BASELINE WATER®

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May 25, 2018 Baseline Water Project: # 10-9000

Lor-Al Springs
Ms. S. Johnson
Box 200
Rimbey, Alberta
T0C 2J0

RE: 2018 Spring Water Source Testing – SW 12-044-02 W5M

INTRODUCTION

Baseline Water Resource Inc. (Baseline Water) was retained by Lor-Al Springs to conduct annual water sampling at a spring located within SW 12-044-02 W5M on May 3, 2018. The spring is the source of high quality groundwater used in the active bottled water operation.

SAMPLING PROCEDURE

Testing was completed by collecting water samples from the 4-inch source discharge pipe at the spring. Water samples were submitted to AGAT Laboratories (AGAT) in Calgary, Alberta for analysis of routine potability, microbiological (*E.coli,* Total Coliform Bacteria, Iron Related Bacteria, Sulfate Reducing Bacteria) and total/dissolved metals analysis.

WATER QUALITY RESULTS

Field parameters including electrical conductivity (EC), pH, temperature and flow rate were measured prior to water sample collection. Field parameter results are listed below.

pH	EC (µS/cm)	Temperature (ºC)	Flow (L/min)
7.50	320	4.8	114

Water quality analytical results were compared to the “Guidelines for Canadian Drinking Water Quality” (GCDWQ) (Health Canada, 2017). For comparison, analytical results were also compared to the Canadian Bottled Water Association (CBWA) Model Bottled Water Code (CBWA, 2012). No water quality parameters exceeded the GCDWQ or CBWA guidelines. Complete laboratory results are summarized in Tables 1 – 3. A copy of the 2018 laboratory analytical report is attached.

DISCLAIMER

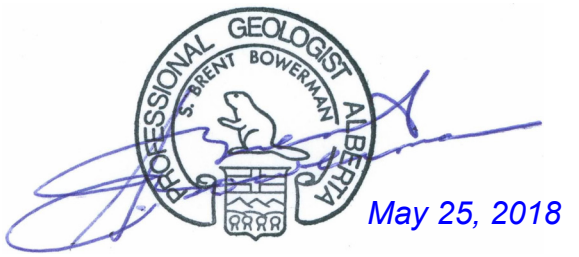
Baseline Water has used proficient skill and diligence conducting the water testing and preparation of this report. This report is a representation of the conditions and information present and available at the time of the water testing. Information received from all other sources is considered to be accurate, but cannot be guaranteed. Baseline Water Resource Inc. is not responsible for any individual interpretation of this material nor any decisions based upon findings in this report.

CLOSURE

Baseline Water Resource Inc. is pleased to submit this report as fulfillment of Lor-Al Springs' request for spring water source testing.

Respectfully submitted,

Baseline Water Resource Inc.
APEGA Permit to Practice: P09366



S. Brent Bowerman, P.Geol.
President

REFERENCES

Canadian Bottled Water Association. 2012. Model Bottled Water Code. September 2012. Markham, Ontario, Canada.

Health Canada. 2017. Guidelines for Canadian Drinking Water Quality - Summary Table. Water and Air Quality Bureau, Healthy Environments and Consumer Safety Branch, Health Canada, Ottawa, Ontario, Canada.

Table 1: Water Analytical Results: Routine Potability (Lor-Al Springs)

Water Well Name	Sample Date	Laboratory	Chloride (Cl) (mg/L)	Fluoride (F) (mg/L)	Nitrate & Nitrite as Nitrogen (mg/L)	Nitrate-Nitrogen (NO_3-N) (mg/L)	Nitrite-Nitrogen (NO_2-N) (mg/L)	Sulphate (SO_4) (mg/L)	pH	Electrical Conductivity (EC) (uS/cm)	Ion Balance	Bicarbonate (HCO_3) (mg/L)	Carbonate (CO_3) (mg/L)	Hydroxide (OH) (mg/L)	P-Alkalinity (as $CaCO_3$) (mg/L)	T-Alkalinity (as $CaCO_3$) (mg/L)
GCDWQ [1] Criteria			**250**	**1.5**	**10**	**10**	**1**	**500**	**7.0-10.5**	**nr [2]**	**nr**	**nr**	**nr**	**nr**	**nr**	**nr**
CBWA SOQ [3] Criteria			**250**	**1**	**10**	**10**	**1**	**250**	**6.5-8.5**	**nr**	**nr**	**nr**	**nr**	**nr**	**nr**	**nr**
Type of Objective (MAC or AO) [4]			**AO**	**MAC**	**MAC**	**MAC**	**MAC**	**AO**	**AO**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Lor-Al Springs	7-Dec-87	AEC [5]	1.0	0.20	0.020	na [6]	0.005	10.0	9.30	577	1.01	293	32.0	na	na	294
	22-May-91	AEC	2.0	0.08	0.798	na	0.001	7.0	8.16	442	1.00	280	na	na	na	230
	4-Jan-01	U of A [7]	1.1	0.07	0.660	na	na	8.0	8.32	504	1.10	312	2.0	0	na	259
	9-Jul-04	MAI [8]	16.6	0.14	0.340	0.340	<0.003	20.2	7.67	656	1.02	390	<0.5	<0.5	<0.5	320
	18-Jul-05	MAI	15.0	<0.10	0.500	0.500	<0.06	18.0	7.90	604	0.98	403	<1.0	<1.0	<1.0	330
	3-Dec-06	MAI	<0.5	0.12	0.225	0.225	<0.003	25.5	8.20	535	0.91	329	<0.5	<0.5	<0.5	270
	27-Jun-07	MAI	20.0	na	1.900	1.900	<0.06	9.0	8.30	543	0.94	304	2.0	<1.0	2.0	253
	6-Dec-07	ALS [9]	9.9	<0.10	0.770	0.770	<0.05	12.4	8.10	538	95.3	339	<5.0	<5.0	na	278
	5-Aug-08	ALS	31.0	0.08	0.400	0.400	<0.05	14.8	8.10	658	98.0	363	<5.0	<5.0	na	297
	11-Feb-09	ALS	10.3	<0.10	0.240	0.240	<0.05	16.0	7.98	613	100	393	<5.0	<5.0	na	322
	18-May-10	ALS	49.5	<0.10	0.453	0.453	<0.050	23.7	8.00	607	95.0	395	<5.0	<5.0	na	324
	13-Aug-10	ALS	22.7	<0.10	1.400	1.400	<0.050	11.4	8.24	534	97.9	327	<5.0	<5.0	na	268
	16-May-11	ALS	30.9	<0.10	1.560	1.560	<0.050	10.6	8.16	595	93.4	317	<5.0	<5.0	na	260
	10-May-12	ALS	21.2	<0.10	0.614	0.614	<0.050	14.8	7.68	535	101.0	365	<5.0	<5.0	na	299
	22-May-13	ALS	18.3	<0.10	0.611	0.611	<0.050	12.5	8.08	587	94.3	337	<5.0	<5.0	na	276
	13-May-14	ALS	18.7	<0.10	1.210	1.210	<0.020	9.0	7.99	490	102.0	305	<5.0	<5.0	na	250
	26-May-15	ALS	31.4	0.062	0.545	0.545	<0.010	15.1	8.09	606	93.0	347	<5.0	<5.0	na	285
	12-May-16	AGAT [10]	46	0.070	0.410	0.410	<0.01	19.0	8.27	743	107.0	364	<5.0	<5.0	<5.0	300
	9-May-17	AGAT	28	0.010	0.520	0.520	<0.01	17.0	7.88	701	93.0	387	<5.0	<5.0	<5.0	317
	3-May-18	AGAT	31	0.090	0.880	0.880	<0.01	17.0	8.16	659	97.0	377	<5.0	<5.0	<5.0	309

