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Date Received: 01-FEB-17
Report Date: 01-MAR-17 14:42 (MT)
Version: FINAL REV. 2

Client Phone: 867-456-4865

Certificate of Analysis

Lab Work Order #: L1886064

Project P.O. #: NOT SUBMITTED
Job Reference: 1343-005.29
C of C Numbers:
Legal Site Desc:

Comments:

1-MAR-2017 This report replaces the previous version and contains an updated Sampling Date for one sample.

Brent Mack, B.Sc.
Account Manager

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1886064-1 Water 30-JAN-17 15:40 CH-P-13-03/50	L1886064-2 Water 30-JAN-17 13:36 MW09-19	L1886064-3 Water 30-JAN-17 14:18 MW09-18	L1886064-4 Water 30-JAN-17 12:40 GSI-DC-02B	L1886064-5 Water 30-JAN-17 14:18 DUP-1
WATER						
Physical Tests	Conductivity (uS/cm)		2080	2830	982	2850
	Hardness (as CaCO3) (mg/L)	1660	1380	2190	564	2150
	pH (pH)		7.26	7.60	7.61	7.59
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)		467	498	266	506
	Ammonia, Total (as N) (mg/L)		4.37	0.0155	0.636	0.0152
	Bromide (Br) (mg/L)		<0.50 DLDS	<1.0 DLDS	<0.25 DLDS	<1.0 DLDS
	Chloride (Cl) (mg/L)		<5.0 DLDS	<10 DLDS	<2.5 DLDS	<10 DLDS
	Fluoride (F) (mg/L)		<0.20 DLDS	<0.40 DLDS	<0.10 DLDS	<0.40 DLDS
	Nitrate (as N) (mg/L)		0.087 DLDS	<0.10 DLDS	0.135 DLDS	<0.10 DLDS
	Nitrite (as N) (mg/L)		<0.010	<0.020	<0.0050	<0.020
	Total Kjeldahl Nitrogen (mg/L)		6.26	0.139	1.28	0.133
	Sulfate (SO4) (mg/L)		918	1620	320	1590
	Anion Sum (meq/L)		28.5	43.6	12.0	43.2
	Cation Sum (meq/L)		30.0	44.6	12.7	43.8
	Cation - Anion Balance (%)		2.6	1.2	2.9	0.7
Cyanides	Cyanide, Weak Acid Diss (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)		0.93	0.67	<0.50	<0.50
	Cyanide, Free (mg/L)		<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)		114	121	62.5	116
	Total Organic Carbon (mg/L)		30.8	3.76	13.1	4.76
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	0.0047	0.0119	<0.0020 DLA	0.0054	<0.0020 DLA
	Antimony (Sb)-Dissolved (mg/L)	0.00045	0.00039	0.00051	0.00025	0.00048
	Arsenic (As)-Dissolved (mg/L)	0.00044	0.154	0.0543	0.0333	0.0541
	Barium (Ba)-Dissolved (mg/L)	0.0338	0.0527	0.0107	0.168	0.0109
	Beryllium (Be)-Dissolved (mg/L)	<0.000040 DLA	<0.000020	<0.000040 DLA	<0.000020	<0.000040 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.00010 DLA	<0.000050	<0.00010 DLA	<0.000050	<0.00010 DLA
	Boron (B)-Dissolved (mg/L)	0.026	0.156	<0.020 DLA	<0.010	<0.020 DLA
	Cadmium (Cd)-Dissolved (mg/L)	0.000371	<0.0000050	0.000042	0.0000123	0.000065
	Calcium (Ca)-Dissolved (mg/L)	431	306	397	147	389
	Chromium (Cr)-Dissolved (mg/L)	<0.00020 DLA	0.00033	<0.00020 DLA	<0.00010	<0.00020 DLA
	Cobalt (Co)-Dissolved (mg/L)	0.00033	0.00229	0.00025	0.00227	0.00024
	Copper (Cu)-Dissolved (mg/L)	0.00265	<0.00020	0.00056	0.00036	0.00054
	Iron (Fe)-Dissolved (mg/L)	<0.020 DLA	20.1	<0.020 DLA	17.6	<0.020 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Sample ID	L1886064-6	L1886064-7	L1886064-8	L1886064-9	L1886064-10
Description	Water	Water	Water	Water	Water
Sampled Date	30-JAN-17	30-JAN-17	30-JAN-17	30-JAN-17	30-JAN-17
Sampled Time	13:36	14:25	17:30	13:10	17:30
Client ID	FB-1	MW09-24	MW09-23	MP09-09	DUP-2
Grouping / **Analyte**					
WATER					
Physical Tests Conductivity (uS/cm)	<2.0	576	1210	513	1200
Hardness (as CaCO3) (mg/L)	<0.50	254	707	205	677
pH (pH)	5.56	7.88	7.57	8.90	7.63
Anions and Nutrients Alkalinity, Total (as CaCO3) (mg/L)	<1.0	165	306	117	303
Ammonia, Total (as N) (mg/L)	<0.0050	0.0164	2.82	4.58	2.92
Bromide (Br) (mg/L)	<0.050	<0.050	<0.25 DLDS	0.270	<0.25 DLDS
Chloride (Cl) (mg/L)	<0.50	<0.50	<2.5 DLDS	5.04	<2.5 DLDS
Fluoride (F) (mg/L)	<0.020	0.056	0.10	1.45	0.10
Nitrate (as N) (mg/L)	<0.0050	3.27	<0.025 DLDS	<0.0050	<0.025 DLDS
Nitrite (as N) (mg/L)	<0.0010	0.0011	0.0086	0.0028	0.0112 HTD
Total Kjeldahl Nitrogen (mg/L)	<0.050	0.460	3.30	7.46	3.27
Sulfate (SO4) (mg/L)	<0.30	137	430	127	434
Anion Sum (meq/L)	<0.10	6.38	15.1	5.21	15.1
Cation Sum (meq/L)	<0.10	5.48	16.3	6.00	15.7
Cation - Anion Balance (%)	0.0	-7.6	4.0	7.0	1.9
Cyanides Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	0.592	<0.0050
Cyanide, Total (mg/L)	<0.0050	0.0148	0.0250	1.52	0.0413
Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<0.50	1.14	<0.50
Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	0.501	<0.0050
Organic / Inorganic Carbon Total Inorganic Carbon (mg/L)	<0.50	38.1	73.1	18.1	73.1
Total Organic Carbon (mg/L)	<0.50	7.50	13.2	45.0	13.9
Dissolved Metals Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0039	0.0216	0.0058	0.0229
Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00015	<0.00020 DLA	0.133	<0.00020 DLA
Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00213	0.0305	26.4	0.0294
Barium (Ba)-Dissolved (mg/L)	<0.000050	0.161	0.0427	0.00110	0.0415
Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020	<0.000040 DLA	<0.00010 DLA	<0.000040 DLA
Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 DLA	<0.00025 DLA	<0.00010 DLA
Boron (B)-Dissolved (mg/L)	<0.010	<0.010	0.087	0.192	0.083
Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.000118	0.000020	0.000274	0.000018
Calcium (Ca)-Dissolved (mg/L)	<0.050	71.7	182	81.0	174
Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00030	0.00041	<0.00050 DLA	0.00043
Cobalt (Co)-Dissolved (mg/L)	<0.00010	0.00051	0.0101	0.0403	0.00997
Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00600	<0.00040 DLA	0.366	<0.00040 DLA
Iron (Fe)-Dissolved (mg/L)	<0.010	0.013	11.2	0.119	10.8

