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August 3, 2011

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 May 2011 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 May 2011 sampling activities were conducted by Premier. Depth to groundwater measurements were obtained from the five site monitoring wells (MW-LG1, MW-LG3, MW-LG5, MW-LG6, and MW-LG7), 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, Florida, a North Carolina certified laboratory. The analytical results for this sampling event are attached.

With the exception of iron, manganese and sulfate, the laboratory analysis of samples collected from site monitoring wells were below the applicable NC 2L standards.

- The results of three groundwater samples (MW-LG1, MW-LG3 and MW-LG5) exceeded the NC 2L standard of 300 ug/L for iron.
- The results of five groundwater samples (MW-LG1, MW-LG3, MW-LG5, MW-LG6 and MW-LG7) exceeded the NC 2L standard of 50 ug/L for manganese.
- The result of one groundwater sample (MW-LG3) exceeded the NC 2L standard of 250 mg/L for sulfate.

The iron, manganese and sulfate results are consistent with historical sampling data and will continue to be monitored to document trends. The iron and manganese are considered to be naturally occurring and within the range of background concentrations reported for up gradient monitoring well MW-LG1. 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 or comments on this report, call (770) 973-2100.

Sincerely,



Patrick Kelley, CHMM
Senior Scientist



Peter E. 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 5/12/11 by Kent Davis of Premier Environmental PC Contact: Patrick Kelley, Premier Environmental PC

NC Cert. #: 5277 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	0.40	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	7440-39-3	15	Barium	93.7	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	7440-43-9	34	Cadmium	0.30	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	317	317	Chemical Oxygen Demand	6	mg/L	J	1.0	5/12/11	NA	5/25/11
42-03	MW-LG 1	16887-00-6	301	Chloride	3.68	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	7440-47-3	51	Chromium	1.4	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	7440-50-8	54	Copper	3.6	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	16984-48-8	312	Fluoride	0.10	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	7439-89-6	340	Iron	3.83	mg/L	J	1.0	5/12/11	5/19/11	5/20/11
42-03	MW-LG 1	7439-92-1	131	Lead	2.2	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	7439-96-5	342	Manganese	244	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	7439-97-6	132	Mercury	0.02	ug/L	J	1.0	5/12/11	5/19/11	5/19/11
42-03	MW-LG 1	14797-55-8	303	Nitrate	0.04	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	321	321	pH - Lab	6.24	pH UNITS	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	7782-49-2	183	Selenium	1.2	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	7440-22-4	184	Silver	0.07	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1	14808-79-8	315	Sulfate	23.7	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	311	311	Total Dissolved Solids	127	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 1	E-10195	357	Total Organic Carbon	2.6	mg/L	J	1.0	5/12/11	NA	5/25/11
42-03	MW-LG 1	7440-66-6	213	Zinc	3	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 1			Total Organic Halides	0.03	mg/L	U	1.0	5/12/11	NA	5/20/11
42-03	MW-LG 3	7440-38-2	14	Arsenic	0.41	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	7440-39-3	15	Barium	59.5	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	7440-43-9	34	Cadmium	0.30	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	317	317	Chemical Oxygen Demand	19	mg/L	J	1.0	5/12/11	NA	5/25/11
42-03	MW-LG 3	16887-00-6	301	Chloride	81.5	mg/L	J	5.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	7440-47-3	51	Chromium	0.5	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	7440-50-8	54	Copper	1	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	16984-48-8	312	Fluoride	0.21	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	7439-89-6	340	Iron	0.64	mg/L	J	1.0	5/12/11	5/19/11	5/20/11
42-03	MW-LG 3	7439-92-1	131	Lead	0.10	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	7439-96-5	342	Manganese	1170	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	7439-97-6	132	Mercury	0.02	ug/L	U	1.0	5/12/11	5/19/11	5/19/11
42-03	MW-LG 3	14797-55-8	303	Nitrate	15.3	mg/L	U	5.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	321	321	pH - Lab	7.01	pH UNITS	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	7782-49-2	183	Selenium	1.40	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	7440-22-4	184	Silver	0.070	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG 3	14808-79-8	315	Sulfate	271	mg/L	U	5.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	311	311	Total Dissolved Solids	1380	mg/L	U	4.0	5/12/11	NA	5/13/11
42-03	MW-LG 3	E-10195	357	Total Organic Carbon	11.0	mg/L	U	1.0	5/12/11	NA	5/25/11
42-03	MW-LG 3	7440-66-6	213	Zinc	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11

International Paper
Roanoke Rapids Mill

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

Samples collected on 5/12/11 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 3			Total Organic Halides	0.098	mg/L		1.0	5/12/11	NA	5/20/11
42-03	MW-LG5	7440-38-2	14	Arsenic	0.85	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	7440-39-3	15	Barium	99.9	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	7440-43-9	34	Cadmium	0.3	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	317	317	Chemical Oxygen Demand	10	mg/L	J	1.0	5/12/11	NA	5/25/11
42-03	MW-LG5	16887-00-6	301	Chloride	2.50	mg/L		1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	7440-47-3	51	Chromium	0.3	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	7440-50-8	54	Copper	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	16984-48-8	312	Fluoride	0.14	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	7439-89-6	340	Iron	5.15	mg/L		1.0	5/12/11	5/19/11	5/20/11
42-03	MW-LG5	7439-92-1	131	Lead	0.09	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	7439-96-5	342	Manganese	14000	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	7439-97-6	132	Mercury	0.02	ug/L	U	1.0	5/12/11	5/19/11	5/19/11
42-03	MW-LG5	14797-55-8	303	Nitrate	0.04	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	321	321	pH - Lab	6.55	pH UNITS	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	7782-49-2	183	Selenium	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	7440-22-4	184	Silver	0.070	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5	14808-79-8	315	Sulfate	249	mg/L		2.0	5/12/11	NA	5/13/11
42-03	MW-LG5	311	311	Total Dissolved Solids	661	mg/L		1.0	5/12/11	NA	5/13/11
42-03	MW-LG5	E-10195	357	Total Organic Carbon	5.5	mg/L		1.0	5/12/11	NA	5/25/11
42-03	MW-LG5	7440-66-6	213	Zinc	11	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG5			Total Organic Halides	0.03	mg/L		1.0	5/12/11	NA	5/20/11
42-03	MW-LG6	7440-38-2	14	Arsenic	0.48	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	7440-39-3	15	Barium	497	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	316	316	Biochemical Oxygen Demand	6.2	mg/L		1.0	5/12/11	NA	5/13/11
42-03	MW-LG6	7440-43-9	34	Cadmium	0.30	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	317	317	Chemical Oxygen Demand	54	mg/L		1.0	5/12/11	NA	5/25/11
42-03	MW-LG6	16887-00-6	301	Chloride	23.7	mg/L		2.0	5/12/11	NA	5/13/11
42-03	MW-LG6	7440-47-3	51	Chromium	4.3	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	7440-50-8	54	Copper	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	16984-48-8	312	Fluoride	0.22	mg/L		1.0	5/12/11	NA	5/13/11
42-03	MW-LG6	7439-89-6	340	Iron	0.12	mg/L		1.0	5/12/11	5/19/11	5/20/11
42-03	MW-LG6	7439-92-1	131	Lead	0.3	ug/L	J	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	7439-96-5	342	Manganese	1020	ug/L		1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	7439-97-6	132	Mercury	0.02	ug/L	U	1.0	5/12/11	5/19/11	5/19/11
42-03	MW-LG6	14797-55-8	303	Nitrate	0.18	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG6	321	321	pH - Lab	7.19	pH UNITS	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG6	7782-49-2	183	Selenium	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	7440-22-4	184	Silver	0.070	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6	14808-79-8	315	Sulfate	213	mg/L		2.0	5/12/11	NA	5/13/11
42-03	MW-LG6	311	311	Total Dissolved Solids	2380	mg/L		4.0	5/12/11	NA	5/13/11

