BASELINE WATER®

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May 25, 2017 Baseline Water Project: # 10-9000

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

RE: 2017 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 9, 2017. 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, Sulphur 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)
6.60	520	5.4	111

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 2017 laboratory analytical report is attached.

DISCLAIMER

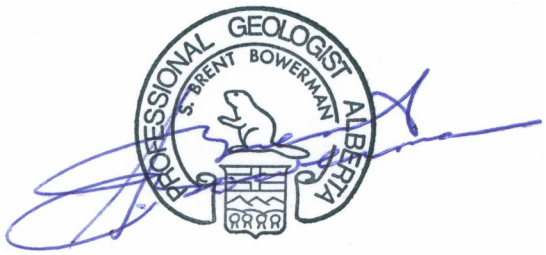
Baseline Water has used proficient skill and diligence conducting the water testing and preparation of this report. This report is a representation of the conditions and information present and available at the time of the water testing. Information received from all other sources is considered to be 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

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	<0.0050	<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	<0.0050	<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	<0.0050	<0.0050	2.22	33.2	413	324	<0.20	na	na
	13-Aug-10	ALS	61.7	<0.030	<0.030	26.2	<0.0050	<0.0050	1.93	21.1	312	262	<0.20	na	144
	16-May-11	ALS	58.9	<0.030	<0.030	25.3	<0.0050	<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	<0.0050	<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	<0.0050	<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	<0.0050	<0.0050	1.91	20.3	289	248	0.16	na	176
	26-May-15	ALS	62.3	<0.030	<0.030	25.0	<0.0050	<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	<0.0050	<0.0050	2.00	43.7	440	316	<0.2	na	82
	9-May-17	AGAT	61.7	<0.100	<0.100	26.6	<0.0050	<0.0050	1.90	38.6	366	264	<0.2	na	111

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: Bacteriological Parameters (Lor-Al Springs)

Water Well Name	Sample Date	Laboratory	Total Coliform Bacteria (MPN/100mL)	Fecal Coliform Bacteria (MPN/100mL)	*Escherichia coli* Bacteria (MPN/100mL)	Iron Related Bacteria (CFU/mL)	Sulfur-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

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

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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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	0.0010	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	<0.0040	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	<0.0040	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	<0.0050	<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	<0.0050	<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	<0.0050	<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	<0.0050	<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	<0.0050	<0.000025	0.00300	<0.0030	<0.000500	<0.000050	na	<0.00050	na	0.004	0.00500	na	<0.01

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
7, 3800 19 STREET N.E.
CALGARY , AB T2E6V2
(403) 282-3999

ATTENTION TO: CLINT GANES

PROJECT: 10-90000 / SW-12-044-02W5M

AGAT WORK ORDER: 17C213597

WATER ANALYSIS REVIEWED BY: Loan Nguyen, Senior Analyst

DATE REPORTED: May 25, 2017

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.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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All reportable information as specified by ISO 17025:2005 is available from AGAT Laboratories upon request

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Certificate of Analysis

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Metals - Dissolved - CCME with Mercury