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1886064-11 Water 30-JAN-17 13:10 FB-2	L1886064-12 Water 30-JAN-17 16:02 MW09-22	L1886064-13 Water 01-FEB-17 09:03 MW09-22	L1886064-14 Water 01-FEB-17 09:20 MW09-06	L1886064-15 Water 01-FEB-17 10:00 MW09-03
WATER						
Physical Tests	Conductivity (uS/cm)	<2.0		576	1930	2880
	Hardness (as CaCO3) (mg/L)	<0.50	271		1200	1990
	pH (pH)	5.98		7.67	7.61	7.74
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	<1.0		208	79.3	202
	Ammonia, Total (as N) (mg/L)	<0.0050	0.976		0.213	6.24
	Bromide (Br) (mg/L)	<0.050		<0.050	<0.50 DLDS	<1.0 DLDS
	Chloride (Cl) (mg/L)	<0.50		<0.50	<5.0 DLDS	<10 DLDS
	Fluoride (F) (mg/L)	<0.020		0.036	0.23	<0.40 DLDS
	Nitrate (as N) (mg/L)	<0.0050		0.0145	5.08	<0.10 DLDS
	Nitrite (as N) (mg/L)	<0.0010 HTD		0.0298	<0.010 DLDS	<0.020 DLDS
	Total Kjeldahl Nitrogen (mg/L)	<0.050		1.84	0.780	6.75
	Sulfate (SO4) (mg/L)	<0.30		118	1150	1850
	Anion Sum (meq/L)	<0.10			26.0	42.5
	Cation Sum (meq/L)	<0.10			25.2	44.0
	Cation - Anion Balance (%)	0.0			-1.5	1.8
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050		<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	0.0200		<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50		<0.50	<0.50
	Cyanide, Free (mg/L)	<0.0050	<0.0050		<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	<0.50	47.7		22.1	43.5
	Total Organic Carbon (mg/L)	<0.50	22.1		10.2	6.22
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD		FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD		FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0010	0.0558		<0.0020 DLA	<0.0050 DLA
	Antimony (Sb)-Dissolved (mg/L)	<0.00010	0.00013		0.162	0.404
	Arsenic (As)-Dissolved (mg/L)	<0.00010	0.00702		0.236	1.98
	Barium (Ba)-Dissolved (mg/L)	<0.000050	0.0617		0.00687	0.0313
	Beryllium (Be)-Dissolved (mg/L)	<0.000020	<0.000020		<0.000040 DLA	<0.00010 DLA
	Bismuth (Bi)-Dissolved (mg/L)	<0.000050	<0.000050		<0.00010 DLA	<0.00025 DLA
	Boron (B)-Dissolved (mg/L)	<0.010	0.033		0.085	0.237
	Cadmium (Cd)-Dissolved (mg/L)	<0.0000050	0.0000136		0.00461	0.0152
	Calcium (Ca)-Dissolved (mg/L)	<0.050	95.0		413	596
	Chromium (Cr)-Dissolved (mg/L)	<0.00010	0.00106		<0.00020 DLA	<0.00050 DLA
	Cobalt (Co)-Dissolved (mg/L)	<0.00010	0.00851		0.00152	0.00309
	Copper (Cu)-Dissolved (mg/L)	<0.00020	0.00108		0.00538	0.0556
	Iron (Fe)-Dissolved (mg/L)	<0.010	14.0		<0.020 DLA	0.083

