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Doc/Event #: 11239

NC DENR
Division of Waste Management - Solid Waste

**Environmental Monitoring
Reporting Form**

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

Instructions:

- Prepare one form for each individually monitored unit.
- Please type or print legibly.
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.)
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i)).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

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

PREMIER ENVIRONMENTAL, PC (Consultant)

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

Name: Patrick Kelley *PK* Phone: (770) 973-2100 x2860

E-mail: pkelley@premiercorp-usa.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
LOW GROUND LANDFILL Roanoke Rapids, NC	Kapstone Mill 100 Gaston Road Roanoke Rapids, NC	42 03	.0500	December 16, 2009

Environmental Status: (Check all that apply)

- Initial/Background Monitoring Detection Monitoring Assessment Monitoring Corrective Action

Type of data submitted: (Check all that apply)

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

Notification attached?

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

Certification

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

Peter Ramsey Senior Geologist (770) 973-2100 x2882

Facility Representative Name (Print)

Title

(Area Code) Telephone Number

Peter E. Ramsey
Signature

February 26, 2010
Date

Affix NC Licensed/Professional Geologist/Engineer Seal here:





West 1880 Oak Parkway
Building 100, Suite 106
Marietta, GA 30062

Phone 770.973.2100
Fax 770.973.7395
www.premiercorp-usa.com

February 26, 2010

Don Heardon
Compliance Unit
NCDENR-DVM, Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646

**RE: Facility Permit # 4203
Low Ground Landfill Semi-annual Environmental Monitoring Report
Roanoke Rapids, NC**

Dear Mr. Heardon;

On behalf of International Paper, Premier Environmental PC (Premier) is submitting the attached Semi-annual Environmental Monitoring Report for the December 2009 sampling event at the above referenced site. Also enclosed is the North Carolina (NC) Solid Waste Section summary table along with the laboratory report from Columbia Analytical Services, and the Premier Quality Assurance Review of the laboratory data.

The December 2009 sampling activities were conducted by Premier. Depth to groundwater measurements were obtained from the five site monitoring wells (MWLG-1, MWLG-3, MWLG-5, MWLG-6, and MWLG-7), and the monitoring wells were then purged and sampled according to EPA protocol. Copies of the field sampling forms and field notes completed by Premier personnel are attached to this report. The groundwater samples were preserved according to EPA protocol and shipped to Columbia Analytical Services Laboratory in Jacksonville, FL, a North Carolina certified laboratory. The analytical results for this sampling event are attached.

With the exception of iron and manganese, the laboratory analysis of samples collected from site monitoring wells were below the applicable NC standards. The results of the five (5) groundwater samples exceeded the iron and manganese NC 2L standards of 300 ug/L and 50 ug/L, respectively. These results are consistent with historical sampling data, and are considered to be naturally occurring and within the range of background concentrations reported for upgradient monitoring well MWLG-1.

The detected manganese and iron concentrations in site wells are reported within the range of background concentrations for this site. The Solid Waste Section has waived the requirement to prepare a Water Quality Assessment Plan for this site. Premier continues to concur with this waiver and does not recommend any changes to the monitoring program at this time.

If you have any questions on this report feel free to call at 770-973-2100.

Sincerely,



Patrick Kelley, CHMM
Project Manager



Peter Ramsey, PG
Senior Geologist

cc: Phil Slowiak, International Paper

International Paper
Roanoke Rapids Mill

100 Gaston Road Low Ground Landfill
Roanoke Rapids, NC Monitoring Wells

Samples collected on 12/16/09 by Kent Davis of Premier Environmental PC Contact: Patrick Kelley, Premier Environmental PC
Samples were analyzed by CAS, Inc NC Cert. #: 527 Phone 770-973-2100 #2860 or email, pkelley@premiercorp-usa.com

FACILITY PERMIT	SAMPLE ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	LAB QUALIFIER	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
42-03	MW-LG 1	7440-38-2	14	Arsenic	1.29	ug/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7440-39-3	15	Barium	78.4	ug/L	J	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	316	316	Biochemical Oxygen Demand	2.4	mg/L	U	1.0	12/16/09	NA	12/18/09
42-03	MW-LG 1	7440-43-9	34	Cadmium	0.50	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	317	317	Chemical Oxygen Demand	40	mg/L		1.0	12/16/09	NA	1/7/10
42-03	MW-LG 1	16887-00-6	301	Chloride	2.8	mg/L		1.0	12/16/09	NA	12/17/09
42-03	MW-LG 1	7440-47-3	51	Chromium	3.3	ug/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7440-50-8	54	Copper	14.3	ug/L		1.0	12/16/09	12/21/09	12/17/09
42-03	MW-LG 1	16984-48-8	312	Fluoride	0.20	mg/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7439-69-6	340	Iron	3.49	mg/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7439-92-1	131	Lead	6.3	ug/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7439-96-5	342	Manganese	439	ug/L		1.0	12/16/09	12/22/09	12/23/09
42-03	MW-LG 1	7439-97-6	132	Mercury	0.09	ug/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG 1	14797-55-8	303	Nitrate	0.038	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG 1	7782-49-2	321	pH - Lab	6.4	pH UNITS	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	7440-22-4	184	Selenium	0.9	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1	14808-79-8	184	Silver	0.09	ug/L	U	1.0	12/16/09	12/21/09	12/17/09
42-03	MW-LG 1	311	315	Sulfate	9.3	mg/L		1.0	12/16/09	NA	12/17/09
42-03	MW-LG 1	E-10195	357	Total Dissolved Solids	110	mg/L		1.0	12/16/09	NA	12/31/09
42-03	MW-LG 1	7440-66-6	213	Total Organic Carbon	18.0	mg/L		1.0	12/16/09	NA	12/29/09
42-03	MW-LG 1			Zinc	10	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 1			Total Organic Halides	30	ug/L	U	1.0	12/16/09	NA	1/4/10
42-03	MW-LG 3	7440-38-2	14	Arsenic	0.24	ug/L	J	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7440-39-3	15	Barium	67.7	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	12/16/09	NA	12/18/09
42-03	MW-LG 3	7440-43-9	34	Cadmium	0.17	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	317	317	Chemical Oxygen Demand	46	mg/L		1.0	12/16/09	NA	1/7/10
42-03	MW-LG 3	16887-00-6	301	Chloride	74	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7440-47-3	51	Chromium	0.6	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7440-50-8	54	Copper	0.5	ug/L	U	1.0	12/16/09	12/21/09	12/17/09
42-03	MW-LG 3	16984-48-8	312	Fluoride	0.28	mg/L		1.0	12/16/09	12/21/09	12/23/09
42-03	MW-LG 3	7439-69-6	340	Iron	0.43	mg/L		1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7439-92-1	131	Lead	0.30	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7439-96-5	131	Manganese	1740	ug/L		1.0	12/16/09	12/22/09	12/23/09
42-03	MW-LG 3	7439-97-6	342	Mercury	0.08	ug/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG 3	14797-55-8	132	Nitrate	4.9	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG 3	7782-49-2	321	pH - Lab	6.5	pH UNITS	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	7440-22-4	184	Selenium	0.90	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3	14808-79-8	184	Silver	0.090	ug/L	U	1.0	12/16/09	12/21/09	12/17/09
42-03	MW-LG 3	311	315	Sulfate	87	mg/L		1.3	12/16/09	NA	12/21/09
42-03	MW-LG 3	E-10195	357	Total Dissolved Solids	1200	mg/L		10.0	12/16/09	NA	12/31/09
42-03	MW-LG 3	7440-66-6	213	Total Organic Carbon	200	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3			Zinc	3.0	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG 3			Total Organic Halides	138	ug/L		1.0	12/16/09	NA	12/30/09

International Paper
Roanoke Rapids Mill
100 Gaston Road Low Ground Landfill
Roanoke Rapids, NC Monitoring Wells

Samples collected on 12/16/09 by Kent Davis of Premier Environmental PC Contact: Patrick Kelley, Premier Environmental PC
 Samples were analyzed by CAS, Inc NC Cert. #: 527 Phone 770-973-2100 #2860 or email, pkelley@premiercorp-usa.com

