL 20.000, MDL 1.400)
				• SM 5310B, J1401428-MB1: TOC @ 0.5 J mg/L (RL 1.0, MDL 0.09)	

5. Were target analytes reported in field blank analyses (e.g., trip, ~~ambient, field, or equipment~~) above the DL?			✓		

[4] Associated samples: J1401428-001 through -006

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
6. Were analytes detected in samples at concentrations similar to that observed in the blanks?	✓	✓		All detected TOC sample results were greater than the RL; therefore, qualification of data is not warranted. Metal blank contamination action levels (BCALs): • Chromium @ 25.65 µg/L (8.570 x 5) • Iron @ 240 µg/L (87.000 x 5) • Zinc @ 20.55 µg/L (4.110 x 5) Chromium, iron, and zinc sample results that were less than the BCAL, adjusted for sample dilution, have been B-flagged.	B
7. Was a field duplicate sample collected?		✓			
8. Was precision deemed acceptable as defined by the project plans and/or DV Guidelines?			✓		
9. Was a LCS prepared/analyzed with each batch?	✓			• EPA 6010: LCS-01500-01 (LCS Only)	
	✓			• EPA 7470: LCS-01533-01 (LCS Only)	
	✓			• EPA 120.1: J1401424-LCS & J1401428-LCS1 (LCS Only)	
	✓			• EPA 300: J1401424-LCS, J1401428-LCS1, & J1401428-LCS2 (LCS Only)	
	✓			• EPA 410.4: J1401424-LCS & J1401428-LCS1 (LCS Only)	
			✓	• SM 4500-H: Not applicable	
	✓			• SM 2540C: J1401424-LCS & J1401428-LCS1 (LCS Only)	
	✓			• SM 5210B: J1401424-LCS & J1401428-LCS1 (LCS Only)	
	✓			• SM 5310B: J1401424-LCS & J1401428-LCS1 (LCS Only)	
	✓			• EPA 9020B: LCS-R14165 (LCS and LCSD)	
10. Were LCS recoveries within lab/project[5] specifications?	✓				
11. Were LCS/LCSD RPD within lab specifications?	✓			LCS only for all analyses, except EPA 9020B.	

[5] LCS recovery is to be within 60-140% of the true value

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
12. Was a MS/MSD pair analyzed with each batch?	✓			• EPA 6010: Batch QC according to ALS PM	
	✓			• EPA 7470: J1401424-001 (Primary), MS/MSD	
			✓	• EPA 120.1: Not applicable	
	✓			• EPA 300: o J1401424-002 (Secondary), MS only o J1401428-001 (MW-1A), MS only	
	✓			• EPA 410.4: Batch QC according to ALS PM	
			✓	• SM 4500-H: Not applicable	
			✓	• SM 2540C: Not applicable	
			✓	• SM 5210B: Not applicable	
	✓			• SM 5310B: o J1401424-003 (Under Drain), MS only o J1401428-001 (MW-1A), MS only	
	✓			• EPA 9020B: J140220187-003 (J1401428-003, MW-4A), MS/MSD	
13. Is the MS/MSD parent sample a project-specific sample?	✓	✓		See above.	
14. Were MS/MSD recoveries within lab specifications? *Only QC results for project samples are evaluated.*	✓				
15. Were laboratory criteria met for precision during the MS/MSD analysis? *Only QC results for project samples are evaluated.*	✓				
16. Was a serial dilution conducted on each inorganic batch?			✓	• EPA 6010: None	
	✓			• EPA 7470: J1401424-001 (Primary)	
17. Is the serial dilution parent sample a project-specific sample?	✓			See above.	
18. Is the percent difference between the serially diluted result and undiluted result less than 10% (for those analytes with native concentrations greater than 50x the DL)? *Only QC results for project samples are evaluated.*			✓	EPA 7470: An evaluation is not possible based on serial dilution results for J1401424-001 (Primary), as the native sample concentration was less than 50x the DL.	
19. Was a post-digestion spike analysis conducted whenever the MS or serial dilution results did not meet QC limits?	✓			• EPA 6010: Batch QC according to ALS PM	
	✓			• EPA 7470: J1401424-001 (Primary) was subject to a PDS analysis even though MS/MSD results met control limits.	
20. Were laboratory/project specifications met during the PDS analysis? *Only QC results for project samples are evaluated.*	✓				
21. Was a laboratory duplicate analyzed with each batch?		✓		See below.	

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
22. Is the laboratory duplicate sample a project-specific sample?			✓	• EPA 6010: Not applicable	
			✓	• EPA 7470: Not applicable	
	✓			• EPA 120.1: Batch QC per raw data	
	✓			• EPA 300: J1401424-002 (Secondary)	
	✓			• EPA 410.4: Batch QC per raw data	
	✓			• SM 4500-H: o J1401424-001 (Primary) o J1401428-006 (MW-8A)	
	✓			• SM 2540C: J1401424-003 (Under Drain)	
	✓			• SM 5210B: J1401424-001 (Primary)	
	✓			• SM 5310B: o J1401424-003 (Under Drain) o J1401428-001 (MW-1A)	
			✓	• EPA 9020B: Not applicable	
23. Does laboratory duplicate results meet lab specifications? *Only QC results for project samples are evaluated.*		✓		SM 5210B, Primary (1401424-001): BOD @ 88%RPD (≤20%RPD). J-flag	J
24. Were initial and continuing calibration standards analyzed at the lab/project-specified frequency for each instrument?	✓			EPA 120.1, 300, 410.4, 6010, and 7470, SM 4500-H, 5210B, and 5310B	
25. Were these results within lab/project specifications?	✓				
26. Were surrogate recoveries within lab/project specifications?			✓		
27. Were internal standard results within lab specifications?			✓		
28. Were TIC reported and were reported results qualified as estimated concentrations?			✓		
29. Were laboratory-generated Corrective Action Reports (i.e., QCER) issued? If yes, summarize contents or attach copy of the report.		✓			
30. Were lab comments included in report? If yes, summarize contents or attach a copy of the narrative.	✓			According to the Case Narrative, samples Primary, Secondary, Under Drain, MW-5A, and MW-7A (J1401424-001, -002, -003 and J1401428-004 and -005, respectively) exhibited signs of potential toxicity for the biological oxygen demand analysis, yielding successively lower results as the sample dilution decreased. BOD results for these eight samples are estimated (J). Refer to **Attachment A** for additional comments.	J

Data Validation Checklist (Continued)