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ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1886064-16	L1886064-17	L1886064-18	L1886064-19	L1886064-20
	Description	Water	Water	Water	Water	Water
	Sampled Date	01-FEB-17	01-FEB-17	30-JAN-17	01-FEB-17	
	Sampled Time	10:20	09:40	12:50	10:20	
	Client ID	MW09-02	MW09-04	GSI-HA-01A	FB-3	TRAVEL BLANK
Grouping	**Analyte**					
WATER						
Physical Tests	Conductivity (uS/cm)	2380	2490	959	<2.0	<2.0
	Hardness (as CaCO3) (mg/L)	1520	1570	713	<0.50	<0.50
	pH (pH)	7.30	8.10	7.96	5.70	5.32
Anions and Nutrients	Alkalinity, Total (as CaCO3) (mg/L)	80.6	127	228	<1.0	<1.0
	Ammonia, Total (as N) (mg/L)	5.65	7.47	0.0656	<0.0050	<0.05 RRV
	Bromide (Br) (mg/L)	<1.0 DLDS	<1.0 DLDS	<0.25 DLDS	<0.050	<0.050
	Chloride (Cl) (mg/L)	<10 DLDS	<10 DLDS	<2.5 DLDS	<0.50	<0.50
	Fluoride (F) (mg/L)	0.59	0.42	<0.10 DLDS	<0.020	<0.020
	Nitrate (as N) (mg/L)	<0.10 DLDS	0.40	<0.025 DLDS	<0.0050	<0.0050
	Nitrite (as N) (mg/L)	<0.020 DLDS	0.041	<0.0050 DLDS	<0.0010	<0.0010
	Total Kjeldahl Nitrogen (mg/L)	6.88	7.76	<0.050 TKNI	<0.050	<0.060
	Sulfate (SO4) (mg/L)	1560	1640	343	<0.30	<0.30
	Anion Sum (meq/L)	34.2	36.7	11.7	<0.10	<0.10
	Cation Sum (meq/L)	33.4	34.3	14.6	<0.10	<0.10
	Cation - Anion Balance (%)	-1.2	-3.3	11.1	0.0	0.0
Cyanides	Cyanide, Weak Acid Diss (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	Cyanide, Total (mg/L)	<0.0050	0.0089	<0.0050	<0.0050	<0.0050
	Thiocyanate (SCN) (mg/L)	<0.50	<0.50	<25 DLM	<0.50	<0.50
	Cyanide, Free (mg/L)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Organic / Inorganic Carbon	Total Inorganic Carbon (mg/L)	16.6	26.8	54.6	<0.50	<0.50
	Total Organic Carbon (mg/L)	5.36	6.26	17.1	0.81	<0.50
Dissolved Metals	Dissolved Mercury Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Dissolved Metals Filtration Location	FIELD	FIELD	FIELD	FIELD	FIELD
	Aluminum (Al)-Dissolved (mg/L)	<0.0050 DLA	0.0045	0.0029	<0.0010	<0.0010
	Antimony (Sb)-Dissolved (mg/L)	0.00557	0.307	0.00016	<0.00010	<0.00010
	Arsenic (As)-Dissolved (mg/L)	7.46	3.61	0.00189	<0.00010	<0.00010
	Barium (Ba)-Dissolved (mg/L)	0.00523	0.0112	0.159	<0.000050	<0.000050
	Beryllium (Be)-Dissolved (mg/L)	<0.00010 DLA	<0.000040 DLA	<0.000020	<0.000020	<0.000020
	Bismuth (Bi)-Dissolved (mg/L)	<0.00025 DLA	<0.00010 DLA	<0.000050	<0.000050	<0.000050
	Boron (B)-Dissolved (mg/L)	0.092	0.276	<0.010	<0.010	<0.010
	Cadmium (Cd)-Dissolved (mg/L)	0.00101	0.000017	0.0000090	<0.0000050	<0.0000050
	Calcium (Ca)-Dissolved (mg/L)	490	493	183	<0.050	<0.050
	Chromium (Cr)-Dissolved (mg/L)	<0.00050 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
	Cobalt (Co)-Dissolved (mg/L)	0.00972	0.00084	0.00012	<0.00010	<0.00010
	Copper (Cu)-Dissolved (mg/L)	<0.0010 DLA	<0.00040 DLA	0.00070	<0.00020	<0.00020
	Iron (Fe)-Dissolved (mg/L)	12.0	<0.020 DLA	0.124	<0.010	<0.010