NOTES:

1. Health Canada, 2017. "Guidelines for Canadian Drinking Water Quality Summary Table (Prepared by the Federal-Provincial-Territorial Committee on Drinking Water)
2. 'nr' denotes parameter not directly regulated.
3. Canadian Bottled Water Association, 2012, Standard of Quality.
4. MAC denotes "Maximum Acceptable Concentration" and AO denotes "Aesthetic Objective".
5. Alberta Environmental Centre in Vegreville, Alberta conducted the water analysis.
6. 'na' denotes value not applicable or not available.
7. University of Alberta (U of A) in Edmonton, Alberta conducted the water analysis.
8. Maxxam Analytics Inc. in Edmonton, Alberta conducted the water analysis.
9. ALS Laboratory Group (ALS) in Calgary, Alberta conducted the water analysis.
10. AGAT Laboratories (AGAT) in Calgary, Alberta conducted the water analysis.
11. **BOLD** denotes an exceedance in Health Canada 2017 criteria.

Table 1: Water Analytical Results: Routine Potability (Lor-Al Springs) Continued

Water Well Name	Sample Date	Laboratory	Calcium (Ca) - Dissolved (mg/L)	Iron (Fe) - Total (mg/L)	Iron (Fe) - Dissolved (mg/L)	Magnesium (Mg) - Dissolved (mg/L)	Manganese (Mn) - Total (mg/L)	Manganese (Mn) - Dissolved (mg/L)	Potassium (K) - Dissolved (mg/L)	Sodium (Na) - Dissolved (mg/L)	Total Dissolved Solids (TDS) (mg/L)	Hardness (as $CaCO_3$) (mg/L)	Turbidity (NTU)	Colour (TCU)	Flow Rate (L/min)
GCDWQ [1] Criteria			**nr [2]**	**0.3**	**0.3**	**nr**	**0.05**	**0.05**	**nr**	**200**	**500**	**nr**	**0.1 [3]**	**15**	**nr**
CBWA SOQ [4] Criteria			**nr**	**0.3**	**0.3**	**nr**	**0.05**	**0.05**	**nr**	**nr**	**500**	**nr**	**0.5**	**5**	**nr**
Type of Objective (MAC or AO) [5]			**-**	**AO**	**AO**	**-**	**AO**	**AO**	**-**	**AO**	**AO**	**-**	**MAC**	**AO**	**-**
Lor-Al Springs	7-Dec-87	AEC [6]	1.0	na [7]	0.020	1.0	na	na	0.30	139.0	328	5	na	na	na
	22-May-91	AEC	54.0	na	<0.010	22.0	na	na	1.50	8.0	236	225	na	na	na
	4-Jan-01	U of A [8]	60.0	na	<0.020	28.0	na	na	2.00	15.0	272	263	na	na	na
	9-Jul-04	MAI [9]	73.1	na	0.050	33.2	na	<0.0040	2.10	23.3	362	320	0.30	na	71
	18-Jul-05	MAI	70.5	na	0.033	33.8	na	<0.0010	2.00	20.8	372	320	0.20	na	na
	3-Dec-06	MAI	32.3	na	<0.060	16.0	na	<0.0040	1.70	56.0	295	150	0.20	na	na
	27-Jun-07	MAI	58.9	na	<0.060	24.2	na	<0.0040	1.70	14.2	289	250	na	na	na
	6-Dec-07	ALS [10]	59.5	0.061	<0.030	26.4	<0.005	<0.0050	1.70	15.5	296	257	na	na	164
	5-Aug-08	ALS	69.8	<0.050	<0.050	29.8	<0.010	<0.0100	1.60	24.0	351	297	na	na	na
	11-Feb-09	ALS	67.1	<0.030	<0.030	31.5	<0.005	<0.0005	2.22	25.4	347	297	0.35	<5.0	na
	18-May-10	ALS	73.4	<0.030	<0.030	34.2	<0.005	<0.0050	2.22	33.2	413	324	<0.20	na	na
	13-Aug-10	ALS	61.7	<0.030	<0.030	26.2	<0.005	<0.0050	1.93	21.1	312	262	<0.20	na	144
	16-May-11	ALS	58.9	<0.030	<0.030	25.3	<0.005	<0.0050	1.84	20.9	311	251	<0.20	<5.0	192
	10-May-12	ALS	67.7	<0.030	<0.030	30.1	<0.005	<0.0050	2.08	24.5	342	293	0.20	<5.0	132
	22-May-13	ALS	60.1	<0.030	<0.030	23.9	<0.005	<0.0050	1.82	22.3	307	248	0.12	<5.0	227
	13-May-14	ALS	60.4	<0.030	<0.030	23.6	<0.005	<0.0050	1.91	20.3	289	248	0.16	na	176
	26-May-15	ALS	62.3	<0.030	<0.030	25.0	<0.005	<0.0050	1.82	27.1	337	261	0.12	<5.0	97
	12-May-16	AGAT [11]	72.3	<0.100	<0.100	32.8	<0.005	<0.0050	2.00	43.7	440	316	<0.2	na	82
	9-May-17	AGAT	61.7	<0.100	<0.100	26.6	<0.005	<0.0050	1.90	38.6	366	264	<0.2	na	111
	3-May-18	AGAT	66.2	<0.100	<0.100	27.9	<0.005	<0.0050	2.10	37.2	371	280	<0.2	na	114