Review Questions	Yes	No	N/A	Samples (Analytes) Affected/Comments	Flag
Comments: Batch QC sample results are not included in the QC summary section of the laboratory reports. According to the ALS Project Manager, MS/MSD and/or laboratory duplicate analyses are conducted at a frequency of 5% for the following parameters: • Lab Duplicates: Anions (Chloride, Nitrate, and Sulfate), BOD, COD, Conductivity, pH, TDS, and TOC • Matrix Spikes: Anions (Chloride, Nitrate, and Sulfate), COD, Metals, and TOC					
All sample concentrations that are less than the MRL, but greater than the MDL are estimated (J).					
The data review process was modeled after the *USEPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Superfund Organic Methods Data Review* (EPA, June 2008) and *USEPA CLP NFG for Inorganic Superfund Data Review* (USEPA, January 2010). Sample results have been qualified based on the results of the data review process (refer to **Attachment B)**. In performing the data evaluation, the URS' data reviewer assumed that the data reported by the laboratory are complete, compliant, and an accurate representation of the raw data. Criteria for acceptability of data were based upon available site information, analytical method requirements, guidance documents, and professional judgment.					

DV Flag Definitions:

J Estimated value
UJ Not detected and the detection limit is estimated
B Blank contamination exists
R Unusable data

ATTACHMENT A

CASE NARRATIVE

ALS Environmental, Inc.

Client:	URS Corporation	**Service Request No.:**	J1401424
Project:	IP Riegelwood Landfill	**Date Received:**	2/27/2014
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III data deliverables including validation summary forms. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Three water samples were received for analysis at ALS Environmental on 2/27/2014. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Metals Analyses:

Method 7470A: The control criterion for the serial dilution analysis of Mercury for sample J1401424-001 is not applicable. The concentration of the analyte in the parent sample is less than 10x the reporting limit. No further corrective action was required

General Chemistry Analyses:

Method 300.0: The reporting limit is elevated for all analytes analyzed by 300.0 in samples J1401424-001, -002, and -003. These samples contained high concentrations of dissolved solids that precluded their analysis without prior dilution via this technique.

Method SM5210B: The dilution series for sample J1401424-001 did not meet the criterion for residual oxygen of at least 1 mg/L. The reporting limit reflects the smallest dilution tested. The analysis could not be repeated because holding time for the test had expired.

Method SM5210B: Samples J1401424-001, -002, and -003 for this project exhibited signs of potential toxicity for the BOD analysis, yielding successively lower results as the sample dilution decreased. The results for BOD for these samples should be considered estimated.

Method SM5210B: Sample J1401424-001 was used for duplicate analysis. The Relative Percent Difference between the duplicates was above the ALS criterion of 20% due to suspected matrix interference. The analysis could not be repeated because holding time for the test had expired. Results have been reported and qualified.

Subcontracted Analytical Parameters:

The samples were delivered to Summit Labs in Cuyahoga Falls, OH on 02/28/2014 for EPA Method 9020 determination. The certified analytical report has been included in its entirety in Appendix A: Subcontracted Analytical Results.

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Approved by _____ Date 3/18/14

ALS Environmental, Inc.

Client:	URS Corporation	**Service Request No.:**	J1401428
Project:	IP Riegelwood Landfill	**Date Received:**	2/27/2014
Sample Matrix:	Water		

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier III data deliverables including validation summary forms. When appropriate to the procedure, method blank results have been reported with each analytical test. Analytical procedures performed by the lab are validated in accordance with NELAC standards. Parameters that are included in the NELAC Fields of Testing but are not included in the lab's NELAC accreditation are identified in the discussion of each analytical procedure.

Sample Receipt

Six water samples were received for analysis at ALS Environmental on 2/27/2014. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at ≤6°C upon receipt at the lab except for aqueous samples designated for metals analyses, which are stored at room temperature.

Metals Analyses:

No significant data anomalies were noted with this analysis.

General Chemistry Analyses:

Method SM5210B (BOD): Samples J1401428-004 and -005 for this project exhibited signs of potential toxicity for the BOD analysis, yielding successively lower results as the sample dilution decreased. The results for BOD for these samples should be considered estimates.

Subcontracted Analytical Parameters:

The samples were delivered to Summit Labs in Cuyahoga Falls, OH on 02/28/2014 for EPA Method 9020 determination. The certified analytical report has been included in its entirety in Appendix A: Subcontracted Analytical Results.

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Approved by _____ Date 3/18/14

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website http://www.gettek.com

Case Narrative

WO#: 14022185
Date: 3/5/2014

CLIENT: ALS Environmental, Inc.
Project: J1401424

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc. Work Order Number assigned to this report.

Paginated Report including: Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports and copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the Limit of Quantitation (LOQ) but greater than the established Limit of Detection (LOD). There is greater uncertainty associated with these results and data should be considered as estimated.

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Any comments or problems with the analytical events associated with this report are noted below.

Original

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: 14022187
Date: 3/5/2014

CLIENT: ALS Environmental, Inc.
Project: J1401428

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc. Work Order Number assigned to this report.

Paginated Report including: Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports and copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the Limit of Quantitation (LOQ) but greater than the established Limit of Detection (LOD). There is greater uncertainty associated with these results and data should be considered as estimated.

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Any comments or problems with the analytical events associated with this report are noted below.

Original

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ATTACHMENT B

QUALIFIED SAMPLE RESULTS

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401424 **Method Type:**

Sample ID: J1401424-001 **Client ID:** Primary

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	155	ug/L			6010C	3.6	10	1.00	3/4/2014	00:33:47
Barium	201	ug/L			6010C	0.22	10	1.00	3/4/2014	00:33:47
Cadmium	0.28	ug/L	J		6010C	0.17	5.0	1.00	3/4/2014	00:33:47
Chromium	130	ug/L			6010C	0.41	10	1.00	3/4/2014	00:33:47
Copper	2.0	ug/L	U		6010C	2.0	10	1.00	3/4/2014	00:33:47
Iron	8190	ug/L			6010C	2.5	100	1.00	3/4/2014	00:33:47
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	00:33:47
Manganese	377	ug/L			6010C	2.3	10	1.00	3/4/2014	00:33:47
Mercury	0.070	ug/L	J		7470A	0.012	0.10	1.00	3/4/2014	13:11:53
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	00:33:47
Silver	3.6	ug/L	J		6010C	1.2	10	1.00	3/4/2014	00:33:47
Vanadium	1280	ug/L			6010C	1.6	20	1.00	3/4/2014	00:33:47
Zinc	20	ug/L	~~J~~ B (*)		6010C	~~1.0~~ 1.4 (*)	20	1.00	3/4/2014	00:33:47

Comments: (*) MMeyers 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401424 **Method Type:**