SAMPLE TYPE: Water **SAMPLE ID: 8374470** **DATE RECEIVED: May 10, 2017**

DATE SAMPLED: May 09, 2017 **DATE REPORTED: May 25, 2017**

SAMPLE DESCRIPTION: Spring (Lor-Al Springs) SW-12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Dissolved Aluminum	mg/L	<0.004		0.004	May 10, 2017	EB	May 10, 2017
Dissolved Antimony	mg/L	<0.001		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Arsenic	mg/L	<0.001		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Barium	mg/L	0.12		0.05	May 10, 2017	EB	May 10, 2017
Dissolved Beryllium	mg/L	<0.001		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Boron	mg/L	0.02		0.01	May 10, 2017	EB	May 10, 2017
Dissolved Cadmium	mg/L	<0.000016		0.000016	May 10, 2017	EB	May 10, 2017
Dissolved Chromium	mg/L	<0.001		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Copper	mg/L	<0.0008		0.0008	May 10, 2017	EB	May 10, 2017
Dissolved Iron	mg/L	<0.1		0.1	May 23, 2017	AS	May 23, 2017
Dissolved Lead	mg/L	<0.0005		0.0005	May 10, 2017	EB	May 10, 2017
Dissolved Manganese	mg/L	<0.005		0.005	May 23, 2017	AS	May 23, 2017
Dissolved Mercury	mg/L	<0.000025		0.000025	May 11, 2017	RT	May 11, 2017
Dissolved Molybdenum	mg/L	0.003		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Nickel	mg/L	<0.003		0.003	May 10, 2017	EB	May 10, 2017
Dissolved Selenium	mg/L	<0.0005		0.0005	May 10, 2017	EB	May 10, 2017
Dissolved Silver	mg/L	<0.00005		0.00005	May 10, 2017	EB	May 10, 2017
Dissolved Sodium	mg/L	38.6		0.6	May 23, 2017	AS	May 23, 2017
Dissolved Thallium	mg/L	<0.0005		0.0005	May 10, 2017	EB	May 10, 2017
Dissolved Titanium	mg/L	0.004		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Uranium	mg/L	0.005		0.001	May 10, 2017	EB	May 10, 2017
Dissolved Zinc	mg/L	<0.01		0.01	May 10, 2017	EB	May 10, 2017

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
< - Values refer to Report Detection Limit.
Note: Total and dissolved metal results were verified.

Certified By:

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CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Metals - Total - CCME with Mercury

SAMPLE TYPE: Water **SAMPLE ID: 8374470** **DATE RECEIVED: May 10, 2017**

DATE SAMPLED: May 09, 2017 **DATE REPORTED: May 25, 2017**

SAMPLE DESCRIPTION: Spring (Lor-Al Springs) SW-12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Total Aluminum	mg/L	0.006	(VARIABLE)	0.004	May 11, 2017	EB	May 11, 2017
Total Antimony	mg/L	<0.001	0.006	0.001	May 11, 2017	EB	May 11, 2017
Total Arsenic	mg/L	<0.001	0.010	0.001	May 11, 2017	EB	May 11, 2017
Total Barium	mg/L	0.12	1.0	0.05	May 11, 2017	EB	May 11, 2017
Total Beryllium	mg/L	<0.0005		0.0005	May 11, 2017	EB	May 11, 2017
Total Boron	mg/L	0.02	5	0.01	May 11, 2017	EB	May 11, 2017
Total Cadmium	mg/L	<0.000016	0.005	0.000016	May 11, 2017	EB	May 11, 2017
Total Chromium	mg/L	<0.0005	0.05	0.0005	May 11, 2017	EB	May 11, 2017
Total Cobalt	mg/L	<0.001		0.001	May 11, 2017	EB	May 11, 2017
Total Copper	mg/L	<0.0008	(1.0)	0.0008	May 11, 2017	EB	May 11, 2017
Total Iron	mg/L	<0.1	(0.3)	0.1	May 11, 2017	AL	May 11, 2017
Total Lead	mg/L	<0.0005	0.010	0.0005	May 11, 2017	EB	May 11, 2017
Total Manganese	mg/L	<0.005	(0.05)	0.005	May 11, 2017	AL	May 11, 2017
Total Mercury	mg/L	<0.000025	0.001	0.000025	May 11, 2017	RT	May 11, 2017
Total Molybdenum	mg/L	0.003		0.001	May 11, 2017	EB	May 11, 2017
Total Nickel	mg/L	<0.003		0.003	May 11, 2017	EB	May 11, 2017
Total Selenium	mg/L	0.0005	0.05	0.0005	May 11, 2017	EB	May 11, 2017
Total Silver	mg/L	0.00014		0.00005	May 11, 2017	EB	May 11, 2017
Total Sodium	mg/L	39.8	(200)	0.6	May 11, 2017	AL	May 11, 2017
Total Thallium	mg/L	<0.0005		0.0005	May 11, 2017	EB	May 11, 2017
Total Titanium	mg/L	0.001		0.001	May 11, 2017	EB	May 11, 2017
Total Uranium	mg/L	0.005	0.02	0.001	May 11, 2017	EB	May 11, 2017
Total Zinc	mg/L	0.001	(5.0)	0.001	May 11, 2017	EB	May 11, 2017

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
< - Values refer to Report Detection Limit.