**International Paper
Roanoke Rapids Mill**

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

Samples collected on 5/12/11 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-LG6	E-10195	357	Total Organic Carbon	22	mg/L	U	1.0	5/12/11	NA	5/25/11
42-03	MW-LG6	7440-66-6	213	Zinc	1	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG6			Total Organic Halides	0.03	mg/L	U	1.0	5/12/11	NA	5/20/11
42-03	MW-LG7	7440-38-2	14	Arsenic	0.40	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	7440-39-3	15	Barium	91.6	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	316	316	Biochemical Oxygen Demand	2.0	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	7440-43-9	34	Cadmium	0.30	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	317	317	Chemical Oxygen Demand	2	mg/L	U	1.0	5/12/11	NA	5/25/11
42-03	MW-LG7	16887-00-6	301	Chloride	22.7	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	7440-47-3	51	Chromium	0.30	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	7440-50-8	54	Copper	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	16984-48-8	312	Fluoride	0.19	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	7439-89-6	340	Iron	0.29	mg/L	U	1.0	5/12/11	5/19/11	5/20/11
42-03	MW-LG7	7439-92-1	131	Lead	0.06	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	7439-96-5	342	Manganese	372	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	7439-97-6	132	Mercury	0.02	ug/L	U	1.0	5/12/11	5/19/11	5/19/11
42-03	MW-LG7	14797-55-8	303	Nitrate	0.24	mg/L	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	321	321	pH - Lab	7.31	pH UNITS	J	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	7782-49-2	183	Selenium	1.0	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	7440-22-4	184	Silver	0.07	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7	14808-79-8	315	Sulfate	153	mg/L	U	1.0	5/12/11	NA	5/13/11
42-03	MW-LG7	311	311	Total Dissolved Solids	1330	mg/L	U	2.0	5/12/11	NA	5/13/11
42-03	MW-LG7	E-10195	357	Total Organic Carbon	2.0	mg/L	U	1.0	5/12/11	NA	5/25/11
42-03	MW-LG7	7440-66-6	213	Zinc	1	ug/L	U	1.0	5/12/11	5/18/11	5/18/11
42-03	MW-LG7			Total Organic Halides	0.0647	mg/L	U	1.0	5/12/11	NA	5/20/11

U - Undetected above the MRL/MDL
J - Estimated value

PREMO, INC.
Low Flow Monitoring Well Sampling Form

Location: Reynolds Rapids Sampler(s): R. Davis Project Name: 300018
AK J. Hughes Project No.: J.A. ROANOK RAPIDS

SITE CONDITIONS/COMMENTS ON SAMPLING: AMBIENT TEMPERATURE: 60° WIND: Light
 Well # LG-5 Diam. In. 2 TOC Elev. 10.91 Total Depth (ft) 19.19 Date 5/12/11 Time 10:45
18.98

Depth to Water (ft)	Cum. Vol. (gal)	Temp. (°C)	Sp. Cond. M(S/m)	pH (std. units)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	COMMENTS
11.54	Initial	17.84	770	6.12	43.8	2.02	-75.3	10:01
12.18	0.25	17.84	712	5.94	17.3	0.50	-38.0	10:08
12.78	0.50	17.83	701	5.89	13.9	0.39	-15.5	10:16
13.06	0.75	17.80	698	5.87	12.7	0.43	-10.4	10:20
13.35	1.0	17.72	700	5.87	10.79	0.32	-9.6	10:26
13.76	1.25	17.73	704	5.89	9.36	0.38	-10.7	10:31

EQUIPMENT USED/COMMENTS: 8.07" = 1.32 gal x 3 = 4.09 gal SIGNATURE _____ DATE _____
Geo pump w/ 1/4" tubing ROD, PH, COND, Cl, F
451 556 SO4, NO3, TDS
LAMORTE 2020E TOX
13 gal Average - 0958 TOC
End Average - 1035 COD
Metals

Memorandum

Date: June 14, 2011
To: Pat Kelley
From: Mary Ann Brookshire
Subject: Quality Assurance Review
Project: International Paper - Roanoke Rapids, NC - Low Ground Landfill
Sampling Dates: May 12, 2011
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-3	J1102118-001	X	X
LG-6	J1102118-002	X	X
LG-5	J1102118003	X	X
LG-7	J1102118-004	X	X
LG-1	J1102118-005	X	X
DUP-01	J1102118-006	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 5220D, 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. 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 manganese in LG-3 MS/MSD exceed the laboratory QC limits. Data qualification is not required as the manganese concentration in the parent sample is greater than four times the matrix spike concentration.

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-1/DUP-01) 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-1	DUP-1	Arsenic	ug/L	<0.4	0.52	NC
		Barium	ug/L	93.7	91.4	2.5
		Iron	ug/L	3830	3750	2.1
		Lead	ug/L	2.2	1.9	14.6
		Manganese	ug/L	244	250	2.4
		Mercury	ug/L	0.02 J	<0.02	NC
		Zinc	ug/L	3 J	2 J	NC
		Chromium	ug/L	1.4 J	1.2 J	NC
		Copper	ug/L	3.6	3.0	18.2
		Selenium	ug/L	1.2 J	1.1 J	NC

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 without 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 with the following exception.

