



"Safety as a Value"

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GCC Energy, LLC
6473 County Road 120
Hesperus, CO 81326

July 1, 2020

State of Colorado
Division of Reclamation, Mining & Safety
1313 Sherman Street, Room 215
Denver, Colorado 80203-2273

Attn: Janet Binns, Environmental Protection Specialist III

Re: Field Well Water Analysis; King I & King II
2nd Quarter 2020

Ms. Binns:

Please find enclosed a copy of quarterly water analysis reports for the 2nd quarter of 2020 for the following water monitoring locations:

- Wiltse Well
- #1 Up-gradient Monitoring Well
- #2 Down-gradient Monitoring Well & Blind Duplicate MW-98
- Hay Gulch Irrigation Ditch, Down-gradient
- Hay Gulch Irrigation Ditch, Up-gradient
- MW-1-A, MW-1-C
- MW-3-MI, MW-3-A, MW-3-C, MW-3-C VOC
- MW-4-MI, MW-4-A, MW-4-C
- MW-5-C, MW-5-MI
- MW-HGA-4
- MW-6-A, MW-6-LM
- MW-7-EAA
- MW-8-EAA, MW-8-MI, MW-8-LM, MW-8-PL

Also enclosed are summary sheets for the above water monitoring locations which include field collection data.

Please call Tom Bird at (970) 385-4528 x 6503 if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Bird', written over a horizontal line.

Tom Bird
Manager, Coal Services
GCC Energy, LLC

GCC Energy Hydrologic Monitoring Data

Hay Gulch Ditch Upgradient																											
Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2		Q3		Q4		Q1		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	5
Sample Date		3/31	4/22	5/26	6/23	7/20	8/25	9/21	10/19	11/29	12/13	1/26	2/27	3/22	6/28	9/21	11/28	2/22	5/14	8/9	11/8	2/28	5/23	8/16	11/13	2/13	5/13
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Flow Rate	cfs	0.7	1.0	1.2	1.6	1.0	1.0	1.1	1.0	NM	1.0	NM	0.8	0.3	2.7	NM	NM	NM	0.6	0.7	0.7	0.3	3.6	1.2	NM	NM	0.9
Temperature	deg C	9.8	20.9	11.3	21.1	20.8	16.8	14.9	16.4	5.9	7.0	1.5	4.7	10.7	20.2	19.7	8.8	4.7	11.3	22.1	1.1	5.9	5.9	16.9	5.7	1.5	16.5
pH	SU	7.75	8.27	7.95	8.15	8.24	8.26	8.47	8.19	8.79	8.58	8.2	8.69	8.77	8.88	8.39	7.60	7.9	7.58	9.07	7.16	6.4	7.53	8.03	7.33	7.75	8.39
Specific Conductance	µS/cm	247	323	197	141	189	207	233	210	258	234	687	455	454	106	549	868	1041	304	307	307	752	306	275	682	902	314
Oxygen Reduction Potential	mV	76.4	114.7	97.2	51.6	53.6	82.8	72.5	105.9	92.4	116.3	66.3	-12	-10.6	23.8	86.1	95.10	-164.1	111.4	-181.3	13.9	103.7	-24.0	24.4	-22.4	-4.5	81.7
Dissolved Oxygen	mg/L	8.1	6.4	8.0	6.0	6.5	6.9	7.2	4.7	6.7	6.1	10.6	9.0	6.9	4.8	6.7	9.3	9.4	8.5	6.4	10.2	8.0	8.9	7.8	7.9	7.0	7.5
Lab Analytical Results:																											
Hardness as CaCO3	mg/L	128			80.9			119		152				257	69.2	316	456	489	101	153	149	393	136	125	372	405	150
pH (Lab)	SU	8.17			8.04			8.16		8.19				8.06	8.06	8.22	8.31	8.39	7.99	9.07	7.86	7.45	7.69	7.83	7.40	7.22	7.60
Total Dissolved Solids (Lab)	mg/L	170			75			165		180				285	65.0	390	650	700	140	215	175	535	205	225	635	587	255
Total Suspended Solids	mg/L	30.0			117			17.0		4.8				2.50	63.5	2.00	5.75	6.01	106	6.25	14.8	22.0	113	20.0	5.38	<4	140
Calcium	mg/L	33.5			24			33.0		38.4				53.6	20.8	64.9	86.6	87.3	26.3	39.1	40.3	79.8	34.6	32.4	79.3	81.5	36.1
Magnesium	mg/L	10.9			5.08			9.01		13.7				29.8	4.21	37.5	58.3	65.9	8.61	13.5	11.9	47.0	12.1	10.8	42.2	49	14.5
Sodium	mg/L	4.46			2.19			3.90		6				10.9	1.97	13.8	27.1	34.6	3.31	5.33	5.00	19.1	7.24	5.81	25.4	30.9	7.67
Potassium	mg/L	<1			<1			1.35		<1.00				<1.00	1.75	2.15	3.05	3.52	1.18	1.24	<1.00	3.89	1.57	1.07	3.25	3.65	1.86
Alkalinity, Total	mg/L	160			65			98.0		118				185	55.0	177	305	244	67	111	120	260	390	103	233	315	102
Alkalinity, Bicarbonate	mg/L	160			65			94.0		118				185	55.0	161	285	244	67	107	120	260	390	103	233	295	102
Alkalinity, Carbonate	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	16.0	20.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	mg/L	5.77			2.07			4.32		7.92				22.7	1.76	30.8	48.2	46.7	3.12	6.70	5.58	48.1	7.75	6.04	22.8	31.6	9.64
Fluoride	mg/L	0.213			0.208			0.223		0.208				0.215	0.195	0.265	0.283	0.285	0.224	0.272	0.224	0.252	0.208	0.214	<0.500	0.239	<0.500
Sulfate as SO4	mg/L	42.1			17.7			29.0		45.3				87.7	15.0	99.0	179	229	34	49.7	45.0	128	47.2	35.6	107	151	44.0
Total Organic Carbon (TOC)	mg/L	1.41			1.6			2.21		1.14				2.49	1.15	1.90	1.99	1.81	2.31	1.61	1.09	4.94	3.08	1.84	4.54	5.45	2.93
Oil & Grease	mg/L	<5			<5			<5		<5.00				<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5	<5.00
Nitrate/Nitrite as N	mg/L	<0.02			0.028			<0.020		<0.020				0.053	<0.020	0.045	0.088	0.105	0.026	<0.020	<0.020	0.263	0.050	0.072	0.104	0.044	0.302
Sodium Adsorption Ratio (SAR)	no unit	0.17			0.1			0.16		0.21				0.30	0.10	0.34	0.55	0.68	0.14	0.18	0.16	0.42	0.26	0.22	0.55	0.65	0.26
Ammonia as N ^	mg/L																								<0.100		
Ortho-Phosphate as P ^	mg/L																								<0.0500		
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050
Arsenic	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				0.0005	<0.0005	0.0009	0.0007	<0.0025	<0.0005	0.0009	<0.0005	0.0007	0.0006	0.0007	0.0005	0.0006	<0.0005
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L	0.0006			0.0011			0.0011		0.0005				0.0008	0.0013	0.0006	0.0005	0.0007	0.0011	0.0011	0.0013	0.0026	0.0013	0.0012	0.0005	0.0005	0.0010
Iron	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	0.255	0.055	<0.050	0.316	0.551	<0.050
Lead	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	mg/L	0.0059			0.0035			0.0043		0.0047				0.0070	0.0024	0.0098	0.0049	0.0049	0.0093	0.0016	0.0043	0.127	0.0349	0.0096	0.113	0.368	0.0297
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002
Molybdenum	mg/L	<0.0005			0.0009			0.0007		0.0008				0.0006	0.0009	0.0012	0.0008	<0.0025	0.001	0.0012	0.0009	0.0011	0.0009	0.0011	0.0007	0.0005	0.0009
Selenium	mg/L	<0.001			<0.001			<0.001		<0.0010				0.0023	<0.0010	<0.0010	0.0010	<0.0050	<0.001	<0.001	<0.001	0.0017	<0.0010	<0.0010	<0.0010	<0.001	<0.0010
Silica (SiO2)	mg/L	7.78			8.23			10.5		9.71				9.04	7.71	9.45	10.1	11.0	8.4	8.64	8.31	11.3	8.55	9.17	13.4	13	7.57
Silicon	mg/L	3.64			3.85			4.89		4.54				4.23	3.60	4.42	4.71	5.14	3.93	4.04	3.88	5.29	3.99	4.29	6.25	6.06	3.54
Uranium	mg/L	0.0002			0.0001			0.0002		0.0003				0.0003	0.0001	0.0006	0.0009	0.0013	0.0001	0.0002	0.0003	0.0009	0.0003	0.0004	0.0007	<0.0005	<0.0005
Zinc	mg/L	<0.001			<0.001			<0.001		<0.0010				0.0022	<0.0020	<0.0040	<0.0020	<0.0100	<0.002	0.0033	<0.002	0.0044	<0.0020	<0.0020	0.0033	0.0087	<0.0020
Radium 222																											

Notes & Definitions:

- ^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
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GCC Energy Hydrologic Monitoring Data

Hay Gulch Ditch Downgradient																											
Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2		Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	6
Sample Date		3/31	4/22	5/26	6/23	7/20	8/25	9/21	10/19	11/29	12/13	1/26	2/27	3/22	6/28	9/21	11/28	2/22	5/7	8/9	11/7	2/28	5/23	8/16	11/13	2/6	6/1
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Flow Rate	cfs	1.1	1.2	1.1	NM	1.1	1.1	NM	0.8	NM	NM	NM	0.8	0.3	0.3	NM	dry	NM	NM	NM	0.5	0.25	0.3	1.05	NM	NM	1.5
Temperature	deg C	11.8	17.6	10.9	21.9	21.3	18.8	16.1	11.8	7.0	6.6	7.2	5.0	12.7	17.6	18.7		6.3	11.3	20.6	4.7	6.88	8.23	15.15	3.51	3.73	14.21
pH	SU	8.57	8.55	8.14	8.14	8.55	8.37	8.3	8.36	8.64	8.06	7.28	8.06	9.00	8.53	8.66		8.33	7.58	7.43	7.48	6.42	7.77	7.61	8.38	7.94	8.24
Specific Conductance	µS/cm	429	530	297	116	308	257	1183	420	421	728	678	987	17	114	164		742	304	356	309	577	202	295	554	882	137
Oxygen Reduction Potential	mV	57.5	105.9	33.2	32.5	68.6	38.4	18.7	88.6	117.5	155.2	147.6	-15.5	137.8	185.3	48		51.6	111.4	-10	-88.9	125.6	50.6	111.6	-108.1	124.2	104.8
Dissolved Oxygen	mg/L	7.9	7.7	8.7	6.0	6.7	5.6	6.8	7.1	6.5	7.2	7.6	9.8	5.6	6.4	7.1	9.8	8.5	6.3	9.1	7.6	8.8	7.2	9.6	9.5	8.0	
Lab Analytical Results:																											
Hardness as CaCO3	mg/L	226			67.8			480		267				503	59.1	91.4		329	140	182	167	281	91.9	137	295	416	63.6
pH (Lab)	SU	8.42			8.13			8.25		8.24				8.15	7.98	7.98		8.17	8.05	8.09	7.95	7.84	7.68	7.73	7.73	7.80	7.49
Total Dissolved Solids (Lab)	mg/L	270			55			630		320				615	65.0	80.0		420	220	260	185	390	185	195	355	573	120
Total Suspended Solids	mg/L	27.3			18			4.20		12.4				12.7	3.00	<0.500		49.5	<2	5.67	4.40	18.4	153	22.5	<4.00	4.20	17.5
Calcium	mg/L	55.5			21.9			94.7		65.5				112	19.0	29.5		75.4	37.5	49.0	44.7	61.6	26.0	34.5	67.2	85.6	20.3
Magnesium	mg/L	21.1			3.15			59.1		25.2				54.6	2.86	4.31		34.2	11.2	14.4	13.4	31	6.54	12.3	30.8	49.0	3.15
Sodium	mg/L	8.69			1.57			16.8		10.7				22.5	1.49	2.37		18.1	5.42	6.49	5.15	16.5	5.03	6.62	17.0	28.5	1.90
Potassium	mg/L	1.49			<1			4.48		1.46				2.33	<1.00	<1.00		2.84	1.14	1.58	1.34	3.13	1.31	1.27	2.60	3.81	<1.00
Alkalinity, Total	mg/L	220			59			220		225				320	47.0	85.0		265	112	170	140	150	340	140	194	297	48.0
Alkalinity, Bicarbonate	mg/L	220			59			140		155				320	47.0	85.0		259	104	170	140	150	340	140	188	283	48.0
Alkalinity, Carbonate	mg/L	<10			<10			80.0		70				<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	14.0	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	
Chloride	mg/L	9.40			1.26			97.9		12				31.9	<1.00	1.54		23.1	7.54	7.47	5.69	40.2	16.9	7.65	14.8	30.7	1.87
Fluoride	mg/L	0.244			0.195			0.244		0.227				0.224	0.290	0.227		0.308	0.228	0.295	0.228	0.232	0.205	0.218	0.252	0.272	0.185
Sulfate as SO4	mg/L	68.1			13.5			144		89.5				204	11.3	17.9		86.5	40.2	46.8	45.0	91.4	18.5	42.7	83.3	143	14.2
Total Organic Carbon (TOC)	mg/L	1.53			1.4			3.48		1.65				2.31	2.16	0.932		1.56	1.28	1.33	1.76	2.90	2.37	2.10	3.26	4.53	1.39
Oil & Grease	mg/L	<5			<5			<5		<5.00				<5.00	<5.00	<5.00		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Nitrate/Nitrite as N	mg/L	<0.02			0.026			0.027		<0.020				<0.020	<0.020	<0.020		<0.020	<0.020	<0.020	<0.020	0.17	0.146	0.090	<0.020	0.056	0.031
Sodium Adsorption Ratio (SAR)	no unit	0.25			0.03			0.33		0.28				0.44	0.08	0.11		0.43	0.2	0.20	0.17	0.43	0.22	0.24	0.41	0.61	0.10
Ammonia as N ^	mg/L																								<0.100		
Ortho-Phosphate as P ^	mg/L																								<0.0500		
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	mg/L	0.0005			<0.0005			0.0015		0.0006				0.0006	0.0005	0.0006		0.0005	0.0005	0.0008	<0.0005	0.0006	0.0006	0.0006	0.0005	0.0006	<0.0005
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L	0.0004			0.0016			0.0012		0.0005				0.0004	0.0020	0.0013		0.0005	0.0008	0.0008	0.0008	<0.0010	0.0021	0.0009	0.0007	0.0006	0.0014
Iron	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lead	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	mg/L	0.0039			0.0044			0.0059		0.0063				0.0112	0.0009	0.0010		0.0962	0.0038	0.0445	0.0102	0.048	0.0125	0.0033	0.0102	0.0286	0.0012
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	<0.0005			0.0008			0.0013		0.0007				<0.0005	0.0009	0.0011		0.0010	0.0011	0.0012	0.0010	0.001	0.0011	0.0012	0.0007	0.0006	0.0008
Selenium	mg/L	<0.001			<0.001			0.0026		<0.0010				0.0022	<0.0010	<0.0010		0.0011	<0.0010	<0.0010	<0.001	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silica (SiO2)	mg/L	8.96			7.48			11.8		10.9				12.2	6.80	8.53		10.7	8.41	8.77	8.66	8.46	5.70	8.86	11.8	12.3	6.38
Silicon	mg/L	4.19			3.5			5.51		5.11				5.70	3.18	3.99		5.01	3.93	4.10	4.05	3.95	2.67	4.14	5.50	5.75	2.98
Uranium	mg/L	0.0004			0.0001			0.0006		0.0006				0.0009	0.0001	0.0002		0.0012	0.0004	0.0005	0.0003	0.0009	0.0002	0.0004	0.0007	0.0006	<0.0005
Zinc	mg/L	<0.001			0.0021			0.0013		0.0012				<0.0020	<0.0020	<0.0040		<0.0020	0.0074	0.0048	0.0035	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Radium 226	pCi/L	<0.4			NA			NA		NA				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

- ^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
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GCC Energy Hydrologic Monitoring Data

Well #1 Upgradient																											
Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2		Q3		Q4				Q1		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	6
Sample Date		3/30	4/27	5/26	6/23	7/19	8/24	9/21	10/24	11/30	12/14	1/18	2/27	3/22	6/28	9/28	11/29	2/22	5/14	8/9	11/7	2/25	5/23	8/16	11/14	2/13	6/1
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Purge Flow Rate	gpm	1.5	7.9	7.1	5.8	7.1	7.4	6.8	7.5	9.3	7.5	7.7	7.5	8.2	7.0	7.1	7.5	7.2	7.2	10	7.2	10.0	8.3	11.0	6.5	8.0	10.0
Total Purged	gal	306	522	870	297	280	284	288	300	280	295	298	297	291	286	259	287	268	280	267	305	300	321	327	293	314	300
Depth to Water	ft bgs	4.40	5.07	4.60	4.95	5.55	6.30	6.03	5.73	5.69	5.08	4.30	3.80	3.82	4.50	5.51	5.50	5.40	5.77	5.65	6.50	5.98	4.50	5.68	6.08	5.55	4.17
Temperature	deg C	8.8	13.1	11.9	14.2	14.1	12.7	12.5	12.6	10.6	11.3	10.9	10.4	11.2	11.9	11.8	11.6	11.5	11.7	12.0	12.5	11.7	11.5	11.8	12.9	11.6	12.1
pH	SU	7.77	7.57	7.46	7.6	7.69	7.59	7.67	7.77	7.72	7.68	7.6	7.67	7.67	7.59	7.6	7.58	7.56	7.49	7.35	7.34	7.44	7.39	7.37	7.32	7.37	7.38
Specific Conductance	µS/cm	1224	1199	1284	1246	1226	1143	1176	1223	1280	1305	1392	1415	1351	1159	1162	1241	1278	1218	1289	1204	1235	1308	1253	1232	1277	1268
Oxygen Reduction Potential	mV	-123.1	-162.2	-142.5	-185.4	-156.6	-196.8	-140.6	-148.9	-152.9	-141.0	-143.6	-125.6	-132.2	-201	-176.9	-213.20	-185.3	-219.3	-251.6	-273.0	-232.0	-194.0	-192.0	-159.9	-193.0	-221.7
Lab Analytical Results:																											
Hardness as CaCO3	mg/L	230			306			216		271				391	277	215	280	274	275	369	287	252	350	303	263	290	319
pH (Lab)	SU	7.73			7.57			7.58		7.59				7.46	7.74	7.66	7.56	7.75	7.95	7.48	7.50	7.77	7.56	7.23	7.35	7.12	7.26
Total Dissolved Solids (Lab)	mg/L	760			745			735		725				775	725	705	790	745	770	835	730	735	860	780	705	700	775
Calcium	mg/L	44.0			59.7			42.4		51.7				75.7	54.0	41.6	55.6	53.4	53.8	71.5	56.7	49.1	67.8	58.2	51.5	56.5	61.6
Magnesium	mg/L	29.1			38.2			26.7		34.5				49.1	34.6	27.1	34.4	34.2	34.1	46.4	35.4	31.4	43.8	38.3	32.7	36.1	40.0
Sodium	mg/L	199			196			210		189				167	189	203	195	183	191	154	212	196	172	167	198	183	178
Potassium	mg/L	3.00			3.15			3.01		3.01				3.30	3.00	3.09	2.99	3.09	3.03	3.16	3.15	3.01	3.32	3.01	3.01	<5	3.05
Alkalinity, Total	mg/L	610			660			620		615				640	585	670	625	620	595	630	640	610	615	615	590	600	576
Alkalinity, Bicarbonate	mg/L	570			660			620		615				640	585	670	625	620	595	630	640	610	615	615	590	600	576
Alkalinity, Carbonate	mg/L	40.0			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	mg/L	4.33			6.12			4.30		4.44				4.53	4.32	6.21	4.39	4.30	4.35	4.34	4.23	4.35	4.59	4.36	6.19	4.76	4.76
Fluoride	mg/L	0.347			<0.5			0.353		0.337				0.337	0.362	<0.500	0.358	0.354	0.335	0.390	0.359	0.355	0.349	0.335	<0.500	0.348	0.366
Sulfate as SO4	mg/L	90.1			108			83.8		117				156	97.4	74.0	101	106	97.2	147	89.9	91.4	131	112	92.1	104	110
Total Organic Carbon (TOC)	mg/L	2.54			3.3			2.80		3.18				3.84	5.82	2.84	3.33	3.37	3.5	3.94	3.35	3.31	3.70	3.53	3.14	3.29	3.37
Nitrate/Nitrite as N	mg/L	<0.02			<0.02			<0.02		<0.200				<0.020	<0.400	<0.400	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																								0.931		
Ortho-Phosphate as P ^	mg/L																								0.0590		
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.25	<0.050
Arsenic	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				0.0009	<0.0005	<0.0005	<0.0005	0.0005	0.0005	0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001
Copper	mg/L	0.0035			0.003			0.0021		0.0041				0.0020	0.0020	0.0030	0.0027	0.0035	0.003	0.0022	0.0025	0.0042	0.0015	0.0019	0.0012	0.0017	0.0017
Iron	mg/L	1.20			1.51			0.946		1.64				2.01	1.34	0.101	1.44	1.44	1.39	1.98	1.52	1.26	1.74	1.58	1.41	1.49	1.53
Lead	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Manganese	mg/L	0.267			0.344			0.221		0.312				0.491	0.315	0.202	0.311	0.307	0.306	0.498	0.286	0.355	0.439	0.428	0.354	0.366	0.369
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	<0.0005			<0.0005			<0.0005		0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0005	<0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Selenium	mg/L	<0.001			<0.001			<0.001		<0.0010				0.0245	<0.0010	<0.0010	<0.0010	<0.0010	0.0171	0.0120	0.0022	0.0032	0.0024	<0.0010	<0.0020	<0.001	<0.0010
Silica (SiO2)	mg/L	13.8			15.2			14.8		12.9				14.2	14.9	14.3	14.7	13.4	14.6	13.8	13.7	13.5	13.1	13.1	14.3	13.1	13.1
Silicon	mg/L	6.45			7.12			6.94		6.05				6.64	6.94	6.68	6.86	6.27	6.81	6.45	6.41	6.3	6.13	6.11	6.68	6.13	6.14
Uranium	mg/L	<0.0001			0.0021			<0.0001		0.0002				0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	<0.0002	<0.0005	<0.0005
Zinc	mg/L	<0.001			<0.001			0.0023		0.0301				<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0040	<0.002	<0.0020
Radium 226	pCi/L	<0.4			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