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CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Microbial Analysis - Coal Bed Methane Water Quality

SAMPLE TYPE: Water **SAMPLE ID: 8374470** **DATE RECEIVED: May 10, 2017**

DATE SAMPLED: May 09, 2017 **DATE REPORTED: May 25, 2017**

SAMPLE DESCRIPTION: Spring (Lor-Al Springs) SW-12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Total Coliforms (MF)	CFU/100 mL	<1	<1	1	May 11, 2017	WL	May 10, 2017
Escherichia coli	CFU/100 mL	<1	<1	1	May 11, 2017	WL	May 10, 2017
Iron Related Bacteria*		Present			May 25, 2017	WL	May 10, 2017
IRB Approximate Population Count*	CFU/mL	150		1	May 25, 2017	WL	May 10, 2017
Sulfate Reducing Bacteria		Absent			May 25, 2017	WL	May 10, 2017
SRB Approximate Population Count	CFU/mL	<1		1	May 25, 2017	WL	May 10, 2017

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)

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AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Routine Chemistry Water Analysis

SAMPLE TYPE: Water **SAMPLE ID: 8374470** **DATE RECEIVED: May 10, 2017**

DATE SAMPLED: May 09, 2017 **DATE REPORTED: May 25, 2017**

SAMPLE DESCRIPTION: Spring (Lor-Al Springs) SW-12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
pH	pH Units	7.88	7.0-10.5	N/A	May 11, 2017	KT	May 11, 2017
p - Alkalinity (as CaCO3)	mg/L	<5		5	May 11, 2017	KT	May 11, 2017
T - Alkalinity (as CaCO3)	mg/L	317		5	May 11, 2017	KT	May 11, 2017
Bicarbonate	mg/L	387		5	May 11, 2017	KT	May 11, 2017
Carbonate	mg/L	<5		5	May 11, 2017	KT	May 11, 2017
Hydroxide	mg/L	<5		5	May 11, 2017	KT	May 11, 2017
Electrical Conductivity	uS/cm	701		5	May 11, 2017	KT	May 11, 2017
Chloride	mg/L	28	(250)	1	May 10, 2017	JM	May 10, 2017
Fluoride	mg/L	0.01	1.5	0.01	May 10, 2017	JM	May 10, 2017
Nitrate	mg/L	2.3	45	0.1	May 10, 2017	JM	May 10, 2017
Nitrate-N	mg/L	0.52	10	0.02	May 10, 2017	SYS	May 10, 2017
Nitrite	mg/L	<0.05	3	0.05	May 10, 2017	JM	May 10, 2017
Nitrite-N	mg/L	<0.01	1	0.01	May 10, 2017	SYS	May 10, 2017
Nitrate+Nitrite - Nitrogen	mg/L	0.52		0.02	May 10, 2017	SYS	May 10, 2017
Sulfate	mg/L	17	(500)	1	May 10, 2017	JM	May 10, 2017
Dissolved Calcium	mg/L	61.7		0.3	May 23, 2017	AS	May 23, 2017
Dissolved Magnesium	mg/L	26.6		0.2	May 23, 2017	AS	May 23, 2017
Dissolved Sodium	mg/L	38.6		0.6	May 23, 2017	AS	May 23, 2017
Dissolved Potassium	mg/L	1.9		0.6	May 23, 2017	AS	May 23, 2017
Dissolved Iron	mg/L	<0.1		0.1	May 23, 2017	AS	May 23, 2017
Dissolved Manganese	mg/L	<0.005		0.005	May 23, 2017	AS	May 23, 2017
Calculated TDS	mg/L	366		0.6	May 23, 2017	SYS	May 23, 2017
Sodium Adsorption Ratio	N/A	1.03			May 23, 2017	SYS	May 23, 2017
Hardness	mg CaCO3/L	264		1	May 23, 2017	SYS	May 23, 2017
Ion Balance	%	93		1	May 23, 2017	SYS	May 23, 2017