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

	Sample ID	L1886064-1	L1886064-2	L1886064-3	L1886064-4	L1886064-5
	Description	Water	Water	Water	Water	Water
	Sampled Date	30-JAN-17	30-JAN-17	30-JAN-17	30-JAN-17	30-JAN-17
	Sampled Time	15:40	13:36	14:18	12:40	14:18
	Client ID	CH-P-13-03/50	MW09-19	MW09-18	GSI-DC-02B	DUP-1
Grouping	**Analyte**					
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.00010 DLA	0.000087	<0.00010 DLA	<0.000050	<0.00010 DLA
	Lithium (Li)-Dissolved (mg/L)	0.0037	0.0093	0.0227	<0.0010	0.0206
	Magnesium (Mg)-Dissolved (mg/L)	142	149	292	47.9	287
	Manganese (Mn)-Dissolved (mg/L)	0.433	7.34	0.501	3.75	0.489
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.00088	0.000101	<0.00010 DLA	0.000574	<0.00010 DLA
	Nickel (Ni)-Dissolved (mg/L)	0.0190	0.00118	<0.0010 DLA	0.00365	<0.0010 DLA
	Phosphorus (P)-Dissolved (mg/L)	<0.10 DLA	0.110	<0.10 DLA	<0.050	<0.10 DLA
	Potassium (K)-Dissolved (mg/L)	8.90	8.66	8.64	3.47	8.55
	Selenium (Se)-Dissolved (mg/L)	0.00225	0.000134	0.00012	0.000217	0.00011
	Silicon (Si)-Dissolved (mg/L)	7.65	10.8	5.88	8.18	5.74
	Silver (Ag)-Dissolved (mg/L)	<0.000020 DLA	<0.000010	<0.000020 DLA	<0.000010	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	62.4	13.7	14.3	4.77	14.1
	Strontium (Sr)-Dissolved (mg/L)	1.08	0.992	1.12	0.345	1.08
	Sulfur (S)-Dissolved (mg/L)	511	358	620	113	606
	Thallium (Tl)-Dissolved (mg/L)	0.000076	<0.000010	0.000299	<0.000010	0.000293
	Tin (Sn)-Dissolved (mg/L)	0.00513	0.00022	<0.00020 DLA	<0.00010	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.00060 DLA	0.00123	<0.00060 DLA	<0.00030	<0.00060 DLA
	Uranium (U)-Dissolved (mg/L)	0.0142	0.000280	0.00814	0.000255	0.00805
	Vanadium (V)-Dissolved (mg/L)	<0.0010 DLA	0.00123	<0.0010 DLA	<0.00050	<0.0010 DLA
	Zinc (Zn)-Dissolved (mg/L)	0.0075	0.0033	0.0038	0.0045	0.0036
	Zirconium (Zr)-Dissolved (mg/L)	<0.00060 DLA	<0.00030	<0.00060 DLA	<0.00030	<0.00060 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1886064-6 Water 30-JAN-17 13:36 FB-1	L1886064-7 Water 30-JAN-17 14:25 MW09-24	L1886064-8 Water 30-JAN-17 17:30 MW09-23	L1886064-9 Water 30-JAN-17 13:10 MP09-09	L1886064-10 Water 30-JAN-17 17:30 DUP-2
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050	<0.00010 DLA	0.00130	<0.00010 DLA
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010	<0.0020 DLA	<0.0050 DLA	<0.0020 DLA
	Magnesium (Mg)-Dissolved (mg/L)	<0.10	18.2	61.4	0.63	59.2
	Manganese (Mn)-Dissolved (mg/L)	<0.00010	0.0267	13.6	0.0332	13.3
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	0.0000320	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.000405	0.00188	0.0141	0.00173
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	<0.00050	0.0013	0.0198	0.0013
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050	<0.10 DLA	0.42	<0.10 DLA
	Potassium (K)-Dissolved (mg/L)	<0.10	1.72	6.59	9.86	6.43
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000957	0.00020	0.00146	0.00016
	Silicon (Si)-Dissolved (mg/L)	<0.050	6.15	6.88	7.74	6.52
	Silver (Ag)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 DLA	0.0107	<0.000020 DLA
	Sodium (Na)-Dissolved (mg/L)	<0.050	8.30	17.0	29.9	16.4
	Strontium (Sr)-Dissolved (mg/L)	<0.00020	0.277	0.553	0.133	0.522
	Sulfur (S)-Dissolved (mg/L)	<0.50	37.5	164	50.1	158
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010	<0.000020 DLA	0.000050	<0.000020 DLA
	Tin (Sn)-Dissolved (mg/L)	<0.00010	<0.00010	<0.00020 DLA	0.00608	<0.00020 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	<0.00030	0.00065	<0.0015 DLA	<0.00060 DLA
	Uranium (U)-Dissolved (mg/L)	<0.000010	0.00150	0.00133	0.00281	0.00120
	Vanadium (V)-Dissolved (mg/L)	<0.00050	<0.00050	0.0019	<0.0025 DLA	0.0019
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0015	0.0179	0.0093	0.0160
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	<0.00030	0.00060	<0.0015 DLA	<0.00060 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1886064-11 Water 30-JAN-17 13:10 FB-2	L1886064-12 Water 30-JAN-17 16:02 MW09-22	L1886064-13 Water 01-FEB-17 09:03 MW09-22	L1886064-14 Water 01-FEB-17 09:20 MW09-06	L1886064-15 Water 01-FEB-17 10:00 MW09-03
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.000050	<0.000050		0.00022	0.00052 DLA
	Lithium (Li)-Dissolved (mg/L)	<0.0010	<0.0010		0.0081	<0.0050 DLA
	Magnesium (Mg)-Dissolved (mg/L)	<0.10	8.13		40.4	121
	Manganese (Mn)-Dissolved (mg/L)	<0.00010	2.76		5.91	49.4
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	0.0000065		<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	<0.000050	0.000184		0.00518	0.00491
	Nickel (Ni)-Dissolved (mg/L)	<0.00050	0.00243		0.0018 DLA	<0.0025 DLA
	Phosphorus (P)-Dissolved (mg/L)	<0.050	<0.050		<0.10 DLA	<0.25 DLA
	Potassium (K)-Dissolved (mg/L)	<0.10	2.81		15.1	37.9
	Selenium (Se)-Dissolved (mg/L)	<0.000050	0.000195		<0.00010 DLA	<0.00025 DLA
	Silicon (Si)-Dissolved (mg/L)	<0.050	5.40		6.43	16.8
	Silver (Ag)-Dissolved (mg/L)	<0.000010	0.000019		0.000020	<0.000050 DLA
	Sodium (Na)-Dissolved (mg/L)	<0.050	16.9		14.8	25.4
	Strontium (Sr)-Dissolved (mg/L)	<0.00020	0.318		0.705	1.67
	Sulfur (S)-Dissolved (mg/L)	<0.50	43.7		401	675
	Thallium (Tl)-Dissolved (mg/L)	<0.000010	<0.000010		0.000290	0.000196
	Tin (Sn)-Dissolved (mg/L)	<0.00010	0.00069		<0.00020 DLA	<0.00050 DLA
	Titanium (Ti)-Dissolved (mg/L)	<0.00030	0.00173		<0.00060 DLA	<0.0015 DLA
	Uranium (U)-Dissolved (mg/L)	<0.000010	0.000358		0.00116	0.00160
	Vanadium (V)-Dissolved (mg/L)	<0.00050	0.00182		<0.0010 DLA	<0.0025 DLA
	Zinc (Zn)-Dissolved (mg/L)	<0.0010	0.0014		0.0867	0.0175
	Zirconium (Zr)-Dissolved (mg/L)	<0.00030	0.00059		<0.00060 DLA	<0.0015 DLA