- ^

one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

Well #2 Downgradient																												
Year	2016										2017						2018					2019				2020		
Quarter	Q1	Q2			Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month	3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	8	11	2	5	8	11	2	6	
Sample Date	3/30	4/21	5/25	6/23	7/19	8/24	9/20	10/19	11/30	12/14	1/26	2/27	3/22	6/13	9/21	11/28	2/22	5/7	8/8	8/9	11/7	2/27	5/22	8/16	11/13	2/6	6/1	
Lab Analysis (Y/N)	Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Field Parameters:																												
Purge Flow Rate	gpm	0.5	0.5	0.5	0.5	0.5	0.5	NM	7.2	2	NM	NM	NM	NM	NM	NM	0.1	1	0.1	1	0.5	0.3	0.5	0.3	0.5	0.3	0.3	
Total Purged	gal	7	6	7	7	6	6	6	6	6	8	8	6	8	8	6	6	11	2	6.5	7.5	13	10	9	8	12	8	
Depth to Water	ft bgs	3.69	3.17	4.25	1.42	4.17	4.17	5.50	6.4	4.7	5	3.95	2.74	6.35	0.95	4.85	5.68	6.68	7.4	6.65	6.59	5.17	5.85	0.92	3.60	5.20	5.60	4.00
Temperature	deg C	6.3	10.1	13.5	18.4	19.8	14.0	14.1	13.3	10.4	12.4	7.0	4.4	8.4	17.1	12.1	11.7	9.8	8.9	14.0	11.1	11.9	9.1	8.1	10.5	11.5	10.4	9.1
pH	SU	7.58	7.6	7.6	7.64	7.68	7.73	7.53	7.66	7.66	7.71	7.57	7.68	7.78	7.56	7.66	7.52	7.59	7.48	7.84	7.20	7.15	7.41	7.34	7.23	7.19	7.32	7.41
Specific Conductance	µS/cm	899	867	804	600	369	815	877	881	904	872	908	1193	921	633	852	879	887	847	828	895	955	960	1091	1051	1083	1083	1134
Oxygen Reduction Potential	mV	-9.4	-13.7	-35.7	-66.9	-112.1	-76.3	-88.3	-82	-72.7	-81.1	-66.8	-55.7	-67	-54.3	-53.7	-63.70	-44.9	-34	-75.6	-127	-91.9	48.4	-57.8	-30.1	-5.48	25.27	-51.3
Lab Analytical Results:																												
Hardness as CaCO3	mg/L	444			314			452		432				485	352	378	449	412	415	422	415	465	488	537	513	603	540	575
pH (Lab)	SU	7.63			7.66			7.48		7.55				7.72	7.6	7.51	7.51	7.62	7.6	7.61	7.45	7.50	7.5	7.4	7.04	7.12	7.20	7.09
Total Dissolved Solids (Lab)	mg/L	685			470			525		495				635	415	525	540	515	545	545	575	550	575	695	655	690	695	730
Calcium	mg/L	72.2			54.9			75.9		72.7				81.0	60.9	64.8	78.0	70.1	70.2	72.7	70.4	78.7	81.3	87.1	83.3	99.4	87.2	92.2
Magnesium	mg/L	63.9			43.1			63.8		60.8				68.7	48.5	52.6	61.8	57.4	58.2	58.4	58.2	65.2	69.2	77.6	74.0	86.3	78.2	83.7
Sodium	mg/L	22.2			16.5			19.8		20.7				21.8	16.1	17.0	20.1	19.4	19.2	19.6	19.1	21.3	22.1	23.4	21.4	25.5	23.3	24.5
Potassium	mg/L	2.04			2.1			2.16		2.05				1.94	2.22	1.64	2.19	1.76	1.68	2.00	1.82	2.08	1.97	1.94	2.06	2.40	2.04	2.00
Alkalinity, Total	mg/L	342			280			380		380				375	285	395	375	333	350	380	328	340	395	460	365	348	324	324
Alkalinity, Bicarbonate	mg/L	338			280			380		380				375	285	395	375	333	350	380	328	340	395	460	365	348	324	324
Alkalinity, Carbonate	mg/L	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	35.8			6.8			27.4		26.2				23.3	7.11	19.0	23.4	24.7	27.2	34.5	34.1	39.3	40.1	42.9	45.2	47.2	48.9	50.3
Fluoride	mg/L	0.230			0.298			0.272		0.256				0.228	0.313	0.263	0.246	0.244	0.224	0.259	0.281	0.263	0.244	0.246	0.221	<0.500	<0.500	<0.500
Sulfate as SO4	mg/L	129			70			114		117				153	75.2	98.4	94.7	104	102	112	111	137	138	196	189	182	199	230
Total Organic Carbon (TOC)	mg/L	3.34			14			2.64		3.4				3.52	3.56	2.61	2.25	2.10	2.02	2.06	1.93	2.08	1.87	2.69	2.28	1.99	1.80	1.84
Nitrate/Nitrite as N	mg/L	0.042			<0.02			<0.02		0.089				<0.020	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																									<0.100		
Ortho-Phosphate as P ^	mg/L																									<0.0500		
Aluminum	mg/L	0.156			<0.05			<0.05		<0.050				<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	mg/L	0.0008			0.0015			0.0010		0.0013				0.0009	0.0017	0.0006	0.0011	0.0010	0.0009	0.0012	0.0012	0.0010	0.0012	0.0011	0.0012	0.0012	0.0011	0.0009
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	mg/L	0.0004			0.0005			0.0003		0.0051				0.0007	0.0002	0.0004	0.0001	0.0056	0.0002	0.0006	0.0004	0.0003	0.001	0.0016	0.0003	0.0002	<0.0005	<0.0005
Iron	mg/L	0.081			0.085			0.118		<0.050				0.213	<0.05	<0.050	0.074	0.060	0.073	0.089	0.163	0.082	0.062	0.116	0.105	0.119	0.094	0.107
Lead	mg/L	<0.0005			<0.0005			<0.0005		0.0078				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	mg/L	0.497			0.54			0.354		0.359				0.384	0.259	0.307	0.309	0.304	0.306	0.349	0.375	0.320	0.423	0.504	0.404	0.427	0.454	0.444
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0014			0.0022			0.0024		0.0025				0.0021	0.0025	0.0021	0.0020	0.0024	0.0022	0.0024	0.0029	0.0024	0.0029	0.0026	0.0019	0.0024	0.0021	0.0023
Selenium	mg/L	<0.001			<0.001			<0.001		0.0011				0.0045	<0.001	<0.0010	<0.0010	0.0012	<0.001	0.0012	0.0015	0.0013	0.0021	0.001	0.0011	0.0011	<0.0010	0.0012
Silica (SiO2)	mg/L	11.6			14.7			12.8		11.9				10.9	15.5	13.0	13.3	11.1	11.5	11.4	11.5	11.0	11.2	10.5	11.6	12.8	11.2	10.6
Silicon	mg/L	5.42			6.89			5.97		5.55				5.12	7.23	6.08	6.20	5.19	5.39	5.34	5.38	5.15	5.26	4.93	5.44	5.99	5.22	4.98
Uranium	mg/L	0.0013			0.0007			0.0015		0.0016				0.0014	0.0008	0.0013	0.0013	0.0013	0.0013	0.0013	0.0015	0.0014	0.0019	0.0016	0.0012	0.0015	0.0016	0.0016
Zinc	mg/L	0.0034			<0.001			0.0010		0.0311				<0.0020	<0.002	<0.0040	<0.0020	0.0053	0.0022	0.0028	<0.0020	<0.0020	0.0025	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
Radium 226	pCi/L	<0.4			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

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one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

Wiltse Well																											
Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2		Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	5
Sample Date		3/31	4/27	5/25	6/23	7/19	8/24	9/20	10/24	11/29	12/13	1/18	2/27	3/21	6/13	9/28	11/28	2/22	5/16	8/9	11/8	2/28	5/23	8/19	11/11	2/17	5/13
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Purge Flow Rate	gpm	150.0	38.5	23.4	18.6	19.9	17.3	15.8	17.0	10.6	18.1	39.5	39.6	39.6	NM	18.3	23.5	11.9	12.0	18.5	12.3	28.0	38.0	18.0	17.0	35.0	24.4
Total Purged	gal	5850	4228	4229	3686	2844	2979	2637	2724	2992	2916	3595	3580	3560	2980	2712	2423	2700	2890	2783	2747	3017	3200	3010	3058	3825	3495
Depth to Water	ft bgs	0.35	0.00	0.85	2.15	2.99	2.60	3.32	6.85	1.90	1.95	0.30	0.00	0.00	2.05	3.40	3.40	3.35	3.93	4.13	3.78	2.40	0.05	2.47	2.68	0.43	1.60
Temperature	deg C	6.7	8.8	10.4	10.7	11.5	12.1	11.5	11.0	9.1	8.8	7.6	7.2	7.5	10.3	11.3	9.7	8.0	10.2	11.7	10.4	8.0	9.3	10.7	9.9	6.7	9.8
pH	SU	7.22	7.32	7.34	7.26	7.26	7.24	7.22	7.22	7.32	7.29	7.2	7.17	7.12	7.41	7.27	7.30	7.26	7.13	7.04	7.07	7.17	7.08	7.09	7.09	7.01	7.12
Specific Conductance	µS/cm	2043	1633	1805	1768	1478	1602	1941	1937	2014	2036	2262	2276	2085	1869	2074	2190	2232	2144	2072	2167	2170	2151	1964	1970	2171	2017
Oxygen Reduction Potential	mV	105.6	17.9	20.1	38.5	26.9	20.0	28.6	21.6	13.7	20.9	3.2	18.3	6.0	13.3	19.5	19.2	14.3	29.9	-52.7	-18.8	22.7	-10.6	-23.7	51.9	49.33	71.86
Lab Analytical Results:																											
Hardness as CaCO3	mg/L	990			1050			1030		963				1040	1060	1140	1150	1090	1160	1130	1180	1150	1080	1080	1060	982	1060
pH (Lab)	SU	7.22			7.34			7.29		7.36				7.22	7.46	7.30	7.33	7.70	8.35	7.22	7.42	7.38	7.35	7.11	7.09	7.12	7.09
Total Dissolved Solids (Lab)	mg/L	1580			1480			1520		1520				1480	1510	1680	1740	1740	1740	1750	1720	1710	1670	1520	1480	1600	1560
Calcium	mg/L	197			208			206		186				205	211	219	226	211	216	221	230	226	214	214	208	191	206
Magnesium	mg/L	121			128			126		121				128	129	143	142	136	150	139	147	143	132	132	132	123	132
Sodium	mg/L	95.9			75.2			80.7		82.4				110	87.5	80.7	83.4	80.4	82.3	79.1	81.2	83.2	89.4	72.4	67.3	68.1	69.1
Potassium	mg/L	4.64			4.56			4.90		4.42				4.61	4.79	4.62	<5.00	4.73	4.98	5.01	5.00	5.01	4.77	4.92	4.85	4.33	<5.00
Alkalinity, Total	mg/L	460			500			470		450				410	445	510	475	445	435	463	505	515	469	474	460	460	431
Alkalinity, Bicarbonate	mg/L	440			500			470		450				410	445	510	475	445	435	463	505	515	469	474	460	460	431
Alkalinity, Carbonate	mg/L	20.0			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	81.0			76.3			62.3		70.1				72.5	72.5	68.7	68.9	66.7	60	57.2	57.5	67.2	67.8	49.9	48.2	57.7	51.8
Fluoride	mg/L	0.285			<0.5			<0.5		0.3				<0.500	0.332	<0.500	<0.500	<0.500	<0.500	<0.500	0.298	0.324	0.306	<0.500	<0.500	<0.500	<0.500
Sulfate as SO4	mg/L	671			595			656		676				731	702	779	772	832	714	733	741	801	709	627	627	711	633
Total Organic Carbon (TOC)	mg/L	3.54			4.1			3.15		3.02				3.40	3.54	3.34	3.26	3.37	3.5	3.51	3.63	3.82	4.87	4.27	3.30	4.22	3.80
Nitrate/Nitrite as N	mg/L	0.456			0.891			1.08		0.965				0.492	1.07	1.80	1.94	2.26	2.48	2.26	1.99	1.95	0.651	0.896	1.31	1.05	0.865
Ammonia as N ^	mg/L																								<0.100		
Ortho-Phosphate as P ^	mg/L																								<0.0500		
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.1	<0.050	<0.250	<0.100	<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.250
Arsenic	mg/L	<0.0025			<0.0025			0.0005		0.0008				0.0009	0.0006	0.0005	0.0029	0.0009	0.0006	<0.0025	<0.001	<0.0010	0.0006	<0.0010	<0.0010	<0.0010	<0.0025
Cadmium	mg/L	<0.0005			<0.0005			<0.0005		<0.0001				<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005
Copper	mg/L	0.0018			0.0024			0.0020		0.0038				0.0023	0.0019	0.0025	0.0097	0.0020	0.0019	0.0018	0.0030	0.002	0.0021	0.0021	0.0012	0.0020	<0.0025
Iron	mg/L	0.100			<0.05			0.060		0.136				0.286	0.161	<0.050	<0.250	0.132	0.151	0.125	0.121	0.151	0.379	0.287	0.209	0.285	<0.250
Lead	mg/L	<0.0025			<0.0025			<0.0025		<0.0005				<0.0005	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	<0.0005	<0.001	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0025
Manganese	mg/L	0.673			0.857			0.756		0.608				0.440	0.797	0.881	4.50	0.845	0.997	1.37	1.08	0.937	0.357	0.902	0.892	0.419	0.816
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	<0.0025			<0.0025			0.0017		0.0016				0.0016	0.0021	0.0021	0.0093	0.0020	0.002	0.002	0.0019	0.0017	0.0014	0.0020	0.0017	0.0013	<0.0025
Selenium	mg/L	<0.005			<0.005			0.0013		0.0023				0.0027	0.0019	0.0016	0.0087	0.0027	0.0025	0.0025	<0.002	0.0025	0.0016	<0.0020	<0.0020	<0.0020	<0.0050
Silica (SiO2)	mg/L	13.9			16.1			16.4		14.3				14.7	15.5	16.1	13.4	14.1	15.9	16.2	15.9	14.1	13.2	15.4	14.9	12.2	12.9
Silicon	mg/L	6.51			7.53			7.67		6.69				6.85	7.22	7.54	6.29	6.58	7.42	7.58	7.44	6.6	6.19	7.20	6.96	5.72	6.05
Uranium	mg/L	0.0029			0.0021			0.0023		0.0026				0.0024	0.0021	0.0021	0.0110	0.0025	0.0024	0.0024	0.0032	0.0036	0.0044	0.0029	0.0023	0.0039	0.0032
Zinc	mg/L	0.0156			0.0364			0.0301		0.0269				0.0194	0.026	0.0208	0.0855	0.0216	0.0225	0.0214	0.0172	0.0175	0.0128	0.0138	0.0108	0.0122	0.0132
Radium 226	pCi/L	0.7 +/- 0.1			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