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)
< - 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: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Water Analysis - Bromide, Turbidity

SAMPLE TYPE: Water **SAMPLE ID: 8374470** **DATE RECEIVED: May 10, 2017**

DATE SAMPLED: May 09, 2017 **DATE REPORTED: May 25, 2017**

SAMPLE DESCRIPTION: Spring (Lor-Al Springs) SW-12-044-02W5M

PARAMETER	UNIT	RESULT	G / S	RDL	DATE ANALYZED	INITIAL	DATE PREPARED
Bromide	mg/L	<0.1		0.1	May 10, 2017	JM	May 10, 2017
Turbidity	NTU	<0.2	VARIABLE	0.2	May 10, 2017	NK	May 10, 2017

COMMENTS:

RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to 2017 Canadian Drinking Water Quality MAC (AO)

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Water Analysis

RPT Date: May 25, 2017			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															
pH	8363813	8363813	8.37	8.26	1.3%	N/A	100%	90%	110%						
T - Alkalinity (as CaCO3)	8363813	8363813	587	593	0.9%	< 5	106%	80%	120%						
Electrical Conductivity	8363813	8363813	1510	1510	0.0%	< 5	107%	80%	120%						
Chloride	8374231		20	19	6.0%	< 1	96%	80%	120%	100%	80%	120%	NA	80%	120%
Fluoride	8374231		<0.06	<0.06	NA	< 0.01	81%	80%	120%	84%	80%	120%	NA	80%	120%
Nitrate	8374231		<0.4	<0.4	NA	< 0.1	99%	80%	120%	102%	80%	120%	NA	80%	120%
Nitrite	8374231		<0.20	<0.20	NA	< 0.05	99%	80%	120%	101%	80%	120%	NA	80%	120%
Sulfate	8374231		12	12	5.2%	< 1	98%	80%	120%	100%	80%	120%	NA	80%	120%
Dissolved Calcium	8403084	8403084	<0.3	<0.3	NA	< 0.3	99%	80%	120%	98%	80%	120%	110%	80%	120%
Dissolved Magnesium	8403084	8403084	<0.2	<0.2	NA	< 0.2	100%	80%	120%	92%	80%	120%	104%	80%	120%
Dissolved Sodium	8403084	8403084	0.7	0.7	NA	< 0.6	103%	80%	120%	94%	80%	120%	109%	80%	120%
Dissolved Potassium	8403084	8403084	<0.6	<0.6	NA	< 0.6	95%	80%	120%	85%	80%	120%	99%	80%	120%
Dissolved Iron	8403084	8403084	<0.1	<0.1	NA	< 0.1	104%	80%	120%	97%	80%	120%	103%	80%	120%
Dissolved Manganese	8403084	8403084	<0.005	<0.005	NA	< 0.005	104%	80%	120%	93%	80%	120%	104%	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.