NOTES:

1. Health Canada, 2017. "Guidelines for Canadian Drinking Water Quality Summary Table (Prepared by the Federal-Provincial-Territorial Committee on Drinking Water)
2. 'nr' denotes parameter not directly regulated.
3. Guideline is based on conventional treatment (0.3 mg/L), slow sand or diatomaceous earth filtration (1.0 mg/L), and membrane filtration (0.1 mg/L). This guideline is intended specifically for water treatment facilities, and is not directly comparable to private water wells or springs.
4. Canadian Bottled Water Association, 2012, Standard of Quality.
5. MAC denotes "Maximum Acceptable Concentration" and AO denotes "Aesthetic Objective".
6. Alberta Environmental Centre in Vegreville, Alberta conducted the water analysis.
7. 'na' denotes value not applicable or not available.
8. University of Alberta (U of A) in Edmonton, Alberta conducted the water analysis.
9. Maxxam Analytics Inc. in Edmonton, Alberta conducted the water analysis.
10. ALS Laboratory Group (ALS) in Calgary, Alberta conducted the water analysis.
11. AGAT Laboratories (AGAT) in Calgary, Alberta conducted the water analysis.
12. **BOLD** denotes an exceedance in Health Canada 2017 criteria.

Table 2: Water Analytical Results: Microbiological Parameters (Lor-Al Springs)

Water Well Name	Sample Date	Laboratory	Total Coliform Bacteria (CFU/100mL)	Fecal Coliform Bacteria (MPN/100mL)	*Escherichia coli* Bacteria (CFU/100mL)	Iron Related Bacteria (CFU/mL)	Sulfate Reducing Bacteria (CFU/mL)
GCDWQ [1] Criteria			**0**	**0**	**0**	**nr [2]**	**nr**
CBWA SOQ [3] Criteria			**<1**	**<1**	**<1**	**nr**	**nr**
Type of Objective (MAC or AO) [4]			**MAC**	**MAC**	**MAC**	**-**	**-**
Lor-Al Springs	7-Dec-87	AEC [5]	na [6]	na	na	na	na
	22-May-91	AEC	na	na	na	na	na
	4-Jan-01	U of A [7]	na	na	na	na	na
	9-Jul-04	MAI [8]	na	na	na	520	<1
	18-Jul-05	MAI	na	na	na	na	<1
	3-Dec-06	MAI	<1	na	<1	9000	<200
	27-Jun-07	MAI	na	na	na	<30	<200
	19-Dec-07	ALS [9]	<1	<1	na	9000	<200
	5-Aug-08	ALS	<1	<1	na	9000	<200
	11-Feb-09	ALS	<1	na	<1	500	<200
	18-May-09	ALS	<1	na	<1	2300	<200
	16-May-11	ALS	<1	na	<1	9000	<200
	10-May-12	ALS	<1	na	<1	9000	<200
	22-May-13	ALS	<1	na	<1	9000	<200
	13-May-14	ALS	<1	na	<1	9000	<200
	26-May-15	ALS	<1	na	<1	9000	<200
	12-May-16	AGAT [10]	<1	<1	<1	8	<1
	9-May-17	AGAT	<1	na	<1	150	<1
	3-May-18	AGAT	<1	na	<1	500	<1

NOTES:

1. Health Canada, 2017. "Guidelines for Canadian Drinking Water Quality Summary Table (Prepared by the Federal-Provincial-Territorial Committee on Drinking Water)".
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4. MAC denotes "Maximum Acceptable Concentration" and AO denotes "Aesthetic Objective".
5. Alberta Environmental Centre in Vegreville, Alberta conducted the water analysis.
6. 'na' denotes value not applicable or not available.
7. University of Alberta (U of A) in Edmonton, Alberta conducted the water analysis.
8. Maxxam Analytics Inc. in Edmonton, Alberta conducted the water analysis.
9. ALS Laboratory Group (ALS) in Calgary, Alberta conducted the water analysis.
10. AGAT Laboratories (AGAT) in Calgary, Alberta conducted the water analysis.
11. **BOLD** denotes an exceedance in Health Canada 2017 criteria.

Table 3: Water Analytical Results: Dissolved Metals (Lor-Al Springs)