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one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-HGA-4																									
Year	2016	2017												2018				2019				2020			
Quarter	Q4	Q1			Q2			Q3			Q4			Q1		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	5	8	11	2	5	8	11	2	5	
Sample Date	12/12	1/26	2/28	3/22	4/27	5/31	6/13	7/27	8/16	9/21	10/27	11/28	12/12	1/3	2/22	5/15	8/9	11/8	2/28	5/23	8/16	11/13	2/13	5/13	
Lab Analysis (Y/N)	Y	N	N	Y	N	N	Y	N	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Field Parameters:																									
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	9.4	NM	0.1	1.5	2.0	1.0	1.1	1.0	1.0	0.3	1.0	0.3	
Total Purged	gal	21	21	21	21	21	19.5	20	20	21	21	21	24	19	21	21	19	21	24	22	21	21	22	21	
Depth to Water	ft bgs	0.73	0.57	0.60	0.83	0.94	2.06	2.53	3.25	2.65	3.31	3.31	1.76	4.31	1.37	0.55	2.60	3.98	1.90	0.49	0.42	1.95	1.15	0.38	2.36
Temperature	deg C	7.3	4.8	6.4	8.1	7.2	9.9	8.4	8.6	8.8	9.0	9.2	9.0	9.3	8.8	7.8	8.1	8.7	8.8	7.6	7.7	8.5	8.8	7.9	7.4
pH	SU	7.29	7.36	7.40	7.41	7.33	7.36	7.40	7.36	7.35	7.33	7.31	7.27	7.27	7.33	7.30	7.18	7.27	7.05	7.15	7.18	7.16	7.09	7.12	7.23
Specific Conductance	µS/cm	1284	1257	1201	1155	1153	1113	1055	1099	1050	1124	1072	1171	1160	1141	1154	1098	1057	1167	1183	1102	1083	1127	1122	1093
Oxygen Reduction Potential	mV	-72.1	-86.6	-105.1	-104.4	-74.5	-91.3	-134.7	-137.6	-131.0	-139.5	-77.3	-157.9	-70.1	-96.6	-157.3	-130.9	-230.8	-190.9	-128.3	-140.7	-130.9	-104.9	-107.8	-86.7
Lab Analytical Results:																									
Hardness as CaCO3	mg/L	724			611			616			522		595			561	555	524	625	613	563	544	624	563	528
pH (Lab)	SU	7.30			7.17			7.31			7.25		7.21			7.58	8.15	7.33	7.12	7.2	8.17	6.95	6.88	6.78	6.89
Total Dissolved Solids (Lab)	mg/L	855			710			715			750		775			740	730	695	770	795	695	695	715	705	685
Calcium	mg/L	147			118			121			102		118			110	108	102	124	122	110	106	123	112	101
Magnesium	mg/L	86.7			76.7			76.6			64.9		72.8			69.3	69	65.4	76.5	74.7	70.3	67.9	76.8	68.9	67.0
Sodium	mg/L	19.5			27.4			28.6			24.9		27.2			26.5	30.4	29.9	27.6	27	28.6	28.3	31.9	27.9	30.3
Potassium	mg/L	2.02			2.13			2.11			1.75		2.21			2.17	2.22	2.33	2.13	2.16	2.00	2.10	2.38	2.05	2.06
Alkalinity, Total	mg/L	545			465			415			465		475			460	425	410	460	455	445	455	432	435	416
Alkalinity, Bicarbonate	mg/L	545			465			415			465		475			460	425	410	460	455	445	455	432	435	416
Alkalinity, Carbonate	mg/L	ND			<10.0			<10			<10.0		<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	ND			<10.0			<10			<10.0		<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	mg/L	10.9			8.75			7.95			8.96		8.74			8.43	7.57	6.47	9.40	10.5	8.06	8.44	9.46	8.39	7.64
Fluoride	mg/L	0.577			0.485			0.506			0.517		0.495			0.496	0.459	0.482	0.487	0.484	0.456	0.443	0.520	0.447	0.449
Sulfate as SO4	mg/L	240			229			192			205		204			222	190	169	201	221	186	212	190	193	181
Total Organic Carbon (TOC)	mg/L	NA			4.54			4.35			4.69		4.79			4.56	4.57	4.30	4.72	4.82	4.45	4.58	4.35	4.8	4.30
Nitrate/Nitrite as N	mg/L	<0.020			<0.020			<0.02			<0.020		<0.100			<0.020	<0.020	<0.020	<0.020	0.173	<0.020	<0.020	<0.020	<0.02	<0.100
Ammonia as N ^	mg/L																						0.528		
Ortho-Phosphate as P ^	mg/L																						<0.0500		
Aluminum	mg/L	0.423			<0.050			<0.05			<0.050		<0.050			<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.1	<0.100
Arsenic	mg/L	0.0030			0.0029			0.0028			<0.0005		0.0035			0.0037	0.0034	0.0036	0.0032	0.0031	0.0029	0.0028	0.0033	0.0022	0.0025
Cadmium	mg/L	<0.0001			<0.0001			<0.0001			<0.0001		<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002
Copper	mg/L	0.0006			0.0008			0.0002			0.0004		0.0002			0.0006	0.0008	0.0004	0.0008	<0.0010	0.0003	0.0004	0.0002	0.0005	<0.0010
Iron	mg/L	3.71			7.29			7.32			0.378		7.84			7.60	7.92	8.55	8.44	8.35	7.98	8.38	9.76	8.59	8.22
Lead	mg/L	<0.0005			<0.0005			<0.0005			<0.0005		<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010
Manganese	mg/L	4.07			2.78			2.37			2.03		2.11			1.99	1.81	1.58	2.13	2.56	2.12	1.84	1.78	1.77	1.49
Mercury	mg/L	ND			<0.0002			<0.0002			<0.0002		<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0013			0.0024			0.0027			0.0028		0.0027			0.0030	0.0031	0.0038	0.0029	0.0026	0.0027	0.0029	0.0031	0.0025	0.0030
Selenium	mg/L	<0.001			0.0030			<0.001			<0.0010		<0.0010			<0.0010	0.002	0.0016	<0.001	0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.0020
Silica (SiO2)	mg/L	22.3			16.8			18			16.5		17.9			15.8	16.4	15.7	17.3	15.9	14.9	14.9	16.5	15.2	13.9
Silicon	mg/L	10.4			7.86			8.41			7.72		8.35			7.37	7.67	7.34	8.10	7.46	6.96	6.96	7.69	7.09	6.48
Uranium	mg/L	0.0010			0.0004			0.0004			0.0004		0.0004			0.0004	0.0004	0.0003	0.0005	0.0005	0.0004	0.0004	0.0003	<0.0005	<0.0010
Zinc	mg/L	0.0039			0.0046			<0.002			<0.0040		<0.0020			<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0040

Notes & Definitions:

- ^

one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-1-A																								
Year		2017							2018								2019				2020			
Quarter		Q2	Q3			Q4			Q1			Q2		Q3			Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month		6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5
Sample Date		6/7	7/18	8/23	9/7	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/1	2/20	5/30	8/14	11/5	2/12	5/28
Lab Analysis (Y/N)		Y	N	N	N	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																								
Purge Flow Rate	gpm	NM	NM*	NM*	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	***	0.1	0.1	0.1	0.12	0.1	0.1	0.3	0.25	0.25
Total Purged	gal	12.8	NM*	NM*	NM	NM	2	2	1	1.5	2	1.5	1	1.3		1.5	1.5	1.6	1.0	1.5	1.12	1.5	1.0	1.0
Depth to Water	ft bgs	215.42	NM*	215.92	215.54	216.33	216.31	216.47	216.58	216.21	216.47	216.47	216.54	216.54		216.63	216.63	216.65	216.55	216.43	216.33	216.13	216.05	215.85
Temperature	deg C	17.7	NM*	NM*	10.7	9.7	9.1	9.1	8.7	9.5	9.0	8.7	9.6	9.2		9.9	10.0	8.9	7.5	10.3	9.6	9.7	8.1	9.1
pH	SU	7.78	NM*	NM*	7.35	7.38	7.29	7.28	7.25	7.19	7.37	7.28	6.8	6.97		6.99	7.05	7.01	7.13	6.96	7.05	7.00	7.13	7.18
Specific Conductance	µS/cm	1362	NM*	NM*	1555	1563	1616	1650	1693	1700	1723	1735	1647	1761		1734	1815	1781	1776	1681	1757	1737	1797	1855
Oxygen Reduction Potential	mV	-34.6	NM*	NM*	-54.7	-46.5	-50	-48.3	-49.6	-44.6	-52.8	-37.5	142.4	0.4		-26.4	-33.2	101.4	-11.8	25.4	-18.71	3.59	12.7	4.24
Lab Analytical Results:																								
Hardness as CaCO3	mg/L	124				133		130			159			156			160	174	159	153	148	150	159	165
pH (Lab)	SU	7.74				7.35		7.33			7.22			7.45			7.17	7.27	7.13	7.03	7.14	6.92	7.19	6.91
Total Dissolved Solids (Lab)	mg/L	975				1080		1120			1100			1150			1040	1130	1160	1150	1150	1140	1190	1150
Calcium	mg/L	24.7				25.8		24.9			30.5			29.7			30.9	34.0	31.2	29.8	27.9	29.0	30.9	31.6
Magnesium	mg/L	15.1				16.7		16.6			20.1			19.9			20.1	21.5	19.7	19.1	18.9	18.8	19.9	20.8
Sodium	mg/L	324				329		325			348			327			333	358	357	319	348	333	337	349
Potassium	mg/L	1.98				2.02		<5.00			<5.00			2.12			2.23	2.47	2.34	2.18	2.29	2.12	2.13	<5.00
Alkalinity, Total	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340
Alkalinity, Bicarbonate	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340
Alkalinity, Carbonate	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	2.75				2.16		<5.00			2.19			<5			2.12	2.20	2.74	2.33	2.72	2.66	2.74	2.71
Fluoride	mg/L	0.268				0.245		<0.500			0.240			<0.5			0.260	0.240	0.266	0.242	0.252	0.246	0.234	0.228
Sulfate as SO4	mg/L	427				432		511			518			522			515	511	508	494	537	495	506	532
Total Organic Carbon (TOC)	mg/L	5.03				1.36		1.58			1.51			1.54			1.60	1.75	1.61	1.67	1.59	1.50	1.55	1.55
Nitrate/Nitrite as N	mg/L	<0.200				<0.400		<0.100			<0.020			<0.02			<0.02	0.028	<0.020	<0.02	<0.020	0.020	<0.020	0.046
Ammonia as N ^	mg/L																					0.387		
Ortho-Phosphate as P ^	mg/L																					<0.0500		
Aluminum	mg/L	<0.050				<0.050		<0.250			<0.250			<0.05			<0.05	<0.1	<0.100	<0.05	<0.050	<0.050	<0.100	<0.250
Arsenic	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Cadmium	mg/L	<0.0001				<0.0001		<0.0005			<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002
Copper	mg/L	0.0043				0.0057		0.0045			0.0066			0.0041			0.0048	0.0048	0.0075	0.0064	0.0040	0.0147	0.0034	0.0012
Iron	mg/L	0.128				0.367		<0.250			0.590			0.614			0.644	0.647	0.581	0.589	0.613	0.510	0.614	0.559
Lead	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Manganese	mg/L	0.0260				0.0218		0.0259			0.0279			0.026			0.0242	0.0282	0.0281	0.0235	0.0270	0.0248	0.0303	0.0329
Mercury	mg/L	<0.0002				<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0007				0.0010		<0.0025			<0.0025			0.0009			0.0008	0.0007	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Selenium	mg/L	<0.0010				<0.0010		<0.0050			<0.0050			<0.001			<0.001	<0.001	<0.0020	<0.001	<0.0010	<0.0010	<0.0020	<0.0020
Silica (SiO2)	mg/L	12.3				11.9		8.27			11.2			11.2			11.4	12.0	11.1	11.2	11.6	11.0	11.1	10.4
Silicon	mg/L	5.74				5.56		3.87			5.24			5.25			5.31	5.62	5.2	5.23	5.43	5.13	5.19	4.85
Uranium	mg/L	0.0004				0.0002		<0.0005			<0.0005			0.0003			0.0002	0.0003	0.0002	0.0001	0.0001	0.0001	<0.0010	<0.0010
Zinc	mg/L	0.0270				0.0088		<0.0100			<0.0100			0.0051			<0.0100	<0.002	<0.0040	0.0022	<0.0040	0.0020	<0.0040	<0.0040

Notes & Definitions:

*** La Plata County stage 3 fire restrictions prevented sampling activity

^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-1-MI																							
Year	2017							2018								2019				2020			
Quarter	Q2	Q3			Q4			Q1			Q2		Q3			Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5	
Sample Date	6/7	7/18	8/23	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/1	2/20	5/30	8/14	11/5	2/12	5/28	
Lab Analysis (Y/N)	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	
Field Parameters:																							
Purge Flow Rate	gpm	NM	NM*	NM	NM	dry	dry	dry	dry	dry	dry	dry	***	dry	dry	dry	dry	dry	dry	dry	dry	dry	
Total Purged	gal	19.5	NM*	<0.5	NM																		
Depth to Water	ft bgs	259.99	NM*	258.29	258.34																		
Temperature	deg C	15.8	NM*	11.8	21.7																		
pH	SU	8	NM*	7.94	7.86																		
Specific Conductance	µS/cm	2032	NM*	2137	2119																		
Oxygen Reduction Potential	mV	160.5	NM*	65.7	61.4																		
Lab Analytical Results:																							
Hardness as CaCO3	mg/L	231																					
pH (Lab)	SU	8.14																					
Total Dissolved Solids (Lab)	mg/L	1520																					
Calcium	mg/L	46.7																					
Magnesium	mg/L	27.9																					
Sodium	mg/L	470																					
Potassium	mg/L	2.55																					
Alkalinity, Total	mg/L	600																					
Alkalinity, Bicarbonate	mg/L	600																					
Alkalinity, Carbonate	mg/L	<10.0																					
Alkalinity, Hydroxide	mg/L	<10.0																					
Chloride	mg/L	7.69																					
Fluoride	mg/L	1.14																					
Sulfate as SO4	mg/L	739																					
Total Organic Carbon (TOC)	mg/L	5.14																					
Nitrate/Nitrite as N	mg/L	0.103																					
Aluminum	mg/L	<0.050																					
Arsenic	mg/L	0.0029																					
Cadmium	mg/L	<0.0001																					
Copper	mg/L	0.0067																					
Iron	mg/L	<0.050																					
Lead	mg/L	0.0010																					
Manganese	mg/L	0.0445																					
Mercury	mg/L	<0.0002																					
Molybdenum	mg/L	0.0796																					
Selenium	mg/L	0.0028																					
Silica (SiO2)	mg/L	11.6																					
Silicon	mg/L	5.44																					
Uranium	mg/L	0.0505																					
Zinc	mg/L	1.52																					

Notes & Definitions:																							
*** La Plata County stage 3 fire restrictions prevented sampling activity																							
Y/N	yes or no	1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.																					
gpm	gallons per minute	2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.																					
deg C	degrees Celsius	3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.																					
SU	standard pH units																						
µS/cm	microsiemens per centimeter																						
mV	millivolts																						
mg/L	milligram per liter																						
µCi/L	picocuries per liter																						
NM	not measured (field)																						
NA	not analyzed (lab)																						

GCC Energy Hydrologic Monitoring Data

MW-1-C																								
Year	2017								2018								2019				2020			
Quarter	Q2	Q3			Q4			Q1			Q2		Q3			Q4	Q1	Q2	Q3	Q4	Q1	Q2		
Month	6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5	
Sample Date	6/7	7/18	8/23	9/7	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/18	2/20	5/30	8/14	11/5	2/12	5/28	
Lab Analysis (Y/N)	Y	N	N	N	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	
Field Parameters:																								
Purge Flow Rate	gpm	NM	NM*	NM*	NM	NM	NM	NM	NM	MM	0.1	NM	0.1	0.1	***	0.05	0.1	0.1	0.06	0.02	0.03	0.01	0.01	0.10
Total Purged	gal	5	NM*	NM*	NM	NM	1.00	1.00	1.00	1	1	1	1	1.25		1	1	1.10	1.00	1.10	1.00	1.00	1.00	0.75
Depth to Water	ft bgs	216.5	NM*	216.91	216.95	216.59	216.52	216.48	216.52	216.38	216.38	216.37	216.35	216.41		216.41	216.05	216.04	216.41	216.20	216.02	216.04	216.12	216.10
Temperature	deg C	16.0	NM*	NM*	NM	12.9	11.7	10.6	7.0	9.7	9.6	6.7	9.2	10.5		20.0	14.1	9.7	5.4	9.8	10.4	11.1	6.4	9.5
pH	SU	7.52	NM*	NM*	NM	7.17	7.16	7.15	7.17	7.11	7.19	7.32	7.03	7.05		6.91	6.97	6.93	7.09	6.80	6.65	6.70	6.79	6.85
Specific Conductance	µS/cm	2446	NM*	NM*	NM	2725	2738	2739	2778	2778	2738	2751	2700	2749		2693	2675	2751	2621	3139	3172	3080	3005	3002
Oxygen Reduction Potential	mV	74.3	NM*	NM*	NM	77.4	31.7	23.9	13.0	6.2	-4.3	-29.6	-15.3	-42.3		-41.8	-32.5	-110.0	-23.4	27.6	10.5	51.0	50.7	-57.7
Lab Analytical Results:																								
Hardness as CaCO3	mg/L	498				1290		1180			1190			1130			1120	1180	1010	1820	1840	1700	1600	1590
pH (Lab)	SU	8.35				7.36		7.34			7.22			7.2			7.20	7.02	7.24	6.93	6.67	6.63	6.80	6.62
Total Dissolved Solids (Lab)	mg/L	2020				2440		2360			2360			2340			2170	2200	1960	2880	2890	2750	2610	2460
Calcium	mg/L	96.0				234		216			219			203			203	219	188	340	342	318	301	294
Magnesium	mg/L	62.8				172		155			156			150			148	154	131	237	240	219	207	207
Sodium	mg/L	506				242		253			260			239			239	255	265	146	119	119	143	155
Potassium	mg/L	11.4				3.81		<5.00			<5.00			3.07			3.04	2.65	3.13	<5	<5.00	<5.00	3.05	<5.00
Alkalinity, Total	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490
Alkalinity, Bicarbonate	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490
Alkalinity, Carbonate	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	24.2				6.97		8.03			7.78			7.75			5.97	6.22	6.36	10.2	9.31	8.78	8.54	8.20
Fluoride	mg/L	1.59				0.864		0.955			1.03			0.96			0.888	0.924	0.975	0.67	0.525	0.565	0.615	0.695
Sulfate as SO4	mg/L	1090				1350		1230			1160			1210			1090	1080	1070	1630	1730	1520	1400	1370
Total Organic Carbon (TOC)	mg/L	4.56				2.84		2.12			2.21			2.2			2.35	2.37	2.32	2.62	2.52	2.30	2.30	2.32
Nitrate/Nitrite as N	mg/L	<2.00				<0.400		<0.100			<0.020			<0.02			0.036	<0.02	<0.020	<0.02	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																					0.140		
Ortho-Phosphate as P ^	mg/L																					<0.100		
Aluminum	mg/L	<0.050				<0.050		<0.250			<0.250			<0.05			<0.05	<0.10	<0.100	<0.25	<0.250	<0.250	<0.150	<0.250
Arsenic	mg/L	0.0029				0.0016		<0.0025			<0.0025			0.0051			0.0052	0.0035	0.0038	0.0048	0.0034	<0.0025	<0.0025	0.0019
Cadmium	mg/L	<0.0001				<0.0001		<0.0005			<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0002	<0.0005	<0.0005	<0.0003
Copper	mg/L	0.0088				0.0085		0.0036			0.0052			0.003			0.0049	0.0033	0.0054	0.0057	0.0014	0.0096	<0.0025	<0.0015
Iron	mg/L	<0.050				<0.050		<0.250			<0.250			0.643			1.01	1.12	0.988	2.3	0.819	0.543	0.570	0.606
Lead	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0010	<0.0025	<0.0025	<0.0015
Manganese	mg/L	0.0744				0.0853		0.0959			0.0989			0.153			0.140	0.106	0.0807	0.075	0.0562	0.0512	0.0537	0.0473
Mercury	mg/L	<0.0002				<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0164				0.0049		<0.0025			<0.0025			0.0006			<0.0025	<0.0005	<0.0010	<0.0005	<0.0010	<0.0025	<0.0025	<0.0015
Selenium	mg/L	0.0136				0.0012		<0.0050			<0.0050			<0.001			<0.0050	0.0011	<0.0020	0.0016	0.0023	<0.0050	<0.0050	<0.0030
Silica (SiO2)	mg/L	10.6				16.6		13.2			14.8			15.2			14.7	14.5	14	16.6	17.3	16.4	15.7	13.8
Silicon	mg/L	4.94				7.77		6.16			6.94			7.09			6.87	6.78	6.55	7.75	8.07	7.65	7.35	6.47
Uranium	mg/L	0.0500				0.0044		0.0028			0.0024			0.0025			0.0022	0.0021	0.0016	0.002	0.0025	0.0023	<0.0025	0.0020
Zinc	mg/L	0.0293				0.0294		<0.0100			<0.0100			0.0062			<0.0100	0.0055	<0.0040	0.0085	0.0077	<0.0100	<0.0100	<0.0060