Metals - Dissolved - CCME with Mercury															
Dissolved Aluminum	8371107	8371107	0.005	<0.004	NA	< 0.004	101%	80%	120%	97%	80%	120%	93%	80%	120%
Dissolved Antimony	8371107	8371107	0.002	0.002	NA	< 0.001	102%	80%	120%	101%	80%	120%	104%	80%	120%
Dissolved Arsenic	8371107	8371107	0.004	0.004	NA	< 0.001	105%	80%	120%	102%	80%	120%	107%	80%	120%
Dissolved Barium	8371107	8371107	<0.05	<0.05	NA	< 0.05	101%	80%	120%	102%	80%	120%	100%	80%	120%
Dissolved Beryllium	8371107	8371107	<0.001	<0.001	NA	< 0.001	104%	80%	120%	99%	80%	120%	83%	80%	120%
Dissolved Boron	8371107	8371107	0.24	0.24	1.5%	< 0.01	100%	80%	120%	99%	80%	120%	NA	80%	120%
Dissolved Cadmium	8371107	8371107	< 0.000016	< 0.000016	NA	< 0.000016	104%	80%	120%	103%	80%	120%	100%	80%	120%
Dissolved Chromium	8371107	8371107	0.002	0.002	NA	< 0.001	99%	80%	120%	99%	80%	120%	97%	80%	120%
Dissolved Copper	8371107	8371107	0.0122	0.0123	1.2%	< 0.0008	100%	80%	120%	99%	80%	120%	94%	80%	120%
Dissolved Iron	8403084	8403084	<0.1	<0.1	NA	< 0.1	104%	80%	120%	97%	80%	120%	103%	80%	120%
Dissolved Lead	8371107	8371107	<0.0005	<0.0005	NA	< 0.0005	98%	80%	120%	98%	80%	120%	94%	80%	120%
Dissolved Manganese	8403084	8403084	<0.005	<0.005	NA	< 0.005	104%	80%	120%	93%	80%	120%	104%	80%	120%
Dissolved Mercury	8374470	8374470	< 0.000025	< 0.000025	NA	< 0.000025	97%	90%	110%	102%	90%	110%	106%	80%	120%
Dissolved Molybdenum	8371107	8371107	0.010	0.010	0.4%	< 0.001	100%	80%	120%	101%	80%	120%	103%	80%	120%
Dissolved Nickel	8371107	8371107	0.003	0.003	NA	< 0.003	101%	80%	120%	100%	80%	120%	96%	80%	120%
Dissolved Selenium	8371107	8371107	0.0009	0.0012	NA	< 0.0005	103%	80%	120%	104%	80%	120%	116%	80%	120%
Dissolved Silver	8371107	8371107	0.00005	<0.00005	NA	< 0.00005	92%	80%	120%	93%	80%	120%	86%	80%	120%
Dissolved Sodium	8403084	8403084	0.7	0.7	NA	< 0.6	103%	80%	120%	94%	80%	120%	109%	80%	120%
Dissolved Thallium	8371107	8371107	<0.0005	<0.0005	NA	< 0.0005	98%	80%	120%	99%	80%	120%	97%	80%	120%