Sample ID: J1401424-002 **Client ID:** Secondary

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	9.2	ug/L	J		6010C	3.6	10	1.00	3/4/2014	00:42:59
Barium	31	ug/L			6010C	0.22	10	1.00	3/4/2014	00:42:59
Cadmium	0.17	ug/L	U		6010C	0.17	5.0	1.00	3/4/2014	00:42:59
Chromium	1750	ug/L			6010C	0.41	10	1.00	3/4/2014	00:42:59
Copper	14	ug/L			6010C	2.0	10	1.00	3/4/2014	00:42:59
Iron	22700	ug/L			6010C	2.5	100	1.00	3/4/2014	00:42:59
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	00:42:59
Manganese	1150	ug/L			6010C	2.3	10	1.00	3/4/2014	00:42:59
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:20:15
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	00:42:59
Silver	1.2	ug/L	U		6010C	1.2	10	1.00	3/4/2014	00:42:59
Vanadium	32	ug/L			6010C	1.6	20	1.00	3/4/2014	00:42:59
Zinc	52	ug/L			6010C	1.4	20	1.00	3/4/2014	00:42:59

Comments:

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401424 **Method Type:**

Sample ID: J1401424-003 **Client ID:** Under Drain

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	7.1	ug/L	J		6010C	3.6	10	1.00	3/4/2014	00:52:02
Barium	111	ug/L			6010C	0.22	10	1.00	3/4/2014	00:52:02
Cadmium	0.17	ug/L	U		6010C	0.17	5.0	1.00	3/4/2014	00:52:02
Chromium	15	ug/L	~~U~~ B (*)		6010C	~~0.4~~ 0.41 (*)	~~10~~ 10 (*)	1.00	3/4/2014	00:52:02
Copper	2.4	ug/L	J		6010C	2.0	10	1.00	3/4/2014	00:52:02
Iron	9960	ug/L			6010C	2.5	100	1.00	3/4/2014	00:52:02
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	00:52:02
Manganese	757	ug/L			6010C	2.3	10	1.00	3/4/2014	00:52:02
Mercury	0.020	ug/L	J		7470A	0.012	0.10	1.00	3/4/2014	13:21:24
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	00:52:02
Silver	1.9	ug/L	J		6010C	1.2	10	1.00	3/4/2014	00:52:02
Vanadium	48	ug/L			6010C	1.6	20	1.00	3/4/2014	00:52:02
Zinc	13	ug/L	~~U~~ (*) JB		6010C	~~1.2~~ 1.4 (*)	20	1.00	3/4/2014	00:52:02

Comments: (*) M Meyerstle, 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401424
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1050
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	Primary		
Lab Code:	J1401424-001	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	**525**	~~X~~ J	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	**1.3**		mg/L	1.0	0.09	1	NA	3/4/14 02:02	
Chemical Oxygen Demand, Total	410.4	**1350**		mg/L	400	320	20	3/ 6/14	3/6/14 11:22	
Chloride	300.0	**154**		mg/L	5.0	1.1	10	NA	2/27/14 22:58	
Conductivity at 25 Degrees Celsius	120.1	**9830**		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:30	
Fluoride	300.0	ND	U	mg/L	2.0	0.2	10	NA	2/27/14 22:58	
Nitrate as Nitrogen	300.0	ND	U	mg/L	2.0	0.3	10	NA	2/27/14 22:58	
Orthophosphate as Phosphorus	300.0	**1.8**		mg/L	1.0	0.2	10	NA	2/27/14 22:58	
pH	SM 4500-H+ B	7.88	J	pH Units			1	NA	3/5/14 13:43	H
Solids, Total Dissolved	SM 2540 C	**8290**		mg/L	100	100	10	NA	2/28/14 13:41	
Sulfate	300.0	**884**		mg/L	5.0	1.8	10	NA	2/27/14 22:58	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401424
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1110
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	Secondary		
Lab Code:	J1401424-002	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	25.9	~~R~~ J	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	42.5		mg/L	1.0	0.09	1	NA	3/4/14 02:24	
Chemical Oxygen Demand, Total	410.4	166		mg/L	20	16	1	3/ 6/14	3/6/14 11:23	
Chloride	300.0	38.0		mg/L	5.0	1.1	10	NA	2/27/14 23:14	
Conductivity at 25 Degrees Celsius	120.1	2350		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:34	
Fluoride	300.0	1.5	J	mg/L	2.0	0.2	10	NA	2/27/14 23:14	
Nitrate as Nitrogen	300.0	ND	U	mg/L	2.0	0.3	10	NA	2/27/14 23:14	
Orthophosphate as Phosphorus	300.0	ND	U	mg/L	1.0	0.2	10	NA	2/27/14 23:14	
pH	SM 4500-H+ B	5.78	J	pH Units			1	NA	3/4/14 16:24	H
Solids, Total Dissolved	SM 2540 C	1870		mg/L	100	100	10	NA	2/28/14 13:41	
Sulfate	300.0	1020		mg/L	5.0	1.8	10	NA	2/27/14 23:14	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401424
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1120
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	Under Drain		
Lab Code:	J1401424-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	**23.3**	~~J~~ U	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	**55.3**		mg/L	1.0	0.09	1	NA	3/4/14 02:42	
Chemical Oxygen Demand, Total	410.4	**204**		mg/L	20	16	1	3/ 6/14	3/6/14 11:23	
Chloride	300.0	**233**		mg/L	1.0	0.3	2	NA	2/28/14 00:02	
Conductivity at 25 Degrees Celsius	120.1	**3030**		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:38	
Fluoride	300.0	**0.32**	J	mg/L	0.40	0.03	2	NA	2/28/14 00:02	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.40	0.06	2	NA	2/28/14 00:02	
Orthophosphate as Phosphorus	300.0	ND	U	mg/L	0.20	0.04	2	NA	2/28/14 00:02	
pH	SM 4500-H+ B	7.34	J	pH Units			1	NA	3/4/14 16:34	H
Solids, Total Dissolved	SM 2540 C	**2120**		mg/L	40	40	4	NA	2/28/14 13:41	
Sulfate	300.0	**135**		mg/L	1.0	0.4	2	NA	2/28/14 00:02	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL (330) 253-8211 FAX (330) 253-4489
Website http://www.setek.com

WO#: 14022185
Date Reported: 3/5/2014
Company: ALS Environmental, Inc.
Address: 9143 Philips HWY
Jacksonville FL 32256
Received: 2/28/2014
Project#: J1401424