Water Well Name	Sample Date	Laboratory	Aluminum (Al) (mg/L)	Antimony (Sb) (mg/L)	Arsenic (As) (mg/L)	Barium (Ba) (mg/L)	Beryllium (Be) (mg/L)	Bismuth (Bi) (mg/L)	Boron (B) (mg/L)	Bromate (mg/L)	Bromide (mg/L)	Cadmium (Cd) (mg/L)	Chromium (Cr) (mg/L)	Cobalt (Co) (mg/L)	Copper (Cu) (mg/L)	Iron (Fe) (mg/L)	Lead (Pb) (mg/L)
GCDWQ [1] Criteria			**0.1**	**0.006**	**0.01**	**1.0**	**nr [2]**	**nr**	**5**	**0.01**	**nr**	**0.005**	**0.05**	**nr**	**1.0**	**0.3**	**0.01**
CBWA SOQ [3] Criteria			**0.2**	**0.006**	**0.01**	**1.0**	**0.004**	**nr**	**nr**	**0.01**	**nr**	**0.005**	**0.05**	**nr**	**1.0**	**0.3**	**0.005**
Type of Objective (MAC or AO) [4]			**AO**	**MAC**	**MAC**	**MAC**	**-**	**-**	**MAC**	**MAC**	**-**	**MAC**	**MAC**	**-**	**AO**	**AO**	**MAC**
Lor-Al Springs	7-Dec-87	AEC [5]	na [6]	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	22-May-91	AEC	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	4-Jan-01	U of A [7]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	9-Jul-04	MAI [8]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	18-Jul-05	MAI	<0.04	<0.02	<0.02	0.128	<0.001	<0.2	<0.05	na	na	<0.002	<0.007	<0.005	<0.009	0.033	<0.1
	3-Dec-06	MAI	<0.04	<0.0002	<0.001	0.08	<0.001	na	0.06	na	na	<0.0002	<0.01	<0.0003	0.0017	<0.06	<0.0002
	27-Jun-07	MAI	<0.04	na	na	0.10	na	na	<0.02	na	na	na	<0.01	na	na	<0.06	na
	5-Aug-08	ALS [9]	na	na	na	na	na	na	na	na	na	na	na	na	na	<0.05	na
	11-Feb-09	ALS	0.027	<0.00050	<0.00050	0.115	<0.0025	<0.0025	<0.050	<0.01	na	<0.00025	<0.0025	<0.00050	0.00089	na	0.00062
	18-May-10	ALS	<0.025	<0.00050	<0.00050	0.147	<0.0025	<0.0025	<0.050	na	<0.10	<0.00025	<0.0025	<0.00050	<0.00050	na	<0.00050
	16-May-11	ALS	<0.0050	<0.00010	0.00011	0.107	<0.00050	<0.00050	0.016	na	<0.10	<0.000050	<0.00050	<0.00010	0.00048	na	<0.00010
	10-May-12	ALS	<0.010	<0.00020	<0.00020	0.125	<0.0010	<0.0010	<0.020	na	<0.10	<0.00010	<0.0010	<0.00020	0.00045	na	<0.00020
	22-May-13	ALS	<0.0050	<0.00010	<0.00010	0.128	<0.00050	na	0.019	na	na	<0.000050	<0.00050	<0.00010	0.00034	<0.030	<0.00010
	13-May-14	ALS	<0.0010	<0.00010	<0.00010	0.115	<0.00050	na	0.013	na	na	<0.000010	0.00023	<0.00010	0.00020	<0.030	<0.000050
	26-May-15	ALS	0.0043	<0.00010	<0.00010	0.132	<0.00010	na	0.023	na	<0.10	0.0000116	0.00022	<0.00010	0.00036	<0.030	<0.000050
	12-May-16	AGAT [10]	<0.0040	<0.0010	<0.0010	0.140	<0.0010	na	0.030	na	<0.10	<0.000016	<0.0010	na	<0.00080	<0.1	<0.00050
	9-May-17	AGAT	<0.0040	<0.0010	<0.0010	0.120	<0.0010	na	0.020	na	<0.10	<0.000016	<0.0010	na	<0.00080	<0.1	<0.00050
	3-May-18	AGAT	<0.0040	<0.0010	<0.0010	0.120	<0.0010	na	0.020	na	<0.10	<0.000016	<0.001	na	<0.0008	<0.1	<0.0005

NOTES:

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10. AGAT Laboratories (AGAT) in Calgary, Alberta conducted the water analysis.
11. **BOLD** denotes an exceedance in Health Canada 2017 criteria.

Table 3: Water Analytical Results: Dissolved Metals (Lor-Al Springs) Continued

Water Well Name	Sample Date	Laboratory	Lithium (Li) (mg/L)	Magnesium (Mg) (mg/L)	Manganese (Mn) (mg/L)	Mercury (Hg) (mg/L)	Molybdenum (Mo) (mg/L)	Nickel (Ni) (mg/L)	Selenium (Se) (mg/L)	Silver (Ag) (mg/L)	Strontium (Sr) (mg/L)	Thallium (Tl) (mg/L)	Tin (Sn) (mg/L)	Titanium (Ti) (mg/L)	Uranium (U) (mg/L)	Vanadium (V) (mg/L)	Zinc (Zn) (mg/L)
GCDWQ [1] Criteria			**nr [2]**	**nr**	**0.05**	**0.001**	**nr**	**nr**	**0.05**	**nr**	**nr**	**nr**	**nr**	**nr**	**0.02**	**nr**	**5.0**
CBWA SOQ [3] Criteria			**nr**	**nr**	**0.05**	**0.001**	**nr**	**0.1**	**0.01**	**0.025**	**nr**	**0.002**	**nr**	**nr**	**nr**	**nr**	**5.0**
Type of Objective (MAC or AO) [4]			**-**	**-**	**AO**	**MAC**	**-**	**-**	**MAC**	**-**	**-**	**-**	**-**	**-**	**MAC**	**-**	**AO**
Lor-Al Springs	7-Dec-87	AEC [5]	na [6]	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	22-May-91	AEC	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	4-Jan-01	U of A [7]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	9-Jul-04	MAI [8]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	18-Jul-05	MAI	0.03	34.1	0.001	na	<0.00600	<0.0080	<0.03	<0.01	0.720	<0.050	<0.040	<0.006	<1.00	<0.050	<0.005
	3-Dec-06	MAI	0.03	16.0	<0.004	na	0.00500	0.0014	<0.001	<0.0001	0.380	<0.0002	<0.001	0.002	0.0033	<0.001	0.035
	27-Jul-07	MAI	<0.02	24.2	<0.004	na	na	na	na	na	0.560	na	na	na	na	na	na
	5-Aug-08	ALS [9]	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
	11-Feb-09	ALS	<0.025	na	na	<0.00005	0.00333	<0.0025	<0.0050	<0.000050	0.613	<0.00050	<0.00050	<0.0050	0.00494	<0.0050	<0.025
	18-May-10	ALS	<0.025	na	na	<0.00005	0.00327	<0.0025	<0.0050	<0.000050	0.704	<0.00050	<0.00050	<0.0050	0.00489	<0.0050	<0.025
	16-May-11	ALS	0.0176	na	na	<0.00005	0.00276	<0.0005	<0.0010	<0.000010	0.518	<0.00010	<0.00010	<0.0010	0.00337	<0.0010	<0.0050
	10-May-12	ALS	0.0200	na	na	<0.00005	0.00302	<0.0010	<0.0020	<0.000020	0.583	<0.00020	0.00025	<0.0020	0.00423	<0.0020	<0.010
	22-May-13	ALS	0.0205	23.9	<0.005	<0.00010	0.00309	<0.00050	<0.0010	<0.000010	na	<0.00010	<0.00010	<0.0010	0.00423	<0.0010	<0.0050
	13-May-14	ALS	0.0159	23.6	<0.005	<0.00005	0.00267	0.00021	0.00043	<0.000010	na	<0.000050	<0.00010	<0.00030	0.00319	0.00036	<0.0050
	26-May-15	ALS	0.0221	25.6	<0.005	<0.000005	0.00320	<0.00050	0.000687	<0.000010	na	<0.000010	<0.00010	<0.00030	0.00463	<0.00050	0.0025
	12-May-16	AGAT [10]	na	32.8	<0.005	<0.000025	0.00300	<0.0030	0.000700	<0.000050	na	<0.00050	na	<0.001	0.00500	na	<0.01
	9-May-17	AGAT	na	26.6	<0.005	<0.000025	0.00300	<0.0030	<0.000500	<0.000050	na	<0.00050	na	0.004	0.00500	na	<0.01
	3-May-18	AGAT	na	27.9	<0.005	<0.000025	0.00300	<0.0030	0.0008	<0.00005	na	<0.0001	na	0.003	0.005	na	<0.005