- The pH analysis was performed beyond the holding time of ASAP. The pH results for each sample are qualified as estimated (J).

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 exceptions.

- TOX was detected in the method blank at a concentration of 0.017 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. TOX 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 TOC, COD, chloride, fluoride, nitrate, and sulfate. The MS recoveries are within the laboratory QC limits.

2.3.4 Matrix Duplicate Analyses

Matrix duplicates (MD) were analyzed as required for the pH, TOC, COD, chloride, fluoride, nitrate, and sulfate. 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-1/DUP-01) 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-1	DUP-1	Total Organic Carbon	mg/L	2.6	2.6	0.0
		Chemical Oxygen Demand	mg/L	6 J	<2	NC
		Chloride	mg/L	3.68	3.57	3.0
		Conductivity	umhos/cm	172	171	0.6
		Fluoride	mg/L	0.1 J	0.1 J	NC
		pH	S.U.	6.24	6.24	0.0
		Total Dissolved Solids	mg/L	127	134	5.4
		Sulfate	mg/L	23.7	24.6	3.7

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 with 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-3	pH	J	Analyzed beyond the holding time
LG-6	pH	J	Analyzed beyond the holding time
LG-5	pH	J	Analyzed beyond the holding time
LG-7	pH	J	Analyzed beyond the holding time
Dup-01	pH	J	Analyzed beyond the holding time
LG-1	pH	J	Analyzed beyond the holding time
LG-6	TOX	U at MRL	Method blank contamination, result < MRL
LG-5	TOX	U at MRL	Method blank contamination, result < MRL
LG-7	TOX	U	Method blank contamination, result > MRL
LG-1	TOX	U at MRL	Method blank contamination, result < MRL

MRL – method reporting limit (practical quantitation limit)

June 07, 2011

Service Request No: J1102118

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

Laboratory Results for: IP Roanoke Rapids/300018

Dear Mr. Kelley:

Enclosed are the results of the sample(s) submitted to our laboratory on May 13, 2011. For your reference, these analyses have been assigned our service request number **J1102118**.

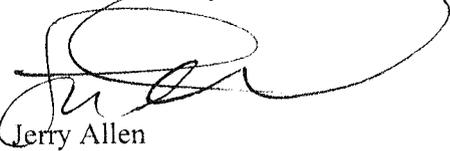
All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAP standards except as noted in the case narrative report. This report shall not be reproduced except in full without written approval of the laboratory, as all results are intended to be considered in their entirety, and Columbia Analytical Services, Inc.

(CAS) cannot be held responsible for use of the less than the complete report.

Results apply only to the items submitted to the laboratory for analysis and individual items (samples)

Please contact me if you have any questions. My extension is 4410. You may also contact me via email at JAllen@caslab.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Jerry Allen
Project Manager

Page 1 of 36

COLUMBIA ANALYTICAL SERVICES, INC.

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

Service Request No.: J1102118
Date Received: 5/13/11

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

Six water samples were received for analysis at Columbia Analytical Services on 5/13/11. The samples were received in good condition and consistent with the accompanying chain of custody form. Samples are refrigerated at $\leq 6^{\circ}\text{C}$ upon receipt at the lab except for aqueous samples designated for metals analyses, which were stored at room temperature.

Metals

Matrix Spike Recovery Exceptions

The control criteria for matrix spike recovery of Manganese for sample LG-3 is not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

General Chemistry Parameters

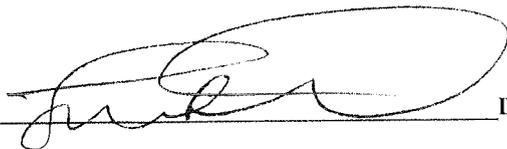
Holding Time Exceptions

All samples were received past the recommended holding time for 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

The samples were delivered to Test America in Nashville, TN on 5/16/11 for EPA Method 9020B determination. The certified analytical report has been included in its entirety in Appendix A: Subcontracted Analytical Results.

Approved by _____



Date _____

6/7/11

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.

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.

Client: Premo Group, Inc.
Project: IP Roanoke Rapids/300018

Service Request: J1102118

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
J1102118-001	LG-3	5/12/11	11:50
J1102118-002	LG-6	5/12/11	09:35
J1102118-003	LG-5	5/12/11	10:45
J1102118-004	LG-7	5/12/11	12:55
J1102118-005	LG-1	5/12/11	14:00
J1102118-006	DUP-01	5/12/11	00:00

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-3
Lab Code: J1102118-001

Service Request: J1102118
Date Collected: 5/12/11 1150
Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	0.41	J	µg/L	0.50	0.40	1	5/18/11	5/18/11 21:44	
Barium, Total Recoverable	6020	59.5		µg/L	2.0	0.3	1	5/18/11	5/18/11 21:44	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 21:44	
Chromium, Total Recoverable	6020	0.5	J	µg/L	2.0	0.3	1	5/18/11	5/18/11 21:44	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/18/11	5/18/11 21:44	
Iron, Total Recoverable	6010B	640		µg/L	100	20	1	5/19/11	5/20/11 22:50	
Lead, Total Recoverable	6020	0.1	J	µg/L	1.0	0.06	1	5/18/11	5/18/11 21:44	
Manganese, Total Recoverable	6020	1170		µg/L	5.0	0.3	1	5/18/11	5/18/11 21:44	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:03	
Selenium, Total Recoverable	6020	1.4	J	µg/L	5.0	1.0	1	5/18/11	5/18/11 21:44	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 21:44	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/18/11	5/18/11 21:44	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-6
Lab Code: J1102118-002

Service Request: J1102118
Date Collected: 5/12/11 0935
Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	0.48	J	µg/L	0.50	0.40	1	5/18/11	5/18/11 21:59	
Barium, Total Recoverable	6020	497		µg/L	2.0	0.3	1	5/18/11	5/18/11 21:59	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 21:59	
Chromium, Total Recoverable	6020	4.3		µg/L	2.0	0.3	1	5/18/11	5/18/11 21:59	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/18/11	5/18/11 21:59	
Iron, Total Recoverable	6010B	120		µg/L	100	20	1	5/19/11	5/20/11 22:58	
Lead, Total Recoverable	6020	0.3	J	µg/L	1.0	0.06	1	5/18/11	5/18/11 21:59	
Manganese, Total Recoverable	6020	1020		µg/L	5.0	0.3	1	5/18/11	5/18/11 21:59	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:04	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/18/11	5/18/11 21:59	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 21:59	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/18/11	5/18/11 21:59	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-5
Lab Code: J1102118-003