Client ID#	Lab ID#	Collected	Analyte	Result	Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
J1401424-001	001	2/26/2014	Total Organic Halides	0.46	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
Client ID#	**Lab ID#**	**Collected**	**Analyte**	**Result**	**Units**	**Qual**	**Matrix**	**Method**	**DF**	**LOD**	**LOQ**	**Run**	**Analyst**
J1401424-002	002	2/26/2014	Total Organic Halides	ND	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
Client ID#	**Lab ID#**	**Collected**	**Analyte**	**Result**	**Units**	**Qual**	**Matrix**	**Method**	**DF**	**LOD**	**LOQ**	**Run**	**Analyst**
J1401424-003	003	2/26/2014	Total Organic Halides	0.47	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK

Sample results have been qualified by UFS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10)

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-001 **Client ID:** MW-1A

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	3.6	ug/L	U		6010C	3.6	10	1.00	3/4/2014	01:01:01
Barium	106	ug/L			6010C	0.22	10	1.00	3/4/2014	01:01:01
Cadmium	0.17	ug/L	U		6010C	0.17	5.0	1.00	3/4/2014	01:01:01
Chromium	5.2	ug/L	~~J~~ JB		6010C	~~0.4~~ 0.41	10	1.00	3/4/2014	01:01:01
Copper	2.0	ug/L	U		6010C	2.0	10	1.00	3/4/2014	01:01:01
Iron	803	ug/L			6010C	2.5	100	1.00	3/4/2014	01:01:01
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:01:01
Manganese	14	ug/L			6010C	2.3	10	1.00	3/4/2014	01:01:01
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:22:32
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:01:01
Silver	1.2	ug/L	U		6010C	1.2	10	1.00	3/4/2014	01:01:01
Vanadium	6.6	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:01:01
Zinc	15	ug/L	~~J~~ JB		6010C	~~1.2~~ 1.4	20	1.00	3/4/2014	01:01:01

Comments: M Meyerslee, 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-002 **Client ID:** MW-1B

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	5.7	ug/L	J		6010C	3.6	10	1.00	3/4/2014	01:19:23
Barium	19	ug/L			6010C	0.22	10	1.00	3/4/2014	01:19:23
Cadmium	0.17	ug/L	U		6010C	0.17	5.0	1.00	3/4/2014	01:19:23
Chromium	0.78	ug/L	~~J~~ JB ⊗		6010C	~~0.4~~ 0.4 ⊗	10	1.00	3/4/2014	01:19:23
Copper	3.5	ug/L	J		6010C	2.0	10	1.00	3/4/2014	01:19:23
Iron	1080	ug/L			6010C	2.5	100	1.00	3/4/2014	01:19:23
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:19:23
Manganese	81	ug/L			6010C	2.3	10	1.00	3/4/2014	01:19:23
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:26:51
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:19:23
Silver	1.7	ug/L	J		6010C	1.2	10	1.00	3/4/2014	01:19:23
Vanadium	5.6	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:19:23
Zinc	4.5	ug/L	~~J~~ JB ⊗		6010C	~~1.4~~ 1.4 ⊗	20	1.00	3/4/2014	01:19:23

Comments: ⊗ M Meyerstein 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-003 **Client ID:** MW-4A

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	3.6	ug/L	U		6010C	3.6	10	1.00	3/4/2014	01:23:22
Barium	70	ug/L			6010C	0.22	10	1.00	3/4/2014	01:23:22
Cadmium	0.21	ug/L	J		6010C	0.17	5.0	1.00	3/4/2014	01:23:22
Chromium	0.71	ug/L	~~J~~ JB ⊛		6010C	~~0.4~~ 0.4 ⊛	10	1.00	3/4/2014	01:23:22
Copper	2.0	ug/L	U		6010C	2.0	10	1.00	3/4/2014	01:23:22
Iron	12600	ug/L			6010C	2.5	100	1.00	3/4/2014	01:23:22
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:23:22
Manganese	60	ug/L			6010C	2.3	10	1.00	3/4/2014	01:23:22
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:28:00
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:23:22
Silver	1.2	ug/L	U		6010C	1.2	10	1.00	3/4/2014	01:23:22
Vanadium	9.0	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:23:22
Zinc	14	ug/L	~~J~~ JB ⊛		6010C	~~1~~ 1.4 ⊛	20	1.00	3/4/2014	01:23:22

Comments: ⊛ MMeyerle 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-004 **Client ID:** MW-5A

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	5.8	ug/L	J		6010C	3.6	10	1.00	3/4/2014	01:28:05
Barium	133	ug/L			6010C	0.22	10	1.00	3/4/2014	01:28:05
Cadmium	0.17	ug/L	U		6010C	0.17	5.0	1.00	3/4/2014	01:28:05
Chromium	3.1	ug/L	~~J~~ JB (*)		6010C	~~0.4~~ 0.41 (*)	10	1.00	3/4/2014	01:28:05
Copper	2.0	ug/L	U		6010C	2.0	10	1.00	3/4/2014	01:28:05
Iron	800	ug/L			6010C	2.5	100	1.00	3/4/2014	01:28:05
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:28:05
Manganese	461	ug/L			6010C	2.3	10	1.00	3/4/2014	01:28:05
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:29:10
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:28:05
Silver	2.3	ug/L	J		6010C	1.2	10	1.00	3/4/2014	01:28:05
Vanadium	14	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:28:05
Zinc	5.8	ug/L	~~J~~ JB (*)		6010C	~~1.4~~ 1.4 (*)	20	1.00	3/4/2014	01:28:05

Comments: (*) MMeyerslee 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-005 **Client ID:** MW-7A

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	20	ug/L			6010C	3.6	10	1.00	3/4/2014	01:37:32
Barium	40	ug/L			6010C	0.22	10	1.00	3/4/2014	01:37:32
Cadmium	0.56	ug/L	J		6010C	0.17	5.0	1.00	3/4/2014	01:37:32
Chromium	1.9	ug/L	~~J~~ JB⊛		6010C	~~0.4~~ 0.4⊛	10	1.00	3/4/2014	01:37:32
Copper	2.0	ug/L	U		6010C	2.0	10	1.00	3/4/2014	01:37:32
Iron	22900	ug/L			6010C	2.5	100	1.00	3/4/2014	01:37:32
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:37:32
Manganese	337	ug/L			6010C	2.3	10	1.00	3/4/2014	01:37:32
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:30:19
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:37:32
Silver	1.6	ug/L	J		6010C	1.2	10	1.00	3/4/2014	01:37:32
Vanadium	12	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:37:32
Zinc	6.4	ug/L	~~J~~ JB⊛		6010C	~~1.4~~ 1.4⊛	20	1.00	3/4/2014	01:37:32