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

ALS ENVIRONMENTAL ANALYTICAL REPORT

Grouping	Analyte	L1886064-16 Water 01-FEB-17 10:20 MW09-02	L1886064-17 Water 01-FEB-17 09:40 MW09-04	L1886064-18 Water 30-JAN-17 12:50 GSI-HA-01A	L1886064-19 Water 01-FEB-17 10:20 FB-3	L1886064-20 Water TRAVEL BLANK
WATER						
Dissolved Metals	Lead (Pb)-Dissolved (mg/L)	<0.00025 DLA	0.00031	0.000069	<0.000050	<0.000050
	Lithium (Li)-Dissolved (mg/L)	0.0082	0.0127	0.0070	<0.0010	<0.0010
	Magnesium (Mg)-Dissolved (mg/L)	71.7	81.2	62.0	<0.10	<0.10
	Manganese (Mn)-Dissolved (mg/L)	20.4	7.57	0.0756	<0.00010	<0.00010
	Mercury (Hg)-Dissolved (mg/L)	<0.0000050	<0.0000050	<0.0000050	<0.0000050	<0.0000050
	Molybdenum (Mo)-Dissolved (mg/L)	0.00834	0.00388	0.000273	<0.000050	<0.000050
	Nickel (Ni)-Dissolved (mg/L)	0.0030	<0.0010 DLA	0.00073	<0.00050	<0.00050
	Phosphorus (P)-Dissolved (mg/L)	<0.25 DLA	0.10	<0.050	<0.050	<0.050
	Potassium (K)-Dissolved (mg/L)	15.9	53.0	3.89	<0.10	<0.10
	Selenium (Se)-Dissolved (mg/L)	<0.00025 DLA	<0.00010 DLA	<0.000050	<0.000050	<0.000050
	Silicon (Si)-Dissolved (mg/L)	7.71	16.3	7.14	<0.050	<0.050
	Silver (Ag)-Dissolved (mg/L)	<0.000050 DLA	<0.000020 DLA	<0.000010	<0.000010	<0.000010
	Sodium (Na)-Dissolved (mg/L)	20.0	19.6	6.34	<0.050	<0.050
	Strontium (Sr)-Dissolved (mg/L)	0.989	1.19	0.431	<0.00020	<0.00020
	Sulfur (S)-Dissolved (mg/L)	524	541	153	<0.50	<0.50
	Thallium (Tl)-Dissolved (mg/L)	0.000239	0.000129	<0.000010	<0.000010	<0.000010
	Tin (Sn)-Dissolved (mg/L)	<0.00050 DLA	<0.00020 DLA	<0.00010	<0.00010	<0.00010
	Titanium (Ti)-Dissolved (mg/L)	<0.0015 DLA	<0.00060 DLA	<0.00030	<0.00030	<0.00030
	Uranium (U)-Dissolved (mg/L)	0.00127	0.000364	0.000063	<0.000010	<0.000010
	Vanadium (V)-Dissolved (mg/L)	<0.0025 DLA	<0.0010 DLA	<0.00050	<0.00050	<0.00050
	Zinc (Zn)-Dissolved (mg/L)	0.379	0.766	0.0034	<0.0010	<0.0010
	Zirconium (Zr)-Dissolved (mg/L)	<0.0015 DLA	<0.00060 DLA	<0.00030	<0.00030	<0.00030

* Please refer to the Reference Information section for an explanation of any qualifiers detected.