Service Request: J1102118
Date Collected: 5/12/11 1045
Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	0.85	µg/L	0.50	0.40	1	5/18/11	5/18/11 22:05	
Barium, Total Recoverable	6020	99.9	µg/L	2.0	0.3	1	5/18/11	5/18/11 22:05	
Cadmium, Total Recoverable	6020	ND U	µg/L	0.50	0.30	1	5/18/11	5/18/11 22:05	
Chromium, Total Recoverable	6020	ND U	µg/L	2.0	0.3	1	5/18/11	5/18/11 22:05	
Copper, Total Recoverable	6020	ND U	µg/L	2.0	1.0	1	5/18/11	5/18/11 22:05	
Iron, Total Recoverable	6010B	5150	µg/L	100	20	1	5/19/11	5/20/11 23:05	
Lead, Total Recoverable	6020	0.09 J	µg/L	1.0	0.06	1	5/18/11	5/18/11 22:05	
Manganese, Total Recoverable	6020	14000	µg/L	50	3	10	5/18/11	5/19/11 20:18	
Mercury, Total	7470A	ND U	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:06	
Selenium, Total Recoverable	6020	ND U	µg/L	5.0	1.0	1	5/18/11	5/18/11 22:05	
Silver, Total Recoverable	6020	ND U	µg/L	0.50	0.07	1	5/18/11	5/18/11 22:05	
Zinc, Total Recoverable	6020	11	µg/L	10	1	1	5/18/11	5/18/11 22:05	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
 Project: IP Roanoke Rapids/300018
 Sample Matrix: Water
 Sample Name: LG-7
 Lab Code: J1102118-004

Service Request: J1102118
 Date Collected: 5/12/11 1255
 Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	ND	U	µg/L	0.50	0.40	1	5/18/11	5/18/11 22:10	
Barium, Total Recoverable	6020	91.6		µg/L	2.0	0.3	1	5/18/11	5/18/11 22:10	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 22:10	
Chromium, Total Recoverable	6020	0.5	J	µg/L	2.0	0.3	1	5/18/11	5/18/11 22:10	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/18/11	5/18/11 22:10	
Iron, Total Recoverable	6010B	290		µg/L	100	20	1	5/19/11	5/20/11 23:11	
Lead, Total Recoverable	6020	ND	U	µg/L	1.0	0.06	1	5/18/11	5/18/11 22:10	
Manganese, Total Recoverable	6020	372		µg/L	5.0	0.3	1	5/18/11	5/18/11 22:10	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:07	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/18/11	5/18/11 22:10	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 22:10	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/18/11	5/18/11 22:10	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-1
Lab Code: J1102118-005

Service Request: J1102118
Date Collected: 5/12/11 1400
Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	ND	U	µg/L	0.50	0.40	1	5/18/11	5/18/11 22:15	
Barium, Total Recoverable	6020	93.7		µg/L	2.0	0.3	1	5/18/11	5/18/11 22:15	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 22:15	
Chromium, Total Recoverable	6020	1.4	J	µg/L	2.0	0.3	1	5/18/11	5/18/11 22:15	
Copper, Total Recoverable	6020	3.6		µg/L	2.0	1.0	1	5/18/11	5/18/11 22:15	
Iron, Total Recoverable	6010B	3830		µg/L	100	20	1	5/19/11	5/20/11 23:18	
Lead, Total Recoverable	6020	2.2		µg/L	1.0	0.06	1	5/18/11	5/18/11 22:15	
Manganese, Total Recoverable	6020	244		µg/L	5.0	0.3	1	5/18/11	5/18/11 22:15	
Mercury, Total	7470A	0.02	J	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:09	
Selenium, Total Recoverable	6020	1.2	J	µg/L	5.0	1.0	1	5/18/11	5/18/11 22:15	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 22:15	
Zinc, Total Recoverable	6020	3	J	µg/L	10	1	1	5/18/11	5/18/11 22:15	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: DUP-01
Lab Code: J1102118-006

Service Request: J1102118
Date Collected: 5/12/11 0000
Date Received: 5/13/11

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	0.52		µg/L	0.50	0.40	1	5/18/11	5/18/11 22:20	
Barium, Total Recoverable	6020	91.4		µg/L	2.0	0.3	1	5/18/11	5/18/11 22:20	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 22:20	
Chromium, Total Recoverable	6020	1.2	J	µg/L	2.0	0.3	1	5/18/11	5/18/11 22:20	
Copper, Total Recoverable	6020	3.0		µg/L	2.0	1.0	1	5/18/11	5/18/11 22:20	
Iron, Total Recoverable	6010B	3750		µg/L	100	20	1	5/19/11	5/20/11 23:23	
Lead, Total Recoverable	6020	1.9		µg/L	1.0	0.06	1	5/18/11	5/18/11 22:20	
Manganese, Total Recoverable	6020	250		µg/L	5.0	0.3	1	5/18/11	5/18/11 22:20	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/19/11	5/19/11 19:13	
Selenium, Total Recoverable	6020	1.1	J	µg/L	5.0	1.0	1	5/18/11	5/18/11 22:20	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 22:20	
Zinc, Total Recoverable	6020	2	J	µg/L	10	1	1	5/18/11	5/18/11 22:20	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: J1102118-MB

Service Request: J1102118
Date Collected: NA
Date Received: NA

Basis: NA

Inorganic Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Arsenic, Total Recoverable	6020	ND	U	µg/L	0.50	0.40	1	5/18/11	5/18/11 20:56	
Barium, Total Recoverable	6020	ND	U	µg/L	2.0	0.3	1	5/18/11	5/18/11 20:56	
Cadmium, Total Recoverable	6020	ND	U	µg/L	0.50	0.30	1	5/18/11	5/18/11 20:56	
Chromium, Total Recoverable	6020	ND	U	µg/L	2.0	0.3	1	5/18/11	5/18/11 20:56	
Copper, Total Recoverable	6020	ND	U	µg/L	2.0	1.0	1	5/18/11	5/18/11 20:56	
Iron, Total Recoverable	6010B	ND	U	µg/L	100	20	1	5/19/11	5/20/11 22:39	
Lead, Total Recoverable	6020	ND	U	µg/L	1.0	0.06	1	5/18/11	5/18/11 20:56	
Manganese, Total Recoverable	6020	ND	U	µg/L	5.0	0.3	1	5/18/11	5/18/11 20:56	
Mercury, Total	7470A	ND	U	µg/L	0.20	0.02	1	5/19/11	5/19/11 18:44	
Selenium, Total Recoverable	6020	ND	U	µg/L	5.0	1.0	1	5/18/11	5/18/11 20:56	
Silver, Total Recoverable	6020	ND	U	µg/L	0.50	0.07	1	5/18/11	5/18/11 20:56	
Zinc, Total Recoverable	6020	ND	U	µg/L	10	1	1	5/18/11	5/18/11 20:56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-3
Lab Code: J1102118-001