Comments: ⊛ MMeyerrlle 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Total Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: URS Corporation **SDG No.:** J1401428 **Method Type:**

Sample ID: J1401428-006 **Client ID:** MW-8A

Matrix: WATER **Date Received:** 2/27/2014 **Level:** LOW

% Solids: **Sample Wt/Vol:** 50.0 **Final Vol:** 50.0

Prep Batch ID: 203172 **Prep Date:** 2/28/2014

Analyte	Concentration	Units	C	Qual	Method	MDL	MRL	Dil	Analytical Date	Analytical Time
Arsenic	6.7	ug/L	J		6010C	3.6	10	1.00	3/4/2014	01:46:33
Barium	28	ug/L			6010C	0.22	10	1.00	3/4/2014	01:46:33
Cadmium	4.2	ug/L	J		6010C	0.17	5.0	1.00	3/4/2014	01:46:33
Chromium	1.1	ug/L	~~J~~ ~~J~~ JB ⊗		6010C	~~0.19~~ 0.41 ⊗	10	1.00	3/4/2014	01:46:33
Copper	3.4	ug/L	J		6010C	2.0	10	1.00	3/4/2014	01:46:33
Iron	9470	ug/L			6010C	2.5	100	1.00	3/4/2014	01:46:33
Lead	3.3	ug/L	U		6010C	3.3	10	1.00	3/4/2014	01:46:33
Manganese	132	ug/L			6010C	2.3	10	1.00	3/4/2014	01:46:33
Mercury	0.012	ug/L	U		7470A	0.012	0.10	1.00	3/4/2014	13:31:26
Selenium	6.2	ug/L	U		6010C	6.2	10	1.00	3/4/2014	01:46:33
Silver	3.0	ug/L	J		6010C	1.2	10	1.00	3/4/2014	01:46:33
Vanadium	5.1	ug/L	J		6010C	1.6	20	1.00	3/4/2014	01:46:33
Zinc	18	ug/L	~~J~~ ~~J~~ JB ⊗		6010C	~~1.4~~ 1.4 ⊗	20	1.00	3/4/2014	01:46:33

Comments: ⊗ MMeyerhee 4/14/2014

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401428
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 0925
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	MW-1A		
Lab Code:	J1401428-001	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	ND	U	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	2.0		mg/L	1.0	0.09	1	NA	3/4/14 04:10	
Chemical Oxygen Demand, Total	410.4	34		mg/L	20	16	1	3/ 6/14	3/6/14 11:23	
Chloride	300.0	7.53		mg/L	0.50	0.11	1	NA	2/28/14 00:18	
Conductivity at 25 Degrees Celsius	120.1	152		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:42	
Fluoride	300.0	0.20		mg/L	0.20	0.02	1	NA	2/28/14 00:18	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.03	1	NA	2/28/14 00:18	
pH	SM 4500-H+ B	4.39	J	pH Units			1	NA	3/4/14 16:41	H
Solids, Total Dissolved	SM 2540 C	93		mg/L	10	10	1	NA	2/28/14 13:41	
Sulfate	300.0	45.6		mg/L	0.50	0.18	1	NA	2/28/14 00:18	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client: URS Corporation
Project: IP Riegelwood Landfill/31829654.00001
Sample Matrix: Water

Service Request: J1401428
Date Collected: 2/26/14 0930
Date Received: 2/27/14

Sample Name: MW-1B
Lab Code: J1401428-002

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	ND	U	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	**2.0**		mg/L	1.0	0.09	1	NA	3/4/14 05:29	
Chemical Oxygen Demand, Total	410.4	ND	U	mg/L	20	16	1	3/ 6/14	3/6/14 11:24	
Chloride	300.0	**8.43**		mg/L	0.50	0.11	1	NA	2/28/14 00:34	
Conductivity at 25 Degrees Celsius	120.1	**355**		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:44	
Fluoride	300.0	**0.17**	J	mg/L	0.20	0.02	1	NA	2/28/14 00:34	
Nitrate as Nitrogen	300.0	**0.24**		mg/L	0.20	0.03	1	NA	2/28/14 00:34	
pH	SM 4500-H+ B	7.49	J	pH Units			1	NA	3/4/14 16:48	H
Solids, Total Dissolved	SM 2540 C	**240**		mg/L	10	10	1	NA	2/28/14 13:41	
Sulfate	300.0	**19.6**		mg/L	0.50	0.18	1	NA	2/28/14 00:34	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401428
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1540
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	MW-4A		
Lab Code:	J1401428-003	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	ND	U	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	7.8		mg/L	1.0	0.09	1	NA	3/4/14 05:45	
Chemical Oxygen Demand, Total	410.4	25		mg/L	20	16	1	3/ 6/14	3/6/14 11:24	
Chloride	300.0	34.3		mg/L	0.50	0.11	1	NA	2/28/14 00:50	
Conductivity at 25 Degrees Celsius	120.1	307		µMHOS/cm	1.0	1.0	1	NA	2/28/14 19:46	
Fluoride	300.0	0.16	J	mg/L	0.20	0.02	1	NA	2/28/14 00:50	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.03	1	NA	2/28/14 00:50	
pH	SM 4500-H+ B	4.97	J	pH Units			1	NA	3/4/14 16:55	H
Solids, Total Dissolved	SM 2540 C	204		mg/L	10	10	1	NA	2/28/14 13:41	
Sulfate	300.0	79.4		mg/L	0.50	0.18	1	NA	2/28/14 00:50	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401428
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1305
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	MW-5A		
Lab Code:	J1401428-004	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	3.3	~~X~~ J	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	45.6		mg/L	1.0	0.09	1	NA	3/4/14 06:02	
Chemical Oxygen Demand, Total	410.4	214		mg/L	20	16	1	3/ 6/14	3/6/14 11:25	
Chloride	300.0	207		mg/L	2.5	0.6	5	NA	2/28/14 02:42	
Conductivity at 25 Degrees Celsius	120.1	2040		µMHOS/cm	1.0	1.0	1	NA	2/28/14 20:05	
Fluoride	300.0	0.16	J	mg/L	0.20	0.02	1	NA	2/28/14 01:38	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.03	1	NA	2/28/14 01:38	
pH	SM 4500-H+ B	7.28	J	pH Units			1	NA	3/4/14 17:04	H
Solids, Total Dissolved	SM 2540 C	1260		mg/L	20	20	2	NA	2/28/14 13:41	
Sulfate	300.0	90.8		mg/L	0.50	0.18	1	NA	2/28/14 01:38	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401428
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1455
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	MW-7A		
Lab Code:	J1401428-005	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	6.4	~~J~~	mg/L	2.0	2.0	1	NA	2/28/14 09:00	
Carbon, Total Organic (TOC)	SM 5310 B	22.4		mg/L	1.0	0.09	1	NA	3/4/14 06:16	
Chemical Oxygen Demand, Total	410.4	75		mg/L	20	16	1	3/ 6/14	3/6/14 11:25	
Chloride	300.0	180		mg/L	0.50	0.11	1	NA	2/28/14 01:54	
Conductivity at 25 Degrees Celsius	120:1	1540		µMHOS/cm	1.0	1.0	1	NA	2/28/14 20:09	
Fluoride	300.0	0.18	J	mg/L	0.20	0.02	1	NA	2/28/14 01:54	
Nitrate as Nitrogen	300.0	0.15	J	mg/L	0.20	0.03	1	NA	2/28/14 01:54	
pH	SM 4500-H+ B	7.48	U	pH Units			1	NA	3/4/14 17:13	H
Solids, Total Dissolved	SM 2540 C	1010		mg/L	20	20	2	NA	2/28/14 13:41	
Sulfate	300.0	45.5		mg/L	0.50	0.18	1	NA	2/28/14 01:54	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	URS Corporation	**Service Request:**	J1401428
Project:	IP Riegelwood Landfill/31829654.00001	**Date Collected:**	2/26/14 1350
Sample Matrix:	Water	**Date Received:**	2/27/14
Sample Name:	MW-8A		
Lab Code:	J1401428-006	**Basis:**	NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	SM 5210 B	ND	U	mg/L	2.0	2.0	1	NA	2/28/14 09.00	
Carbon, Total Organic (TOC)	SM 5310 B	3.1		mg/L	1.0	0.09	1	NA	3/4/14 06:32	
Chemical Oxygen Demand, Total	410.4	21		mg/L	20	16	1	3/ 6/14	3/6/14 11:25	
Chloride	300.0	3.22		mg/L	0.50	0.11	1	NA	2/28/14 02:10	
Conductivity at 25 Degrees Celsius	120.1	827		µMHOS/cm	1.0	1.0	1	NA	2/28/14 20:12	
Fluoride	300.0	0.27		mg/L	0.20	0.02	1	NA	2/28/14 02:10	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.03	1	NA	2/28/14 02:10	
pH	SM 4500-H+ B	7.47	J	pH Units			1	NA	3/4/14 17:22	H
Solids, Total Dissolved	SM 2540 C	620		mg/L	10	10	1	NA	2/28/14 13:41	
Sulfate	300.0	228		mg/L	1.0	0.4	2	NA	3/1/14 07:08	