FACILITY PERMIT	SAMPLE ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	LAB QUALIFIER	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
42-03	MW-LG5	7440-38-2	14	Arsenic	0.37	ug/L	J	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7440-39-3	15	Barium	97.6	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	12/16/09	NA	12/18/09
42-03	MW-LG5	7440-43-9	34	Cadmium	0.17	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	317	317	Chemical Oxygen Demand	32	mg/L	U	1.0	12/16/09	NA	1/7/10
42-03	MW-LG5	16887-00-6	301	Chloride	1.5	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG5	7440-47-3	51	Chromium	0.6	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7440-50-8	54	Copper	1.6	ug/L	J	1.0	12/16/09	NA	12/17/09
42-03	MW-LG5	16984-48-8	312	Fluoride	0.25	mg/L	U	1.0	12/16/09	12/21/09	12/23/09
42-03	MW-LG5	7439-89-6	340	Iron	0.93	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7439-92-1	131	Lead	0.30	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7439-96-5	342	Manganese	10500	ug/L	U	10.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7439-97-6	132	Mercury	0.08	ug/L	U	1.0	12/16/09	12/22/09	12/23/09
42-03	MW-LG5	14797-55-8	303	Nitrate	0.17	mg/L	J	1.0	12/16/09	NA	12/17/09
42-03	MW-LG5	321	321	pH - Lab	6.3	pH UNITS	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG5	7782-49-2	183	Selenium	0.9	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	7440-22-4	184	Silver	0.090	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5	14808-79-8	315	Sulfate	160	mg/L	U	5.0	12/16/09	NA	12/17/09
42-03	MW-LG5	311	311	Total Dissolved Solids	750	mg/L	U	1.0	12/16/09	NA	12/21/09
42-03	MW-LG5	E-10195	357	Total Organic Carbon	58.0	mg/L	J	1.0	12/16/09	NA	12/31/09
42-03	MW-LG5	7440-66-6	213	Zinc	8	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG5			Total Organic Halides	84.8	ug/L	U	1.0	12/16/09	NA	12/24/09
42-03	MW-LG6	7440-38-2	14	Arsenic	0.14	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7440-39-3	15	Barium	568	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	316	316	Biochemical Oxygen Demand	2.30	mg/L	U	1.0	12/16/09	NA	12/18/09
42-03	MW-LG6	7440-43-9	34	Cadmium	0.17	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	317	317	Chemical Oxygen Demand	68	mg/L	U	1.0	12/16/09	NA	1/7/10
42-03	MW-LG6	16887-00-6	301	Chloride	48	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG6	7440-47-3	51	Chromium	4.0	ug/L	J	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7440-50-8	54	Copper	0.5	ug/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG6	16984-48-8	312	Fluoride	0.35	mg/L	U	1.0	12/16/09	12/21/09	12/23/09
42-03	MW-LG6	7439-89-6	340	Iron	1.11	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7439-92-1	131	Lead	0.3	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7439-96-5	342	Manganese	1620	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7439-97-6	132	Mercury	0.08	ug/L	U	1.0	12/16/09	12/22/09	12/23/09
42-03	MW-LG6	14797-55-8	303	Nitrate	0.19	mg/L	J	1.0	12/16/09	NA	12/17/09
42-03	MW-LG6	321	321	pH - Lab	6.9	pH UNITS	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG6	7782-49-2	183	Selenium	0.90	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	7440-22-4	184	Silver	0.090	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6	14808-79-8	315	Sulfate	NA	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG6	311	311	Total Dissolved Solids	2400	mg/L	U	2.5	12/16/09	NA	12/21/09
42-03	MW-LG6	E-10195	357	Total Organic Carbon	290	mg/L	U	1.0	12/16/09	NA	1/2/10
42-03	MW-LG6	7440-66-6	213	Zinc	3	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG6			Total Organic Halides	30	ug/L	U	1.0	12/16/09	NA	1/4/10

International Paper
 Roanoke Rapids Mill
 100 Gaston Road Low Ground Landfill
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Samples collected on 12/16/09 by Kent Davis of Premier Environmental PC Contact: Patrick Kelley, Premier Environmental PC
 Samples were analyzed by CAS, Inc NC Cert. # 527 Phone 770-973-2100 #2860 or email, pkelley@premiercorp-usa.com

FACILITY PERMIT	SAMPLE ID	CAS Number	SWS ID	PARAMETER	RESULT	UNITS	LAB QUALIFIER	DILUTION FACTOR	COLLECT DATE	EXTRACTION DATE	ANALYSIS DATE
42-03	MW-LG7	7440-38-2	14	Arsenic	0.14	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7440-39-3	15	Barium	122	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	12/16/09	NA	12/18/09
42-03	MW-LG7	7440-43-9	34	Cadmium	0.17	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	317	317	Chemical Oxygen Demand	29	mg/L	U	1.0	12/16/09	NA	1/7/10
42-03	MW-LG7	16887-00-6	301	Chloride	31	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG7	7440-47-3	51	Chromium	0.60	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7440-50-8	54	Copper	0.5	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	16984-48-8	312	Fluoride	0.22	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7439-89-6	340	Iron	18.3	mg/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7439-92-1	131	Lead	0.30	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7439-96-5	342	Manganese	3980	ug/L	U	5.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7439-97-6	132	Mercury	0.08	ug/L	U	1.0	12/16/09	12/22/09	12/23/09
42-03	MW-LG7	14797-55-8	303	Nitrate	0.04	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG7	321	321	pH - Lab	6.4	pH UNITS	J	1.0	12/16/09	NA	12/17/09
42-03	MW-LG7	7782-49-2	183	Selenium	0.9	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	7440-22-4	184	Silver	0.090	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7	14808-75-8	315	Sulfate	156	mg/L	U	1.0	12/16/09	NA	12/17/09
42-03	MW-LG7	311	311	Total Dissolved Solids	870	mg/L	U	1.0	12/16/09	NA	12/21/09
42-03	MW-LG7	E-10195	357	Total Organic Carbon	100.0	mg/L	U	10.0	12/16/09	NA	12/31/09
42-03	MW-LG7	7440-566-6	213	Zinc	3.0	ug/L	U	1.0	12/16/09	12/21/09	12/29/09
42-03	MW-LG7			Total Organic Halides	30	ug/L	U	1.0	12/16/09	NA	1/4/10

U - Undetected above the MRL/MDL.
 J - Estimated value above the MDL, but below the MRL.

Groundwater Sampling Field Form

WELL No. <u>LG-1</u>	PROJECT # <u>209383</u>	LOCATION <u>Roanoke Rapids, NC</u>	DATE <u>12/14/09</u>
SAMPLE No.	PROJECT <u>J D Roanoke Rapids</u>	FIELD PERSONNEL/CO <u>K. Davis, J. Hughes</u>	
SAMPLE TIME: <u>1340</u>	SITE <u>Kapstove</u>	INSTRUMENT CALIBRATION DATE <u>12/14/09</u>	
WELL CONDITION: POOR SATISFACTORY NEW (if poor, explain) _____			
FIELD CONDITIONS/WEATHER: <u>Sunny 43°</u>			
EQUIPMENT DECONTAMINATION: _____			

Casing Diameter: (circle one)	<input checked="" type="radio"/> 2" 4" <input type="radio"/> 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
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Depth to Water (feet): <u>8.13</u>	Casing Volume (gallons): <u>1.40</u>
Depth of Well (feet): <u>16.68</u>	Calculated Purge Volume (gallons): <u>4.2</u>
Water Column (feet): <u>8.55</u>	Actual Purge Volume (gallons): _____
Other Remarks: _____	

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTIVITY µS/cm	DISSOLVED OXYGEN (ppm)	TURBIDITY (NTU)	ODOR/COLOR/ REMARKS
1300	0						PURGE START
1303	—	14.68	7.05	0.202	8.77	10.77	8.78
1311	0.5	15.26	6.69	0.165	3.37	48.8	9.42
1316	0.75	15.07	6.65	0.157	3.21	32.7	9.99
1321	1.0	15.15	6.60	0.158	3.01	40.3	10.36
1326	1.25	15.07	6.60	0.164	2.98	31.7	10.51
1330	1.50	15.02	6.61	0.168	2.95	24.3	10.70
1335	1.75	15.11	6.60	0.169	2.87	15.6	10.82

Purging Equipment: <u>Coropump w/ 1/4" tubing</u>	Sampling/Measurement Equip: <u>YSI 556 / Lammert 2020</u>
---	---

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/PRESERVATIVES	QA REMARKS
<u>TDS</u>	<u>Bot, pH, Cond, Cl, F, SO4 NO3</u>	<u>500 ml / -</u>	
	<u>TOX</u>	<u>1L Amber / H2SO4</u>	
	<u>TOC</u>	<u>125ml / HCl</u>	
	<u>COD</u>	<u>125ml / H2SO4</u>	
	<u>Metals</u>	<u>125ml / HNO3</u>	

Begin purge-1300
End Purge-1335

Groundwater Sampling Field Form

WELL No. <u>10-3</u>	PROJECT # <u>209 383</u>	LOCATION <u>Roanoke Rapids, NC</u>	DATE <u>12/16/09</u>
SAMPLE No.	PROJECT <u>EP Roanoke Rapids</u>	FIELD PERSONNEL/CO. <u>R. Davis, J. Hughes</u>	
SAMPLE TIME: <u>1115</u>	SITE <u>Kapstove</u>	INSTRUMENT CALIBRATION DATE <u>12/16/09</u>	
WELL CONDITION: POOR SATISFACTORY NEW (if poor, explain) _____			
FIELD CONDITIONS/WEATHER: <u>Sunny 38°</u>			
EQUIPMENT DECONTAMINATION: _____			

Casing Diameter: (circle one)	<input checked="" type="radio"/> 2" 4" <input type="radio"/> 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
----------------------------------	---	--

Depth to Water (feet): <u>9.02</u>	Casing Volume (gallons): <u>1.83</u>
Depth of Well (feet): <u>20.24</u>	Calculated Purge Volume (gallons): <u>5.5</u>
Water Column (feet): <u>11.22</u>	Actual Purge Volume (gallons): _____
Other Remarks: _____	

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTIVITY µS/cm	DISSOLVED OXYGEN (ppm)	TURBIDITY (NTU)	ODOR/COLOR/ REMARKS
1021	0						PURGE START
1024	—	16.68	7.06	2.164	4.87	0.0	9.55
1034	0.5	17.32	6.99	2.097	4.79	0.0	10.07
1040	0.75	17.51	6.95	2.097	4.88	0.0	10.29
1045	1.0	17.38	6.94	2.117	4.90	0.0	10.38
1050	1.25	17.26	6.90	2.135	4.89	1.27	10.48
1055	1.50	17.24	6.88	2.149	4.72	0.0	10.68
1100	1.75	17.33	6.86	2.153	4.45	0.82	10.72
1105	2.0	17.35	6.85	2.166	4.25	0.0	10.95

Purging Equipment: <u>Geopump w/ 1/4" tubing</u>	Sampling/Measurement Equip: <u>YSI 556 / LANCET 2020</u>
--	--

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/PRESERVATIVES	QA REMARKS
	130P, PH, COND, CL, F, SO4, NO3, NH4	EXCEL / —	
	TOX	1L Amber / H2SO4	
	TOC	125ml / AC	
	CON	125ml / H2SO4	
	Metals	125ml / HNO3	