Service Request: J1102118
Date Collected: 5/12/11 1150
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND	U	mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	11.0		mg/L	1.0	0.1	1	NA	5/25/11 15:58	
Chemical Oxygen Demand, Total	SM21 5220 D	19	J	mg/L	20	2	1	NA	5/25/11 14:33	
Chloride	300.0	81.5		mg/L	2.5	0.5	5	NA	5/13/11 17:56	
Conductivity at 25 Degrees Celsius	120.1	2030		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:19	
Fluoride	300.0	0.21		mg/L	0.20	0.03	1	NA	5/13/11 15:26	
Nitrate as Nitrogen	300.0	15.3		mg/L	1.0	0.2	5	NA	5/13/11 17:56	
pH	9040B	7.01	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	1380		mg/L	40	40	4	NA	5/13/11 17:50	
Sulfate	300.0	271		mg/L	2.5	0.5	5	NA	5/13/11 17:56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-6
Lab Code: J1102118-002

Service Request: J1102118
Date Collected: 5/12/11 09:35
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	6.2		mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	21.9		mg/L	1.0	0.1	1	NA	5/25/11 17:14	
Chemical Oxygen Demand, Total	SM21 5220 D	54		mg/L	20	2	1	NA	5/25/11 14:35	
Chloride	300.0	23.7		mg/L	1.0	0.2	2	NA	5/13/11 18:41	
Conductivity at 25 Degrees Celsius	120.1	3380		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:22	
Fluoride	300.0	0.22		mg/L	0.20	0.03	1	NA	5/13/11 16:11	
Nitrate as Nitrogen	300.0	0.18	J	mg/L	0.20	0.04	1	NA	5/13/11 16:11	
pH	9040B	7.19	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	2380		mg/L	40	40	4	NA	5/13/11 17:50	
Sulfate	300.0	213		mg/L	1.0	0.2	2	NA	5/13/11 18:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-5
Lab Code: J1102118-003

Service Request: J1102118
Date Collected: 5/12/11 1045
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND	U	mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	5.5		mg/L	1.0	0.1	1	NA	5/25/11 17:31	
Chemical Oxygen Demand, Total	SM21 5220 D	10	J	mg/L	20	2	1	NA	5/25/11 14:35	
Chloride	300.0	2.50		mg/L	0.50	0.10	1	NA	5/13/11 16:26	
Conductivity at 25 Degrees Celsius	120.1	856		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:26	
Fluoride	300.0	0.14	J	mg/L	0.20	0.03	1	NA	5/13/11 16:26	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/13/11 16:26	
pH	9040B	6.55	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	661		mg/L	10	10	1	NA	5/13/11 17:50	
Sulfate	300.0	249		mg/L	1.0	0.2	2	NA	5/13/11 19:11	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-7
Lab Code: J1102118-004

Service Request: J1102118
Date Collected: 5/12/11 1255
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND	U	mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	5.0		mg/L	1.0	0.1	1	NA	5/25/11 18:20	
Chemical Oxygen Demand, Total	SM21 5220 D	ND	U	mg/L	20	2	1	NA	5/25/11 14:36	
Chloride	300.0	22.7		mg/L	0.50	0.10	1	NA	5/13/11 16:41	
Conductivity at 25 Degrees Celsius	120.1	1980		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:29	
Fluoride	300.0	0.19	J	mg/L	0.20	0.03	1	NA	5/13/11 16:41	
Nitrate as Nitrogen	300.0	0.24		mg/L	0.20	0.04	1	NA	5/13/11 16:41	
pH	9040B	7.31	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	1330		mg/L	20	20	2	NA	5/13/11 17:50	
Sulfate	300.0	153		mg/L	0.50	0.10	1	NA	5/13/11 16:41	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: LG-1
Lab Code: J1102118-005

Service Request: J1102118
Date Collected: 5/12/11 1400
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND	U	mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	2.6		mg/L	1.0	0.1	1	NA	5/25/11 18:34	
Chemical Oxygen Demand, Total	SM21 5220 D	6	J	mg/L	20	2	1	NA	5/25/11 14:36	
Chloride	300.0	3.68		mg/L	0.50	0.10	1	NA	5/13/11 16:56	
Conductivity at 25 Degrees Celsius	120.1	172		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:32	
Fluoride	300.0	0.10	J	mg/L	0.20	0.03	1	NA	5/13/11 16:56	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/13/11 16:56	
pH	9040B	6.24	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	127		mg/L	10	10	1	NA	5/13/11 17:50	
Sulfate	300.0	23.7		mg/L	0.50	0.10	1	NA	5/13/11 16:56	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: DUP-01
Lab Code: J1102118-006

Service Request: J1102118
Date Collected: 5/12/11 0000
Date Received: 5/13/11

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result	Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND	U	mg/L	2.0	2.0	1	NA	5/13/11 15:00	
Carbon, Total Organic (TOC)	415.1	2.6		mg/L	1.0	0.1	1	NA	5/25/11 18:52	
Chemical Oxygen Demand, Total	SM21 5220 D	ND	U	mg/L	20	2	1	NA	5/25/11 14:36	
Chloride	300.0	3.57		mg/L	0.50	0.10	1	NA	5/13/11 17:11	
Conductivity at 25 Dcgrees Celsius	120.1	171		µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:34	
Fluoride	300.0	0.10	J	mg/L	0.20	0.03	1	NA	5/13/11 17:11	
Nitrate as Nitrogen	300.0	ND	U	mg/L	0.20	0.04	1	NA	5/13/11 17:11	
pH	9040B	6.24	X	pH Units			1	NA	5/13/11 18:20	
Solids, Total Dissolved (TDS)	160.1	134		mg/L	10	10	1	NA	5/13/11 17:50	
Sulfate	300.0	24.6		mg/L	0.50	0.10	1	NA	5/13/11 17:11	