Sample results have been qualified by URS based on data review results, which is modeled after USEPA NFG for Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10).

Summit Environmental Technologies, Inc
3310 Win St
Cuyahoga Falls, Ohio 44223
TEL. (330) 253-8211 FAX (330) 253-4489
Website: http://www.setlab.com

WO#: 14022187
Date Reported: 3/5/2014
Company: ALS Environmental, Inc.
Address: 9143 Philips HWY
Jacksonville FL 32256
Received: 2/28/2014
Project#: J1401428

Client ID#	Lab ID#	Collected	Analyte	Result	Units	Qual	Matrix	Method	DF	LOD	LOQ	Run	Analyst
J1401428-001	001	2/26/2014	Total Organic Halides	ND	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
J1401428-002	002	2/26/2014	Total Organic Halides	ND	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
J1401428-003	003	2/26/2014	Total Organic Halides	ND	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
J1401428-004	004	2/26/2014	Total Organic Halides	0.91	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
J1401428-005	005	2/26/2014	Total Organic Halides	0.28	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK
J1401428-006	006	2/26/2014	Total Organic Halides	ND	mg/L		Non-Potable Water	EPA 9020	1	0.080	0.10	3/5/2014	JRK

Sample results have been qualified by UAP Validation data review results, which include all SEPA Tier 1 Superfund Organic and Inorganic Methods Data Review (EPA, June 08 and Jan 10)

APPENDIX B

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

SAMPLE NO. MW-1A WELL NO. MW-1A

DATE/TIME COLLECTED 2-26-14/0925 PERSONNEL Jerry Maciejewski

SAMPLE METHOD Peristaltic pump with 1/8" tubing Duncan Briley

SAMPLE MEDIA: **Groundwater**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14

Time Started 0905

Time Completed 0940

Well Depth (ft. BTOC) 26.3'

Depth to Water (ft BTOC) 14.56

Actual Purge (liters) 6 L

Purge rate (liters/min) .33 L/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
0905	—	14.56	—	—	—	—	—	—
0911	2L	14.59	15.35	0.123	1.19	4.13	-225.1	4.61
0914	3L	14.59	14.76	0.123	0.64	4.08	-228.7	3.48
0917	4L	14.59	14.80	0.123	0.52	4.10	-226.3	2.96
0920	5L	14.59	14.83	0.123	0.48	4.08	-224.4	2.01
0923	6L	14.59	14.88	0.123	0.47	4.06	-221.7	1.88

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

SAMPLE NO. MW-1B WELL NO. MW-1B

DATE/TIME COLLECTED 2-26-14 / 0930 PERSONNEL Jerry Maciejewski

SAMPLE METHOD Peristaltic pump with 1/8" tubing Duncan Briley

SAMPLE MEDIA: **Groundwater**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14

Time Started 0910

Time Completed 0450

Well Depth (ft. BTOC) 50'

Depth to Water (ft BTOC) 14.04

Actual Purge (liters) 6t

Purge rate (liters/min) .33 t/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
0910	—	14.04	—	—	—	—	—	—
0916	2t	17.21	14.65	.340	7.95	6.92	71.2	13.4
0919	3t	18.62	14.52	.338	7.66	6.89	81.2	11.6
0922	4t	19.94	13.92	.336	7.84	6.89	86.7	10.2
0925	5t	20.99	13.88	.334	7.64	6.89	90.4	9.88
0928	6t	22.14	13.84	.332	7.57	6.89	93.6	10.6

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

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

DATE/TIME COLLECTED 2-26-14 / 1540 PERSONNEL Jerry Maciejewski

SAMPLE METHOD Peristaltic pump with 1/8" tubing Duncan Briley

SAMPLE MEDIA: **Groundwater**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14