Bored Pile - 1021
 Fwd Range - 1108

Groundwater Sampling Field Form

WELL No. <u>LG 5</u>	PROJECT # <u>209303</u>	LOCATION	DATE <u>12/16/09</u>
SAMPLE No.	PROJECT <u>JP Renwick Rapids</u>	FIELD PERSONNEL/CO <u>K. Davis, J. Hughes</u> <u>12/16/09</u>	
SAMPLE TIME: <u>0830</u>	SITE <u>Kapstove</u>	INSTRUMENT CALIBRATION DATE <u>12/16/09</u>	
WELL CONDITION: POOR <input type="radio"/> SATISFACTORY <input checked="" type="radio"/> NEW (if poor, explain)			
FIELD CONDITIONS/WEATHER: <u>Overcast 48° Arly Cbody 37°</u>			
EQUIPMENT DECONTAMINATION: <u>—</u>			

Casing Diameter: (circle one)	<input checked="" type="radio"/> 2" <input type="radio"/> 4" <input type="radio"/> 6" Other: _____	Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$ Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47
----------------------------------	--	--

Depth to Water (feet): <u>12.32 10.94</u>	Casing Volume (gallons): <u>1.12 1.35</u>
Depth of Well (feet): <u>19.19</u>	Calculated Purge Volume (gallons): <u>3.4 4.04</u>
Water Column (feet): <u>6.07 8.25</u>	Actual Purge Volume (gallons): <u>1.5</u>
Other Remarks: _____	

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTIVITY µS/cm	DISSOLVED OXYGEN (ppm)	TURBIDITY (NTU)	ODOR/COLOR/ REMARKS
0737	0						PURGE START
0740	—	15.83	6.28	0.956	18.60	9.77	11.50
0750	0.5	17.80	6.59	0.894	8.27	0.84	12.35
0755	0.75	18.14	6.57	0.872	5.98	1.34	12.79
0803	1.0	18.30	6.54	0.871	4.79	1.96	13.15
0810	1.25	18.03	6.53	0.876	4.64	1.70	13.58

Purging Equipment: <u>per Pump w/ 1/4" tubing</u>	Sampling/Measurement Equip: <u>YSI 556 w/ LAMORTE 2020</u>
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SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/ PRESERVATIVES	QA REMARKS
	BOD, pH, Cond, Cl, F, SO ₄ , NO ₃	TDS 500 ml / —	
	TOC	1L Amber / H ₂ SO ₄	
	TOC	125 ml / HCl	
	COD	125 ml / H ₂ SO ₄	
	Metals	125 ml / HNO ₃	

Purge Start - 0737
Purge End - 0813

Groundwater Sampling Field Form

WELL No. <u>IG-6</u>	PROJECT # <u>209383</u>	LOCATION <u>Roanoke Rapids, NC</u>	DATE <u>12/16/09</u>
SAMPLE No.	PROJECT <u>FA Roanoke Rapids</u>	FIELD PERSONNEL/CO. <u>K. Davis, J. Hughes</u>	
SAMPLE TIME: <u>09:50</u>	SITE <u>Kapsrowe</u>	INSTRUMENT CALIBRATION DATE <u>12/16/09</u>	
WELL CONDITION: POOR SATISFACTORY NEW (if poor, explain)			
FIELD CONDITIONS/WEATHER: <u>Partly Cloudy 37°</u>			
EQUIPMENT DECONTAMINATION: _____			

Casing Diameter:
(circle one)

2" 4"
6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47

Depth to Water (feet): <u>11.27</u>	Casing Volume (gallons): <u>1.25</u>
Depth of Well (feet): <u>18.92</u>	Calculated Purge Volume (gallons): <u>3.74</u>
Water Column (feet): <u>7.65</u>	Actual Purge Volume (gallons): _____

Other Remarks: _____

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTIVITY µS/cm	DISSOLVED OXYGEN (ppm)	TURBIDITY (NTU)	ODOR/COLOR/ REMARKS
<u>0844</u>	<u>0</u>						<u>PURGE START</u>
<u>0847</u>	<u>-</u>	<u>16.35</u>	<u>7.03</u>	<u>3407</u>	<u>14.40</u>	<u>0.0</u>	<u>12.09</u>
<u>0857</u>	<u>0.5</u>	<u>18.13</u>	<u>7.76</u>	<u>3958</u>	<u>4.72</u>	<u>0.0</u>	<u>12.97</u>
<u>0904</u>	<u>0.75</u>	<u>18.31</u>	<u>7.91</u>	<u>3986</u>	<u>4.67</u>	<u>0.0</u>	<u>13.29</u>
<u>0910</u>	<u>1.0</u>	<u>18.32</u>	<u>7.95</u>	<u>3972</u>	<u>4.63</u>	<u>0.47</u>	<u>13.43</u>
<u>0915</u>	<u>1.25</u>	<u>18.55</u>	<u>7.86</u>	<u>3944</u>	<u>4.52</u>	<u>0.69</u>	<u>13.57</u>
<u>0922</u>	<u>1.50</u>	<u>18.61</u>	<u>7.75</u>	<u>3930</u>	<u>4.50</u>	<u>0.78</u>	<u>13.61</u>
<u>0927</u>	<u>1.75</u>	<u>18.83</u>	<u>7.65</u>	<u>3897</u>	<u>4.41</u>	<u>0.58</u>	<u>13.81</u>
<u>0933</u>	<u>2.0</u>	<u>19.12</u>	<u>7.58</u>	<u>3886</u>	<u>4.32</u>	<u>0.35</u>	<u>13.98</u>
<u>0938</u>	<u>2.25</u>	<u>19.27</u>	<u>7.55</u>	<u>3876</u>	<u>4.25</u>	<u>0.0</u>	<u>14.16</u>

Purging Equipment: GEO Pump w/ 1/4" tubing Sampling/Measurement Equip: YSI 656 + Lamotte 2000

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/PRESERVATIVES	QA REMARKS
	<u>BOD, PH, Cond, Cl, F, Sec, As, TDS</u>	<u>500 ml -</u>	
	<u>Tox</u>	<u>1L Amber / H2SO4</u>	<u>Dup - 1 collected</u>
	<u>TOC</u>	<u>125 ml / HCl</u>	<u>none</u>
	<u>COB</u>	<u>125 ml / H2SO4</u>	
	<u>Metals</u>	<u>125 ml / HNO3</u>	

Beyond Purge - 0844
 Final Dose - 0940

37412
Field
Kelly 11/21/2009

800.373.4009



Groundwater Sampling Field Form

WELL No. <u>LG-7</u>	PROJECT # <u>209383</u>	LOCATION <u>Roanoke Rapids, NC</u>	DATE <u>12/16/09</u>
SAMPLE No.	PROJECT <u>JP Roanoke Rapids</u>	FIELD PERSONNEL/CO <u>K. Davis / J. Hoglos</u>	
SAMPLE TIME: <u>1240</u>	SITE <u>Kapstone</u>	INSTRUMENT CALIBRATION DATE <u>12/16/09</u>	
WELL CONDITION: POOR <input checked="" type="radio"/> SATISFACTORY <input type="radio"/> NEW (if poor, explain) _____			
FIELD CONDITIONS/WEATHER: <u>Sunny 40°</u>			
EQUIPMENT DECONTAMINATION: _____			

Casing Diameter: (circle one)
 2" 4" 6" Other: _____

Casing Volume Calculation: $(\pi r^2 h)(7.48 \text{ gal/ft}^3)$
 Casing Volume (gallons/ft) for: 2" = 0.163; 4" = 0.653; 6" = 1.47

Depth to Water (feet): 11.61 Casing Volume (gallons): 0.888
 Depth of Well (feet): 17.05 Calculated Purge Volume (gallons): 2.66
 Water Column (feet): 5.44 Actual Purge Volume (gallons): 2.0

Other Remarks: _____

TIME 2400 hrs	CUMULATIVE VOLUME (gal)	TEMP (°C)	pH	CONDUCTIVITY µS/cm	DISSOLVED OXYGEN (ppm)	TURBIDITY (NTU)	ODOR/COLOR/ REMARKS
<u>1155</u>	<u>0</u>						<u>WL</u> PURGE START
<u>1157</u>	<u>-</u>	<u>15.26</u>	<u>7.15</u>	<u>2.074</u>	<u>13.07</u>	<u>9.55</u>	<u>11.98</u>
<u>1205</u>	<u>0.5</u>	<u>15.64</u>	<u>7.00</u>	<u>2.058</u>	<u>4.73</u>	<u>2.44</u>	<u>12.45</u>
<u>1210</u>	<u>0.75</u>	<u>15.52</u>	<u>6.93</u>	<u>2.032</u>	<u>4.33</u>	<u>0.0</u>	<u>12.62</u>
<u>1215</u>	<u>1.0</u>	<u>15.46</u>	<u>6.88</u>	<u>1.923</u>	<u>3.81</u>	<u>0.15</u>	<u>12.73</u>
<u>1220</u>	<u>1.25</u>	<u>15.54</u>	<u>6.77</u>	<u>1.821</u>	<u>3.57</u>	<u>0.0</u>	<u>12.86</u>
<u>1225</u>	<u>1.50</u>	<u>15.52</u>	<u>6.71</u>	<u>1.751</u>	<u>3.46</u>	<u>0.0</u>	<u>12.91</u>
<u>1230</u>	<u>1.75</u>	<u>15.47</u>	<u>6.71</u>	<u>1.687</u>	<u>3.35</u>	<u>0.0</u>	<u>12.98</u>

Purging Equipment: Geoprep w/ 1/4" tubing Sampling/Measurement Equip: YSI 556 / Lanco 2000

SAMPLE NUMBER	ANALYTICAL METHOD	BOTTLE TYPE/PRESERVATIVES	QA REMARKS
	<u>BOD, pH, Cond, Cl, F, SO4, NO3, TDS</u>	<u>500ml / -</u>	
	<u>TOX</u>	<u>12 Amber / H2SO4</u>	
	<u>TOC</u>	<u>125ml HCl</u>	
	<u>COB</u>	<u>125ml / H2SO4</u>	
	<u>Metals</u>	<u>125ml HNO3</u>	

Begin Auqe - 1155
 End Auqe - 1232

January 07, 2010

Service Request No: J0906248

Mr. Pat Kelley
Premier Environmental Services
1880 West Oak Parkway
Building 100, Suite 106
Marietta, GA 30062

Laboratory Results for: IP Roanoke Rapids

Dear Mr. Kelley:

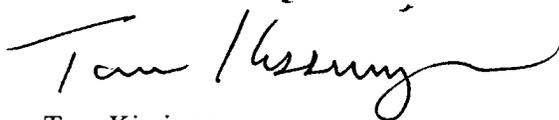
Enclosed are the results of the sample(s) submitted to our laboratory on December 17, 2009. For your reference, these analyses have been assigned our service request number **J0906248**.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 4408. You may also contact me via email at TKissinger@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.