Notes & Definitions:

*** La Plata County stage 3 fire restrictions prevented sampling activity

^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-2-A																				
Year	2017							2018							2019				2020	
Quarter	Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date	3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																				
Purge Flow Rate	gpm	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Total Purged	gal																			
Depth to Water	ft bgs																			
Temperature	deg C																			
pH	SU																			
Specific Conductance	µS/cm																			
Oxygen Reduction Potential	mV																			
Lab Analytical Results:																				
Hardness as CaCO3	mg/L																			
pH (Lab)	SU																			
Total Dissolved Solids (Lab)	mg/L																			
Calcium	mg/L																			
Magnesium	mg/L																			
Sodium	mg/L																			
Potassium	mg/L																			
Alkalinity, Total	mg/L																			
Alkalinity, Bicarbonate	mg/L																			
Alkalinity, Carbonate	mg/L																			
Alkalinity, Hydroxide	mg/L																			
Chloride	mg/L																			
Fluoride	mg/L																			
Sulfate as SO4	mg/L																			
Total Organic Carbon (TOC)	mg/L																			
Nitrate/Nitrite as N	mg/L																			
Aluminum	mg/L																			
Arsenic	mg/L																			
Cadmium	mg/L																			
Copper	mg/L																			
Iron	mg/L																			
Lead	mg/L																			
Manganese	mg/L																			
Mercury	mg/L																			
Molybdenum	mg/L																			
Selenium	mg/L																			
Silica (SiO2)	mg/L																			
Silicon	mg/L																			
Uranium	mg/L																			
Zinc	mg/L																			

Notes & Definitions:		
Y/N	yes or no	1. " <i><</i> " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
gpm	gallons per minute	
deg C	degrees Celsius	
SU	standard pH units	2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
µS/cm	microsiemens per centimeter	
mV	millivolts	3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
mg/L	milligram per liter	
pCi/L	picocuries per liter	
NM	not measured (field)	
NA	not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-2-MI																				
Year	2017							2018							2019				2020	
Quarter	Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date	3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																				
Purge Flow Rate	gpm	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Total Purged	gal																			
Depth to Water	ft bgs																			
Temperature	deg C																			
pH	SU																			
Specific Conductance	µS/cm																			
Oxygen Reduction Potential	mV																			
Lab Analytical Results:																				
Hardness as CaCO3	mg/L																			
pH (Lab)	SU																			
Total Dissolved Solids (Lab)	mg/L																			
Calcium	mg/L																			
Magnesium	mg/L																			
Sodium	mg/L																			
Potassium	mg/L																			
Alkalinity, Total	mg/L																			
Alkalinity, Bicarbonate	mg/L																			
Alkalinity, Carbonate	mg/L																			
Alkalinity, Hydroxide	mg/L																			
Chloride	mg/L																			
Fluoride	mg/L																			
Sulfate as SO4	mg/L																			
Total Organic Carbon (TOC)	mg/L																			
Nitrate/Nitrite as N	mg/L																			
Aluminum	mg/L																			
Arsenic	mg/L																			
Cadmium	mg/L																			
Copper	mg/L																			
Iron	mg/L																			
Lead	mg/L																			
Manganese	mg/L																			
Mercury	mg/L																			
Molybdenum	mg/L																			
Selenium	mg/L																			
Silica (SiO2)	mg/L																			
Silicon	mg/L																			
Uranium	mg/L																			
Zinc	mg/L																			

Notes & Definitions:		
Y/N	yes or no	1. " <i><</i> " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
gpm	gallons per minute	
deg C	degrees Celsius	
SU	standard pH units	2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
µS/cm	microsiemens per centimeter	
mV	millivolts	3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
mg/L	milligram per liter	
pCi/L	picocuries per liter	
NM	not measured (field)	
NA	not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-2-C																				
Year	2017							2018							2019				2020	
Quarter	Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date	3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																				
Purge Flow Rate	gpm	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Total Purged	gal																			
Depth to Water	ft bgs																			
Temperature	deg C																			
pH	SU																			
Specific Conductance	µS/cm																			
Oxygen Reduction Potential	mV																			
Lab Analytical Results:																				
Hardness as CaCO3	mg/L																			
pH (Lab)	SU																			
Total Dissolved Solids (Lab)	mg/L																			
Calcium	mg/L																			
Magnesium	mg/L																			
Sodium	mg/L																			
Potassium	mg/L																			
Alkalinity, Total	mg/L																			
Alkalinity, Bicarbonate	mg/L																			
Alkalinity, Carbonate	mg/L																			
Alkalinity, Hydroxide	mg/L																			
Chloride	mg/L																			
Fluoride	mg/L																			
Sulfate as SO4	mg/L																			
Total Organic Carbon (TOC)	mg/L																			
Nitrate/Nitrite as N	mg/L																			
Aluminum	mg/L																			
Arsenic	mg/L																			
Cadmium	mg/L																			
Copper	mg/L																			
Iron	mg/L																			
Lead	mg/L																			
Manganese	mg/L																			
Mercury	mg/L																			
Molybdenum	mg/L																			
Selenium	mg/L																			
Silica (SiO2)	mg/L																			
Silicon	mg/L																			
Uranium	mg/L																			
Zinc	mg/L																			

Notes & Definitions:		
Y/N	yes or no	1. "<i><</i>" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards. 2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3. 3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
gpm	gallons per minute	
deg C	degrees Celsius	
SU	standard pH units	
µS/cm	microsiemens per centimeter	
mV	millivolts	
mg/L	milligram per liter	
pCi/L	picocuries per liter	
NM	not measured (field)	
NA	not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-3-A																						
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/27	6/30	7/18	8/24	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	8/14	11/12	2/4	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.1
Total Purged	gal	30	2.0	NM	NM	NM	1.0	1.0	1.0	1.3	1.5	1.5	1	1.25	1	1.1	1.5	1.3	1.3	1.5	1.1	1.2
Depth to Water	ft bgs	297.35	298.24	297.45	298.24	298.11	298.12	298.01	298.05	298.37	298.04	297.86	297.76	298.17	298.55	298.27	297.85	296.79	297.27	297.33	296.47	296.87
Temperature	deg C	11.7	13.2	19.5	12.6	12.3	12.5	11.7	12.0	11.8	11.7	12.2	11.9	13.5	13.5	11.9	11.8	12.1	NM	13.1	11.5	13.2
pH	SU	8.82	8.75	8.56	8.67	8.72	8.64	8.61	8.57	8.54	8.52	8.61	8.21	8.38	8.30	8.31	8.28	8.31	8.13	8.51	8.11	8.26
Specific Conductance	µS/cm	2535	2446	2115	2524	2470	2430	2483	2494	2528	2506	2458	2415	2253	2336	2391	2355	2309	NM	2204	2211	2249
Oxygen Reduction Potential	mV	-269.0	-101.5	-55.3	-87.4	-142.3	-124.5	-125.6	-146.8	-120.3	-125.2	-181.6	-135.8	-138.2	-155.8	-164.6	-145.9	-132.3	-138.6	-120.1	-65.7	-156.8
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	7.53	12.6			12.6		10.4			11.5			11.2	12.6	14.1	11.9	10.7	10.4	11.1	10.8	10.3
pH (Lab)	SU	8.63	8.69			8.53		8.29			8.45			8.36	8.37	8.24	8.28	8.29	8.27	8.39	8.09	7.68
Total Dissolved Solids (Lab)	mg/L	1630	1670			1630		1690			1680			1670	1600	1540	1500	1530	1520	1510	1500	1460
Calcium	mg/L	2.00	3.67			3.63		3.27			3.33			3.2	3.71	4.15	3.55	3.16	3.08	3.34	3.14	3.07
Magnesium	mg/L	0.616	0.823			0.859		0.550			0.776			0.774	0.811	0.913	0.739	0.692	0.655	0.680	0.723	0.645
Sodium	mg/L	566	585			589		551			562			542	562	605	543	525	553	528	520	507
Potassium	mg/L	1.72	2.02			2.04		<5.00			<2.00			1.8	<2.00	2.17	<2.00	1.92	<2.00	<5.00	<3.00	<5.00
Alkalinity, Total	mg/L	530	470			500		490			430			480	480	475	540	450	459	420	460	430
Alkalinity, Bicarbonate	mg/L	380	470			440		460			360			480	420	385	330	430	423	420	460	400
Alkalinity, Carbonate	mg/L	150	<10.0			60.0		30.0			70.0			<10.0	60.0	90.0	210	20	36.0	<10.0	<10.0	30.0
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	16.1	17.4			18.5		16.9			16.4			16.1	15.1	16.0	15.2	15	15.0	14.7	13.9	13.9
Fluoride	mg/L	0.464	0.488			0.535		<0.500			<0.500			<0.5	NA	0.383	0.406	0.404	0.396	<0.500	0.370	0.374
Sulfate as SO4	mg/L	729	802			840		730			812			756	706	682	716	699	724	633	637	656
Total Organic Carbon (TOC)	mg/L	3.52	10.0			7.26		6.07			5.32			4.7	4.62	4.52	4.15	4.10	3.84	3.81	3.42	3.48
Nitrate/Nitrite as N	mg/L	<0.100	<0.100			<0.020		<0.020			<0.020			<0.02	<0.02	<0.02	0.266	<0.02	<0.020	<0.020	0.024	0.026
Ammonia as N ^	mg/L																			0.354		
Ortho-Phosphate as P ^	mg/L																			0.0730		
Aluminum	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.10	<0.100	<0.05	<0.100	<0.250	<0.150	<0.250
Arsenic	mg/L	0.0025	<0.0025			<0.0025		<0.0025			<0.0025			0.0006	<0.0025	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Cadmium	mg/L	<0.0001	<0.0005			<0.0005		<0.0005			<0.0005			<0.0001	<0.0001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Copper	mg/L	0.0061	0.0081			0.0080		0.0079			0.0236			0.0063	0.0117	0.0086	0.0137	0.0078	0.0067	0.0039	0.0037	0.0021
Iron	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.05	<0.100	<0.250	<0.150	<0.250
Lead	mg/L	<0.0005	<0.0025			<0.0025		<0.0025			<0.0025			<0.0005	<0.0005	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0025
Manganese	mg/L	0.0042	0.0251			0.0194		0.0269			0.0232			0.018	0.0222	0.0187	0.0172	0.0185	0.0166	0.0140	0.0162	0.0136
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0005	0.0274			0.0091		0.0078			0.0065			0.0046	0.0043	0.0033	0.003	0.003	0.0018	0.0027	0.0022	0.0015
Selenium	mg/L	0.0577	<0.0050			<0.0050		<0.0050			<0.0050			0.0109	<0.0050	0.0028	0.0039	<0.005	0.0020	<0.0020	<0.0020	0.0033
Silica (SiO2)	mg/L	10.1	10.9			11.6		7.66			11.1			11	12.0	12.8	11.7	11	12.7	11.8	11.6	10.5
Silicon	mg/L	4.70	5.10			5.41		3.58			5.18			5.17	5.62	5.97	5.46	5.16	5.95	5.53	5.43	4.92
Uranium	mg/L	0.0002	0.0040			0.0051		0.0036			0.0030			0.0026	0.0026	0.0027	0.0018	0.0014	0.0012	0.0011	0.0010	<0.0025
Zinc	mg/L	0.0031	<0.0100			<0.0100		<0.0100			<0.0100			<0.002	<0.002	<0.0040	<0.0040	<0.01	<0.0080	<0.0040	<0.0040	<0.0040

Notes & Definitions:																					
^		one-time analysis																			
Y/N		yes or no																			
gpm		gallons per minute																			
deg C		degrees Celsius																			
SU		standard pH units																			
µS/cm		microsiemens per centimeter																			
mV		millivolts																			
mg/L		milligram per liter																			
pCi/L		picocuries per liter																			
NM		not measured (field)																			
NA		not analyzed (lab)																			
		1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.																			
		2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.																			
		3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.																			

GCC Energy Hydrologic Monitoring Data

MW-3-MI																						
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/27	6/30	7/18	8/16	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	8/21	11/12	2/4	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.12	0.12	0.06	0.25	0.5	0.25
Total Purged	gal	19.0	2.0	NM	NM	NM	1.0	1.0	1.0	1.3	1.5	1.5	1.0	1.3	1.0	1.1	1.5	1.3	2.0	1.0	1.5	1.3
Depth to Water	ft bgs	304.49	241.15	240.46	240.53	240.46	240.44	240.44	240.58	240.73	240.55	240.65	240.84	241.04	241.97	242.13	242.15	242.32	246.55	243.07	242.85	293.05
Temperature	deg C	10.0	12.6	22.0	12.9	11.0	12.1	11.7	11.7	11.9	11.3	11.9	11.8	12.6	13.0	12.4	11.6	11.3	13.2	12.3	11.6	12.6
pH	SU	9.34	8.94	8.46	8.90	8.74	8.90	8.86	8.86	8.84	8.83	8.84	8.51	8.48	8.49	8.46	8.51	8.55	8.71	8.75	8.71	8.92
Specific Conductance	µS/cm	1907	1699	1402	1598	1737	1729	1745	1786	1790	1810	1771	1772	1727	1709	1746	1753	1739	1691	1739	1758	1737
Oxygen Reduction Potential	mV	-87.0	-54.5	-26.4	-108.2	-107.3	-113.8	-124.2	-163.1	-136.0	-131.4	-160.7	-99.9	-103.9	-127.8	-176.5	-113.0	-84.5	43.9	-130.8	-104.3	-174.5
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	4.85	8.73			9.02		7.75			9.92			8.65	8.63	8.88	7.63	6.84	7.98	6.64	6.50	7.25
pH (Lab)	SU	8.95	8.75			8.72		8.72			8.66			8.56	8.58	8.34	8.5	8.45	8.58	8.62	8.61	8.59
Total Dissolved Solids (Lab)	mg/L	1550	1120			1140		1080			1170			1210	1110	1120	1120	1170	1010	1130	1130	1130
Calcium	mg/L	1.32	2.32			2.34		2.06			2.22			1.91	1.95	2.03	1.87	1.7	2.04	1.73	1.63	1.76
Magnesium	mg/L	0.374	0.714			0.775		0.632			1.07			0.945	0.911	0.926	0.715	0.629	0.703	0.561	0.591	0.694
Sodium	mg/L	420	430			440		411			459			417	446	476	434	419	454	437	437	427
Potassium	mg/L	2.15	2.21			1.93		<5.00			<2.00			1.63	<2.00	<2.00	1.39	1.65	<2.00	<5.00	<2.00	<5.00
Alkalinity, Total	mg/L	740	675			700		660			700			680	730	720	685	755	720	690	705	680
Alkalinity, Bicarbonate	mg/L	510	555			600		570			600			500	630	610	485	605	590	610	645	550
Alkalinity, Carbonate	mg/L	230	120			100		90.0			100			180	100	110	200	150	130	80.0	60.0	130
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	8.66	10.1			10.7		10.6			10.7			10.7	8.54	8.83	9.21	9.25	10.2	9.13	9.21	9.61
Fluoride	mg/L	0.952	1.34			1.26		1.26			1.30			1.2	1.16	1.19	1.21	1.22	1.19	1.19	1.13	1.13
Sulfate as SO4	mg/L	165	241			247		254			245			250	226	230	232	229	236	224	227	231
Total Organic Carbon (TOC)	mg/L	8.34	14.8			10.9		10.3			9.24			8.67	7.83	7.28	6.73	6.56	6.17	5.78	5.58	6.07
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020		<0.020			<0.020			<0.02	<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	0.034	<0.020
Ammonia as N ^	mg/L																			0.317		
Ortho-Phosphate as P ^	mg/L																			0.348		
Aluminum	mg/L	<0.050	0.102			<0.050		<0.250			<0.100			<0.05	<0.05	<0.10	<0.050	<0.050	0.167	<0.250	<0.100	<0.250
Arsenic	mg/L	0.0134	0.0167			0.0131		0.0135			0.0160			0.0152	0.0127	0.0104	0.0149	0.0107	0.0142	0.0099	0.0093	0.0086
Cadmium	mg/L	<0.0001	<0.0005			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0005	<0.0001	<0.0002	<0.0002	<0.0005
Copper	mg/L	0.0055	0.0058			0.0065		0.0059			0.0122			0.0048	0.0071	0.0073	0.0068	0.0063	0.0049	0.0037	0.0024	<0.0025
Iron	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.05	<0.1	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Lead	mg/L	0.0024	<0.0025			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.001	<0.0005	<0.0025	<0.0005	<0.0010	<0.0010	<0.0025
Manganese	mg/L	0.0022	0.0058			0.0033		0.0045			0.0049			0.006	0.0054	0.0072	0.0078	0.0082	0.0079	0.0099	0.0095	0.0102
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0061	0.0211			0.0148		0.0152			0.0170			0.016	0.0149	0.0158	0.0157	0.0167	0.0277	0.0372	0.0204	0.0195
Selenium	mg/L	0.0013	<0.0050			<0.0050		<0.0050			0.0010			0.0019	<0.0050	<0.002	0.0034	<0.005	<0.0010	<0.0020	<0.0020	<0.0050
Silica (SiO2)	mg/L	7.97	8.18			9.05		5.35			9.33			8.83	9.49	10.2	8.95	8.85	9.73	9.46	8.80	8.24
Silicon	mg/L	3.73	3.82			4.23		2.50			4.36			4.13	4.44	4.76	4.18	4.14	4.55	4.42	4.11	3.85
Uranium	mg/L	0.0049	0.0084			0.0140		0.0124			0.0125			0.0126	0.0111	0.0110	0.011	0.0085	0.0080	0.0070	0.0063	0.0059
Zinc	mg/L	0.0405	<0.0100			<0.0100		<0.0100			<0.0020			0.0023	0.0023	<0.0040	0.0028	<0.01	0.0070	<0.0040	<0.0040	<0.0100

Notes & Definitions:																					
^		one-time analysis																			
Y/N		yes or no																			
gpm		gallons per minute																			
deg C		degrees Celsius																			
SU		standard pH units																			
µS/cm		microsiemens per centimeter																			
mV		millivolts																			
mg/L		milligram per liter																			
pCi/L		picocuries per liter																			
NM		not measured (field)																			
NA		not analyzed (lab)																			
		1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.																			
		2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.																			
		3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.																			