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: J1102118-MB

Service Request: J1102118
Date Collected: NA
Date Received: NA

Basis: NA

General Chemistry Parameters

Analyte Name	Method	Result Q	Units	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Note
Biochemical Oxygen Demand (BOD)	405.1	ND U	mg/L	2.0	2.0	1	NA	5/13/11 09:00	
Carbon, Total Organic (TOC)	415.1	ND U	mg/L	1.0	0.1	1	NA	5/25/11 14:57	
Chemical Oxygen Demand, Total	SM21 5220 D	ND U	mg/L	20	2	1	NA	5/25/11 14:32	
Chloride	300.0	ND U	mg/L	0.50	0.10	1	NA	5/13/11 14:54	
Conductivity at 25 Degrees Celsius	120.1	ND U	µMHOS/cm	1.0	1.0	1	NA	5/18/11 22:10	
Fluoride	300.0	ND U	mg/L	0.20	0.03	1	NA	5/13/11 14:54	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.20	0.04	1	NA	5/13/11 14:54	
Solids, Total Dissolved (TDS)	160.1	ND U	mg/L	10	10	1	NA	5/13/11 17:50	
Sulfate	300.0	ND U	mg/L	0.50	0.10	1	NA	5/13/11 14:54	

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Collected: 5/12/11
Date Received: 5/13/11
Date Analyzed: 5/18/11

**Matrix Spike Summary
 Inorganic Parameters**

Sample Name: LG-3
Lab Code: J1102118-001

Units: µg/L
Basis: NA

Analytical Method: 6020
Prep Method: EPA 3005A

Analyte Name	Sample Result	LG-3MS Matrix Spike J1102118-001MS			LG-3DMS Duplicate Matrix Spike J1102118-001DMS			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Arsenic, Total Recoverable	0.41	51.3	50.0	102	52.3	50.0	104	75 - 125	2	20
Barium, Total Recoverable	59.5	106	50.0	93	110	50.0	100	75 - 125	3	20
Cadmium, Total Recoverable	ND	51.6	50.0	103	51.6	50.0	103	75 - 125	<1	20
Chromium, Total Recoverable	0.5	49.1	50.0	97	50.5	50.0	100	75 - 125	3	20
Copper, Total Recoverable	ND	46.3	50.0	93	48.2	50.0	96	75 - 125	4	20
Lead, Total Recoverable	0.1	54.3	50.0	108	55.0	50.0	110	75 - 125	1	20
Manganese, Total Recoverable	1170	1180	50.0	34 #	1200	50.0	76 #	75 - 125	2	20
Selenium, Total Recoverable	1.4	52.8	50.0	103	53.5	50.0	104	75 - 125	1	20
Silver, Total Recoverable	ND	47.9	50.0	96	47.9	50.0	96	75 - 125	<1	20
Zinc, Total Recoverable	ND	97.6	100	98	100	100	100	75 - 125	2	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Analyzed: 5/18/11 -
 5/20/11

**Lab Control Sample Summary
 Inorganic Parameters**

Units: µg/L
Basis: NA

**Lab Control Sample
 J1102118-LCS**

Analyte Name	Method	Result	Spike		% Rec Limits
			Amount	% Rec	
Arsenic, Total Recoverable	6020	54.5	50.0	109	80 - 120
Barium, Total Recoverable	6020	50.4	50.0	101	80 - 120
Cadmium, Total Recoverable	6020	53.6	50.0	107	80 - 120
Chromium, Total Recoverable	6020	50.4	50.0	101	80 - 120
Copper, Total Recoverable	6020	53.9	50.0	108	80 - 120
Iron, Total Recoverable	6010B	5220	5000	104	85 - 115
Lead, Total Recoverable	6020	51.5	50.0	103	80 - 120
Manganese, Total Recoverable	6020	50.6	50.0	101	80 - 120
Mercury, Total	7470A	5.16	5.00	103	80 - 120
Selenium, Total Recoverable	6020	55.3	50.0	111	80 - 120
Silver, Total Recoverable	6020	51.6	50.0	103	80 - 120
Zinc, Total Recoverable	6020	110	100	110	80 - 120

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Collected: 5/12/11
Date Received: 5/13/11
Date Analyzed: 5/13/11 -
 5/25/11

**Matrix Spike Summary
 General Chemistry Parameters**

Sample Name: LG-3
Lab Code: J1102118-001

Units: mg/L
Basis: NA

Analyte Name	Method	Sample Result	LG-3MS Matrix Spike J1102118-001MS		% Rec	% Rec Limits
			Result	Spike Amount		
Carbon, Total Organic (TOC)	415.1	11.0	59.4	50.0	97	90 - 110
Chemical Oxygen Demand, Total	SM21 5220 D	19	514	500	99	90 - 110
Chloride	300.0	81.5	335	250	102	90 - 110
Fluoride	300.0	0.21	4.94	5.00	95	90 - 110
Nitrate as Nitrogen	300.0	15.3	40.9	25.0	103	90 - 110
Sulfate	300.0	271	520	250	99	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Collected: 5/12/11
Date Received: 5/13/11
Date Analyzed: 5/13/11 -
 5/25/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: LG-3
Lab Code: J1102118-001

Units: mg/L
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	LG-3DUP Duplicate Sample J1102118-001DUP1		RPD	RPD Limit
					Result	Average		
Carbon, Total Organic (TOC)	415.1	1.0	0.1	11.0	9.2	10.1	18	20
Chemical Oxygen Demand, Total Chloride	SM21 5220 D 300.0	20 2.5	2 0.5	19 J 81.5	18 J 81.8	18.7 81.6	6 <1	20 20
Fluoride	300.0	0.20	0.03	0.21	0.21	0.210	3	20
Nitrate as Nitrogen	300.0	1.0	0.2	15.3	15.4	15.3	<1	20
Sulfate	300.0	2.5	0.5	271	271	271	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Collected: 5/12/11
Date Received: 5/13/11
Date Analyzed: 5/13/11

**Replicate Sample Summary
 General Chemistry Parameters**

Sample Name: DUP-01
Lab Code: J1102118-006

Units: pH Units
Basis: NA

Analyte Name	Method	MRL	MDL	Sample Result	DUP-01DUP Duplicate Sample		RPD	RPD Limit
					J1102118-006DUP2 Result	Average		
pH	9040B			6.24 X	6.24 X	6.24	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Analyzed: 5/18/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: μMHOS/cm
Basis: NA