Tom Kissinger
Project Manager

Page 1 of 36

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Premier Environmental Services
Project: IP Roanoke Rapids
Sample Matrix: water

Service Request No.: J0906248
Date Received: 12/17/09

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier II data deliverables, including results of QC samples analyzed from this delivery group. 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

6 water samples were received for analysis at Columbia Analytical Services on 12/17/09. The following discrepancies were noted upon initial sample inspection. Some samples needed additional acid added upon arrival. The exceptions are also noted on the cooler receipt and preservation form included in this data package. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $4\pm 2^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

Metals by ICP-OES / Metals by ICP-MS / Mercury by CVAA

Matrix Spike Recovery Exceptions

The matrix spike recovery of Mercury for sample LG-6 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was appropriate.

Elevated Method Reporting Limits

Samples LG-5 and LG-7 require dilution due to the presence of elevated levels of target analyte Manganese. The reporting limits are adjusted to reflect the dilution.

Batch QC Notes and Discussion

Some quality control samples (i.e., Dup/Spike or MS/DMS samples) were performed using samples from another sample delivery group (SDG). The frequency requirement for quality control sample analysis was consistent with the project's requirements. Matrix specific quality control results have no bearing on sample data from a different matrix or location. Therefore, control of the batch has been evaluated using the method blank and the laboratory control sample.

Approved by Tamara Hussing Date 1/7/10

General Chemistry Parameters

Batch QC Notes and Discussion

Quality control samples for some parameters (i.e., Dup/Spike or MS/DMS samples) were performed using samples from another sample delivery group (SDG). The frequency requirement for quality control sample analysis was consistent with the project's requirements. Matrix specific quality control results have no bearing on sample data from a different matrix or location. Therefore, control of the batch has been evaluated using the method blank and the laboratory control sample.

Holding Time Exceptions

Samples were received past the recommended holding time for analysis of pH. The analysis was performed as soon as possible after receipt by the laboratory. The data are flagged to indicate the holding time violation.

Subcontracted Analytical Parameters

TOX analyses were sub-contracted to Test America Nashville TN.

Approved by Tom D. Hissinger Date 1/7/10

ACRONYMS

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Data Qualifiers

Inorganic Data

- * The result is an outlier. See case narrative.
- # The control limit criteria are not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- E The result is an estimated amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- Z Too many colonies were present (TNTC). The numeric value represents the filtration volume.
- i The MRL/MDL has been elevated due to matrix interference.
- X See case narrative.

Metals Data

- * The result is an outlier. See case narrative.
- # The control limit criteria are not applicable. See case narrative.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- E The reported value is estimated because of the presence of matrix interference.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The result was determined by Method of Standard Additions (MSA).
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL has been elevated due to matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.

Organic Data

- * The result is an outlier. See case narrative.
- # The control limit criteria are not applicable. See case narrative.
- A The tentatively identified compound is a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated amount because the value exceeded the instrument calibration range.
- J The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria were exceeded. The relative percent difference is greater than 40% between the two analytical results (25% for CLP Pesticides)
- U The compound was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
- i The MRL/MDL has been elevated due to a chromatographic interference.
- X See case narrative.

Petroleum Hydrocarbon Specific

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

Client: Premier Environmental Services
Project: IP Roanoke Rapids

Service Request: J0906248

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J0906248-001	LG-5	12/16/09	08:30
J0906248-002	LG-6	12/16/09	09:50
J0906248-003	LG-3	12/16/09	11:15
J0906248-004	DUP-1	12/16/09	00:00
J0906248-005	LG-7	12/16/09	12:40
J0906248-006	LG-1	12/16/09	13:40

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-5
Lab Code: J0906248-001

Service Request: J0906248
Date Collected: 12/16/09 0830
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.37	J	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:48
Barium, Total	6020	97.6		µg/L	2.0	0.5	1	12/21/09	12/29/09 08:48
Cadmium, Total	6020	ND	U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:48
Chromium, Total	6020	ND	U	µg/L	2.0	0.6	1	12/21/09	12/29/09 08:48
Copper, Total	6020	1.6	J	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:48
Iron, Total	6010B	0.93		mg/L	0.10	0.01	1	12/21/09	12/23/09 21:00
Lead, Total	6020	ND	U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:48
Manganese, Total	6020	10500		µg/L	10	3	10	12/21/09	12/30/09 00:23
Mercury, Total	7470A	ND	U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:17
Selenium, Total	6020	ND	U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:48
Silver, Total	6020	ND	U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:48
Zinc, Total	6020	8	J	µg/L	10	3	1	12/21/09	12/29/09 08:48

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-6
Lab Code: J0906248-002

Service Request: J0906248
Date Collected: 12/16/09 0950
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	ND U	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:52
Barium, Total	6020	568	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:52
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:52
Chromium, Total	6020	4.0	µg/L	2.0	0.6	1	12/21/09	12/29/09 08:52
Copper, Total	6020	0.5 J	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:52
Iron, Total	6010B	1.11	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:03
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:52
Manganese, Total	6020	1620	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:52
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:19
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:52
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:52
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 08:52

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-3
Lab Code: J0906248-003

Service Request: J0906248
Date Collected: 12/16/09 1115
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.24 J	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:57
Barium, Total	6020	67.7	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:57
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:57
Chromium, Total	6020	ND U	µg/L	2.0	0.6	1	12/21/09	12/29/09 08:57
Copper, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:57
Iron, Total	6010B	0.43	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:09
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:57
Manganese, Total	6020	1740	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:57
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:30
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:57
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:57
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 08:57

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: DUP-1
Lab Code: J0906248-004

Service Request: J0906248
Date Collected: 12/16/09 0000
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.31 J	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:02
Barium, Total	6020	550	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:02
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:02
Chromium, Total	6020	3.9	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:02
Copper, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:02
Iron, Total	6010B	1.07	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:12
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:02
Manganese, Total	6020	1590	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:02
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:35
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:02
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:02
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 09:02

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-7
Lab Code: J0906248-005

Service Request: J0906248
Date Collected: 12/16/09 12:40
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	ND	U	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:07
Barium, Total	6020	122		µg/L	2.0	0.5	1	12/21/09	12/29/09 09:07
Cadmium, Total	6020	ND	U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:07
Chromium, Total	6020	ND	U	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:07
Copper, Total	6020	ND	U	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:07
Iron, Total	6010B	18.3		mg/L	0.10	0.01	1	12/21/09	12/23/09 21:18
Lead, Total	6020	ND	U	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:07
Manganese, Total	6020	3980		µg/L	5.0	1.5	5	12/21/09	12/30/09 00:28
Mercury, Total	7470A	ND	U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:36
Selenium, Total	6020	ND	U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:07
Silver, Total	6020	ND	U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:07
Zinc, Total	6020	ND	U	µg/L	10	3	1	12/21/09	12/29/09 09:07

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-1
Lab Code: J0906248-006

Service Request: J0906248
Date Collected: 12/16/09 1340
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	1.29	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:12
Barium, Total	6020	78.4	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:12
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:12
Chromium, Total	6020	3.3	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:12
Copper, Total	6020	14.3	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:12
Iron, Total	6010B	3.49	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:28
Lead, Total	6020	6.3	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:12
Manganese, Total	6020	439	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:12
Mercury, Total	7470A	0.09 J	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:38
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:12
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:12
Zinc, Total	6020	10	µg/L	10	3	1	12/21/09	12/29/09 09:12

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: J0906248-MB

Service Request: J0906248
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	ND U	µg/L	0.50	0.14	1	12/21/09	12/29/09 07:07
Barium, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 07:07
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 07:07
Chromium, Total	6020	ND U	µg/L	2.0	0.6	1	12/21/09	12/29/09 07:07
Copper, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 07:07
Iron, Total	6010B	ND U	mg/L	0.10	0.01	1	12/21/09	12/23/09 19:31
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 07:07
Manganese, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 07:07
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:13
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 07:07
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 07:07
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 07:07