Time Started 1515

Time Completed 1555

Well Depth (ft. BTOC) 11.91

Depth to Water (ft BTOC) 3.691

Actual Purge (liters) 6t

Purge rate (liters/min) .33t/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1520	—	3.69	—	—	—	—	—	—
1526	2t	3.86	10.93	.235	2.11	5.63	128.7	34.0
1529	3t	3.90	11.41	.233	1.28	5.29	169.9	30.4
1532	4t	3.90	11.45	.232	1.31	5.27	168.1	29.6
1535	5t	3.91	11.48	.232	1.25	5.26	167.4	28.0
1538	6t	3.91	11.50	.232	1.25	5.26	167.2	28.2

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

MW-4B DTW= 2.91

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: IP Riegelwood Landfill

PROJECT NO. 31829654.00001

SAMPLE NO. MW-5A

WELL NO. MW-5A

DATE/TIME COLLECTED 2-26-14 / 1305

PERSONNEL Jerry Maciejewski, Duncan Briley

SAMPLE METHOD Peristaltic pump with 1/8" tubing

SAMPLE MEDIA: Groundwater

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date: 2-26-14

Time Started: 1240

Time Completed: 1320

Well Depth (ft. BTOC): 20'

Depth to Water (ft BTOC): 9.50

Actual Purge (liters): 6 L

Purge rate (liters/min): .33 L/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1246	—	9.50	—	—	—	—	—	—
1252	2L	9.50	11.55	1.489	1.17	6.83	2.6	4.88
1255	3L	9.50	12.01	1.510	0.63	6.79	1.1	4.11
1258	4L	9.50	12.03	1.518	0.40	6.78	0.5	3.44
1301	5L	9.50	12.04	1.520	0.38	6.77	-1.0	2.89
1304	6L	9.50	12.04	1.522	0.36	6.75	-2.1	2.84

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

MW-5B DTW = 10.39

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: IP Riegelwood Landfill

PROJECT NO. 31829654.00001

SAMPLE NO. MW-7A

WELL NO. MW-7A

DATE/TIME COLLECTED 2-26-14 / 1455

PERSONNEL Jerry Maciejewski, Duncan Briley

SAMPLE METHOD Peristaltic pump with 1/8" tubing

SAMPLE MEDIA: Groundwater

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date: 2-26-14

Time Started: 1430

Time Completed: 1510

Well Depth (ft. BTOC): 13'

Depth to Water (ft BTOC): 2.19

Actual Purge (liters): 6t

Purge rate (liters/min): .33t/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1435	—	2.19	—	—	—	—	—	—
1441	2t	3.42	9.82	1.123	3.42	7.05	-57.1	182
1444	3t	3.86	9.71	1.123	1.77	7.03	-55.7	144
1447	4t	4.06	9.69	1.125	1.47	7.03	-54.2	160
1450	5t	4.13	9.73	1.127	1.48	7.02	-54.1	155
1453	6t	4.35	9.75	1.129	1.39	7.02	-52.8	161

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

MW-7B DTW = 1.40 Turbidity is consistent sample is cloudy
swamp water flood all the way and surrounds MW-7B

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: IP Riegelwood Landfill

PROJECT NO. 31829654.00001

SAMPLE NO. MW-8A

WELL NO. MW-8A

DATE/TIME COLLECTED 2-26-14 / 1350

PERSONNEL Jerry Maciejewski, Duncan Briley

SAMPLE METHOD Peristaltic pump with 1/8" tubing

SAMPLE MEDIA: Groundwater

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date: 2-26-14

Time Started: 1325

Time Completed: 1415

Well Depth (ft. BTOC): 12.51'

Depth to Water (ft BTOC): 3.66

Actual Purge (liters): 6 L

Purge rate (liters/min): .33 L/min

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1330	—	3.66	—	—	—	—	—	—
1336	2L	3.96	10.43	.693	5.11	7.06	25.4	181
1339	3L	4.01	10.50	.694	4.92	7.02	27.1	157
1342	4L	4.04	10.55	.695	4.62	7.01	28.7	149
1345	5L	4.06	10.58	.696	4.74	7.00	29.3	144
1348	6L	4.09	10.59	.696	4.69	7.00	31.4	144

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS: Sample is cloudy - light brown earthy color tint - not the coffee color
MW-8B DTW = 4.60
Turbidity is stable - trail is blocked w/ storm debris - walk equipment

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

SAMPLE NO. Primary WELL NO. Primary

DATE/TIME COLLECTED 2-26-14 / 1050 PERSONNEL Jerry Maciejewski

SAMPLE METHOD Through pumping system (pump #1) Duncan Briley

SAMPLE MEDIA: **Leachate**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4, Ophos
1 - 1L Amber	H2SO4/Orange	TOX
1 - 500ml Poly	HNO3/Red	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14

Time Started 1040

Time Completed 1105

Well Depth (ft. BTOC) —

Depth to Water (ft BTOC) —

Actual Purge (liters) —

Purge rate (liters/min) —

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1050	—	—	17.66	8.282	7.39	7.61	-242.4	22.8

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

pump #1 hrs 12343.6 digital readout = 16.4

pump #2 hrs 13379.8 sample is dark brown in color

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

SAMPLE NO. Secondary WELL NO. Secondary

DATE/TIME COLLECTED 2-26-14 / 1110 PERSONNEL Jerry Maciejewski

SAMPLE METHOD Through pumping system (pump #3) Duncan Briley

SAMPLE MEDIA: **Leachate**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4, Ophos
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14 Well Depth (ft. BTOC) —

Time Started 1105 Depth to Water (ft BTOC) —

Time Completed 1115 Actual Purge (liters) —

Purge rate (liters/min) —

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1110	—	—	18.01	2.263	2.14	6.39	-128.6	47.0

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

Pump #3 hrs = 55.0 digital readout = 7.9

sample is clear in color

WATER SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **IP Riegelwood Landfill** PROJECT NO. **31829654.00001**

SAMPLE NO. Under Drain WELL NO. Under Drain

DATE/TIME COLLECTED 2-26-14 / 1120 PERSONNEL Jerry Maciejewski

SAMPLE METHOD bailer Duncan Briley

SAMPLE MEDIA: **Leachate**

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2 - 40ml Amber	HCL	TOC
1 - 1L Poly	None	TDS, BOD, pH, Cond, Cl, F, NO3, SO4, Ophos
1 - 1L Amber	H2SO4	TOX
1 - 500ml Poly	HNO3	Total Metals 6010C/7470A
1 - 125ml Poly	H2SO4	COD

WELL PURGING DATA

Date 2-26-14

Time Started 1115

Time Completed 1125

Well Depth (ft. BTOC) —

Depth to Water (ft BTOC) 29.42

Actual Purge (liters) —

Purge rate (liters/min) —

FIELD MEASUREMENTS

Time	Amount Purged (Liters)	Depth to Water (ft)	Temperature (°C)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	Redox (mV)	Turbidity (NTUs)
1120	—	29.42	17.13	2.643	1.72	6.85	-98.6	60.7