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date: May 25, 2017			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 Titanium	8371107	8371107	0.006	0.006	2.6%	< 0.001	96%	80%	120%	94%	80%	120%	98%	80%	120%
Dissolved Uranium	8371107	8371107	0.002	0.002	NA	< 0.001	102%	80%	120%	97%	80%	120%	99%	80%	120%
Dissolved Zinc	8371107	8371107	0.01	0.01	NA	< 0.01	102%	80%	120%	104%	80%	120%	97%	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	8346227	8346227	0.525	0.520	0.9%	< 0.004	111%	80%	120%	101%	80%	120%	NA	80%	120%
Total Antimony	8346227	8346227	<0.001	<0.001	NA	< 0.001	105%	80%	120%	100%	80%	120%	96%	80%	120%
Total Arsenic	8346227	8346227	0.002	0.002	NA	< 0.001	108%	80%	120%	98%	80%	120%	97%	80%	120%
Total Barium	8346227	8346227	0.15	0.15	NA	< 0.05	103%	80%	120%	95%	80%	120%	93%	80%	120%
Total Beryllium	8346227	8346227	<0.0005	<0.0005	NA	< 0.0005	104%	80%	120%	96%	80%	120%	94%	80%	120%
Total Boron	8346227	8346227	0.02	0.02	NA	< 0.01	102%	80%	120%	93%	80%	120%	90%	80%	120%
Total Cadmium	8346227	8346227	< 0.000016	< 0.000016	NA	< 0.000016	107%	80%	120%	100%	80%	120%	94%	80%	120%
Total Chromium	8346227	8346227	<0.0005	<0.0005	NA	< 0.0005	105%	80%	120%	96%	80%	120%	94%	80%	120%
Total Cobalt	8346227	8346227	<0.001	<0.001	NA	< 0.001	103%	80%	120%	98%	80%	120%	94%	80%	120%
Total Copper	8346227	8346227	0.0008	0.0011	NA	< 0.0008	103%	80%	120%	100%	80%	120%	94%	80%	120%
Total Iron	8346227		<0.1	<0.1	NA	< 0.1	108%	80%	120%	106%	80%	120%	102%	80%	120%
Total Lead	8346227	8346227	<0.0005	<0.0005	NA	< 0.0005	105%	80%	120%	100%	80%	120%	94%	80%	120%
Total Manganese	8346227		0.015	0.014	NA	< 0.005	107%	80%	120%	105%	80%	120%	100%	80%	120%
Total Mercury	8371107	8371107	< 0.000025	< 0.000025	NA	< 0.000025	97%	90%	110%	102%	90%	110%	102%	80%	120%
Total Molybdenum	8346227	8346227	0.002	0.002	NA	< 0.001	101%	80%	120%	97%	80%	120%	95%	80%	120%
Total Nickel	8346227	8346227	<0.003	<0.003	NA	< 0.003	107%	80%	120%	98%	80%	120%	93%	80%	120%
Total Selenium	8346227	8346227	0.0009	<0.0005	NA	< 0.0005	105%	80%	120%	100%	80%	120%	90%	80%	120%
Total Silver	8346227	8346227	0.00010	0.00006	NA	< 0.00005	94%	80%	120%	94%	80%	120%	87%	80%	120%
Total Sodium	8346227		28.1	27.1	3.5%	< 0.6	102%	80%	120%	102%	80%	120%	NA	80%	120%
Total Thallium	8346227	8346227	<0.0005	<0.0005	NA	< 0.0005	103%	80%	120%	99%	80%	120%	93%	80%	120%
Total Titanium	8346227	8346227	0.001	0.001	NA	< 0.001	95%	80%	120%	98%	80%	120%	91%	80%	120%
Total Uranium	8346227	8346227	<0.001	<0.001	NA	< 0.001	106%	80%	120%	104%	80%	120%	99%	80%	120%
Total Zinc	8346227	8346227	0.001	0.001	NA	< 0.001	101%	80%	120%	100%	80%	120%	95%	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.

Microbial Analysis - Coal Bed Methane Water Quality

Total Coliforms (MF)	2033	409	< 1	< 1	NA	< 1
Escherichia coli	2033	409	< 1	< 1	NA	< 1
Iron Related Bacteria*	596	349	Present	Present	NA	
IRB Approximate Population Count*	596	349	2200	2200	0.0%	< 1

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Quality Assurance

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

SAMPLING SITE:

SAMPLED BY:

Water Analysis (Continued)

RPT Date: May 25, 2017			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
Sulfate Reducing Bacteria	596	349	Present	Present	NA										
SRB Approximate Population Count	596	349	27000	27000	0.0%	< 1									

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.

Water Analysis - Bromide, Turbidity

Bromide	8374231	8374231	<0.2	<0.2	NA	< 0.1	96%	80%	120%	100%	80%	120%	NA	80%	120%
Turbidity	3904	3637	0.5	0.5	NA	< 0.2	96%	80%	120%						

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

Certified By:

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Method Summary

CLIENT NAME: BASELINE WATER RESOURCE INC

AGAT WORK ORDER: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

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: 17C213597

PROJECT: 10-90000 / SW-12-044-02W5M

ATTENTION TO: CLINT GANES

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	ION CHROMATOGRAPH
Nitrite	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrite-N	INST 0150	SM 4110 B	ION CHROMATOGRAPH
Nitrate+Nitrite - Nitrogen	INST 0150	SM 4110 B	ION CHROMATOGRAPH
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

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