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-5
Lab Code : J0906248-001
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	12/31/09 12:06	58	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	32	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	1.5	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.25	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 16:45	0.17	J
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.3	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	750	
Sulfate	mg/L (ppm)	300.0	2	0.17	5	12/17/09 16:00	160	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-6
Lab Code : J0906248-002
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	2.3	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	290	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	68	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	48	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	3200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.35	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 17:30	0.19	J
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.9	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	20	9.6	2.5	12/21/09 14:00	2400	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-3
Lab Code : J0906248-003
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	200	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	46	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	74	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1800	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.28	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 17:45	4.9	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.5	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1.3	12/21/09 14:00	1200	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	87	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : DUP-1
Lab Code : J0906248-004
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	2.7	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	210	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	75	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	48	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	3200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.35	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 18:00	0.18	J
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.9	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	20	9.6	2.5	12/21/09 14:00	2400	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-7
Lab Code : J0906248-005
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	100	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	29	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	31	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1330	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.22	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 18:15	U	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.4	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	870	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	156	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-1
Lab Code : J0906248-006
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	12/31/09 12:06	18	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	40	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	2.8	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	160	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.20	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 19:15	U	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.4	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	110	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	9.3	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : NA
Date Received : NA

Inorganic Parameters

Sample Name : Method Blank
Lab Code : J0906248-MB
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	01/02/10 15:22	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	12/31/09 12:06	U	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	U	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	U	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	U	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	U	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	U	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 16:00	U	
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	U	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	U	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	U	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water

Service Request: J0906248
Date Collected: 12/16/09
Date Received: 12/17/09
Date Analyzed: 12/23/09

Matrix Spike Summary
Mercury, Total in Liquid Waste (Manual Cold-Vapor Technique)

Sample Name: LG-6
Lab Code: J0906248-002

Units: µg/L
Basis: NA

Analytical Method: 7470A
Prep Method: Method

Analyte Name	Sample Result	Matrix Spike J0906248-MS			Duplicate Matrix Spike J0906248-DMS			% Rec Limits	RPD	RPD Limit
		Result	Amount	% Rec	Result	Amount	% Rec			
Mercury, Total	ND	3.39	5.00	68 N	3.50	5.00	70 N	75 - 125	3	20

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water

Service Request: J0906248
Date Analyzed: 12/23/09 -
 12/29/09

**Lab Control Sample Summary
 Inorganic Parameters**

Units: µg/L
Basis: NA

Analyte Name	Method	Lab Control Sample J0906248-LCS			% Rec Limits
		Result	Expected	% Rec	
Arsenic, Total	6020	52.5	50.0	105	80 - 120
Barium, Total	6020	52.2	50.0	104	80 - 120
Cadmium, Total	6020	51.5	50.0	103	80 - 120
Chromium, Total	6020	51.6	50.0	103	80 - 120
Copper, Total	6020	50.2	50.0	100	80 - 120
Iron, Total	6010B	2.02	2.00	101	80 - 120
Lead, Total	6020	51.5	50.0	103	80 - 120
Manganese, Total	6020	51.0	50.0	102	80 - 120
Mercury, Total	7470A	5.28	5.00	106	80 - 120
Selenium, Total	6020	49.5	50.0	99	80 - 120
Silver, Total	6020	47.8	50.0	96	80 - 120
Zinc, Total	6020	99.9	100	100	80 - 120

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09
Date Extracted : NA
Date Analyzed : 12/17-01/07/10

Duplicate Summary
 Inorganic Parameters

Sample Name : LG-5
Lab Code : J0906248-001DUP
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	Sample Result	Duplicate		Relative Percent Difference	Result Notes
					Sample Result	Average		
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	32	33	32.5	3	
Chloride	mg/L (ppm)	300.0	0.2	1.5	1.5	1.5	<1	
Fluoride	mg/L (ppm)	300.0	0.2	0.25	0.23	0.24	8	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.17	0.17	0.17	<1	J
Sulfate	mg/L (ppm)	300.0	2	160	160	160	<1	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09
Date Extracted : NA
Date Analyzed : 12/17-01/07/10

Matrix Spike Summary
 Inorganic Parameters

Sample Name : LG-5
Lab Code : J0906248-001MS
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	CAS	Result Notes
								Percent Recovery Acceptance Limits	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	500	32	545	103	90-110	
Chloride	mg/L (ppm)	300.0	0.2	100	1.5	103	102	90-110	
Fluoride	mg/L (ppm)	300.0	0.2	5.0	0.25	5.28	101	90-110	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	5.0	0.17	5.10	99	90-110	
Sulfate	mg/L (ppm)	300.0	2	500	160	645	97	90-110	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09
Date Extracted : NA
Date Analyzed : 12/17/09

Duplicate Summary
Inorganic Parameters

Sample Name : LG-7
Lab Code : J0906248-005DUP
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	Result Notes
pH	pH UNITS	9040B	-	6.4	6.4	6.4	<1	X

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : NA
Date Received : NA
Date Extracted : NA
Date Analyzed : 12/17-01/07/10

Laboratory Control Sample Summary
 Inorganic Parameters

Sample Name : Laboratory Control Sample
Lab Code : J0906248-LCS
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	True Value	Result	Percent Recovery	CAS	Result Notes
						Percent Recovery	
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	198	169	85	85-115	
Carbon, Total Organic	mg/L (ppm)	415.1	50	48.5	97	90-110	
Carbon, Total Organic	mg/L (ppm)	415.1	50	49.0	98	90-110	
Chemical Oxygen Demand	mg/L (ppm)	410.4	343	368	110	90-110	
Chloride	mg/L (ppm)	300.0	100	96.9	97	90-110	
Chloride	mg/L (ppm)	300.0	5.00	5.14	103	90-110	
Conductivity	uMHOS/cm	120.1	168	165	98	85-115	
Fluoride	mg/L (ppm)	300.0	5.0	5.29	106	90-110	
Nitrate as Nitrogen	mg/L (ppm)	300.0	5.0	5.17	103	90-110	
pH	pH UNITS	9040B	7.00	7.01	100	90-110	
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	300	285	95	85-115	
Sulfate	mg/L (ppm)	300.0	5.00	4.65	93	90-110	
Sulfate	mg/L (ppm)	300.0	100	97.7	98	90-110	



Columbia Analytical Services, Inc.
Cooler Receipt Form

Client: Premo Service Request #: 20906248
 Project: IPRR
 Cooler received on 12/17/09 and opened on 12/17/09 by sc
 COURIER: CAS UPS FEDEX Client Other _____ Airbill # 8628 0404 3938

- 1 Were custody seals on outside of cooler? Yes No
If yes, how many and where? #: on lid other _____
- 2 Were seals intact and signature and date correct? Yes No N/A
- 3 Were custody papers properly filled out? Yes No N/A
- 4 Temperature of cooler(s) upon receipt (Should be 4 +/- 2 degrees C) 1/ _____
- 5 Thermometer ID _____
- 5 Temperature Blank Present? Yes No
- 6 Were Ice or Ice Packs present Ice Ice Packs No
- 7 Did all bottles arrive in good condition (unbroken, etc....)? Yes No N/A
- 8 Type of packing material present _____
- 9 Were all bottle labels complete (sample ID, preservation, etc....)? Yes No N/A
- 10 Did all bottle labels and tags agree with custody papers? Yes No N/A
- 11 Were the correct bottles used for the tests indicated? Yes No N/A
- 12 Were all of the preserved bottles received with the appropriate preservative?
 HNO₃ pH<2 H₂SO₄ pH<2 ZnAc₂/NaOH pH>9 NaOH pH>12 HCl pH<2 No N/A
Preservative additions noted below
- 13 Were all samples received within analysis holding times? Yes No N/A
- 14 Were VOA vials checked for absence of air bubbles? If present, note below Yes No N/A
- 15 Where did the bottles originate? CAS Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time
LG-6	HNO ₃	SMO1-6B	1.0	sc 12/17/09 1200
LG-3	↓	↓	↓	↓
DUP-1	↓	↓	↓	↓
LG-7	↓	↓	↓	↓
LG-6	HCl	SMO1-5E	1.0	↓
DUP-1	HCl	↓	↓	↓

Additional comments and/or explanation of all discrepancies noted above:

Client approval to run samples if discrepancies noted: _____ Date: 27



Jacksonville Laboratory
Condition Upon Receipt - Sample pH

SR #: J CF06248

Date: 12/12/20

Initials: SL

Note that pH is check and meets the required pH criterion listed in the column heading unless otherwise noted on the cooler receipt form.

Container	Bottle Code																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
40mL	40mL	40mL	125mL	125mL	125mL	125mL	125mL	250mL	500mL	500mL	500mL	500mL	500mL	1L	1L	1L	1L	1L	20z	40z	80z	160z	100ml	Ziplock	Misc.									
Pres	HCl	HCl	HCl	HCl	HCl	HCl	HCl	HNO3	HNO3	HNO3	HNO3	HCl	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4	H2SO4	Sodium	Thiosulfate	Misc.													
Req. pH	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	>8	>12	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2		
Sample #	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
-001																																		
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-038																																		
-039																																		
-040																																		