Analyte Name	Method	Lab Control Sample J1102118-LCS1			Duplicate Lab Control Sample J1102118-DLCS1			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Conductivity at 25 Degrees Celsius	120.1	170	168	101	168	168	100	90 - 110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Premo, Inc.
Project: IP Roanoke Rapids/300018
Sample Matrix: Water

Service Request: J1102118
Date Analyzed: 5/13/11 -
 5/25/11

**Lab Control Sample Summary
 General Chemistry Parameters**

Units: mg/L
Basis: NA

**Lab Control Sample
 J1102118-LCS2**

Analyte Name	Method	Result	Spike		% Rec Limits
			Amount	% Rec	
Biochemical Oxygen Demand (BOD)	405.1	171	198	87	84.6 - 115.
Carbon, Total Organic (TOC)	415.1	49.9	50.0	100	90 - 110
Chemical Oxygen Demand, Total	SM21 5220 D	492	500	98	90 - 110
Chloride	300.0	50.6	50.0	101	90 - 110
Fluoride	300.0	5.36	5.00	107	90 - 110
Nitrate as Nitrogen	300.0	4.78	5.00	96	90 - 110
Solids, Total Dissolved (TDS)	160.1	293	300	98	85 - 115
Sulfate	300.0	50.9	50.0	102	90 - 110

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: PREMA Service Request #: J11021018
 Project: IP Roanoke Rapids
 Cooler received on 5/13/11 and opened on 5/13/11 by JS
 COURIER: CAS UPS FEDEX Client Other _____ Airbill # 872606035982

- 1 Were custody seals on outside of cooler? Yes No
 If yes, how many and where? #: 1 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 > 0°C and < 6°C) 1.6 0.4 _____
- 5 Thermometer ID 1/2 _____
- 6 Temperature Blank Present? Yes No
- 7 Were Ice or Ice Packs present Ice Ice Packs No
- 8 Did all bottles arrive in good condition (unbroken, etc....)? Yes No N/A
- 9 Type of packing material present Netting Vial Holder Bubble Wrap
 Paper Styrofoam Other N/A
- 10 Were all bottle labels complete (sample ID, preservation, etc....)? Yes No N/A
- 11 Did all bottle labels and tags agree with custody papers? Yes No N/A
- 12 Were the correct bottles used for the tests indicated? Yes No N/A
- 13 Were all of the preserved bottles received with the appropriate preservative? Yes No N/A
HNO3 pH<2 H2SO4 pH<2 ZnAc2/NaOH pH>9 NaOH pH>12 HCl pH<2
 Preservative additions noted below
- 14 Were all samples received within analysis holding times? Yes No N/A
- 15 Were all VOA vials free of air bubbles? If present, note below Yes No N/A
- 16 Where did the bottles originate? CAS Client

Sample ID	Reagent	Lot #	ml added	Initials Date/Time
LG6	H ₂ SO ₄	GEN 585-55G		5/13/11 1225
LG6	I	I		I
LG-7				
LG-3	HNO ₃	MET-12.7E		
LG-6	I	I		I
LG-7	I	I		I

Additional comments and/or explanation of all discrepancies noted above:
ph analysis was received out of HOLD

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



SR # J 1102118

Date: 5/13/11

Initials: *JS*

Jacksonville Laboratory
Condition Upon Receipt - Sample pH

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

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									
Container	40mL	40mL	40mL	125mL	125mL	125mL	125mL	125mL	250mL	250mL	250mL	250mL	250mL	250mL	500mL	500mL	500mL	500mL	1L	1L	1L	1L	1L	20z	40z	8oz	16oz	100mL	Ziplock	Misc.										
Preserve	N/A	HCl	N/A	N/A	H2SO4	HNO3	HNO3	HNO3	HNO3	HNO3	N/A	N/A	N/A	HNO3	HNO3	HCl	H2SO4	H2SO4	N/A	N/A	N/A	N/A	HCl	H2SO4	N/A	N/A	N/A	N/A	N/A	N/A	N/A									
Req. pH	N/A	<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									
Sample #	-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	-32	-33	-34	-35	-36	-37	-38	-39	-40
		2																																						

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



CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

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

SR # J1102118

Project Name: **IP Roanoke Rapids** Project Number: **300016**
 Project Manager: **FAT Kelley** Email Address: **PKelley@premiercorp-usa.com**
 Company Address: **Premo Group, Inc**
1880 West Oak Pkwy, Bld 100 STE106
MARIETTA, GA 30062
 Phone #: **770-973-2100** FAX: **770-973-7395**
 Sample's Signature: **Kent M Davis** Sample's Printed Name: **Kent M Davis**

CLIENT SAMPLE ID	LAB ID	SAMPLING DATE		TIME	MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE			ANALYSIS REQUESTED (Include Method Number and)	
		DATE	DATE				1	2	3		
LG-3		5/12/11	1150	Gw	7	2	1	1	1	2	PRESERVATIVE KEY 0. NONE 1. HCL 2. HNO3 3. H2SO4 4. NaOH 5. Zn Acetate 6. MeOH 7. NaHSO4 8. Other _____ REMARKS/ ALTERNATE DESCRIPTION
LG-6			0935		7	2	1	1	1	2	
LG-5			1045		7	2	1	1	1	2	
LG-7			1255		7	2	1	1	1	2	
LG-1			1400		7	2	1	1	1	2	
DJA-01					7	2	1	1	1	2	

SPECIAL INSTRUCTIONS/COMMENTS

See QAPP

SAMPLE RECEIPT - CONDITION/COOLER TEMP: _____

TURNAROUND REQUIREMENTS
 RUSH (SURCHARGES APPLY)
 STANDARD
 REQUESTED FAX DATE _____
 REQUESTED REPORT DATE _____

REPORT REQUIREMENTS
 I. Results Only _____
 II. Results + QC Summaries (LCS, DUP, MS, MSD as required) _____
 III. Results + QC and Calibration Summaries _____
 IV. Data Validation Report with Raw Data _____
 V. Specialized Forms / Custom Report _____
 Edata Yes _____ No _____

INVOICE INFORMATION
 PO# _____
 BILL TO: _____

RECEIVED BY: **Kent M Davis** Signature
 Signature: **Kent M Davis** Printed Name
 Firm: **Premo**

RECEIVED BY: **FedEx** Signature
 Signature: **FedEx** Printed Name
 Firm: **FedEx**