GCC Energy Hydrologic Monitoring Data

MW-3-C																					
Year	2017								2018							2019				2020	
Quarter	Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month	3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	9	11	3	5
Sample Date	3/27	6/30	7/27	8/24	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	9/17	11/12	3/13	5/26
Lab Analysis (Y/N)	Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																					
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.10	0.06	0.06	0.13	0.13	0.10	0.03
Total Purged	gal	20	2	NM	NM	NM	1	1	1	1.5	1.5	1.5	1	1.3	1.3	1.1	1.25	1.5	10	1.5	11
Depth to Water	ft bgs	304.21	296.3	296.93	296.87	297.43	297.46	297.43	297.35	297.01	296.66	296.57	296.62	296.78	297.12	296.8	296.39	295.56	295.7	295.5	299.35
Temperature	deg C	10.5	12.9	13.1	12.5	11.8	12.7	11.5	11.7	11.7	11.4	11.6	12.2	13.0	13.3	11.5	11.0	11.4	13.5	12.5	11.3
pH	SU	8.61	8.57	8.51	8.46	8.44	8.48	8.41	8.48	8.43	8.43	8.45	8.25	8.28	8.26	8.17	8.28	8.29	8.31	8.20	7.98
Specific Conductance	µS/cm	3549	3588	3815	4112	4351	4412	4659	4596	4923	4864	5063	5019	4916	4953	5127	5155	5184	5144	5144	4921
Oxygen Reduction Potential	mV	-129.0	-87.2	-137.5	-128.8	-149.9	-198.3	-200.7	-222.2	-187.9	-183.5	-155.4	-154.7	-161.4	-180.5	-217.6	-185.4	-188.5	-151.8	-184.4	-155.0
Lab Analytical Results:																					
Hardness as CaCO3	mg/L	14.4	11.8			15.1		14.9			16.1			40.3	17.9	21.7	17.3	16.8	18.6	18.6	18.3
pH (Lab)	SU	8.5	8.48			8.35		8.28			8.35			8.34	8.31	8.24	8.2	8.23	8.31	8.12	7.98
Total Dissolved Solids (Lab)	mg/L	2130	2360			3070		3310			3540			3610	3520	3360	3300	3440	3500	3390	3220
Calcium	mg/L	3.60	2.87			3.50		3.58			3.81			7.28	4.01	4.70	4.05	3.74	4.30	4.23	4.26
Magnesium	mg/L	1.31	1.12			1.55		1.44			1.59			5.38	1.92	2.41	1.75	1.8	1.91	1.94	1.86
Sodium	mg/L	796	890			1100		1130			1200			1350	1220	1460	1270	1100	1360	1300	1280
Potassium	mg/L	3.47	3.24			4.01		<5.00			<10.0			<5.00	<5.00	<5.00	<5.00	5.24	<5.00	<10.0	<10.0
Alkalinity, Total	mg/L	1490	1570			1690		1880			1910			1760	1730	2050	2000	2110	2190	2130	2160
Alkalinity, Bicarbonate	mg/L	1360	1480			1650		1830			1810			1600	1670	1900	1830	2000	2020	2070	2000
Alkalinity, Carbonate	mg/L	130	90.0			40.0		50.0			100			160	60.0	150	170	110	170	60.0	160
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	182	330			477		506			549			544	524	561	577	575	620	542	549
Fluoride	mg/L	4.89	4.94			4.52		4.34			4.15			3.52	3.84	4.04	4.04	3.91	3.78	3.66	3.61
Sulfate as SO4	mg/L	73.4	73.5			46.4		24.5			<10.0			<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Total Organic Carbon (TOC)	mg/L	10.6	58.5			219		251			337			343	306	141	122	129	132	107	81.9
Nitrate/Nitrite as N	mg/L	<0.020	<0.400			<0.400		<0.020			<0.020			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																			0.500	
Ortho-Phosphate as P ^	mg/L																			0.212	
Aluminum	mg/L	<0.050	<0.100			<0.050		<0.250			<0.500			1.47	<0.500	<0.250	<0.250	<0.500	<0.250	<0.500	<0.500
Arsenic	mg/L	0.0115	0.0088			0.0098		0.0091			0.0194			0.0168	0.0148	0.0155	0.0218	0.0171	0.0192	0.0188	0.0087
Cadmium	mg/L	<0.0001	<0.0010			<0.0010		<0.0005			<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005
Copper	mg/L	0.0109	0.0147			0.0174		0.0160			0.0409			0.0183	0.0257	0.0227	0.0223	0.0168	0.0102	0.0109	0.0069
Iron	mg/L	<0.050	<0.050			<0.050		<0.250			<0.500			0.252	<0.500	<0.250	<0.250	0.344	0.328	<0.500	<0.500
Lead	mg/L	0.0085	<0.0050			<0.0050		<0.0025			<0.0025			<0.0025	<0.0025	<0.0025	<0.0025	<0.005	<0.0025	<0.0025	<0.0025
Manganese	mg/L	0.0091	0.0188			0.0178		0.0202			0.0307			0.0275	0.0243	0.0252	0.0483	0.063	0.0378	0.0266	0.0245
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002
Molybdenum	mg/L	0.0143	0.0291			0.0241		0.0241			0.0221			0.0189	0.0155	0.0140	0.0134	0.0121	0.0081	0.0075	0.0082
Selenium	mg/L	0.0233	0.0121			0.0149		0.0240			0.0383			0.0268	0.0232	0.0261	0.0464	0.0203	0.0203	0.0173	0.0125
Silica (SiO2)	mg/L	7.82	8.86			9.16		6.01			<10.7			9.69	8.68	10.7	8.24	8.35	9.06	<10.7	<10.7
Silicon	mg/L	3.66	4.14			4.28		2.81			<5.00			4.53	4.06	5.01	3.85	3.9	4.24	<5.00	<5.00
Uranium	mg/L	0.0091	0.0102			0.0137		0.0100			0.0091			0.0087	0.0089	0.0113	0.0077	0.0046	0.0053	0.0034	0.0045
Zinc	mg/L	0.375	<0.0200			<0.0200		<0.0100			<0.0100			<0.0100	0.0664	0.0814	0.123	0.128	0.0567	0.0886	<0.0100

Notes & Definitions:																					
^	one-time analysis																				
Y/N	yes or no																				
gpm	gallons per minute																				
deg C	degrees Celsius																				
SU	standard pH units																				
µS/cm	microsiemens per centimeter																				
mV	millivolts																				
mg/L	milligram per liter																				
pCi/L	picocuries per liter																				
NM	not measured (field)																				
NA	not analyzed (lab)																				
1.	" < " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.																				
2.	Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.																				
3.	Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.																				

GCC Energy Hydrologic Monitoring Data

MW-4-A																						
Year	2017								2018							2019				2020		
Quarter	Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month	3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	
Sample Date	3/29	6/30	7/19	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/6	5/26	
Lab Analysis (Y/N)	Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Field Parameters:																						
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.06	0.06	0.06	0.125	0.03	0.03	
Total Purged	gal	19.0	2.0	1.5	0.5	1.0	1.0	1.0	1.0	1.3	1.5	1.5	1	1.5	1.5	1.1	1.5	1.3	1.1	1.0	1.5	1.2
Depth to Water	ft bgs	338.6	334.96	335.59	334.79	334.81	334.86	332.29	334.09	334.31	334.73	334.81	335.07	335.58	336.06	336.73	335.6	335.07	335.21	335.16	336.35	337.16
Temperature	deg C	15.6	16.8	25.5	17.6	11.9	11.6	10.8	10.1	10.9	9.8	11.4	10.9	17.8	12.9	11.6	11.1	10.4	13.6	11.6	10.3	12.5
pH	SU	8.61	8.29	8.55	7.98	8.41	8.32	8.38	8.32	8.33	8.37	8.41	8.19	8.20	8.10	8.12	8.15	8.08	8.02	8.11	8.07	8.19
Specific Conductance	µS/cm	2163	2053	1876	2096	2180	2165	2186	2261	2259	2267	2207	2214	2183	2192	2246	2205	2237	2201	2211	2271	2273
Oxygen Reduction Potential	mV	28.6	54.0	60.2	61.7	-8.6	-27.0	-12.3	-51.8	-35.2	-75.9	-117.3	-77.9	-81.8	-137.5	-157.6	-92.3	-89.3	-54.3	-19.8	15.3	-71.3
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	9.16	9.85			7.77		7.11			7.73			7.84	7.69	8.81	7.76	7.31	8.62	8.00	8.19	7.46
pH (Lab)	SU	8.2	8.40			8.36		8.40			8.28			8.31	8.21	8.24	8.05	8.08	8.15	8.02	8.11	7.90
Total Dissolved Solids (Lab)	mg/L	1470	1470			1450		1500			1490			1470	1430	1350	1450	1410	1540	1490	1500	1480
Calcium	mg/L	2.23	2.43			1.76		1.87			1.81			1.75	1.71	1.92	1.77	1.68	1.94	1.82	1.88	1.67
Magnesium	mg/L	0.871	0.916			0.823		0.591			0.778			0.846	0.832	0.973	0.809	0.756	0.914	0.837	0.850	0.798
Sodium	mg/L	515	537			513		511			507			528	531	568	535	515	548	529	551	498
Potassium	mg/L	1.57	1.75			1.63		<5.00			<2.00			1.5	<2.00	<2.00	<2.00	<2.00	4.75	<5.00	<3.00	<5.00
Alkalinity, Total	mg/L	635	560			630		590			530			560	575	575	545	565	575	544	560	585
Alkalinity, Bicarbonate	mg/L	635	560			590		560			490			560	555	575	505	544	535	528	560	545
Alkalinity, Carbonate	mg/L	<10.0	<10.0			40.0		30.0			40.0			<10.0	20.0	<10.0	40	32	40.0	16.0	<10.0	40.0
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	9.56	9.66			10.3		10.3			10.0			9.94	9.55	8.60	8.93	8.99	8.91	8.76	8.83	8.89
Fluoride	mg/L	<0.400	<0.400			<0.500		<0.500			<0.500			<0.5	<0.5	0.143	<0.200	<0.2	<0.200	<0.200	<0.200	<0.200
Sulfate as SO4	mg/L	594	588			783		594			579			561	522	450	567	584	615	559	557	580
Total Organic Carbon (TOC)	mg/L	6.63	11.7			3.52		3.27			3.46			3.59	3.60	3.59	3.47	3.40	3.33	3.25	3.10	3.49
Nitrate/Nitrite as N	mg/L	0.035	<0.020			<0.020		<0.020			<0.020			<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																			0.312		
Ortho-Phosphate as P ^	mg/L																			<0.0500		
Aluminum	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.250	<0.150	<0.250
Arsenic	mg/L	0.0016	<0.0025			<0.0025		<0.0025			0.0019			0.0005	<0.0025	<0.0010	<0.0010	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010
Cadmium	mg/L	<0.0001	<0.0005			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Copper	mg/L	0.0053	0.0093			0.0076		0.0073			0.0124			0.0077	0.0105	0.0084	0.0081	0.0061	0.0120	0.0037	0.0034	0.0020
Iron	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.250	<0.150	<0.250
Lead	mg/L	0.0014	<0.0025			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010
Manganese	mg/L	0.0044	0.0063			0.0044		0.0040			0.0035			0.0033	<0.0075	0.0034	0.0032	0.0031	0.0026	0.0016	0.0033	0.0031
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0009	0.0275			<0.0025		<0.0025			0.0005			<0.0005	<0.0005	<0.0010	<0.0010	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010
Selenium	mg/L	0.0016	<0.0050			<0.0050		<0.0050			0.0014			0.0025	<0.0050	<0.0020	0.0036	<0.001	<0.0010	<0.0020	<0.0020	<0.0020
Silica (SiO2)	mg/L	10.2	10.6			9.99		6.85			9.47			10	10.2	11.2	9.65	9.81	11.0	10.5	10.3	8.55
Silicon	mg/L	4.75	4.97			4.67		3.20			4.43			4.7	4.77	5.22	4.51	4.59	5.14	4.89	4.79	4.00
Uranium	mg/L	0.0016	<0.0005			<0.0005		0.0005			0.0003			<0.0001	<0.0005	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0010	<0.0010
Zinc	mg/L	0.269	0.0319			<0.0100		<0.0100			0.0022			0.0024	<0.0100	<0.0040	<0.0040	0.0033	<0.0020	<0.0040	<0.0040	<0.0040

Notes & Definitions:

- | | | |
|-------|-----------------------------|---|
| Y/N | yes or no | 1. " <i><</i> " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards. |
| gpm | gallons per minute | |
| deg C | degrees Celsius | |
| SU | standard pH units | 2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO ₃ . |
| µS/cm | microsiemens per centimeter | |
| mV | millivolts | |
| mg/L | milligram per liter | |
| pCi/L | picocuries per liter | |
| NM | not measured (field) | 3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table. |
| NA | not analyzed (lab) | |

GCC Energy Hydrologic Monitoring Data

MW-4-MI																						
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/16	7/27	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/6	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.06	0.06	0.125	0.25	0.13	0.13
Total Purged	gal	0.5	6.5	NM	NM	1.0	1.0	1.0	1.0	1.3	1.5	1.5	1	1.3	1.8	1.6	2.0	1.3	1.1	1.0	1.3	1.2
Depth to Water	ft bgs	378.2	330.15	330.94	330.85	330.81	330.80	330.74	330.67	330.52	330.42	330.53	330.5	329.62	331.1	336.57	331.1	331.06	331.92	332.1	332.5	332.87
Temperature	deg C	15.0	14.6	12.9	12.5	11.4	10.7	11.3	11.4	11.2	11.0	10.5	10.9	10.1	11.8	11.3	11.1	10.8	13.3	11.6	11.8	12.2
pH	SU	9.08	8.91	8.78	8.79	8.76	8.76	8.73	8.67	8.62	8.48	8.53	8.01	8.50	8.14	8.25	8.38	8.23	8.14	8.26	8.18	8.42
Specific Conductance	µS/cm	1581	1668	1731	1708	1784	1794	1804	1833	1848	1856	1841	1816	1739	1756	1808	1716	1800	1830	1776	1795	1794
Oxygen Reduction Potential	mV	155.2	64.7	9.8	35.2	-29.6	-37.3	-111.5	-89.2	-112.5	-151.3	-145.7	-117.7	-130.0	-178.2	-202.3	-140.4	-154.7	-127.3	-76.8	-50.6	-131.2
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	5.43	8.71			7.07		4.20			6.01			5.88	6.06	6.39	5.35	4.93	5.65	3.31	4.70	<3.31
pH (Lab)	SU	8.83	8.59			8.63		8.51			8.47			8.48	8.31	8.47	8.35	8.3	8.44	8.08	8.33	8.02
Total Dissolved Solids (Lab)	mg/L	1160	1170			1180		1180			1220			1140	1120	1100	1130	1130	1140	1120	1110	1110
Calcium	mg/L	1.53	2.32			1.88		1.68			1.64			1.55	1.56	1.60	1.44	1.3	1.51	1.32	1.21	1.22
Magnesium	mg/L	0.392	0.707			0.579		<0.500			0.465			0.49	0.524	0.580	0.428	0.408	0.458	<0.500	0.406	<0.500
Sodium	mg/L	408	458			449		452			447			471	470	500	462	458	496	477	441	460
Potassium	mg/L	1.46	<2.00			1.73		<5.00			<2.00			1.39	<2.00	<2.00	1.43	1.77	2.03	<5.00	<2.00	<5.00
Alkalinity, Total	mg/L	965	915			1100		985			965			955	968	995	510	890	970	978	985	1030
Alkalinity, Bicarbonate	mg/L	775	825			880		885			875			865	896	885	420	650	880	886	895	935
Alkalinity, Carbonate	mg/L	190	90.0			220		100			90.0			90	72.0	110	90	240	90.0	92.0	90.0	90.0
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	2.18	7.50			8.78		9.11			8.74			7.99	5.68	5.38	5.98	5.98	5.83	5.47	5.37	5.11
Fluoride	mg/L	4.72	5.02			5.09		5.10			5.02			4.82	4.84	4.94	5.49	5.44	5.38	5.31	5.11	5.16
Sulfate as SO4	mg/L	17.4	64.7			76.6		77.5			68.6			54.4	48.3	47.6	38.7	34.4	31.9	28.2	24.6	21.9
Total Organic Carbon (TOC)	mg/L	2.64	6.49			8.58		9.53			9.54			9.25	8.94	8.48	8.37	8.25	7.81	6.42	6.63	6.55
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020		<0.020			<0.020			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.040	<0.020
Ammonia as N ^	mg/L																			0.240		
Ortho-Phosphate as P ^	mg/L																			0.280		
Aluminum	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.100	<0.100	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Arsenic	mg/L	0.0099	0.0220			0.0131		0.0122			0.0139			0.0153	0.014	0.0119	0.0164	0.0111	0.0116	0.0107	0.0127	0.0139
Cadmium	mg/L	<0.0001	<0.0001			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001
Copper	mg/L	0.0059	0.0058			0.0071		0.0070			0.0079			0.0063	0.0071	0.0078	0.0087	0.0153	0.0051	0.0027	0.0028	0.0020
Iron	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.100	<0.100	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Lead	mg/L	0.0010	<0.0005			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0005
Manganese	mg/L	0.0020	0.0066			0.0081		0.0124			0.0080			0.007	0.0068	0.0084	0.0091	0.0084	0.0084	0.0073	0.0085	0.0086
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0020	0.0160			0.0127		0.0134			0.0151			0.0119	0.0115	0.0129	0.0121	0.0119	0.0108	0.0101	0.0096	0.0091
Selenium	mg/L	<0.0010	0.0012			<0.0050		<0.0050			<0.0010			0.0022	0.0113	<0.0020	0.002	<0.001	<0.0010	<0.0020	<0.0020	<0.0010
Silica (SiO2)	mg/L	7.27	8.01			8.80		<5.35			8.30			8.9	9.29	10.3	8.86	9.06	10.2	9.51	8.21	7.81
Silicon	mg/L	3.40	3.75			4.11		2.50			3.88			4.16	4.34	4.81	4.14	4.24	4.76	4.45	3.84	3.65
Uranium	mg/L	0.0043	0.0126			0.0184		0.0169			0.0183			0.0173	0.0151	0.0191	0.0269	0.0176	0.0168	0.0145	0.0163	0.0195
Zinc	mg/L	0.113	0.0697			<0.0100		<0.0100			<0.0020			<0.002	<0.002	<0.0040	<0.0020	<0.002	<0.0100	<0.0040	<0.0040	<0.0040

Notes & Definitions:	
^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)
1.	"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.	Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.	Industry