FIELD EQUIPMENT AND CALIBRATION

	Model	Calibration
Water Level Probe	Solinst 100'	NA
Water Quality Meter	YSI 556-MPS	pH 4 &7, Cond., Zobell's Solutions
Turbidity Meter	Lamotte 20/20	1 NTU & 10 NTU Solutions

GENERAL COMMENTS

Sample is light brown in color

ALS Environmental

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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SR#

CAS Contract

Project Name: IP Ringwood Landfill	Project Number: 31829654.00001
Project Manager: Conan Fitzgerald	Email Address: conan.fitzgerald@urs.com
Company/Address: URS Corporation, 1600 Perimeter Park Dr. Suite 400, Morrisville, NC 27560	
Phone #: 919-461-1519	FAX #: 919-461-1415
Sampler's Signature: [signature]	Sampler's Printed Name: J. Maciejewski, D. Bailey

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	SM 5310B - TOC	EPA 410.4 - COD	SM 5210B - BOD	EPA 300.0 Cl, F, NO3, SO4	SW 846 9030 - TOC	SW 846 Total Metals	EPA 1301 - Cond	SM 2540C - TDS	SM 4500H-B - pH	EPA 300.0 Ortho					
PRESERVATIVE						1	3	0	0	3	2	0	0	0	0					
Primary		2-26-14	1050	GW	6	X	X	X	X	X	X	X	X	X	X					
Secondary		2-26-14	1110	GW	6	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					
Underdrain		2-26-14	1120	GW	6	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓					

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

REMARKS/ ALTERNATE DESCRIPTION

SPECIAL INSTRUCTIONS/COMMENTS

- refer to Martha.Meyerslee@urs.com for analytes and detections
- there are 2 COC's - separate reports
- there are 3 coolers in shipment

See QAPP ☐

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

X STANDARD

REQUESTED FAX DATE _____

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

____ V. Specialized Forms / Custom Report

Edata ____Yes ____No

INVOICE INFORMATION

PO #

BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP:

CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: FedEx Guilmington	Signature	Signature	Signature	Signature
Printed Name: Jay Maciejewski	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS Corp	Firm	Firm	Firm	Firm	Firm
Date/Time: 2-26-14 / 1700	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

Distribution: White - Return to Originator; Yellow - Retained by Client

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CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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PAGE 1 OF 1

SR#

CAS Contract

Project Name: IP Ringwood Landfill	Project Number: 31829654.00001
Project Manager: Conan Fitzgerald	Email Address: conan.fitzgerald@urs.com
Company/Address: URS Corporation, 1600 Perimeter Park Dr. Suite 400, Morrisville, NC 27560	
Phone #: 919-461-1519	FAX #:
Sampler's Signature: Jerry Moss	Sampler's Printed Name: J. Moss, Josh, D. Bailey

ANALYSIS REQUESTED (Include Method Number and Container Preservative)

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NUMBER OF CONTAINERS	SM 5310B - TOC	EPA 410.4 - COD	SM 5210B - BOD	EPA 300.0 Cl, F, NO3, SO4	SW846 9020 - TOX	SW846 Total metals	EPA 120.1 - Cond	SM 2540C - TDS	SM 4500H-B pH							REMARKS/ ALTERNATE DESCRIPTION
PRESERVATIVE						1	3	0	0	3	2	0	0	0							
MW-1A		2-26-14	0925	GW	6	X	X	X	X	X	X	X	X	X							
MW-1B		↓	0930	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓							
MW-4A		↓	1540	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓							
MW-5A		↓	1305	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓							
MW-7A		↓	1455	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓							
MW-8A		↓	1350	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓							

Preservative Key
0. NONE
1. HCL
2. HNO_3
3. H_2SO_4
4. NaOH
5. Zn. Acetate
6. MeOH
7. $NaHSO_4$
8. Other _____

SPECIAL INSTRUCTIONS/COMMENTS

- refer to Martha.Meyers@URS.com for analytes and detections
- there are 2 COC's with this shipment - separate reports
- there are 3 coolers with this shipment

See QAPP ☐

TURNAROUND REQUIREMENTS

____ RUSH (SURCHARGES APPLY)

X STANDARD

REQUESTED FAX DATE _____

REQUESTED REPORT DATE _____

REPORT REQUIREMENTS

____ I. Results Only

____ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

____ V. Specialized Forms / Custom Report

Edata ____ Yes ____ No

INVOICE INFORMATION

PO #

BILL TO:

SAMPLE RECEIPT: CONDITION/COOLER TEMP:

CUSTODY SEALS: Y N

RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY	RELINQUISHED BY	RECEIVED BY
Signature: [signature]	Signature: FedEx Livingston	Signature	Signature	Signature	Signature
Printed Name: Jerry Moss/Josh	Printed Name	Printed Name	Printed Name	Printed Name	Printed Name
Firm: URS Corp	Firm	Firm	Firm	Firm	Firm
Date/Time: 2-26-14 1730	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time

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Distribution: White - Return to Originator; Yellow - Retained by Client

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8025 3951 3815

1 From Please print and press hard.

Date 3-26-2014 Sender's FedEx Account Number 0376-0775-6

Sender's Name Duncan Briley Phone (919) 434-7788

Company UAS Corporation

Address 1600 Perimeter Park Dr. Ste. 400

Dept./Floor/Suite/Room

4 Express Package Service *To most locations. For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Form ID No. 0200

Packages up to 150 lbs.

NOTE: Service order has changed. Please select carefully.

Next Business Day

- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available

2 or 3 Business Days

- ☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available
- ☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available

☒ Other

Total Packages | Total Weight | Cash/Check

To recipient's neighboring property for delivery. No signature required.

44

FedEx

1106 N 23RD ST
Wilmington, NC 28405

Location:	ILMA
Device ID:	ILMA-POS2
Employee:	304527
Transaction:	830109509733

PRIORITY OVERNIGHT

802539513815	149.50 lb (S)	224.28
798047454317		
798047454328		

Scheduled Delivery Date 02/27/2014

Shipment subtotal:	224.28
Total Due:	**224.28**
FedEx Account: ****7756	224.28

M = Weight entered manually
S = Weight read from scale
T = Taxable item

Subject to additional charges. See FedEx Service Guide at fedex.com for details. All merchandise sales final.

Visit us at: fedex.com
Or call 1.800.GoFedEx
1.800.463.3339

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