Reference Information

QC Samples with Qualifiers & Comments:

QC Type Description	Parameter	Qualifier	Applies to Sample Number(s)
Matrix Spike	Total Inorganic Carbon	MS-B	L1886064-10, -11, -12, -15, -18, -19, -2, -3, -4, -5, -6, -7, -8
Matrix Spike	Total Organic Carbon	MS-B	L1886064-10, -11, -12, -3, -5, -6, -7, -8, -9
Matrix Spike	Total Organic Carbon	MS-B	L1886064-15, -16, -17, -18, -19, -2, -20, -4
Matrix Spike	Total Organic Carbon	MS-B	L1886064-14
Matrix Spike	Total Organic Carbon	MS-B	L1886064-14
Matrix Spike	Arsenic (As)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Barium (Ba)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Boron (B)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Calcium (Ca)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Iron (Fe)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Magnesium (Mg)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Manganese (Mn)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Potassium (K)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Silicon (Si)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sodium (Na)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Strontium (Sr)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9
Matrix Spike	Sulfur (S)-Dissolved	MS-B	L1886064-1, -10, -11, -12, -14, -15, -16, -17, -18, -19, -2, -20, -3, -4, -5, -6, -7, -8, -9

Qualifiers for Individual Parameters Listed:

Qualifier	Description
DLA	Detection Limit adjusted for required dilution
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
HTD	Hold time exceeded for re-analysis or dilution, but initial testing was conducted within hold time.
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
RRV	Reported Result Verified By Repeat Analysis
TKNI	TKN result is likely biased low due to Nitrate interference. Nitrate-N is > 10x TKN.

Test Method References:

ALS Test Code	Matrix	Test Description	Method Reference**
ALK-TITR-VA	Water	Alkalinity Species by Titration	APHA 2320 Alkalinity

This analysis is carried out using procedures adapted from APHA Method 2320 "Alkalinity". Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.

BE-D-L-CCMS-VA	Water	Diss. Be (low) in Water by CRC ICPMS	APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

BR-L-IC-N-VA	Water	Bromide in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CARBONS-TIC-VA	Water	Total inorganic carbon by CO2 purge	APHA 5310B TOTAL ORGANIC CARBON (TOC)

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CARBONS-TOC-VA	Water	Total organic carbon by combustion	APHA 5310B TOTAL ORGANIC CARBON (TOC)

Reference Information

This analysis is carried out using procedures adapted from APHA Method 5310 "Total Organic Carbon (TOC)".

CL-IC-N-VA Water Chloride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

CN-FREE-CFA-VA Water Free Cyanide in water by CFA ASTM 7237

This analysis is carried out using procedures adapted from ASTM Method 7237 "Free Cyanide with Flow Injection Analysis (FIA) Utilizing Gas Diffusion Separation and Amperometric Detection". Free cyanide is determined by in-line gas diffusion at pH 6 with final determination by colourimetric analysis.

CN-SCN-VA Water Thiocyanate by Colour APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN- M "Thiocyanate" Thiocyanate is determined by the ferric nitrate colourimetric method.
Water samples containing high levels of hexavalent chromium, cyanide (together with sulfide), reducing agents, or hydrocarbons may cause negative or positive interferences with this method. Contact ALS for additional information if required.

CN-T-CFA-VA Water Total Cyanide in water by CFA ISO 14403:2002

This analysis is carried out using procedures adapted from ISO Method 14403:2002 "Determination of Total Cyanide using Flow Analysis (FIA and CFA)". Total or strong acid dissociable (SAD) cyanide is determined by in-line UV digestion along with sample distillation and final determination by colourimetric analysis. Method Limitation: This method is susceptible to interference from thiocyanate (SCN). If SCN is present in the sample, there could be a positive interference with this method, but it would be less than 1% and could be as low as zero.

CN-WAD-CFA-VA Water Weak Acid Diss. Cyanide in water by CFA APHA 4500-CN CYANIDE

This analysis is carried out using procedures adapted from APHA Method 4500-CN I. "Weak Acid Dissociable Cyanide". Weak Acid Dissociable (WAD) cyanide is determined by in-line sample distillation with final determination by colourimetric analysis.

EC-PCT-VA Water Conductivity (Automated) APHA 2510 Auto. Conduc.

This analysis is carried out using procedures adapted from APHA Method 2510 "Conductivity". Conductivity is determined using a conductivity electrode.

EC-SCREEN-VA Water Conductivity Screen (Internal Use Only) APHA 2510

Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

F-IC-N-VA Water Fluoride in Water by IC EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

HARDNESS-CALC-VA Water Hardness APHA 2340B

Hardness (also known as Total Hardness) is calculated from the sum of Calcium and Magnesium concentrations, expressed in CaCO3 equivalents. Dissolved Calcium and Magnesium concentrations are preferentially used for the hardness calculation.