GCC Energy Hydrologic Monitoring Data

MW-4-C																						
Year	2017								2018							2019				2020		
Quarter	Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	
Month	3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	
Sample Date	3/30	6/16	7/27	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/4	5/26	
Lab Analysis (Y/N)	Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Field Parameters:																						
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.2	0.12	0.06	0.125	0.125	0.13	0.13	
Total Purged	gal	7.0	1.5	NM	NM	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1	1.5	1	1.3	1.5	1.3	1.1	1.0	1.5	1.2
Depth to Water	ft bgs	328.33	314.05	309.87	306.86	303.96	303.8	302.47	304.8	282.35	281.3	303.3	304.05	NM	302.55	302.17	302.45	303.93	304.93	305.73	306.44	304.9
Temperature	deg C	13.3	17.4	12.7	12.0	13.9	11.8	11.2	11.0	11.7	10.8	12.5	11.4	12.4	12.9	11.5	11.3	11.2	12.5	11.7	11.2	12.7
pH	SU	8.33	7.62	7.68	7.70	7.69	7.75	7.72	7.79	7.80	7.88	7.94	7.75	7.79	7.76	7.79	7.87	7.86	7.81	7.85	7.87	7.97
Specific Conductance	µS/cm	3792	5944	5997	5885	5813	5721	5782	5604	5834	5903	5628	5792	5592	5583	5775	5710	5712	5930	5636	5729	5636
Oxygen Reduction Potential	mV	57.3	20.3	-101.5	-111.2	-103.7	-117.4	-109.0	-120.1	-123.8	-154.3	-131.3	-134.9	-129.3	-157.6	-209.0	-160.1	-180.1	-156.8	-148.7	-135.9	-147.7
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	46.3	55.9			38.9		30.0		26.5				26.2	25.9	28.6	23.6	22.5	25.2	24.4	24.0	22.7
pH (Lab)	SU	7.61	7.77			7.79		7.98		7.84				7.97	7.96	8.27	7.9	7.92	7.95	7.85	7.95	7.76
Total Dissolved Solids (Lab)	mg/L	3230	4050			3750		3780		3730				3660	3650	3590	3580	3590	3610	3610	3580	3570
Calcium	mg/L	13.6	13.7			9.15		7.45		6.32				6.15	5.90	6.60	5.5	5.21	5.83	5.61	5.57	5.31
Magnesium	mg/L	2.99	5.26			3.90		2.76		2.61				2.62	2.72	2.94	2.39	2.3	2.57	2.53	2.44	2.30
Sodium	mg/L	908	1510			1490		1400		1410				1400	1410	1590	1410	1370	1440	1430	1440	1390
Potassium	mg/L	4.38	5.71			6.07		<10.0		<10.0				<5	<5	5.36	<5.00	<5.00	5.42	<10.0	<5.00	<10.0
Alkalinity, Total	mg/L	1250	2360			2780		2680		2600				2410	2480	2450	2470	2550	2500	2470	2480	2460
Alkalinity, Bicarbonate	mg/L	1250	2360			2780		2640		2600				2330	2480	2450	2470	2350	2390	2410	2420	2340
Alkalinity, Carbonate	mg/L	<10.0	<10.0			<10.0		40.0		<10.0				80	<10.0	<10.0	<10.0	200	110	60.0	60.0	120
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	
Chloride	mg/L	181	550			587		608		592				573	533	590	575	554	580	525	528	555
Fluoride	mg/L	1.29	2.04			2.17		2.43		2.53				2.52	2.48	2.54	2.64	2.62	2.59	2.51	2.41	2.36
Sulfate as SO4	mg/L	534	487			70.2		26.0		34.5				27	18.7	11.2	5.07	<5.00	<5.00	<5.00	<5.00	<5.00
Total Organic Carbon (TOC)	mg/L	30	6.42			5.08		3.64		3.23				3.23	2.80	3.46	3.24	2.62	2.63	4.18	2.23	2.50
Nitrate/Nitrite as N	mg/L	<2.00	<0.500			<0.400		<0.100		<0.020				<0.02	<0.02	<0.020	0.061	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																			0.424		
Ortho-Phosphate as P ^	mg/L																			0.182		
Aluminum	mg/L	<0.050	<0.050			<0.050		<0.500		<0.500				<0.25	<0.25	<0.250	<0.250	<0.250	<0.250	<0.500	<0.250	<0.500
Arsenic	mg/L	0.0059	0.0119			0.0128		0.0152		0.0246				0.0195	0.0202	0.0164	0.0211	0.0171	0.0178	0.0179	0.0203	0.0195
Cadmium	mg/L	<0.0001	<0.0010			<0.0010		<0.0010		<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005
Copper	mg/L	0.0125	0.0243			0.0221		0.0208		0.0482				0.0389	0.0280	0.0230	0.0249	0.0382	0.0198	0.0107	0.0111	0.0069
Iron	mg/L	<0.050	<0.050			<0.050		<0.500		<0.500				0.373	0.397	0.474	0.279	0.391	0.522	0.619	0.591	0.551
Lead	mg/L	<0.0005	<0.0050			<0.0050		<0.0050		<0.0025				<0.0025	<0.0025	<0.0025	<0.0025	<0.0005	<0.0025	<0.0025	<0.0025	<0.0025
Manganese	mg/L	0.0269	0.0772			0.0554		0.0571		0.0647				0.0529	0.0381	0.0283	0.0268	0.0174	0.0162	0.0096	0.0209	0.0103
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0526	0.115			0.0138		0.0106		0.0086				0.0072	0.0071	0.0057	0.0074	0.007	0.0056	0.0047	0.0045	0.0044
Selenium	mg/L	0.0248	0.0231			0.0214		0.0269		0.0378				0.0317	0.0260	0.0211	0.0339	0.0195	0.0195	0.0156	0.0140	0.0129
Silica (SiO2)	mg/L	9.85	12.6			12.9		<10.7		<10.7				11	11.2	12.8	10.1	10.5	11.3	11.0	9.88	<10.7
Silicon	mg/L	4.61	5.88			6.02		<5.00		<5.00				5.16	5.24	6.00	4.7	4.89	5.29	5.14	4.62	<5.00
Uranium	mg/L	0.0297	0.121			0.0984		0.0545		0.0311				0.0311	0.0277	0.0246	0.0215	0.0154	0.0086	0.0073	0.0063	0.0039
Zinc	mg/L	0.0156	0.0265			<0.0200		<0.0200		<0.0100				<0.01	<0.01	<0.0100	<0.0100	0.0038	<0.0100	<0.0100	<0.0100	<0.0100

Notes & Definitions:

- ^

one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry

GCC Energy Hydrologic Monitoring Data

MW-6-A															
Year		2018	2019										2020		
Quarter		Q4	Q1			Q2			Q3			Q4	Q1	Q2	
Month		12	1	2	3	4	5	6	7	8	9	11	2	5	
Sample Date		12/28	1/31	2/21	3/21	4/23	5/20	6/19	7/23	8/15	9/24	11/7	2/5	5/14	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	Y	Y	Y	
Field Parameters:															
Purge Flow Rate	gpm	NM	NM	0.10	2.00	0.03	0.03	0.03	0.06	0.03	0.02	0.01	0.05	0.13	
Total Purged	gal	36.3	0.5	0.5	2.0	2.0	1.3	1.0	1.3	1.1	1.3	1.5	1.1	1.0	
Depth to Water	ft bgs	304.33	306.41	307.40	309.60	311.05	312.50	314.20	315.75	316.43	NM	318.70	315.46	319.63	
Temperature	deg C	7.4	10.7	8.1	7.5	9.6	7.3	12.5	12.3	11.9	10.4	10.4	7.8	9.8	
pH	SU	7.32	6.64	6.66	6.74	6.65	6.73	6.76	6.75	6.76	6.80	6.79	6.89	6.95	
Specific Conductance	µS/cm	6573	6053	6072	6107	6012	6057	5725	5598	5562	5451	5108	5043	4779	
Oxygen Reduction Potential	mV	-22.8	19.4	24.6	12.6	11.8	34.8	86.6	25.8	6.5	29.2	20.5	36.7	51.7	
Lab Analytical Results:															
Hardness as CaCO3	mg/L	4360		4190			3920			3540		3070	3200	2780	
pH (Lab)	SU	7.10		6.85			6.77			6.85		6.87	6.9	6.93	
Total Dissolved Solids (Lab)	mg/L	6520		6520			120*			6080		5210	4980	4670	
Calcium	mg/L	615		559			553			492		431	467	400	
Magnesium	mg/L	687		678			617			560		484	495	431	
Sodium	mg/L	294		283			296			304		276	296	274	
Potassium	mg/L	15.0		14.4			12.4			12.8		11.1	<20	10.6	
Alkalinity, Total	mg/L	160		160			143			183		220	215	233	
Alkalinity, Bicarbonate	mg/L	160		160			143			183		220	215	233	
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0		<10.0	<10	<10.0	
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0		<10.0	<10	<10.0	
Chloride	mg/L	97.4		28.6			27.3			29.9		29.6	28.4	29.0	
Fluoride	mg/L	2.83		<0.500			<0.500			<0.500		<0.500	<0.5	<0.500	
Sulfate as SO4	mg/L	205		4300			4280			4260		3460	3080	3020	
Total Organic Carbon (TOC)	mg/L	3.45		3.08			2.91			3.57		3.10	3.16	3.39	
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020		<0.020	0.049	0.154	
Ammonia as N ^	mg/L											2.72			
Ortho-Phosphate as P ^	mg/L											<0.0500			
Aluminum	mg/L	<0.500		<0.250			<0.250			<0.250		<0.250	<1.00	<0.500	
Arsenic	mg/L	<0.0025		<0.0025			0.0009			<0.0025		<0.0025	<0.0025	<0.0050	
Cadmium	mg/L	<0.0005		<0.0005			0.0001			<0.0005		<0.0005	<0.0005	<0.0010	
Copper	mg/L	0.0116		0.0081			0.0035			0.0039		0.0017	0.0028	<0.0050	
Iron	mg/L	1.37		3.75			3.93			3.22		2.72	1.95	1.38	
Lead	mg/L	<0.0025		<0.0025			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050	
Manganese	mg/L	0.788		0.802			0.724			0.690		0.585	0.551	0.526	
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002		<0.0002	<0.0002	<0.0002	
Molybdenum	mg/L	<0.0025		<0.0025			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050	
Selenium	mg/L	<0.0050		<0.0050			0.0028			<0.0050		<0.0050	<0.005	<0.0100	
Silica (SiO2)	mg/L	12.3		11.9			14.3			13.4		12.5	<21.4	11.0	
Silicon	mg/L	5.77		5.57			6.69			6.28		5.83	<10	5.17	
Uranium	mg/L	<0.0005		<0.0005			<0.0001			<0.0005		<0.0005	<0.0025	<0.0050	
Zinc	mg/L	0.0689		<0.0100			0.0082			0.0108		0.0117	0.0107	<0.0200	

Notes & Definitions:			
	*	Anomalous value under review	
	^	one-time analysis	
Y/N		yes or no	
gpm		gallons per minute	
deg C		degrees Celsius	1. " < " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards. 2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3. 3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.
SU		standard pH units	
µS/cm		microsiemens per centimeter	
mV		millivolts	
mg/L		milligram per liter	
pCi/L		picocuries per liter	
NM		not measured (field)	
NA		not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-6-C														
Year	2018	2019										2020		
Quarter	Q4	Q1			Q2			Q3			Q4	Q1	Q2	
Month	12	1	2	3	4	5	6	7	8	9	11	2	5	
Sample Date	12/24	1/30	2/21	3/21	4/23	5/20	6/19	7/23	8/15	9/24	11/7	2/5	5/12	
Lab Analysis (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N	N	
Field Parameters:														
Purge Flow Rate	gpm	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Total Purged	gal													
Depth to Water	ft bgs													
Temperature	deg C													
pH	SU													
Specific Conductance	µS/cm													
Oxygen Reduction Potential	mV													
Lab Analytical Results:														
Hardness as CaCO3	mg/L													
pH (Lab)	SU													
Total Dissolved Solids (Lab)	mg/L													
Calcium	mg/L													
Magnesium	mg/L													
Sodium	mg/L													
Potassium	mg/L													
Alkalinity, Total	mg/L													
Alkalinity, Bicarbonate	mg/L													
Alkalinity, Carbonate	mg/L													
Alkalinity, Hydroxide	mg/L													
Chloride	mg/L													
Fluoride	mg/L													
Sulfate as SO4	mg/L													
Total Organic Carbon (TOC)	mg/L													
Nitrate/Nitrite as N	mg/L													
Aluminum	mg/L													
Arsenic	mg/L													
Cadmium	mg/L													
Copper	mg/L													
Iron	mg/L													
Lead	mg/L													
Manganese	mg/L													
Mercury	mg/L													
Molybdenum	mg/L													
Selenium	mg/L													
Silica (SiO2)	mg/L													
Silicon	mg/L													
Uranium	mg/L													
Zinc	mg/L													

Notes & Definitions:														
Y/N	yes or no													
gpm	gallons per minute													
deg C	degrees Celsius													
SU	standard pH units													
µS/cm	microsiemens per centimeter													
mV	millivolts													
mg/L	milligram per liter													
pCi/L	picocuries per liter													
NM	not measured (field)													
NA	not analyzed (lab)													
		1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.												
		2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.												
		3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.												

GCC Energy Hydrologic Monitoring Data

MW-6-MI															
Year	2018	2019										2020			
Quarter	Q4	Q1			Q2			Q3			Q4	Q1	Q2		
Month	12	1	2	3	4	5	5	6	7	8	9	11	2	5	
Sample Date	12/29	1/31	2/25	3/21	4/19	5/20	5/30	6/19	7/23	8/15	9/24	11/7	2/5	5/14	
Lab Analysis (Y/N)	Y	N	Y	N	N	N [#]	N	N	N	N	N	N	N	N	
Field Parameters:															
Purge Flow Rate	gpm	NM	NM	NM	0.5	0.1	0.015	dry	dry	dry	dry	dry	dry	dry	
Total Purged	gal	11.3	0.5	1.5	0.5	1.0	0.9								
Depth to Water	ft bgs	374.49	368.09	367.92	370.49	369.50	371.00								
Temperature	deg C	14.3	13.6	10.8	9.7	16.7	3.9								
pH	SU	8.26	7.43	7.21	7.55	7.97	7.84								
Specific Conductance	µS/cm	3390	3620	3132	2619	2202	2527								
Oxygen Reduction Potential	mV	103.0	-80.2	77.6	59.8	38.3	64.9								
Lab Analytical Results:															
Hardness as CaCO3	mg/L	679		147											
pH (Lab)	SU	8.18		8.35											
Total Dissolved Solids (Lab)	mg/L	2480		1880											
Calcium	mg/L	104		23.4											
Magnesium	mg/L	102		21.6											
Sodium	mg/L	646		565											
Potassium	mg/L	12.0		5.30											
Alkalinity, Total	mg/L	395		615											
Alkalinity, Bicarbonate	mg/L	345		615											
Alkalinity, Carbonate	mg/L	50.0		<10.0											
Alkalinity, Hydroxide	mg/L	<10.0		<10.0											
Chloride	mg/L	175		178											
Fluoride	mg/L	2.06		2.46											
Sulfate as SO4	mg/L	1210		585											
Total Organic Carbon (TOC)	mg/L	3.63		4.55											
Nitrate/Nitrite as N	mg/L	0.023		<0.020											
Aluminum	mg/L	<0.100		<0.100											
Arsenic	mg/L	0.0084		0.0144											
Cadmium	mg/L	<0.0001		<0.0002											
Copper	mg/L	0.0113		0.0112											
Iron	mg/L	<0.100		<0.100											
Lead	mg/L	<0.0005		<0.0010											
Manganese	mg/L	0.0500		0.0224											
Mercury	mg/L	<0.0002		<0.0002											
Molybdenum	mg/L	0.0558		0.0690											
Selenium	mg/L	0.0098		0.0127											
Silica (SiO2)	mg/L	9.93		9.05											
Silicon	mg/L	4.64		4.23											
Uranium	mg/L	0.0200		0.0118											
Zinc	mg/L	0.0092		0.0143											

Notes & Definitions:

- # No sample collected, due to low yield, insufficient volume for lab sample after field parameters we measured

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)
1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-6-LM																	
Year	2018	2019											2020				
Quarter	Q4	Q1			Q2			Q3			Q4		Q1	Q2			
Month	12	1	2	3	4	5	6	7	8	9	10	11	2	5			
Sample Date	12/30	1/31	2/25	3/21	4/23	5/20	6/19	7/23	8/15	9/24	10/28	11/7	2/5	5/14			
Lab Analysis (Y/N)	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y			
Field Parameters:																	
Purge Flow Rate	gpm	NM	NM	0.06	2.00	0.03	0.03	0.10	0.06	0.03	0.02	0.012	0.03	0.01	0.13		
Total Purged	gal	0.5	0.5	1.5	2.0	2.0	2.3	1.3	1.3	1.8	2.0	1.5	2.0	2.0	2.0		
Depth to Water	ft bgs	535.72	538.73	539.34	540.64	539.98	537.58	540.00	540.35	540.24	540.17	539.8	540.18	539.70	539.45		
Temperature	deg C	7.9	14.3	7.8	8.1	9.1	9.3	11.7	14.0	13.4	11.6	10.12	12.4	10.5	11.3		
pH	SU	7.64	7.38	7.51	7.54	7.49	7.54	7.67	7.80	7.65	7.43	7.45	7.37	7.39	7.54		
Specific Conductance	µS/cm	6011	3784	3503	1461	1164	1296	1400	1272	1532	2104	2267	2113	2283	2287		
Oxygen Reduction Potential	mV	185.3	10.7	40.9	-32.8	-35.8	-111.0	-194.5	-163.6	-67.2	6.4	-47.98	19.9	-128.9	-222.9		
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	2260		1270			431			621			843	1060	965		
pH (Lab)	SU	7.60		7.52			7.47			7.59			7.32	7.43	7.18		
Total Dissolved Solids (Lab)	mg/L	5100		2840			875			1150			1630	1840	1840		
Calcium	mg/L	367		216			75.9			103			136	173	150		
Magnesium	mg/L	325		177			58.7			88.3			122	153	143		
Sodium	mg/L	459		248			129			153			172	203	188		
Potassium	mg/L	173		64.5			14.0			13.7			11.3	11	7.82		
Alkalinity, Total	mg/L	205		315			371			381			355	320	353		
Alkalinity, Bicarbonate	mg/L	205		315			371			381			355	320	353		
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Chloride	mg/L	256		43.7			5.73			8.70			11.4	11	11.7		
Fluoride	mg/L	0.530		<0.500			0.324			<0.500			<0.500	0.352	<0.500		
Sulfate as SO4	mg/L	3050		1790			338			492			830	951	904		
Total Organic Carbon (TOC)	mg/L	3.46		2.61			1.57			1.78			1.85	1.76	1.84		
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020		
Ammonia as N ^	mg/L												1.99				
Ortho-Phosphate as P ^	mg/L												<0.0500				
Aluminum	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.25	<0.250		
Arsenic	mg/L	0.0039		0.0049			0.0036			0.0038			0.0035	0.0044	0.0034		
Cadmium	mg/L	<0.0005		<0.0005			<0.0001			<0.0001			<0.0002	<0.0002	<0.0005		
Copper	mg/L	0.0135		0.0064			0.0017			0.0018			0.0069	0.0014	<0.0025		
Iron	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.25	<0.250		
Lead	mg/L	<0.0025		<0.0025			<0.0005			<0.0005			<0.0010	<0.001	<0.0025		
Manganese	mg/L	0.383		0.223			0.0692			0.148			0.166	0.184	0.171		
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002		
Molybdenum	mg/L	0.0490		0.0169			0.0037			0.0025			0.0022	0.002	<0.0025		
Selenium	mg/L	0.0080		<0.0050			<0.0010			<0.0010			<0.0020	<0.002	<0.0050		
Silica (SiO2)	mg/L	10.5		13.5			17.0			17.4			15.9	17.1	15.1		
Silicon	mg/L	4.91		6.29			7.96			8.12			7.43	7.97	7.07		
Uranium	mg/L	0.0230		0.0075			0.0039			0.0054			0.0047	0.0055	0.0043		
Zinc	mg/L	0.0323		<0.0100			<0.0020			<0.0040			<0.0040	<0.004	<0.0100		

Notes & Definitions:

^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

1. "<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.

2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.