NOTE: VOA pH checks are performed by the analytical area, not sample control



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

9143 Phillips Highway, Ste 200 • Jacksonville, FL 32256 (904) 739-2277 • 800-695-7222 x06 • FAX (904) 739-2011 PAGE 1 OF 1

www.caslab.com

SR # **J0906248**
CAS Contract #

Project Name		Project Number		ANALYSIS REQUESTED (Include Method Number)					PRESERVATIVE	NUMBER OF CONTAINERS	REMARKS/ ALTERNATE DESCRIPTION
Company/Address		Email Address		0	3	1	3	2			
IP Danville Rapids Pat Kelley Premier Environmental Services 1880 West Oak Park, Bld 100, STE106 MARIETTA, GA 30062 Phone # 770-973-2100 FAX# 770-973-7395 Samplers Printed Name Paul M Davis		209383 pkelley@premiercorp-usa.com									
CLIENT SAMPLE ID	LAB ID	DATE	SAMPLING TIME	MATRIX							
LG-5	12/16/09	0830		GW	5	1	1	1			
LG-6	12/16/09	0950		GW	5	1	1	1			
LG-3	1115			GW	5	1	1	1			
DA-1	1240			GW	5	1	1	1			
LG-7	1340			GW	5	1	1	1			
LG-1				GW	5	1	1	1			
PRESERVATIVE: 0 3 1 3 2 NONE HCL HNO3 H2SO4 NaOH Zn Acetate MeOH NaHSO4 Other											
SPECIAL INSTRUCTIONS/COMMENTS:											
TURNAROUND REQUIREMENTS (RUSH SURCHARGES APPLY) <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> RUSH				REPORT REQUIREMENTS <input type="checkbox"/> I. Results Only <input type="checkbox"/> II. Results + QC Summaries (LCS, DUP, MS/MSD as required) <input type="checkbox"/> III. Results + QC and Calibration Summaries <input type="checkbox"/> IV. Data Validation Report with Raw Data <input type="checkbox"/> V. Specialized Forms / Custom Report Ecata Yes ___ No ___				INVOICE INFORMATION PO# BILL TO:			
REQUESTED FAX DATE REQUESTED REPORT DATE				RELINQUISHED BY Signature: <i>Shama Lydell</i> Printed Name: Shama Lydell Firm: ES Date/Time: 12/17/09 1005				RECEIVED BY Signature: <i>Paul M Davis</i> Printed Name: Paul M Davis Firm: FedEx Date/Time: 12/16/09 1800			
CUSTODY SEALS: Y N				RELINQUISHED BY Signature: <i>Paul M Davis</i> Printed Name: Paul M Davis Firm: FedEx Date/Time: 12/16/09 1800				RECEIVED BY Signature: <i>Paul M Davis</i> Printed Name: Paul M Davis Firm: FedEx Date/Time: 12/16/09 1800			
See QAPP <input type="checkbox"/>				SAMPLE RECEIPT: CONDITION/COOLER TEMP.				RECEIVED BY			



Columbia Analytical Services
9143 Philips Highway, Suite 200
Jacksonville, FL 32256
Tel 904-739-2277
Fax 904-739-2011

Appendix A

Subcontracted Analytical Results

1/7/2010 9:21:18AM

Client: Columbia Analytical Services (9477)
9143 Philips Highway, Suite 200
Jacksonville, FL 32256

Work Order: NSL2222
Project Name: Columbia Analytical Services
Project Number: J0906248
Date Received: 12/18/09

Attn: Mandy Sullivan

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
LG-5	NSL2222-01	12/16/09 08:30
LG-6	NSL2222-02	12/16/09 09:50
LG-3	NSL2222-03	12/16/09 11:15
DUP-1	NSL2222-04	12/16/09 00:01
LG-7	NSL2222-05	12/16/09 12:40
LG-1	NSL2222-06	12/16/09 13:40

Samples were received into laboratory at a temperature of 1.00 °C.

An executed copy of the chain of custody, the project quality control data, and the sample receipt form are also included as an addendum to this report. If you have any questions relating to this analytical report, please contact your Laboratory Project Manager. Any opinions, if expressed, are outside the scope of the Laboratory's accreditation.

This material is intended only for the use of the individual(s) or entity to whom it is addressed, and may contain information that is privileged and confidential. If you are not the intended recipient, or the employee or agent responsible for delivering this material to the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this material is strictly prohibited. If you have received this material in error, please notify us immediately.

Results are reported on a wet weight basis unless otherwise noted

The reported results were obtained in compliance with 2003 NELAC standards unless otherwise noted.

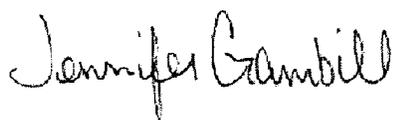
These results relate only to the items tested

Estimated uncertainty is available upon request.

Florida Certification Number: E87358

This report has been electronically signed.

Approved By:



TestAmerica Nashville
Jennifer Gambill
Project Manager

Client: Columbia Analytical Services (9477)
 9143 Philips Highway, Suite 200
 Jacksonville, FL 32256
 Attn: Mandy Sullivan

Work Order: NSL2222
 Project: Columbia Analytical Services
 Project Number: J0906248

Sampled: 12/16/09
 Received: 12/18/09

LABORATORY REPORT
Sample ID: LG-5 - Lab Number: NSL2222-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0848		mg/L	0.0300	1	12/24/09 14:32	SLP	SW846 9020B	9122867

LABORATORY REPORT
Sample ID: LG-6 - Lab Number: NSL2222-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	12/30/09 15:55	SLP	SW846 9020B	9122867

LABORATORY REPORT
Sample ID: LG-3 - Lab Number: NSL2222-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.138		mg/L	0.0300	1	12/30/09 16:16	SLP	SW846 9020B	9122867

LABORATORY REPORT
Sample ID: DUP-1 - Lab Number: NSL2222-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	12/30/09 17:45	SLP	SW846 9020B	9122867

LABORATORY REPORT
Sample ID: LG-7 - Lab Number: NSL2222-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	01/04/10 14:56	SLP	SW846 9020B	9122867

LABORATORY REPORT
Sample ID: LG-1 - Lab Number: NSL2222-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	01/04/10 15:16	SLP	SW846 9020B	9122867

Client: Columbia Analytical Services (9477)
 9143 Philips Highway, Suite 200
 Jacksonville, FL 32256

Work Order: NSL2222
 Project: Columbia Analytical Services
 Project Number: J0906248

Sampled: 12/16/09
 Received: 12/18/09

Attn: Mandy Sullivan

SAMPLE EXTRACTION DATA

Parameter	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Method
General Chemistry Parameters	NSL2222-01	100.0 mL	1.0 mL	12/24/2009	SLP	NO PREP
General Chemistry Parameters	NSL2222-02	100.0 mL	1.0 mL	12/30/2009	SLP	NO PREP
General Chemistry Parameters	NSL2222-03	100.0 mL	1.0 mL	12/30/2009	SLP	NO PREP
General Chemistry Parameters	NSL2222-04	100.0 mL	1.0 mL	12/30/2009	SLP	NO PREP
General Chemistry Parameters	NSL2222-05	100.0 mL	1.0 mL	01/04/2010	SLP	NO PREP
General Chemistry Parameters	NSL2222-06	100.0 mL	1.0 mL	01/04/2010	SLP	NO PREP

PROJECT QUALITY CONTROL DATA Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number
General Chemistry Parameters					
Total Organic Halides	0.0300		mg/L	9122867	9122867-BLK1

PROJECT QUALITY CONTROL DATA LCS

Analyte	Known Val.	Analyzed Val	Q	Units	% Rec.	Target Range	Q.C. Batch
General Chemistry Parameters							
Total Organic Halides	0.250	0.236		mg/L	94	90 - 120	9122867

PROJECT QUALITY CONTROL DATA LCS Dup

Analyte	Orig. Val.	Duplicate	Q	Units	Spike Conc	% Rec.	RPD	RPD Limit	Q.C. Batch	Sample Duplicated
General Chemistry Parameters										
Total Organic Halides		0.244		mg/L	0.250	98	4	40	9122867	

Client: Columbia Analytical Services (9477)
9143 Philips Highway, Suite 200
Jacksonville, FL 32256
Attn: Mandy Sullivan

Work Order: NSL2222
Project: Columbia Analytical Services
Project Number: J0906248

Sampled: 12/16/09
Received: 12/18/09

CERTIFICATION SUMMARY

TestAmerica Nashville

Method	Matrix	A2LA	AIHA	Nelac	Florida
SW846 9020B	Water		N/A	X	X

DATA QUALIFIERS AND DEFINITIONS

ADDITIONAL COMMENTS

When insufficient sample volume is received for Matrix Spike and Matrix Spike Duplicate, Laboratory Control Spike and Laboratory Control Spike Duplicate data is used for batch QC.



COOLER RECEIPT

NSL2221

Cooler Received/Opened On 12/18/2009 @ 1000

1. Tracking # 1ZXS5W695040537313

Courier: UPS IR Gun ID Raynger

2. Temperature of rep. sample or temp blank when opened: 1.0 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO...NA

4. Were custody seals on outside of cooler?

If yes, how many and where: 1 (Seal) YES...NO...NA

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial)

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial)

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial)

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial)

I certify that I attached a label with the unique LIMS number to each container (initial)

21. Were there Non-Conformance issues at login? YES...NO Was a PIPE generated? YES...NO...# _____

Columbia Analytical Services, Inc. Chain of Custody
 9143 Phillips Highway • Jacksonville, FL 32256 • 904-739-2277 • FAX 904-739-2011

CAS Contact: Tom Kissinger

Project Number: J0906248
 Project Manager: Tom Kissinger

DK

MISC_OUT_1
 None

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Time	Lab ID
J0906248-001	LG-5	1	Water	12/16/09	0830	Week Labs
J0906248-002	LG-6		Water	12/16/09	0950	Week Labs
J0906248-003	LG-3		Water	12/16/09	1115	Week Labs
J0906248-004	DUP-1		Water	12/16/09	0000	Week Labs
J0906248-005	LG-7		Water	12/16/09	1240	Week Labs
J0906248-006	LG-1		Water	12/16/09	1340	Week Labs

NSL2222
 01/05/10 23 59

Analyze 9020B TOX
 Send to Test America Nashville TN

Test Comments
 MISC_OUT_1 - None J0906248-001,2,3,4,5,6

Special Instructions/Comments PLEASE SEND RESULTS TO MANDY SULLIVAN	Turnaround Requirements RUSH (Surcharges Apply) PLEASE CIRCLE WORK DAYS 1 2 3 4 5 <input checked="" type="checkbox"/> STANDARD Requested FAX Date: _____ Requested Report Date: 01/04/10	Report Requirements I. Results Only _____ II. Results + QC Summaries <input checked="" type="checkbox"/> III. Results + QC and Calibration Summaries _____ IV. Data Validation Report with Raw Data _____ PQL/MDL/J <u>Y</u> EDD <u>Y</u>	Invoice Information PO# J0906248 Bill to _____
	Reinquisitioned By: <i>Mandy Sullivan</i> 12/17/09 Received By: <i>DK</i> 12-18-09 / 1000 Airbill Number: _____		