NOTES:

1. Health Canada, 2017. "Guidelines for Canadian Drinking Water Quality Summary Table (Prepared by the Federal-Provincial-Territorial Committee on Drinking Water)
2. 'nr' denotes parameter not directly regulated.
3. Canadian Bottled Water Association, 2012, Standard of Quality.
4. MAC denotes "Maximum Acceptable Concentration" and AO denotes "Aesthetic Objective".
5. Alberta Environmental Centre in Vegreville, Alberta conducted the water analysis.
6. 'na' denotes value not applicable or not available.
7. University of Alberta (U of A) in Edmonton, Alberta conducted the water analysis.
8. Maxxam Analytics Inc. in Edmonton, Alberta conducted the water analysis.
9. ALS Laboratory Group (ALS) in Calgary, Alberta conducted the water analysis.
10. AGAT Laboratories (AGAT) in Calgary, Alberta conducted the water analysis.
11. **BOLD** denotes an exceedance in Health Canada 2017 criteria.

AGAT Laboratories

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CLIENT NAME: BASELINE WATER RESOURCE INC
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CALGARY , AB T2E6V2
(403) 282-3999

ATTENTION TO: Greg Farrell

PROJECT: 10-9000 / SW12-044-02W5M

AGAT WORK ORDER: 18C335698

WATER ANALYSIS REVIEWED BY: Jennifer Liu, Analyst, Qualified Person

DATE REPORTED: May 22, 2018

PAGES (INCLUDING COVER): 13

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (403) 735-2005

*NOTES

All samples will be disposed of within 30 days following analysis. Please contact the lab if you require additional sample storage time.

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Certificate of Analysis

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Metals - Dissolved - CCME with Mercury

SAMPLE TYPE: Water **SAMPLE ID: 9220690** **DATE RECEIVED: May 04, 2018**

DATE SAMPLED: May 03, 2018 **DATE REPORTED:**

SAMPLE DESCRIPTION: SW12 Spring SW12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Dissolved Aluminum	mg/L	<0.004		0.004	May 04, 2018	IP	May 04, 2018
Dissolved Antimony	mg/L	<0.001		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Arsenic	mg/L	<0.001		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Barium	mg/L	0.12		0.05	May 04, 2018	IP	May 04, 2018
Dissolved Beryllium	mg/L	<0.001		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Boron	mg/L	0.02		0.01	May 04, 2018	IP	May 04, 2018
Dissolved Cadmium	mg/L	<0.000016		0.000016	May 04, 2018	IP	May 04, 2018
Dissolved Chromium	mg/L	<0.001		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Copper	mg/L	<0.0008		0.0008	May 04, 2018	IP	May 04, 2018
Dissolved Iron	mg/L	<0.1		0.1	May 04, 2018	AL	May 04, 2018
Dissolved Lead	mg/L	<0.0005		0.0005	May 04, 2018	IP	May 04, 2018
Dissolved Manganese	mg/L	<0.005		0.005	May 04, 2018	AL	May 04, 2018
Dissolved Mercury	mg/L	<0.000025		0.000025	May 07, 2018	RT	May 07, 2018
Dissolved Molybdenum	mg/L	0.003		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Nickel	mg/L	<0.003		0.003	May 04, 2018	IP	May 04, 2018
Dissolved Selenium	mg/L	0.0008		0.0005	May 04, 2018	IP	May 04, 2018
Dissolved Silver	mg/L	<0.00005		0.00005	May 04, 2018	IP	May 04, 2018
Dissolved Sodium	mg/L	37.2		0.6	May 04, 2018	AL	May 04, 2018
Dissolved Thallium	mg/L	<0.0001		0.0001	May 04, 2018	IP	May 04, 2018
Dissolved Titanium	mg/L	0.003		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Uranium	mg/L	0.005		0.001	May 04, 2018	IP	May 04, 2018
Dissolved Zinc	mg/L	<0.005		0.005	May 04, 2018	IP	May 04, 2018

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
< - Values refer to Report Detection Limit.
Some dissolved metals are higher than total metals; the results have been confirmed.
Note: Total and dissolved metal results were verified.

Certified By:

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Certificate of Analysis

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Metals - Total - CCME with Mercury

SAMPLE TYPE: Water **SAMPLE ID: 9220690** **DATE RECEIVED: May 04, 2018**

DATE SAMPLED: May 03, 2018 **DATE REPORTED:**

SAMPLE DESCRIPTION: SW12 Spring SW12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Total Aluminum	mg/L	0.006	(VARIABLE)	0.004	May 04, 2018	EB	May 04, 2018
Total Antimony	mg/L	<0.001	0.006	0.001	May 04, 2018	EB	May 04, 2018
Total Arsenic	mg/L	<0.001	0.010	0.001	May 04, 2018	EB	May 04, 2018
Total Barium	mg/L	0.12	1.0	0.05	May 04, 2018	EB	May 04, 2018
Total Beryllium	mg/L	<0.0005		0.0005	May 04, 2018	EB	May 04, 2018
Total Boron	mg/L	0.02	5	0.01	May 04, 2018	EB	May 04, 2018
Total Cadmium	mg/L	0.000018	0.005	0.000016	May 04, 2018	EB	May 04, 2018
Total Chromium	mg/L	<0.0005	0.05	0.0005	May 04, 2018	EB	May 04, 2018
Total Cobalt	mg/L	<0.0009		0.0009	May 04, 2018	EB	May 04, 2018
Total Copper	mg/L	<0.0008	(1.0)	0.0008	May 04, 2018	EB	May 04, 2018
Total Iron	mg/L	<0.1	(0.3)	0.1	May 04, 2018	AL	May 04, 2018
Total Lead	mg/L	<0.0005	0.010	0.0005	May 04, 2018	EB	May 04, 2018
Total Manganese	mg/L	<0.005	(0.05)	0.005	May 04, 2018	AL	May 04, 2018
Total Mercury	mg/L	<0.000025	0.001	0.000025	May 07, 2018	RT	May 07, 2018
Total Molybdenum	mg/L	0.003		0.001	May 04, 2018	EB	May 04, 2018
Total Nickel	mg/L	<0.003		0.003	May 04, 2018	EB	May 04, 2018
Total Selenium	mg/L	0.0007	0.05	0.0005	May 04, 2018	EB	May 04, 2018
Total Silver	mg/L	0.00013		0.00005	May 04, 2018	EB	May 04, 2018
Total Sodium	mg/L	37.1	(200)	0.6	May 04, 2018	AL	May 04, 2018
Total Thallium	mg/L	<0.0005		0.0005	May 04, 2018	EB	May 04, 2018
Total Titanium	mg/L	0.002		0.001	May 04, 2018	EB	May 04, 2018
Total Uranium	mg/L	0.005	0.02	0.001	May 04, 2018	EB	May 04, 2018
Total Zinc	mg/L	0.001	(5.0)	0.001	May 04, 2018	EB	May 04, 2018

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
< - Values refer to Report Detection Limit.
Note: Total and dissolved metal results were verified.