3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-7-EAA																
Year		2018	2019										2020			
Quarter		Q4	Q1			Q2			Q3			Q4		Q1		Q2
Month		12	1	2	3	4	5	6	7	8	9	10	11	2		5
Sample Date		12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11		5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y		Y
Field Parameters:																
Purge Flow Rate	gpm	1.10	1.10	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25	
Total Purged	gal	15.0	18.0	15.0	3.0	15.0	16.0	15.3	15.3	17.0	15.0	15.0	15.0	36.5	15.0	
Depth to Water	ft bgs	36.13	36.27	36.45	36.52	36.70	36.25	36.22	36.48	36.49	36.88	36.85	36.85	36.72	35.40	
Temperature	deg C	10.0	10.0	10.0	9.9	10.1	10.4	10.4	10.6	10.5	10.3	10.4	10.6	10.4	10.4	
pH	SU	6.99	7.01	7.04	6.93	7.00	7.06	7.07	6.28	6.95	7.06	7.03	7.06	6.91	7.04	
Specific Conductance	µS/cm	2001	1910	1910	1926	1912	1767	1836	1885	1890	1913	1936	1922	1993	1890	
Oxygen Reduction Potential	mV	-68.0	-36.7	-41.4	-38.1	-48.8	14.1	-13.8	-33.9	-37.8	-29.5	-25.6	-21.3	0.9	-62.7	
Lab Analytical Results:																
Hardness as CaCO3	mg/L	936		1030			982			997			1020	963	1020	
pH (Lab)	SU	7.2		7.37			7.17			7.09			6.99	6.92	6.89	
Total Dissolved Solids (Lab)	mg/L	1460		1480			1490			1480			1530	1520	1430	
Calcium	mg/L	170		179			171			173			162	165	175	
Magnesium	mg/L	124		142			135			137			144	134	142	
Sodium	mg/L	75.3		81.3			75.0			75.2			74.9	73.7	76.0	
Potassium	mg/L	3.87		3.9			<5.00			3.74			3.74	3.82	<5.00	
Alkalinity, Total	mg/L	380		367			405			392			350	357	355	
Alkalinity, Bicarbonate	mg/L	380		367			405			392			425	357	355	
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	
Chloride	mg/L	11.9		10.7			10.8			10.9			11.6	10.3	10.7	
Fluoride	mg/L	<0.500		0.332			0.322			0.322			<0.500	0.354	0.330	
Sulfate as SO4	mg/L	732		736			733			844			746	774	803	
Total Organic Carbon (TOC)	mg/L	3.72		3.57			3.73			3.70			3.45	3.42	3.63	
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020	
Ammonia as N ^	mg/L												0.178			
Ortho-Phosphate as P ^	mg/L												<0.0500			
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.1	<0.250	
Arsenic	mg/L	0.0014		0.0015			0.0013			0.0016			0.0013	0.0013	0.0011	
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0002	<0.0002	<0.0002	
Copper	mg/L	0.0003		0.0018			0.0011			0.0008			0.0006	<0.001	<0.0010	
Iron	mg/L	1.82		1.95			1.81			2.12			2.00	1.84	1.71	
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.001	<0.0010	
Manganese	mg/L	3.72		4.49			4.01			4.22			4.76	4.86	3.63	
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	
Molybdenum	mg/L	0.0008		0.0011			0.0007			0.0009			<0.0010	0.001	<0.0010	
Selenium	mg/L	<0.0020		<0.0020			<0.0010			0.0011			<0.0020	<0.002	<0.0020	
Silica (SiO2)	mg/L	16.6		16.1			16.1			16.9			16.8	16.4	15.8	
Silicon	mg/L	7.75		7.52			7.55			7.90			7.83	7.67	7.37	
Uranium	mg/L	0.0021		0.0018			0.0017			0.0018			0.0020	0.0019	0.0016	
Zinc	mg/L	<0.0050		<0.0040			0.0021			0.0020			<0.0040	<0.004	<0.0040	

Notes & Definitions:			
^	one-time analysis		
Y/N	yes or no		
gpm	gallons per minute		
deg C	degrees Celsius		
SU	standard pH units		
µS/cm	microsiemens per centimeter		
mV	millivolts		
mg/L	milligram per liter		
pCi/L	picocuries per liter		
NM	not measured (field)		
NA	not analyzed (lab)		
1. " <i><</i> " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.			
2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.			
3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.			

GCC Energy Hydrologic Monitoring Data

MW-8-EAA																	
Year		2018	2019										2020				
Quarter		Q4	Q1			Q2			Q3			Q4		Q1		Q2	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2		5	
Sample Date		12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11		5/27	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y		Y	
Field Parameters:																	
Purge Flow Rate	gpm	0.85	1.10	0.50	3.00	0.50	0.75	1.00	1.00	0.75	0.50	1.00	0.25	1.00	0.25		
Total Purged	gal	18.0	14.0	15.0	3.0	15.0	17.0	15.3	15.3	18.0	15.3	15.5	15.0	15.2	15.0		
Depth to Water	ft bgs	40.00	39.95	40.10	43.45	40.44	40.05	39.94	40.10	40.08	40.25	40.31	40.22	40.40	40.45		
Temperature	deg C	10.3	10.2	10.0	9.9	10.3	10.5	10.6	10.5	10.6	10.3	10.2	11.2	10.5	11.0		
pH	SU	7.12	7.09	7.13	7.17	7.09	7.02	7.17	7.09	7.05	7.03	6.99	6.99	6.99	7.14		
Specific Conductance	µS/cm	1781	1696	1720	1725	1729	1628	1676	1699	172	1739	1774	1739	1758	1760		
Oxygen Reduction Potential	mV	-65	-52.8	-51.8	-53.0	-59.7	11.0	-29.5	-46.6	-44.8	-33.5	-38.8	-39.2	-18.2	-72.4		
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	870		861			864			883			867	861	907		
pH (Lab)	SU	7.28		7.36			7.13			7.05			7.01	7.11	6.96		
Total Dissolved Solids (Lab)	mg/L	1220		1290			1240			1280			1380	1290	1260		
Calcium	mg/L	152		151			148			154			143	149	153		
Magnesium	mg/L	119		118			120			121			124	119	127		
Sodium	mg/L	81.7		82.6			77.2			78.6			77.1	77.2	77.7		
Potassium	mg/L	3.80		3.27			3.55			3.18			3.52	3.8	<5.00		
Alkalinity, Total	mg/L	400		435			450			431			445	404	385		
Alkalinity, Bicarbonate	mg/L	400		435			450			431			445	404	385		
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Chloride	mg/L	9.83		10.5			10.3			11.1			11.0	10.2	10.3		
Fluoride	mg/L	0.380		0.370			0.338			0.342			<0.500	0.33	0.346		
Sulfate as SO4	mg/L	533		559			606			643			577	602	625		
Total Organic Carbon (TOC)	mg/L	3.77		3.59			3.77			3.68			3.52	3.49	3.56		
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020		
Ammonia as N ^	mg/L												0.216				
Ortho-Phosphate as P ^	mg/L												<0.0500				
Aluminum	mg/L	<0.100		<0.100			<0.050			<0.100			<0.050	<0.1	<0.250		
Arsenic	mg/L	0.0020		0.0018			0.0018			0.0021			0.0018	0.0017	0.0017		
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002		
Copper	mg/L	0.0004		0.0024			0.0023			0.0008			0.0010	0.001	<0.0010		
Iron	mg/L	2.12		2.13			2.42			2.46			2.30	2.28	2.29		
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0010		
Manganese	mg/L	3.17		3.52			3.06			3.37			3.39	3.7	3.36		
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002		
Molybdenum	mg/L	0.0009		0.0011			0.0008			0.0011			0.0008	<0.001	<0.0010		
Selenium	mg/L	<0.0020		<0.0020			0.0010			0.0013			<0.0010	<0.002	<0.0020		
Silica (SiO2)	mg/L	16.3		15.3			15.7			16.1			15.9	15.7	15.0		
Silicon	mg/L	7.63		7.15			7.32			7.52			7.42	7.32	7.02		
Uranium	mg/L	0.0021		0.0017			0.0016			0.0018			0.0019	0.0019	0.0017		
Zinc	mg/L	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.004	<0.0040		

Notes & Definitions:

- ^

one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-8-MI																	
Year	2018	2019											2020				
Quarter	Q4	Q1			Q2			Q3			Q4		Q1	Q2			
Month	12	1	2	3	4	5	6	7	8	9	10	11	2	5			
Sample Date	12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11	5/27			
Lab Analysis (Y/N)	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y			
Field Parameters:																	
Purge Flow Rate	gpm	1.10	1.00	0.50	3.00	0.50	0.50	0.25	0.50	0.75	0.50	1.00	0.25	0.25	0.13		
Total Purged	gal	27.5	18.0	1.0	3.0	1.5	2.5	2.5	2.3	3.0	2.0	2.5	1.0	1.0	1.0		
Depth to Water	ft bgs	45.75	43.48	43.50	44.30	44.47	44.10	44.24	44.45	44.59	44.90	45.12	45.10	45.20	45.42		
Temperature	deg C	10.8	10.8	10.6	11.2	10.4	11.1	11.4	11.0	11.4	10.9	10.3	11.4	10.2	11.3		
pH	SU	7.57	7.50	7.48	7.47	7.34	7.31	7.48	7.42	7.38	7.30	7.23	7.15	7.08	7.44		
Specific Conductance	µS/cm	1786	1667	1651	1658	1643	1595	1639	1645	1658	1637	1689	1642	1651	1659		
Oxygen Reduction Potential	mV	-84.4	-177.1	-122.1	-113.3	-87.2	-54.4	-97.1	-116.4	-119.4	-88.4	-82.0	-59.3	-136.6	-184.9		
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	167		249			273			253			267	254	309		
pH (Lab)	SU	7.73		7.54			7.24			7.46			7.44	7.53	7.25		
Total Dissolved Solids (Lab)	mg/L	1050		1030			1100			1110			1050	1060	1040		
Calcium	mg/L	34.0		48.5			52.4			49.7			51.3	48.7	58.5		
Magnesium	mg/L	19.9		31.0			34.5			31.4			33.8	32.1	39.6		
Sodium	mg/L	344		312			289			289			275	269	272		
Potassium	mg/L	4.47		5.25			<5.00			4.55			5.07	4.71	5.00		
Alkalinity, Total	mg/L	500		565			560			573			585	543	545		
Alkalinity, Bicarbonate	mg/L	500		565			560			573			585	543	545		
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Chloride	mg/L	12.7		10.0			9.33			9.06			9.66	8.19	8.23		
Fluoride	mg/L	<0.500		<0.200			<0.200			<0.200			<0.500	<0.2	<0.200		
Sulfate as SO4	mg/L	347		353			343			366			317	314	316		
Total Organic Carbon (TOC)	mg/L	2.73		2.83			2.81			2.74			2.65	2.6	2.94		
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020		
Ammonia as N ^	mg/L												1.31				
Ortho-Phosphate as P ^	mg/L												<0.0500				
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.1	<0.250		
Arsenic	mg/L	0.0008		<0.0010			0.0006			0.0005			0.0005	<0.001	<0.0010		
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002		
Copper	mg/L	0.0031		0.0066			0.0036			0.0035			0.0037	0.0027	<0.0010		
Iron	mg/L	0.137		0.162			<0.250			0.129			0.130	0.108	<0.250		
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0025		
Manganese	mg/L	0.0495		0.0383			0.0327			0.0351			0.0377	0.0391	0.0393		
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002		
Molybdenum	mg/L	0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0010		
Selenium	mg/L	<0.0020		<0.0020			0.0010			0.0010			<0.0010	<0.002	0.0020		
Silica (SiO2)	mg/L	12.1		12.4			12.8			12.5			12.6	12.2	11.9		
Silicon	mg/L	5.65		5.78			5.99			5.83			5.88	5.71	5.55		
Uranium	mg/L	0.0002		0.0002			0.0002			0.0001			0.0001	<0.001	<0.0025		
Zinc	mg/L	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.004	<0.0040		

Notes & Definitions:			
^	one-time analysis		
Y/N	yes or no		
gpm	gallons per minute		
deg C	degrees Celsius		
SU	standard pH units		
µS/cm	microsiemens per centimeter		
mV	millivolts		
mg/L	milligram per liter		
pCi/L	picocuries per liter		
NM	not measured (field)		
NA	not analyzed (lab)		
		1. "	<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
		2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.	
		3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.	

GCC Energy Hydrologic Monitoring Data

MW-8-LM																	
Year		2018	2019											2020			
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2		
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5		
Sample Date		12/28	1/29	2/19	3/21	4/16	5/29	6/18	7/24	8/13	9/27	10/24	11/6	2/11	5/27		
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y		
Field Parameters:																	
Purge Flow Rate	gpm	NM	1.00	0.25	1.00	0.50	0.10	0.25	0.25	0.50	0.25	0.12	0.25	0.25	0.25		
Total Purged	gal	30	4.0	1.5	1.0	2.0	1.3	6.8	2.0	2.0	1.0	1.0	1.5	1.0	1.0		
Depth to Water	ft bgs	136.39	130.52	134.30	144.03	140.03	137.48	142.23	144.15	138.06	137.50	137.60	137.34	139.15	129.70		
Temperature	deg C	4.1	13.9	13.2	8.7	13.6	13.9	12.8	13.7	13.4	13.0	11.7	13.3	11.4	13.4		
pH	SU	8.37	8.70	8.71	8.41	8.70	8.50	8.66	8.64	8.58	8.44	8.44	8.47	7.98	8.76		
Specific Conductance	µS/cm	2306	1274	1265	1310	1262	1234	1264	1226	1269	1252	1299	1255	1294	1282		
Oxygen Reduction Potential	mV	37.5	-114.3	112.8	77.0	-36.2	33.2	-63.9	-93.5	-103.0	-115.9	-94.4	-47.4	-106.6	-204.5		
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	45.0		7.29			16.9			6.67			6.38	6.79	7.76		
pH (Lab)	SU	8.57		8.63			8.02			8.56			8.52	8.55	8.41		
Total Dissolved Solids (Lab)	mg/L	1420		770			780			785			780	840	730		
Calcium	mg/L	10.8		1.93			3.84			1.78			1.68	1.77	2.09		
Magnesium	mg/L	4.39		0.600			1.77			0.541			0.528	0.574	0.620		
Sodium	mg/L	382		341			317			306			305	309	315		
Potassium	mg/L	45.7		3.49			<5.00			2.27			2.18	2.06	<5.00		
Alkalinity, Total	mg/L	615		720			745			731			745	685	630		
Alkalinity, Bicarbonate	mg/L	535		610			645			645			685	595	530		
Alkalinity, Carbonate	mg/L	80.0		110			100			86.0			60.0	90	100		
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Chloride	mg/L	175		5.11			6.80			2.63			2.48	3.04	3.01		
Fluoride	mg/L	2.06		3.91			3.95			3.97			3.88	3.61	3.63		
Sulfate as SO4	mg/L	190		3.79			9.58			1.02			<1.00	<2	<2.00		
Total Organic Carbon (TOC)	mg/L	2.80		1.80			3.33			1.94			1.69	1.69	1.92		
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020		
Ammonia as N ^	mg/L												0.282				
Ortho-Phosphate as P ^	mg/L												<0.0500				
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.1	<0.250		
Arsenic	mg/L	0.0106		<0.0010			0.0006			0.0007			0.0006	<0.0005	<0.0010		
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0001	<0.0002		
Copper	mg/L	0.0337		0.0077			0.0047			0.0041			0.0051	0.0033	0.0012		
Iron	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.1	<0.250		
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.0005	<0.0010		
Manganese	mg/L	0.0258		0.0038			0.0150			0.0020			0.0026	0.0025	0.0029		
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002		
Molybdenum	mg/L	0.0142		<0.0010			0.0009			<0.0005			<0.0005	<0.0005	<0.0010		
Selenium	mg/L	0.0020		<0.0020			<0.0010			<0.0010			<0.0010	<0.001	<0.0020		
Silica (SiO2)	mg/L	9.09		8.45			8.68			8.28			7.77	7.62	7.40		
Silicon	mg/L	4.25		3.95			4.06			3.87			3.63	3.56	3.46		
Uranium	mg/L	0.0044		<0.0002			0.0001			0.0001			<0.0002	<0.0005	<0.0010		
Zinc	mg/L	0.0080		<0.0040			0.0023			<0.0020			<0.0020	<0.002	<0.0040		

Notes & Definitions:

- ^

one-time analysis

Y/N

yes or no

gpm

gallons per minute

deg C

degrees Celsius

SU

standard pH units

µS/cm

microsiemens per centimeter

mV

millivolts

mg/L

milligram per liter

pCi/L

picocuries per liter

NM

not measured (field)

NA

not analyzed (lab)
1.

"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
2.

Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
3.

Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.

GCC Energy Hydrologic Monitoring Data

MW-8-PL																	
Year		2018	2019										2020				
Quarter		Q4	Q1			Q2			Q3			Q4		Q1		Q2	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2		5	
Sample Date		12/27	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11		5/27	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y		Y	
Field Parameters:																	
Purge Flow Rate	gpm	0.25	1.00	0.50	3.00	0.50	0.25	0.50	1.00	0.50	0.50	0.75	0.25	0.25	0.25		
Total Purged	gal	20.0	5.0	2.0	3.0	2.0	3.0	2.5	2.3	2.5	2.0	2.5	1.3	2.0	2.0		
Depth to Water	ft bgs	125.97	126.29	126.40	127.10	126.98	126.70	126.82	127.25	127.38	127.42	127.48	127.59	127.32	127.34		
Temperature	deg C	10.3	14.2	13.4	12.9	13.2	14.2	14.8	14.7	14.9	14.0	13.2	14.9	13.8	14.8		
pH	SU	7.50	7.30	7.49	7.30	7.29	7.31	7.57	7.56	7.52	7.45	7.47	7.52	7.55	7.47		
Specific Conductance	µS/cm	1690	1531	1571	1558	1554	1411	1326	1165	1083	947	940	900	862	844		
Oxygen Reduction Potential	mV	30.2	-116.5	97.9	-108.7	-110.6	34.2	-57.6	-74.0	-79.5	-51.3	-52.5	-30.8	-59.9	-101.9		
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	617		644			596			411			294	278	298		
pH (Lab)	SU	7.28		7.40			7.26			7.22			7.39	7.47	7.19		
Total Dissolved Solids (Lab)	mg/L	1150		1090			995			705			620	500	490		
Calcium	mg/L	112		120			105			73.1			52.1	49.3	53.8		
Magnesium	mg/L	82.1		83.8			81.4			55.4			39.7	37.6	39.7		
Sodium	mg/L	106		124			102			91.7			83.3	78.5	80.4		
Potassium	mg/L	5.14		5.62			<5.00			2.80			2.35	2.32	2.11		
Alkalinity, Total	mg/L	370		415			435			393			390	339	340		
Alkalinity, Bicarbonate	mg/L	370		415			435			393			390	339	340		
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0		
Chloride	mg/L	18.8		18.5			9.03			5.61			5.66	3.51	3.38		
Fluoride	mg/L	0.505		0.474			0.290			0.291			<0.500	0.258	0.240		
Sulfate as SO4	mg/L	478		471			390			232			127	109	103		
Total Organic Carbon (TOC)	mg/L	4.17		4.02			2.92			2.21			1.75	1.63	1.63		
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020		
Ammonia as N ^	mg/L												0.199				
Ortho-Phosphate as P ^	mg/L												<0.0500				
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.05	<0.100		
Arsenic	mg/L	0.0074		0.0124			0.0190			0.0156			0.0104	0.0073	0.0075		
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0001		
Copper	mg/L	0.0016		0.0025			0.0017			0.0011			0.0004	0.001	<0.0025		
Iron	mg/L	<0.050		0.352			<0.250			0.129			0.075	0.054	<0.100		
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.0005	<0.0005		
Manganese	mg/L	1.31		1.22			0.697			0.505			0.313	0.303	0.307		
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002		
Molybdenum	mg/L	0.0090		0.0068			0.0020			0.0021			0.0017	0.0008	<0.0005		
Selenium	mg/L	0.0012		<0.0020			<0.0010			<0.0010			<0.0010	<0.001	<0.0010		
Silica (SiO2)	mg/L	14.1		16.3			17.7			18.5			18.0	18.9	18.7		
Silicon	mg/L	6.58		7.64			8.28			8.67			8.42	8.82	8.75		
Uranium	mg/L	0.0052		0.0040			0.0010			0.0009			0.0004	<0.0005	<0.0005		
Zinc	mg/L	0.0344		<0.0040			<0.0020			<0.0080			<0.0020	<0.002	<0.0100		

Notes & Definitions:		
^	one-time analysis	
Y/N	yes or no	
gpm	gallons per minute	
deg C	degrees Celsius	
SU	standard pH units	
µS/cm	microsiemens per centimeter	
mV	millivolts	
mg/L	milligram per liter	
pCi/L	picocuries per liter	
NM	not measured (field)	
NA	not analyzed (lab)	
		1. " <i><</i> " values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.
		2. Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.
		3. Industry standard Quality Assurance/Quality Control (QA/QC) protocol are followed for this hydrologic monitoring program by both GCC Energy and the contracted environmental water quality analytical laboratories. QA/QC results are not shown in this table.