HG-D-CVAA-VA Water Diss. Mercury in Water by CVAAS or CVAFS APHA 3030B/EPA 1631E (mod)

Water samples are filtered (0.45 um), preserved with hydrochloric acid, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS or CVAFS.

IONBALANCE-VA Water Ion Balance Calculation APHA 1030E

Cation Sum, Anion Sum, and Ion Balance (as % difference) are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Because all aqueous solutions are electrically neutral, the calculated ion balance (% difference of cations minus anions) should be near-zero.

Cation and Anion Sums are the total meq/L concentration of major cations and anions. Dissolved species are used where available. Minor ions are included where data is present. Ion Balance is calculated as:

Ion Balance (%) = [Cation Sum-Anion Sum] / [Cation Sum+Anion Sum]

MET-D-CCMS-VA Water Dissolved Metals in Water by CRC ICPMS APHA 3030B/6020A (mod)

Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by CRC ICPMS.

Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.

NH3-F-VA Water Ammonia in Water by Fluorescence APHA 4500 NH3-NITROGEN (AMMONIA)

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

NH3-F-VA Water Ammonia in Water by Fluorescence J. ENVIRON. MONIT., 2005, 7, 37-42, RSC

This analysis is carried out, on sulfuric acid preserved samples, using procedures modified from J. Environ. Monit., 2005, 7, 37 - 42, The Royal Society of Chemistry, "Flow-injection analysis with fluorescence detection for the determination of trace levels of ammonium in seawater", Roslyn J. Waston et al.

Reference Information

NO2-L-IC-N-VA	Water	Nitrite in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

NO3-L-IC-N-VA	Water	Nitrate in Water by IC (Low Level)	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H "pH Value"

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

PH-PCT-VA	Water	pH by Meter (Automated)	APHA 4500-H pH Value

This analysis is carried out using procedures adapted from APHA Method 4500-H "pH Value". The pH is determined in the laboratory using a pH electrode

It is recommended that this analysis be conducted in the field.

SO4-IC-N-VA	Water	Sulfate in Water by IC	EPA 300.1 (mod)

Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.

TKN-F-VA	Water	TKN in Water by Fluorescence	APHA 4500-NORG D.

This analysis is carried out using procedures adapted from APHA Method 4500-Norg D. "Block Digestion and Flow Injection Analysis". Total Kjeldahl Nitrogen is determined using block digestion followed by Flow-injection analysis with fluorescence detection.

** ALS test methods may incorporate modifications from specified reference methods to improve performance.

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
VA	ALS ENVIRONMENTAL - VANCOUVER, BRITISH COLUMBIA, CANADA

Chain of Custody Numbers:

GLOSSARY OF REPORT TERMS

Surrogate - A compound that is similar in behaviour to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.
mg/kg - milligrams per kilogram based on dry weight of sample.
mg/kg wwt - milligrams per kilogram based on wet weight of sample.
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight of sample.
mg/L - milligrams per litre.
< - Less than.
D.L. - The reported Detection Limit, also known as the Limit of Reporting (LOR).
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Whitehorse Receive

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1886064-COFC

COC Number: 1 -

Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hemmera Environchem Inc.	Select Report Format: ☑PDF ☑EXCEL ☑EDD (DIGITAL)	R ☑Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natasha Sandys	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	230 - 2237 2nd Avenue Whitehorse, YT	☐Criteria on Report - provide details below if box checked	E ☐Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT
		Select Distribution: ☑EMAIL ☐MAIL ☐FAX	E2 ☐Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-456-4865	Email 1 or Fax nsandys@hemmera.com	Specify Date Required for E2,E or P:
		Email 2 chris@elr.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution
	Copy of Invoice with Report ☐ Yes ☑ No	Select Invoice Distribution: ☑EMAIL ☑MAIL ☐FAX
Company:	Hemmera Environchem Inc.	Email 1 or Fax nsandys@hemmera.com
Contact:	Natasha Sandys	Email 2 chris@elr.ca

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q56042	Approver ID:	Cost Center:
Job #:	1343-005.29	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: JC,MM,NB,AN

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P Dissolved Metals, Hardness	F/P Dissolved Mercury	Nitrate, Nitrite, Total Kjeldahl N (TKN)	Cl, Fl, Sulfate, conductivity, pH, alkalinity	Anion Sum, Cation Sum,Cation/Anion Balan	P Cyanide - Weak Acid Diss., Total, Free	P Ammonia N (total), Total Organic Carbon	P Thiocyanate (SCN)	Total Inorganic Carbon					Number of Containers
	CH-P-13-03/50	30-Jan-17	15:40	Water	R	R												2
	MW09-19	30-Jan-17	13:36	Water	R	R	R	R	R	R	R	R	R					7
	MW09-18	30-Jan-17	14:18	Water	R	R	R	R	R	R	R	R	R					7
	GSI-DC-02B	30-Jan-17	12:40	Water	R	R	R	R	R	R	R	R	R					7
	DUP-1	30-Jan-17	14:18	Water	R	R	R	R	R	R	R	R	R					7
	FB-1	30-Jan-17	13:36	Water	R	R	R	R	R	R	R	R	R					7
	MW09-24	31-Jan-17	14:25	Water	R	R	R	R	R	R	R	R	R					7
	MW09-23	31-Jan-17	17:30	Water	R	R	R	R	R	R	R	R	R					7
	MP09-09	31-Jan-17	13:10	Water	R	R	R	R	R	R	R	R	R					7
	DUP-2	31-Jan-17	17:30	Water	R	R	R	R	R	R	R	R	R					7
	FB-2	31-Jan-17	13:10	Water	R	R	R	R	R	R	R	R	R					7
	MW09-22	31-Jan-17	16:02	Water	R	R				R	R	R	R					6

Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No	- Please send ELR EQWin EDD file with regular results report.
Are samples for human drinking water use? ☐ Yes ☑ No	

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
2.1					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: V.D.	Date: Feb 1/17	Time: 16:10	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Whitehorse Receive

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

L1886064-COFC

COC Number: 1 -

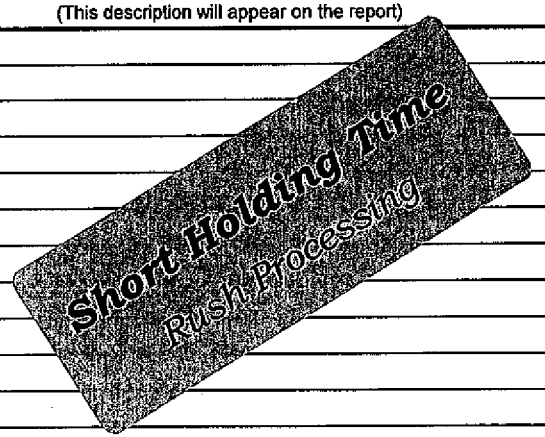
Report To		Report Format / Distribution	Select Service Level Below (Rush Turnaround Time (TAT) is not available for all tests)
Company:	Hemmera Environchem Inc.	Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)	R ☑ Regular (Standard TAT if received by 3 pm - business days)
Contact:	Natasha Sandys	Quality Control (QC) Report with Report ☑ Yes ☐ No	P ☐ Priority (2-4 bus. days if received by 3pm) 50% surcharge - contact ALS to confirm TAT
Address:	230 - 2237 2nd Avenue Whitehorse, YT	☐ Criteria on Report - provide details below if box checked Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX	E ☐ Emergency (1-2 bus. days if received by 3pm) 100% surcharge - contact ALS to confirm TAT E2 ☐ Same day or weekend emergency - contact ALS to confirm TAT and surcharge
Phone:	867-456-4865	Email 1 or Fax nsandys@hemmera.com	Specify Date Required for E2,E or P:
		Email 2 chris@elr.ca	

Invoice To	Same as Report To ☑ Yes ☐ No	Invoice Distribution	Analysis Request
	Copy of Invoice with Report ☐ Yes ☑ No	Select Invoice Distribution: ☑ EMAIL ☑ MAIL ☐ FAX	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below
Company:	Hemmera Environchem Inc.	Email 1 or Fax nsandys@hemmera.com	
Contact:	Natasha Sandys	Email 2 chris@elr.ca	

Project Information		Oil and Gas Required Fields (client use)	
ALS Quote #:	Q56042	Approver ID:	Cost Center:
Job #:	1343-005.29	GL Account:	Routing Code:
PO / AFE:		Activity Code:	
LSD:		Location:	

ALS Lab Work Order # (lab use only)		ALS Contact:	Sampler: JC,MM,NB,AN

ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	F/P Dissolved Metals, Hardness	F/P Dissolved Mercury	Nitrate, Nitrite, Total Kjeldahl N (TKN)	Cl, Fl, Sulfate, conductivity, pH, alkalinity	Anion Sum, Cation Sum,Cation/Anion Balan	P Cyanide - Weak Acid Diss., Total, Free	P Ammonia N (total), Total Organic Carbon	P Thiocyanate (SCN)	Total Inorganic Carbon	Number of Containers
	MW09-22	01-Feb-17	9:03	Water			R	R	R					1
	MW09-06	01-Feb-17	9:20	Water	R	R	R	R	R	R	R	R	R	7
	MW09-03	01-Feb-17	10:00	Water	R	R	R	R	R	R	R	R	R	7
	MW09-02	01-Feb-17	10:20	Water	R	R	R	R	R	R	R	R	R	7
	MW09-04	01-Feb-17	9:40	Water	R	R	R	R	R	R	R	R	R	7
	GSI-HA-01A	30-Jan-17	12:50	Water	R	R	R	R	R	R	R	R	R	7
	FB-3	01-Feb-17	10:20	Water	R	R	R	R	R	R	R	R	R	7
	Travel Blank	-	-	Water	R	R	R	R	R	R	R	R	R	9



Drinking Water (DW) Samples[1] (client use)	Special Instructions / Specify Criteria to add on report (client Use)
Are samples taken from a Regulated DW System? ☐ Yes ☑ No Are samples for human drinking water use? ☐ Yes ☑ No	- Please send ELR EQWin EDD file with regular results report.

SAMPLE CONDITION AS RECEIVED (lab use only)

Frozen	☐	SIF Observations	Yes ☐	No ☐	
Ice packs	Yes ☐	No ☐	Custody seal intact	Yes ☐	No ☐
Cooling Initiated	☐				

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
2.1					

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)		
Released by:	Date:	Time:	Received by: VD.	Date: Feb 4/17	Time: 16:10.	Received by:	Date:	Time:

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.