Certified By:

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Certificate of Analysis

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Microbial Analysis - Coal Bed Methane Water Quality

SAMPLE TYPE: Water **SAMPLE ID: 9220690** **DATE RECEIVED: May 04, 2018**

DATE SAMPLED: May 03, 2018 **DATE REPORTED:**

SAMPLE DESCRIPTION: SW12 Spring SW12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Total Coliforms (MF)	CFU/100 mL	<1	<1	1	May 05, 2018	WL	May 04, 2018
Escherichia coli	CFU/100 mL	<1	<1	1	May 05, 2018	WL	May 04, 2018
Iron Related Bacteria*		Present			May 19, 2018	SK	May 04, 2018
IRB Approximate Population Count*	CFU/mL	500		1	May 19, 2018	SK	May 04, 2018
Sulfate Reducing Bacteria		Present			May 19, 2018	SK	May 04, 2018
SRB Approximate Population Count	CFU/mL	<1		1	May 19, 2018	SK	May 04, 2018

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

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CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis + Bromide

SAMPLE TYPE: Water **SAMPLE ID: 9220690** **DATE RECEIVED: May 04, 2018**

DATE SAMPLED: May 03, 2018 **DATE REPORTED:**

SAMPLE DESCRIPTION: SW12 Spring SW12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
pH	pH Units	8.16	7.0-10.5	N/A	May 04, 2018	MM	May 04, 2018
p - Alkalinity (as CaCO3)	mg/L	<5		5	May 04, 2018	MM	May 04, 2018
T - Alkalinity (as CaCO3)	mg/L	309		5	May 04, 2018	MM	May 04, 2018
Bicarbonate	mg/L	377		5	May 04, 2018	MM	May 04, 2018
Carbonate	mg/L	<5		5	May 04, 2018	MM	May 04, 2018
Hydroxide	mg/L	<5		5	May 04, 2018	MM	May 04, 2018
Electrical Conductivity	uS/cm	659		5	May 04, 2018	MM	May 04, 2018
Chloride	mg/L	31	(250)	1	May 05, 2018	IP	May 05, 2018
Fluoride	mg/L	0.09	1.5	0.01	May 05, 2018	IP	May 05, 2018
Nitrate	mg/L	3.9	45	0.1	May 05, 2018	IP	May 05, 2018
Nitrate-N	mg/L	0.88	10	0.02	May 05, 2018	SYS	May 05, 2018
Nitrite	mg/L	<0.05	3	0.05	May 05, 2018	IP	May 05, 2018
Nitrite-N	mg/L	<0.01	1	0.01	May 05, 2018	SYS	May 05, 2018
Nitrate+Nitrite - Nitrogen	mg/L	0.88		0.02	May 05, 2018	SYS	May 05, 2018
Sulfate	mg/L	17	(500)	1	May 05, 2018	IP	May 05, 2018
Dissolved Calcium	mg/L	66.2		0.3	May 04, 2018	AL	May 04, 2018
Dissolved Magnesium	mg/L	27.9		0.2	May 04, 2018	AL	May 04, 2018
Dissolved Sodium	mg/L	37.2		0.6	May 04, 2018	AL	May 04, 2018
Dissolved Potassium	mg/L	2.1		0.6	May 04, 2018	AL	May 04, 2018
Dissolved Iron	mg/L	<0.1		0.1	May 04, 2018	AL	May 04, 2018
Dissolved Manganese	mg/L	<0.005		0.005	May 04, 2018	AL	May 04, 2018
Calculated TDS	mg/L	371		0.6	May 05, 2018	SYS	May 05, 2018
Sodium Adsorption Ratio	N/A	0.97			May 04, 2018	SYS	May 04, 2018
Hardness	mg CaCO3/L	280		1	May 04, 2018	SYS	May 04, 2018
Ion Balance	%	97		1	May 05, 2018	SYS	May 05, 2018
Bromide	mg/L	<0.1		0.1	May 05, 2018	IP	May 05, 2018

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
< - Values refer to Report Detection Limits.

If sodium results in mg/L are less than detection, SAR is non-calculable and is reported as 0.

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Certificate of Analysis

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Turbidity

SAMPLE TYPE: Water **SAMPLE ID: 9220690** **DATE RECEIVED: May 04, 2018**

DATE SAMPLED: May 03, 2018 **DATE REPORTED:**

SAMPLE DESCRIPTION: SW12 Spring SW12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Turbidity	NTU	<0.2	VARIABLE	0.2	May 04, 2018	KT	May 04, 2018

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Certified By:

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Routine Chemistry Water Analysis + Bromide															
pH	9217151		8.18	8.18	0.0%	N/A	100%	90%	110%						
T - Alkalinity (as CaCO3)	9217151		354	355	0.3%	< 5	101%	80%	120%						
Electrical Conductivity	9217151		2480	2480	0.0%	< 5	101%	80%	120%						
Chloride	9220867		<1	<1	NA	< 1	106%	80%	120%	105%	80%	120%	105%	80%	120%
Fluoride	9220867		<0.01	<0.01	NA	< 0.01	108%	80%	120%	103%	80%	120%	103%	80%	120%
Nitrate	9220867		<0.1	<0.1	NA	< 0.1	107%	80%	120%	107%	80%	120%	108%	80%	120%
Nitrite	9220867		<0.05	<0.05	NA	< 0.05	105%	80%	120%	104%	80%	120%	107%	80%	120%
Sulfate	9220867		<1	<1	NA	< 1	107%	80%	120%	108%	80%	120%	106%	80%	120%
Dissolved Calcium	9213795		79.6	79.6	0.0%	< 0.3	107%	80%	120%	110%	80%	120%	NA	80%	120%
Dissolved Magnesium	9213795		22.5	22.7	0.9%	< 0.2	102%	80%	120%	105%	80%	120%	NA	80%	120%
Dissolved Sodium	9213795		94.3	93.7	0.6%	< 0.6	99%	80%	120%	101%	80%	120%	NA	80%	120%
Dissolved Potassium	9213795		6.0	6.0	0.0%	< 0.6	97%	80%	120%	99%	80%	120%	NA	80%	120%
Dissolved Iron	9213795		<0.1	<0.1	NA	< 0.1	103%	80%	120%	104%	80%	120%	101%	80%	120%
Dissolved Manganese	9213795		<0.005	<0.005	NA	< 0.005	104%	80%	120%	106%	80%	120%	103%	80%	120%
Bromide	9220867		<0.1	<0.1	NA	< 0.1	108%	80%	120%	108%	80%	120%	108%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