Memorandum

Date: January 28, 2010
To: Pat Kelley
From: Mary Ann Brookshire
Subject: Quality Assurance Review
Project: International Paper - Roanoke Rapids, NC - Low Ground Landfill
Sampling Dates: December 16, 2009
Project Number: 300018

1.0 Introduction

This memorandum presents the cursory validation of the water sample analyses listed in Table 1. The analyses were performed by Columbia Analytical Services, Inc. with the exception of the total organic halide analysis that was subcontracted to Test America. The criteria used to qualify data are from the *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (USEPA 2004), the analytical methods, or the professional judgment of the validation chemist. The following laboratory deliverables were reviewed during the validation process:

- Chain-of-custody (COC) documentation to assess holding times and verify report completeness
- Laboratory quality control (QC) sample results, including method blanks, laboratory control samples (LCSs), matrix spike/matrix spike duplicates (MS/MSDs), and laboratory duplicates
- Analytical results to verify reporting limits

Table 1—Sample Data Reviewed

Sample ID	Laboratory ID	Metals ^a	Wet Chem ^b
LG-5	J0906248-001	X	X
LG-6	J0906248-002	X	X
LG-3	J0906248-003	X	X
DUP-1	J0906248-004	X	X
LG-7	J0906248-005	X	X
LG-1	J0906248-006	X	X

^a Total metals by methods 6010B, 6020, and 7470A (USPEPA 1996)

^b BOD by method 405.1, TOC by method 415.1, COD by method 410.4, pH by method 9040B, conductivity by method 120.1, TDS by 160.1, TOX by method 9020B and nitrate, sulfate, fluoride and chloride by method 300 (SM 1992, USEPA 1983, USEPA 1996, and USEPA 1999b)

2.0 Data Validation

2.1 Custody, Preservation, and Completeness

Sample custody was maintained from sample collection to receipt at the laboratory. The reports are complete and contain results for the samples and tests requested on the COC forms with the exception of sulfate for samples LG-6 and DUP-1. The samples were received intact and were properly preserved.

2.2 Metals Analyses

The samples noted on Table 1 were analyzed for total metals by methods 6010B, 6020 and 7470A.

2.2.1 Holding Times

The samples were analyzed within the required holding times.

2.2.2 Blank Analyses

2.2.2.1 Method Blanks

Method blanks were analyzed at the required frequency. Target analytes were not detected at concentrations above the method detection limits in the method blank sample.

2.2.2.2 Field Blanks

Field blank samples were not collected. Data qualification is not required.

2.2.3 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

MS/MSDs were analyzed as required. The recoveries and RPDs for the MS/MSD analyses are within the QC limits with the following exceptions.

- The recovery values for mercury in LG-6 MS/MSD are 68 and 70 percent, respectively, which are below the Functional Guidelines criteria of 75 to 125 percent. The associated non-detect result for LG-6 is qualified as estimated detection limit (UJ).

2.2.4 Laboratory Control Sample

LCS samples were analyzed as required. The percent recovery values are within the laboratory QC limits.

2.2.5 Laboratory Reporting Limits

The reporting limits are consistent with method reporting limits (MRL) with the exception of samples requiring dilutions.

2.2.6 Field Duplicates

A field duplicate pair (LG-6/DUP-1) was collected with these samples. The field duplicate results are consistent with the sample results. The RPDs for the detected analytes are provided in the table below.

Sample ID	Duplicate ID	Parameter	Units	Sample Result	Duplicate Result	RPD
LG-6	DUP-1	Arsenic	ug/L	<0.5	0.31 J	NC
		Barium	ug/L	568	550	3.2
		Chromium	ug/L	4.0	3.9	2.5
		Copper	ug/L	0.5 J	<2.0	NC
		Iron	mg/L	1.11	1.07	3.7
		Manganese	ug/L	1,620	1,590	1.9

NC – Not calculable, one result is below the reporting limit.

2.2.7 Overall Assessment of Data Usability

The usability of the data is based on the EPA guidance documents noted previously. Based upon the information presented here, the data are acceptable with qualification.

2.3 General Chemistry Analyses

The samples were analyzed for biochemical oxygen demand (BOD), total organic carbon (TOC), chemical oxygen demand (COD), pH, conductivity, total dissolved solids (TDS), nitrate, fluoride, sulfate, chloride, and total organic halides (TOX).

2.3.1 Holding Times

The samples were analyzed within the required holding times.

2.3.2 Blank Analyses

2.3.2.1 Method Blanks

Method blanks were analyzed at the required frequency. Target analytes were not detected in the method blanks with the following exception.

- TOX was detected in the method blank at a concentration of 0.030 mg/L.

Functional Guidelines prescribes three qualifications schemes for blank contamination between the MDL and reporting limit, (1) associated sample concentrations that are non-detect are not qualified, (2) associated sample concentrations less than the reporting limit and greater than the MDL are qualified as undetected (U) at the reporting limit, and (3) associated sample concentrations greater than the reporting limit are qualified based upon professional judgment. Data are qualified as shown in Section 5.

2.3.2.2 Field Blanks

Field blank samples were not collected. Data qualification is not required.

2.3.3 Matrix Spike Analyses

An MS sample was analyzed for COD, chloride, fluoride, nitrate, and sulfate. The MS recoveries are within the laboratory QC limits. Batch MS/MSD samples were analyzed with the other parameters and were not provided in the laboratory report.

2.3.4 Matrix Duplicate Analyses

Matrix duplicates (MD) were analyzed as required for the COD, chloride, fluoride, nitrate, and sulfate analyses. The RPDs are within the QC limits. Batch MS/MSD samples were analyzed with the other parameters and were not provided in the laboratory report.

2.3.5 Laboratory Control Sample

LCS samples were analyzed as required. The percent recovery values are within the laboratory QC limits.

2.3.6 Laboratory Reporting Limits

The reporting limits are consistent with method reporting limits.

2.3.7 Field Duplicates

A field duplicate pair (LG-6/DUP-1) was collected with these samples. The field duplicate results are consistent with the sample results. The RPDs for the detected analytes are provided in the table below.

Sample ID	Duplicate ID	Parameter	Units	Sample Result	Duplicate Result	RPD
LG-6	DUP-1	BOD	mg/L	2.3	2.7	16
		TOC	mg/L	290	210	32
		COD	mg/L	68	75	9.8
		Chloride	mg/L	48	48	0
		Conductivity	umhos/cm	3200	3200	0
		Fluoride	mg/L	0.35	0.35	0
		Nitrate	mg/L	0.19 J	0.18 J	NC
		pH	S.U.	6.9	6.9	0
		TDS	mg/L	2400	2400	0

NC – Not calculable, at least one result is less than the method reporting limit.

ND – Not detected

2.3.8 Overall Assessment of Data Usability

The usability of the data is based on the EPA guidance documents noted previously. Based upon the information presented here, the data are acceptable without qualification.

3.0 Data Qualifier Definitions

The following data validation qualifiers were used in the review of this data set. These qualifiers are from the Contract Laboratory Program National Functional Guidelines for Organic Data Review (USEPA 1999).

- U The analyte was analyzed for but not detected above the reported sample quantitation limit.
- 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 above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a “tentative identification”.
- NJ The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate concentration.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the samples and meet quality control criteria. The presence or absence of the analyte cannot be verified.

4.0 References

SM 1992. Standard Methods for the Examination of Water and Waste, 18th Edition. 1992.

USEPA. 1983. Methods for Chemical Analysis of Water and Waste EPA/600/4-79/020. United States Environmental Protection Agency. Office of Research and Development. March 1983.

USEPA. 1996. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846) Third Edition, Updates I, II, IIA, IIB, and III. United States Environmental Protection Agency. Office of Solid Waste. December 1996.

USEPA. 1999a. Contract Laboratory Program National Functional Guidelines for Organic Data Review. U.S. Environmental Protection Agency Office of Emergency and Remedial Response. EPA540/R-99/008. October 1999.

USEPA. 1999b. Method 1664, Revision A: N-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated N-Hexane Extractable Material by Extraction and

Gravimetry EPA-821-R-98-002. United States Environmental Protection Agency. Office of Water. February 1999.

USEPA. 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review. U.S. Environmental Protection Agency Office of Superfund Remediation and Technology Innovation. EPA 540-R-04-004. October 2004.