RECEIVED BY: **Kent M Davis** Signature
 Signature: **Kent M Davis** Printed Name
 Firm: **Premo**

RECEIVED BY: **FedEx** Signature
 Signature: **FedEx** Printed Name
 Firm: **FedEx**

Date: 5/12/11 1530 Date: 5/12/11 1530



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

Appendix A

Subcontracted Analytical Results

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2960 Foster Creighton Road Nashville, TN 37204 * 800-765-0980 * Fax 615-726-3404

6/6/2011 2:54:28PM

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

Work Order: NUE2632
Project Name: Columbia Analytical Services
Project Number: [none]
Date Received: 05/17/11

Attn: Mandy Sullivan

SAMPLE IDENTIFICATION	LAB NUMBER	COLLECTION DATE AND TIME
J1102118-001/LG-3	NUE2632-01	05/12/11 11:50
J1102118-002/LG-6	NUE2632-02	05/12/11 09:35
J1102118-003/LG-5	NUE2632-03	05/12/11 10:45
J1102118-004/LG-7	NUE2632-04	05/12/11 12:55
J1102118-005/LG-1	NUE2632-05	05/12/11 14:00
J1102118-006/DUP-01	NUE2632-06	05/12/11 00:00

Samples were received into laboratory at a temperature of 0.00 °C.

Comments: Prior to analysis; aqueous Wet Chemistry samples were held at temperatures exceeding 6 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.

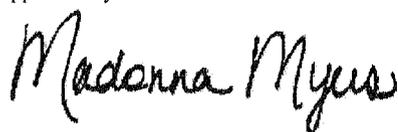
These results relate only to the items tested

Estimated uncertainty is available upon request.

Florida Certification Number: E87358

This report has been electronically signed.

Approved By:



TestAmerica Nashville
Madonna Myers
Project Manager

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

Work Order: NUE2632
 Project: Columbia Analytical Services
 Project Number: [none]

Sampled: 05/12/11
 Received: 05/17/11

LABORATORY REPORT

Sample ID: J1102118-001/LG-3 - Lab Number: NUE2632-01 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0976		mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

LABORATORY REPORT

Sample ID: J1102118-002/LG-6 - Lab Number: NUE2632-02 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0172	I	mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

LABORATORY REPORT

Sample ID: J1102118-003/LG-5 - Lab Number: NUE2632-03 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0212	I	mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

LABORATORY REPORT

Sample ID: J1102118-004/LG-7 - Lab Number: NUE2632-04 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0647		mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

LABORATORY REPORT

Sample ID: J1102118-005/LG-1 - Lab Number: NUE2632-05 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0175	I	mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

LABORATORY REPORT

Sample ID: J1102118-006/DUP-01 - Lab Number: NUE2632-06 - Matrix: Water

CAS #	Analyte	Result	Q	Units	MDL	PQL	Dil Factor	Analyzed Date/Time	By	Method	Batch
General Chemistry Parameters											
TOX	Total Organic Halides	0.0170	U	mg/L	0.0170	0.0300	1	05/20/11 10:55	SHJ	SW846 9020B	11E5261

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

Work Order: NUE2632
 Project: Columbia Analytical Services
 Project Number: [none]

Sampled: 05/12/11
 Received: 05/17/11

SAMPLE EXTRACTION DATA

Parameter	Lab Number	Wt/Vol Extracted	Extracted Vol	Date	Analyst	Method
General Chemistry Parameters	NUE2632-01	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP
General Chemistry Parameters	NUE2632-02	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP
General Chemistry Parameters	NUE2632-03	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP
General Chemistry Parameters	NUE2632-04	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP
General Chemistry Parameters	NUE2632-05	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP
General Chemistry Parameters	NUE2632-06	100.0 mL	1.0 mL	05/20/2011	SHJ	NO PREP

PROJECT QUALITY CONTROL DATA

Blank

Analyte	Blank Value	Q	Units	Q.C. Batch	Lab Number
General Chemistry Parameters					
Total Organic Halides	0.0170		mg/L	11E5261	11E5261-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	0.249		mg/L	100	90 - 120	11E5261

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		0.257		mg/L	0.250	103	3	40	11E5261	

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

Work Order: NUE2632
Project: Columbia Analytical Services
Project Number: [none]

Sampled: 05/12/11
Received: 05/17/11

CERTIFICATION SUMMARY

TestAmerica Nashville

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

DATA QUALIFIERS AND DEFINITIONS

I The reported value is between the laboratory method detection limit and method reporting limit.

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 REC



Cooler Received/Opened On_05/17/11 @ 9:10

NUE2632

1 Tracking # 1EX5V6880140975477 (last 4 digits, FedEx)

Courier: UPS IR-GUN-97310168

2 Temperature of rep. sample or temp blank when opened 0, 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? YES...NO...NA

If yes, how many and where: 1-FRONT

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) BO

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 # 1

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

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) BO

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) BO

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

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

Columbia Analytical Services, Inc. Chain of Custody
 4115 Phillips Highway • Jackson, TN 38228 • 904.790.2277 • FAX 904.790.2611

Project Number: J1102118
 Project Manager: Jerry Allen

NUE2632
 05/27/11 23:59

MISC_OUT_1
 None

Lab Code	Sample ID	# of Cont.	Matrix	Sample Date	Time	Lab ID
J1102118-001	LG-3	2	Water	5/12/11	11:50	Week Labs
J1102118-002	LG-6		Water	5/12/11	09:35	Week Labs
J1102118-003	LG-5		Water	5/12/11	10:45	Week Labs
J1102118-004	LG-7		Water	5/12/11	12:55	Week Labs
J1102118-005	LG-1		Water	5/12/11	14:00	Week Labs
J1102118-006	DUP-01		Water	5/12/11	00:00	Week Labs

Test Comments
 MISC_OUT_1 - None J1102118-001,2,3,4,5,6

TOX by 9020B
 Send to Test America Nashville TN

-02 ✓
 -02 ✓
 -02 ✓
 -02 ✓
 -05 ✓
 -06 ✓

Special Instructions/Comments		Turnaround Requirements		Report Requirements		Invoice Information	
PLEASE SEND RESULTS TO		RUSH (Surcharges Apply)		I. Results Only		PO#	
		PLEASE CIRCLE WORK DAYS		II. Results + QC Summaries		J1102118	
		STANDARD		III. Results + QC and Calibration Summaries			

CAS Contact: Jerry Allen