pH has been analyzed past the recommended holding time of 15 minutes from sampling (field measurement ideal if more accurate data required)

Nitrate and Nitrite: The regulatory hold time for the analysis of nitrate and/or nitrite in water is 48 hours in Alberta and 72 hours in British Columbia.

Water Analysis - Turbidity															
Turbidity	4082	0690	<0.2	<0.2	NA	< 0.2	99%	80%	120%						

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Metals - Dissolved - CCME with Mercury															
Dissolved Aluminum	9220690	9220690	<0.004	<0.004	NA	< 0.004	101%	80%	120%	99%	80%	120%	119%	80%	120%
Dissolved Antimony	9220690	9220690	<0.001	<0.001	NA	< 0.001	95%	80%	120%	99%	80%	120%	99%	80%	120%
Dissolved Arsenic	9220690	9220690	<0.001	<0.001	NA	< 0.001	101%	80%	120%	88%	80%	120%	88%	80%	120%
Dissolved Barium	9220690	9220690	0.12	0.12	NA	< 0.05	91%	80%	120%	97%	80%	120%	94%	80%	120%
Dissolved Beryllium	9220690	9220690	<0.001	<0.001	NA	< 0.001	111%	80%	120%	109%	80%	120%	120%	80%	120%
Dissolved Boron	9220690	9220690	0.02	0.02	NA	< 0.01	112%	80%	120%	103%	80%	120%	109%	80%	120%
Dissolved Cadmium	9220690	9220690	<0.	<0.	NA	< 0.000016	99%	80%	120%	100%	80%	120%	99%	80%	120%
Dissolved Chromium	9220690	9220690	<0.001	<0.001	NA	< 0.001	96%	80%	120%	96%	80%	120%	94%	80%	120%
Dissolved Copper	9220690	9220690	<0.0008	<0.0008	NA	< 0.0008	100%	80%	120%	100%	80%	120%	95%	80%	120%
Dissolved Iron	9213795		<0.1	<0.1	NA	< 0.1	103%	80%	120%	104%	80%	120%	101%	80%	120%
Dissolved Lead	9220690	9220690	<0.0005	<0.0005	NA	< 0.0005	92%	80%	120%	100%	80%	120%	97%	80%	120%
Dissolved Manganese	9213795		<0.005	<0.005	NA	< 0.005	104%	80%	120%	106%	80%	120%	103%	80%	120%
Dissolved Mercury	9220690	9220690	<0.	<0.	NA	< 0.000025	96%	90%	110%	98%	90%	110%	101%	80%	120%

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date:			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Dissolved Molybdenum	9220690	9220690	0.003	0.003	NA	< 0.001	95%	80%	120%	96%	80%	120%	96%	80%	120%
Dissolved Nickel	9220690	9220690	<0.003	<0.003	NA	< 0.003	99%	80%	120%	98%	80%	120%	96%	80%	120%
Dissolved Selenium	9220690	9220690	0.0008	<0.0005	NA	< 0.0005	102%	80%	120%	107%	80%	120%	112%	80%	120%
Dissolved Silver	9220690	9220690	<0.00005	<0.00005	NA	< 0.00005	84%	80%	120%	81%	80%	120%	88%	80%	120%
Dissolved Sodium	9213795		94.3	93.7	0.6%	< 0.6	99%	80%	120%	101%	80%	120%	NA	80%	120%
Dissolved Thallium	9220690	9220690	<0.0001	<0.0001	NA	< 0.0001	97%	80%	120%	101%	80%	120%	100%	80%	120%
Dissolved Titanium	9220690	9220690	0.004	0.004	NA	< 0.001	99%	80%	120%	100%	80%	120%	105%	80%	120%
Dissolved Uranium	9220690	9220690	0.005	0.005	NA	< 0.001	98%	80%	120%	100%	80%	120%	101%	80%	120%
Dissolved Zinc	9220690	9220690	0.012	0.012	NA	< 0.004	96%	80%	120%	99%	80%	120%	106%	80%	120%

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Metals - Total - CCME with Mercury