5.0 SUMMARY OF QUALIFIED DATA

Sample ID	Analyte	Qualifier	Reason for Qualification
LG-6	Mercury	UJ	MS/MSD recoveries < QC limits
LG-5	TOX	U	Method blank contamination, result > MRL
LG-3	TOX	U	Method blank contamination, result > MRL

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-5
Lab Code: J0906248-001

Service Request: J0906248
Date Collected: 12/16/09 0830
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.37	J	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:48
Barium, Total	6020	97.6		µg/L	2.0	0.5	1	12/21/09	12/29/09 08:48
Cadmium, Total	6020	ND	U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:48
Chromium, Total	6020	ND	U	µg/L	2.0	0.6	1	12/21/09	12/29/09 08:48
Copper, Total	6020	1.6	J	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:48
Iron, Total	6010B	0.93		mg/L	0.10	0.01	1	12/21/09	12/23/09 21:00
Lead, Total	6020	ND	U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:48
Manganese, Total	6020	10500		µg/L	10	3	10	12/21/09	12/30/09 00:23
Mercury, Total	7470A	ND	U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:17
Selenium, Total	6020	ND	U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:48
Silver, Total	6020	ND	U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:48
Zinc, Total	6020	8	J	µg/L	10	3	1	12/21/09	12/29/09 08:48

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1/22/10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
 Project: IP Roanoke Rapids
 Sample Matrix: Water
 Sample Name: LG-6
 Lab Code: J0906248-002

Service Request: J0906248
 Date Collected: 12/16/09 0950
 Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	ND	U	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:52
Barium, Total	6020	568		µg/L	2.0	0.5	1	12/21/09	12/29/09 08:52
Cadmium, Total	6020	ND	U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:52
Chromium, Total	6020	4.0		µg/L	2.0	0.6	1	12/21/09	12/29/09 08:52
Copper, Total	6020	0.5	J	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:52
Iron, Total	6010B	1.11		mg/L	0.10	0.01	1	12/21/09	12/23/09 21:03
Lead, Total	6020	ND	U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:52
Manganese, Total	6020	1620		µg/L	1.0	0.3	1	12/21/09	12/29/09 08:52
Mercury, Total	7470A	ND	UJ	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:19
Selenium, Total	6020	ND	U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:52
Silver, Total	6020	ND	U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:52
Zinc, Total	6020	ND	U	µg/L	10	3	1	12/21/09	12/29/09 08:52

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 1/28/10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-3
Lab Code: J0906248-003

Service Request: J0906248
Date Collected: 12/16/09 1115
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.24	J	µg/L	0.50	0.14	1	12/21/09	12/29/09 08:57
Barium, Total	6020	67.7		µg/L	2.0	0.5	1	12/21/09	12/29/09 08:57
Cadmium, Total	6020	ND	U	µg/L	0.50	0.17	1	12/21/09	12/29/09 08:57
Chromium, Total	6020	ND	U	µg/L	2.0	0.6	1	12/21/09	12/29/09 08:57
Copper, Total	6020	ND	U	µg/L	2.0	0.5	1	12/21/09	12/29/09 08:57
Iron, Total	6010B	0.43		mg/L	0.10	0.01	1	12/21/09	12/23/09 21:09
Lead, Total	6020	ND	U	µg/L	1.0	0.3	1	12/21/09	12/29/09 08:57
Manganese, Total	6020	1740		µg/L	1.0	0.3	1	12/21/09	12/29/09 08:57
Mercury, Total	7470A	ND	U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:30
Selenium, Total	6020	ND	U	µg/L	5.0	0.9	1	12/21/09	12/29/09 08:57
Silver, Total	6020	ND	U	µg/L	0.50	0.09	1	12/21/09	12/29/09 08:57
Zinc, Total	6020	ND	U	µg/L	10	3	1	12/21/09	12/29/09 08:57

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1/28/10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: DUP-1
Lab Code: J0906248-004

Service Request: J0906248
Date Collected: 12/16/09 0000
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	0.31 J	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:02
Barium, Total	6020	550	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:02
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:02
Chromium, Total	6020	3.9	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:02
Copper, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:02
Iron, Total	6010B	1.07	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:12
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:02
Manganese, Total	6020	1590	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:02
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:35
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:02
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:02
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 09:02

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1/28/10

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-7
Lab Code: J0906248-005

Service Request: J0906248
Date Collected: 12/16/09 1240
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	ND U	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:07
Barium, Total	6020	122	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:07
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:07
Chromium, Total	6020	ND U	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:07
Copper, Total	6020	ND U	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:07
Iron, Total	6010B	18.3	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:18
Lead, Total	6020	ND U	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:07
Manganese, Total	6020	3980	µg/L	5.0	1.5	5	12/21/09	12/30/09 00:28
Mercury, Total	7470A	ND U	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:36
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:07
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:07
Zinc, Total	6020	ND U	µg/L	10	3	1	12/21/09	12/29/09 09:07

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1/28/10

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids
Sample Matrix: Water
Sample Name: LG-1
Lab Code: J0906248-006

Service Request: J0906248
Date Collected: 12/16/09 1340
Date Received: 12/17/09

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed
Arsenic, Total	6020	1.29	µg/L	0.50	0.14	1	12/21/09	12/29/09 09:12
Barium, Total	6020	78.4	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:12
Cadmium, Total	6020	ND U	µg/L	0.50	0.17	1	12/21/09	12/29/09 09:12
Chromium, Total	6020	3.3	µg/L	2.0	0.6	1	12/21/09	12/29/09 09:12
Copper, Total	6020	14.3	µg/L	2.0	0.5	1	12/21/09	12/29/09 09:12
Iron, Total	6010B	3.49	mg/L	0.10	0.01	1	12/21/09	12/23/09 21:28
Lead, Total	6020	6.3	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:12
Manganese, Total	6020	439	µg/L	1.0	0.3	1	12/21/09	12/29/09 09:12
Mercury, Total	7470A	0.09 J	µg/L	0.50	0.08	1	12/22/09	12/23/09 12:38
Selenium, Total	6020	ND U	µg/L	5.0	0.9	1	12/21/09	12/29/09 09:12
Silver, Total	6020	ND U	µg/L	0.50	0.09	1	12/21/09	12/29/09 09:12
Zinc, Total	6020	10	µg/L	10	3	1	12/21/09	12/29/09 09:12

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1/28/10

Comments: _____

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
 Project Name : IP Roanoke Rapids
 Project Number : NA
 Sample Matrix : WATER

Service Request : J0906248
 Date Collected : 12/16/09
 Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-5
 Lab Code : J0906248-001
 Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	12/31/09 12:06	58	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	32	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	1.5	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.25	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 16:45	0.17	J
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.3	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	750	
Sulfate	mg/L (ppm)	300.0	2	0.17	5	12/17/09 16:00	160	

MB
1/28/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-6
Lab Code : J0906248-002
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	2.3	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	290	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	68	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	48	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	3200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.35	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 17:30	0.19	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.9	J
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	20	9.6	2.5	12/21/09 14:00	2400	X

MB
1/28/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-3
Lab Code : J0906248-003
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	200	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	46	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	74	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1800	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.28	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 17:45	4.9	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.5	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1.3	12/21/09 14:00	1200	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	87	

MB
1/28/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : DUP-1
Lab Code : J0906248-004
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	2.7	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	210	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	75	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	48	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	3200	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.35	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 18:00	0.18	J
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.9	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	20	9.6	2.5	12/21/09 14:00	2400	

MB
1/22/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-7
Lab Code : J0906248-005
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	10	3	10	01/02/10 15:22	100	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	29	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	31	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	1330	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.22	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 18:15	U	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.4	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	870	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	156	

MB
1/28/10

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client : Premo, Inc.
Project Name : IP Roanoke Rapids
Project Number : NA
Sample Matrix : WATER

Service Request : J0906248
Date Collected : 12/16/09
Date Received : 12/17/09

Inorganic Parameters

Sample Name : LG-1
Lab Code : J0906248-006
Test Notes :

Basis : NA

Analyte	Units	Analysis Method	MRL	MDL	Dilution Factor	Date/Time Analyzed	Result	Result Notes
Biochemical Oxygen Demand (BOD)	mg/L (ppm)	405.1	2	2	1	12/18/09 08:25	U	
Carbon, Total Organic	mg/L (ppm)	415.1	1	0.3	1	12/31/09 12:06	18	
Chemical Oxygen Demand	mg/L (ppm)	410.4	5	1.9	1	01/07/10 14:19	40	
Chloride	mg/L (ppm)	300.0	0.2	0.031	1	12/17/09 16:00	2.8	
Conductivity	uMHOS/cm	120.1	5	1.1	1	12/29/09 14:00	160	
Fluoride	mg/L (ppm)	300.0	0.2	0.044	1	12/17/09 16:00	0.20	
Nitrate as Nitrogen	mg/L (ppm)	300.0	0.2	0.038	1	12/17/09 19:15	U	
pH	pH UNITS	9040B	-	-	1	12/17/09 16:00	6.4	X
Solids, Total Dissolved (TDS)	mg/L (ppm)	160.1	10	4.8	1	12/21/09 14:00	110	
Sulfate	mg/L (ppm)	300.0	0.4	0.033	1	12/17/09 16:00	9.3	

MB
1/22/10

Client Columbia Analytical Services (9477)
 9143 Philips Highway, Suite 200
 Jacksonville, FL 32256
 Attn Mandy Sullivan

Work Order: NSL2222
 Project: Columbia Analytical Services
 Project Number: J0906248

Sampled: 12/16/09
 Received: 12/18/09

LABORATORY REPORT

Sample ID: LG-5 - Lab Number: NSL2222-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0848	U	mg/L	0.0300	1	12/24/09 14:32	SLP	SW846 9020B	9122867

LABORATORY REPORT

Sample ID: LG-6 - Lab Number: NSL2222-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	12/30/09 15:55	SLP	SW846 9020B	9122867

LABORATORY REPORT

Sample ID: LG-3 - Lab Number: NSL2222-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.138	U	mg/L	0.0300	1	12/30/09 16:16	SLP	SW846 9020B	9122867

LABORATORY REPORT

Sample ID: DUP-1 - Lab Number: NSL2222-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	12/30/09 17:45	SLP	SW846 9020B	9122867

LABORATORY REPORT

Sample ID: LG-7 - Lab Number: NSL2222-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	01/04/10 14:56	SLP	SW846 9020B	9122867

LABORATORY REPORT

Sample ID: LG-1 - Lab Number: NSL2222-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters										
TOX	Total Organic Halides	0.0300	U	mg/L	0.0300	1	01/04/10 15:16	SLP	SW846 9020B	9122867

MB
 1/28/10