Total Aluminum	9220796	0.312	0.312	0.0%	< 0.004	101%	80%	120%	104%	80%	120%	NA	80%	120%
Total Antimony	9220796	<0.001	<0.001	NA	< 0.001	95%	80%	120%	99%	80%	120%	97%	80%	120%
Total Arsenic	9220796	0.002	0.001	NA	< 0.001	101%	80%	120%	109%	80%	120%	109%	80%	120%
Total Barium	9220796	0.16	0.16	NA	< 0.05	91%	80%	120%	93%	80%	120%	99%	80%	120%
Total Beryllium	9220796	<0.0005	<0.0005	NA	< 0.0005	111%	80%	120%	82%	80%	120%	83%	80%	120%
Total Boron	9220796	0.02	0.02	NA	< 0.01	112%	80%	120%	101%	80%	120%	108%	80%	120%
Total Cadmium	9220796	<0.	<0.	NA	< 0.000016	99%	80%	120%	102%	80%	120%	98%	80%	120%
Total Chromium	9220796	<0.0005	<0.0005	NA	< 0.0005	96%	80%	120%	94%	80%	120%	96%	80%	120%
Total Cobalt	9220796	<0.0009	<0.0009	NA	< 0.0009	100%	80%	120%	94%	80%	120%	96%	80%	120%
Total Copper	9220796	<0.0008	<0.0008	NA	< 0.0008	100%	80%	120%	99%	80%	120%	95%	80%	120%
Total Iron	9220796	<0.1	<0.1	NA	< 0.1	105%	80%	120%	106%	80%	120%	103%	80%	120%
Total Lead	9220796	<0.0005	<0.0005	NA	< 0.0005	92%	80%	120%	95%	80%	120%	92%	80%	120%
Total Manganese	9220796	0.015	0.015	NA	< 0.005	104%	80%	120%	103%	80%	120%	102%	80%	120%
Total Mercury	9218315	<0.	<0.	NA	< 0.000025	100%	90%	110%	98%	90%	110%	109%	80%	120%
Total Molybdenum	9220796	0.003	0.003	NA	< 0.001	95%	80%	120%	95%	80%	120%	93%	80%	120%
Total Nickel	9220796	<0.003	<0.003	NA	< 0.003	99%	80%	120%	97%	80%	120%	97%	80%	120%
Total Selenium	9220796	0.0007	0.0008	NA	< 0.0005	102%	80%	120%	106%	80%	120%	108%	80%	120%
Total Silver	9220796	0.00027	0.00012	NA	< 0.00005	84%	80%	120%	82%	80%	120%	107%	80%	120%
Total Sodium	9220796	47.0	46.4	1.3%	< 0.6	96%	80%	120%	96%	80%	120%	NA	80%	120%
Total Thallium	9220796	<0.0005	<0.0005	NA	< 0.0005	97%	80%	120%	102%	80%	120%	100%	80%	120%
Total Titanium	9220796	0.002	0.002	NA	< 0.001	99%	80%	120%	101%	80%	120%	100%	80%	120%
Total Uranium	9220796	<0.001	<0.001	NA	< 0.001	98%	80%	120%	103%	80%	120%	105%	80%	120%
Total Zinc	9220796	0.003	0.003	NA	< 0.001	96%	80%	120%	101%	80%	120%	104%	80%	120%

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date:			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Microbial Analysis - Coal Bed Methane Water Quality															
Total Coliforms (MF)	2304	831	< 1	< 1	NA	< 1									
Escherichia coli	2304	831	< 1	< 1	NA	< 1									
Iron Related Bacteria*	705	831	Absent	Absent	NA										
IRB Approximate Population Count*	705	831	< 1	< 1	NA	< 1									
Sulfate Reducing Bacteria	705	831	Present	Present	NA										
SRB Approximate Population Count	705	831	2200	2200	0.0%	< 1									

Comments: If Matrix spike value is NA, the spiked analyte concentration was lower than that of the matrix contribution.
If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

Comments: If the RPD value is NA, the results of the duplicates are under 5X the RDL and will not be calculated.

*Non-accredited test.Inquire with lab for details.

Certified By:

AGAT Laboratories

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Method Summary

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Water Analysis			
Dissolved Aluminum	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Antimony	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Arsenic	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Barium	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Beryllium	INST 0141	SM 3125 B	ICP-MS
Dissolved Boron	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Cadmium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Chromium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Copper	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Iron	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Lead	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Manganese	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Mercury	INST 0160	SM 3112 B DW	CV/AA
Dissolved Molybdenum		SM 3125 B	ICP-MS
Dissolved Nickel	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Selenium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Silver	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Sodium	INST 0140	SM 3120 B DW	ICP/OES
Dissolved Thallium	INST 0141	SM 3125 B DW	ICP-MS
Dissolved Titanium	INST 0141	SM 3125 B	ICP-MS
Dissolved Uranium	INST 0141	SM 3125 B DW	ICP/MS
Dissolved Zinc	INST 0141	SM 3125 B DW	ICP/MS
Total Aluminum	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Antimony	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Arsenic	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Barium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Beryllium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Boron	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Cadmium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Chromium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Cobalt	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Copper	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Iron	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Lead	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Manganese	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Mercury	WATR 0200; INST 0160	SM 3030 E; SM 3112 B TW	CV/AA
Total Molybdenum	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Nickel	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Selenium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Silver	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Sodium	WATR 0200; INST 0140	SM 3030 E; SM 3120 B TW	ICP/OES
Total Thallium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Titanium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B	ICP-MS
Total Uranium	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Zinc	WATR 0200; INST 0141	SM 3030 E; SM 3125 B TW	ICP/MS
Total Coliforms (MF)	MIC 0202	SM 9222 B	INCUBATOR
Escherichia coli	MIC 0202	SM 9222 B	INCUBATOR
Iron Related Bacteria*	MIC 0510	IRB-BART	INCUBATOR
IRB Approximate Population Count*	MIC 0510	FLS-011	INCUBATOR

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Method Summary

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 18C335698

PROJECT: 10-9000 / SW12-044-02W5M

ATTENTION TO: Greg Farrell

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Sulfate Reducing Bacteria	MIC 0500	SRB-BART	INCUBATOR
SRB Approximate Population Count		FLS-009	
pH	INST 0101	SM 4500 H+	PH METER
p - Alkalinity (as CaCO3)	INST 0101	SM 2320 B	TITRATION
T - Alkalinity (as CaCO3)	INST 0101	SM 2320 B	TITRATION
Bicarbonate	INST 0101	SM 2320 B	PC TITRATE
Carbonate	INST 0101	SM 2320 B	PC TITRATE
Hydroxide	WAT 0310	SM 2320 B	TITRATION
Electrical Conductivity	INST 0101	SM 2510 B	CONDUCTIVITY METER
Chloride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Fluoride	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate-N	INST 0150	SM 4110 B	CALCULATION
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	CALCULATION
Nitrate+Nitrite - Nitrogen	INST 0150	SM 4110 B	CALCULATION
Sulfate	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Dissolved Calcium	INST 0140	SM 3120 B DW -R	ICP/OES
Dissolved Magnesium	INST 0140	SM 3120 B DW -R	ICP/OES
Dissolved Sodium	INST 0140	SM 3120 B DW -R	ICP/OES
Dissolved Potassium	INST 0140	SM 3120 B DW -R	ICP/OES
Dissolved Iron	INST 0140	SM 3120 B DW -R	ICP/OES
Dissolved Manganese	INST 0140	SM 3120 B DW -R	ICP/OES
Calculated TDS		SM 1030E	CALCULATION
Sodium Adsorption Ratio		CARTER & GREGORICH 2007	CALCULATION
Hardness		SM 2340 B	CALCULATION
Ion Balance		SM 1030E	CALCULATION
Bromide	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Turbidity	WATR 0500	SM 2130 B	NEPHELOMETER