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
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26 May 2020

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW & SW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 05/13/20 14:55.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
05/26/20 16:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Wiltse Well	2005096-01	Water	05/13/20 10:23	05/13/20 14:55	
MW-HGA-4	2005096-02	Water	05/13/20 11:46	05/13/20 14:55	
Hay Gulch Ditch Upgradient	2005096-03	Water	05/13/20 12:36	05/13/20 14:55	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24

Wiltse Well

2005096-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	431	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	431	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Chloride*	51.8	5.00	0.443	mg/L	5	05/19/20 17:53	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	05/19/20 17:53	EPA300.0		AES
Nitrate/Nitrite as N*	0.865	0.020	0.006	mg/L as N	1	05/26/20 12:02	EPA353.2		LLG
pH*	7.09			pH Units	1	05/14/20 09:00	EPA150.1		FGH
Total Dissolved Solids*	1560	10.0		mg/L	1	05/18/20 12:07	EPA160.1		VJW
Sulfate*	633	25.0	3.81	mg/L	25	05/19/20 18:13	EPA300.0		AES
Total Organic Carbon*	3.80	0.500	0.135	mg/L	1	05/20/20 17:57	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	05/18/20 14:18	EPA200.7		AES
Calcium*	206	0.500	0.083	mg/L	5	05/18/20 14:18	EPA200.7		AES
Hardness as CaCO ₃	1060	3.31	0.690	mg/L	5	05/18/20 14:18	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	05/18/20 14:18	EPA200.7		AES
Magnesium*	132	0.500	0.117	mg/L	5	05/18/20 14:18	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	05/18/20 14:18	EPA200.7		AES
Silica (SiO ₂)	12.9	5.35	0.177	mg/L	5	05/18/20 14:18	Calculation		AES
Silicon	6.05	2.50	0.083	mg/L	5	05/18/20 14:18	EPA200.7		AES
Sodium*	69.1	5.00	0.503	mg/L	5	05/18/20 14:18	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	05/21/20 14:48	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	05/21/20 12:34	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	05/21/20 12:34	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	05/21/20 12:34	EPA200.8		AES
Manganese*	0.816	0.0025	0.0006	mg/L	5	05/21/20 12:34	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	05/21/20 12:34	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	05/21/20 12:34	EPA200.8		AES
Uranium	0.0032	0.0025	0.0010	mg/L	5	05/21/20 12:34	EPA200.8		AES
Zinc*	0.0132	0.0100	0.0016	mg/L	5	05/21/20 12:34	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	05/18/20 10:16	EPA245.1		LLG
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Cation/Anion Balance 2.04

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24

MW-HGA-4

2005096-02 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	416	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	416	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Chloride*	7.64	1.00	0.0886	mg/L	1	05/19/20 18:32	EPA300.0		AES
Fluoride*	0.449	0.100	0.00971	mg/L	1	05/19/20 18:32	EPA300.0		AES
Nitrate/Nitrite as N*	<0.100	0.100	0.031	mg/L as N	5	05/26/20 13:26	EPA353.2	M5	LLG
pH*	6.89			pH Units	1	05/14/20 09:00	EPA150.1		FGH
Total Dissolved Solids*	685	10.0		mg/L	1	05/18/20 12:07	EPA160.1		VJW
Sulfate*	181	5.00	0.762	mg/L	5	05/19/20 19:30	EPA300.0		AES
Total Organic Carbon*	4.30	0.500	0.135	mg/L	1	05/20/20 18:14	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.025	mg/L	2	05/18/20 14:20	EPA200.7		AES
Calcium*	101	0.200	0.033	mg/L	2	05/18/20 14:20	EPA200.7		AES
Hardness as CaCO ₃	528	1.32	0.276	mg/L	2	05/18/20 14:20	2340 B		AES
Iron*	8.22	0.100	0.037	mg/L	2	05/18/20 14:20	EPA200.7		AES
Magnesium*	67.0	0.200	0.047	mg/L	2	05/18/20 14:20	EPA200.7		AES
Potassium*	2.06	2.00	0.260	mg/L	2	05/18/20 14:20	EPA200.7		AES
Silica (SiO ₂)	13.9	2.14	0.0708	mg/L	2	05/18/20 14:20	Calculation		AES
Silicon	6.48	1.00	0.033	mg/L	2	05/18/20 14:20	EPA200.7		AES
Sodium*	30.3	2.00	0.201	mg/L	2	05/18/20 14:20	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0025	0.0010	0.0002	mg/L	2	05/21/20 14:52	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	05/21/20 12:37	EPA200.8		AES
Copper*	<0.0010	0.0010	0.0004	mg/L	2	05/21/20 12:37	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	05/21/20 12:37	EPA200.8		AES
Manganese*	1.49	0.0010	0.0002	mg/L	2	05/21/20 12:37	EPA200.8		AES
Molybdenum*	0.0030	0.0010	0.0002	mg/L	2	05/21/20 12:37	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	05/21/20 12:37	EPA200.8		AES
Uranium	<0.0010	0.0010	0.0004	mg/L	2	05/21/20 12:37	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	05/21/20 12:37	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	05/18/20 10:16	EPA245.1		LLG
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Cation/Anion Balance -44

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24

Hay Gulch Ditch Upgradient

2005096-03 (Surface Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	102	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	102	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Chloride*	9.64	5.00	0.443	mg/L	5	05/19/20 19:50	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	05/19/20 19:50	EPA300.0		AES
Nitrate/Nitrite as N*	0.302	0.020	0.006	mg/L as N	1	05/26/20 12:07	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	1.16	mg/L	1	05/20/20 09:10	EPA1664 A		VJW
pH*	7.60			pH Units	1	05/14/20 09:00	EPA150.1		FGH
SAR	0.26			No Unit	1	05/18/20 15:05	Calculation		AES
Total Dissolved Solids*	255	10.0		mg/L	1	05/18/20 12:07	EPA160.1		VJW
Total Suspended Solids*	140	4.00		mg/L	1	05/20/20 12:15	EPA160.2		VJW
Sulfate*	44.0	5.00	0.762	mg/L	5	05/19/20 19:50	EPA300.0		AES
Total Organic Carbon*	2.93	0.500	0.135	mg/L	1	05/20/20 18:30	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	05/18/20 14:22	EPA200.7		AES
Calcium*	36.1	0.100	0.017	mg/L	1	05/18/20 14:22	EPA200.7		AES
Hardness as CaCO ₃	150	0.662	0.138	mg/L	1	05/18/20 14:22	2340 B		AES
Iron*	<0.050	0.050	0.018	mg/L	1	05/18/20 14:22	EPA200.7		AES
Magnesium*	14.5	0.100	0.023	mg/L	1	05/18/20 14:22	EPA200.7		AES
Potassium*	1.86	1.00	0.130	mg/L	1	05/18/20 14:22	EPA200.7		AES
Silica (SiO ₂)	7.57	1.07	0.0354	mg/L	1	05/18/20 14:22	Calculation		AES
Silicon	3.54	0.500	0.017	mg/L	1	05/18/20 14:22	EPA200.7		AES
Sodium*	7.67	1.00	0.101	mg/L	1	05/18/20 14:22	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.0001	mg/L	1	05/21/20 14:55	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	05/21/20 12:41	EPA200.8		AES
Copper*	0.0010	0.0005	0.0002	mg/L	1	05/21/20 12:41	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	05/21/20 12:41	EPA200.8		AES
Manganese*	0.0297	0.0005	0.0001	mg/L	1	05/21/20 12:41	EPA200.8		AES
Molybdenum*	0.0009	0.0005	0.0001	mg/L	1	05/21/20 12:41	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	05/21/20 12:41	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	05/21/20 12:41	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	05/21/20 12:41	EPA200.8		AES

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
05/26/20 16:24

Hay Gulch Ditch Upgradient

2005096-03 (Surface Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	05/18/20 11:41	EPA245.1		LLG
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Cation/Anion Balance	1.96
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B200622 - General Prep - Wet Chem										
Blank (B200622-BLK1)				Prepared & Analyzed: 04/16/20						
Oil & Grease (HEM)	ND	5.00	mg/L							
LCS (B200622-BS1)				Prepared & Analyzed: 04/16/20						
Oil & Grease (HEM)	34.8	5.00	mg/L	40.0		87.0	85-115			
LCS Dup (B200622-BSD1)				Prepared & Analyzed: 04/16/20						
Oil & Grease (HEM)	34.4	5.00	mg/L	40.0		86.0	85-115	1.16	20	
Batch B200823 - General Prep - Wet Chem										
Blank (B200823-BLK1)				Prepared: 05/14/20 Analyzed: 05/15/20						
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B200823-BS1)				Prepared: 05/14/20 Analyzed: 05/15/20						
Alkalinity, Total as CaCO3	88.0	10.0	mg/L	100		88.0	85-115			
LCS Dup (B200823-BSD1)				Prepared: 05/14/20 Analyzed: 05/15/20						
Alkalinity, Total as CaCO3	93.0	10.0	mg/L	100		93.0	85-115	5.52	20	
Batch B200826 - General Prep - Wet Chem										
Duplicate (B200826-DUP2)		Source: 2005086-01		Prepared & Analyzed: 05/14/20						
pH	7.03		pH Units		7.00			0.428	20	
Reference (B200826-SRM1)				Prepared & Analyzed: 05/14/20						
pH	7.09		pH Units		7.00		101	98.5-101.4		
Batch B200834 - General Prep - Wet Chem										
Blank (B200834-BLK1)				Prepared & Analyzed: 05/18/20						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B200834-DUP1)		Source: 2005083-05		Prepared & Analyzed: 05/18/20						
Total Dissolved Solids	605	10.0	mg/L		600			0.792	20	
Reference (B200834-SRM1)				Prepared & Analyzed: 05/18/20						
Total Dissolved Solids	605	10.0	mg/L		570		106	85-115		
Batch B200840 - General Prep - Wet Chem										
Blank (B200840-BLK1)				Prepared & Analyzed: 05/19/20						
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200840 - General Prep - Wet Chem (Continued)

LCS (B200840-BS1)

Prepared & Analyzed: 05/19/20

Chloride	24.8	1.00	mg/L	25.0		99.4	90-110			
Fluoride	2.60	0.100	mg/L	2.50		104	90-110			
Sulfate	24.4	1.00	mg/L	25.0		97.8	90-110			

LCS Dup (B200840-BSD1)

Prepared & Analyzed: 05/19/20

Chloride	24.2	1.00	mg/L	25.0		97.0	90-110	2.42	20	
Fluoride	2.60	0.100	mg/L	2.50		104	90-110	0.0770	20	
Sulfate	24.4	1.00	mg/L	25.0		97.6	90-110	0.246	20	

Batch B200850 - General Prep - Wet Chem

Blank (B200850-BLK1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon	ND	0.500	mg/L							
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LCS (B200850-BS1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon	9.49	0.500	mg/L	10.0		94.9	85-115			
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LCS Dup (B200850-BSD1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon	9.43	0.500	mg/L	10.0		94.3	85-115	0.698	20	
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Batch B200852 - General Prep - Wet Chem

Blank (B200852-BLK1)

Prepared & Analyzed: 05/20/20

Total Suspended Solids	ND	4.00	mg/L							
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Duplicate (B200852-DUP1)

Source: 2005110-01

Prepared & Analyzed: 05/20/20

Total Suspended Solids	173	4.00	mg/L		193			10.9	20	
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Reference (B200852-SRM1)

Prepared & Analyzed: 05/20/20

Total Suspended Solids	99.0	4.00	mg/L	100		99.0	85-115			
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Batch B200874 - General Prep - Wet Chem

Blank (B200874-BLK1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	ND	0.020	mg/L as N							
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LCS (B200874-BS1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	0.941	0.020	mg/L as N	1.00		94.1	90-110			
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LCS Dup (B200874-BSD1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	0.947	0.020	mg/L as N	1.00		94.7	90-110	0.614	20	
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
05/26/20 16:24

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200835 - Diss. 200.7/200.8

Blank (B200835-BLK1)

Prepared & Analyzed: 05/18/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200835-BS1)

Prepared & Analyzed: 05/18/20

Aluminum	5.31	0.050	mg/L	5.00	106	85-115
Calcium	5.26	0.100	mg/L	5.00	105	85-115
Iron	5.05	0.050	mg/L	5.00	101	85-115
Magnesium	26.9	0.100	mg/L	25.0	108	85-115
Potassium	10.7	1.00	mg/L	10.0	107	85-115
Silicon	5.17	0.500	mg/L	5.00	103	85-115
Sodium	4.22	1.00	mg/L	4.05	104	85-115

LCS Dup (B200835-BSD1)

Prepared & Analyzed: 05/18/20

Aluminum	5.05	0.050	mg/L	5.00	101	85-115	4.94	20
Calcium	4.98	0.100	mg/L	5.00	99.6	85-115	5.33	20
Iron	4.80	0.050	mg/L	5.00	96.1	85-115	4.97	20
Magnesium	25.6	0.100	mg/L	25.0	102	85-115	5.23	20
Potassium	10.4	1.00	mg/L	10.0	104	85-115	2.71	20
Silicon	4.91	0.500	mg/L	5.00	98.1	85-115	5.25	20
Sodium	4.09	1.00	mg/L	4.05	101	85-115	3.05	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
05/26/20 16:24

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200836 - Diss. 200.7/200.8

Blank (B200836-BLK1)

Prepared: 05/20/20 Analyzed: 05/21/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200836-BS1)

Prepared: 05/20/20 Analyzed: 05/22/20

Arsenic	0.0503	0.0005	mg/L	0.0500	101	85-115
Cadmium	0.0491	0.0001	mg/L	0.0500	98.2	85-115
Copper	0.0439	0.0005	mg/L	0.0500	87.7	85-115
Lead	0.0433	0.0005	mg/L	0.0500	86.5	85-115
Manganese	0.0450	0.0005	mg/L	0.0500	90.1	85-115
Molybdenum	0.0428	0.0005	mg/L	0.0500	85.7	85-115
Selenium	0.250	0.0010	mg/L	0.250	100	85-115
Uranium	0.0438	0.0005	mg/L	0.0500	87.6	85-115
Zinc	0.0437	0.0020	mg/L	0.0500	87.4	85-115

LCS Dup (B200836-BSD1)

Prepared: 05/20/20 Analyzed: 05/21/20

Arsenic	0.0471	0.0005	mg/L	0.0500	94.1	85-115	6.54	20
Cadmium	0.0491	0.0001	mg/L	0.0500	98.3	85-115	0.0780	20
Copper	0.0513	0.0005	mg/L	0.0500	103	85-115	15.6	20
Lead	0.0500	0.0005	mg/L	0.0500	100	85-115	14.4	20
Manganese	0.0518	0.0005	mg/L	0.0500	104	85-115	13.9	20
Molybdenum	0.0496	0.0005	mg/L	0.0500	99.3	85-115	14.7	20
Selenium	0.238	0.0010	mg/L	0.250	95.2	85-115	4.99	20
Uranium	0.0498	0.0005	mg/L	0.0500	99.6	85-115	12.8	20
Zinc	0.0516	0.0020	mg/L	0.0500	103	85-115	16.6	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
05/26/20 16:24

Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200825 - EPA 245.1/7470

Blank (B200825-BLK1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury ND 0.0002 mg/L

LCS (B200825-BS1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury 0.0049 0.0002 mg/L 0.00500 98.8 85-115

LCS Dup (B200825-BSD1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury 0.0049 0.0002 mg/L 0.00500 98.2 85-115 0.630 20

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200824 - EPA 245.1/7470

Blank (B200824-BLK1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury ND 0.0002 mg/L

LCS (B200824-BS1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury 0.0054 0.0002 mg/L 0.00500 108 85-115

LCS Dup (B200824-BSD1)

Prepared: 05/15/20 Analyzed: 05/18/20

Mercury 0.0053 0.0002 mg/L 0.00500 105 85-115 2.54 20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
05/26/20 16:24

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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75 Suttle St Durango, CO 81303

FORM-006
COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Project Information

Printed: 05/13/2020 2:58 pm

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

King Coal

Phone: (970) 385-4528

Fax: (970) 385-4638

Project Name: GCC SW Baseline

Project Number: GCC SW Baseline

Client PM: Tom Bird

Comments: All Metals Are Field Filtered. Send Out PRESERVED bottles per Landon. 11-01-18

Analysis	Comment
----------	---------

Alkalinity, Bicarbonate

Alkalinity, Carbonate

Alkalinity, Hydroxide

Alkalinity, Total

Aluminum Dissolved by ICP

Arsenic Dissolved by ICPMS

Cadmium Dissolved by ICPMS

Chloride by IC

Copper Dissolved by ICPMS

Fluoride by IC

Hardness, diss

Iron Dissolved by ICP

Lead Dissolved by ICPMS

Manganese Dissolved by ICPMS

Mercury Total by CVAA

Molybdenum Dissolved by ICPMS

Nitrate/Nitrite as N

Oil & Grease

pH

Potassium Dissolved by ICP

SAR

Selenium Dissolved by ICPMS

Silica Dissolved by ICP Package

Sodium Dissolved by ICP

Solids, Total Dissolved (TDS)

Solids, Total Suspended (TSS)

Sulfate by IC

Total Organic Carbon

Uranium Dissolved by ICPMS

Zinc Dissolved by ICPMS

Hardness, diss subanalyses:

Calcium Dissolved by ICP

Magnesium Dissolved by ICP

Silica Dissolved by ICP Package subanalyses:

Silicon Dissolved by ICP

Project Information

Printed: 05/13/2020 2:58 pm

GCC Energy, LLC

6473 CR 120
Hesperus, CO 81326
Laboratory PM: Debbie Zufelt

King Coal

Phone: (970) 385-4528
Fax: (970) 385-4638

Project Name: GCC GW Baseline
Project Number: GCC GW Baseline
Client PM: Tom Bird
Comments: All Metals Are Field Filtered. Send Out PRESERVED bottles per Landon. 11-01-18

Analysis	Comment
----------	---------

Alkalinity, Bicarbonate
Alkalinity, Carbonate
Alkalinity, Hydroxide
Alkalinity, Total
Aluminum Dissolved by ICP
Arsenic Dissolved by ICPMS
Cadmium Dissolved by ICPMS
Chloride by IC
Copper Dissolved by ICPMS
Fluoride by IC
Hardness, diss
Iron Dissolved by ICP
Lead Dissolved by ICPMS
Manganese Dissolved by ICPMS
Mercury Dissolved by CVAA
Molybdenum Dissolved by ICPMS
Nitrate/Nitrite as N
pH
Potassium Dissolved by ICP
Selenium Dissolved by ICPMS
Silica Dissolved by ICP Package
Sodium Dissolved by ICP
Solids, Total Dissolved (TDS)
Sulfate by IC
Total Organic Carbon
Uranium Dissolved by ICPMS
Zinc Dissolved by ICPMS

Hardness, diss subanalyses:

Calcium Dissolved by ICP
Magnesium Dissolved by ICP

Silica Dissolved by ICP Package subanalyses:

Silicon Dissolved by ICP



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

11 June 2020

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW & SW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 06/01/20 13:26.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Well #2 Downgradient	2006009-01	Water	06/01/20 09:42	06/01/20 13:26	
Haygulch Ditch Downgradient	2006009-02	Water	06/01/20 11:01	06/01/20 13:26	
Well #1 Upgradient	2006009-03	Water	06/01/20 12:15	06/01/20 13:26	
MW-98	2006009-04	Water	06/01/20 09:52	06/01/20 13:26	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

Well #2 Downgradient

2006009-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	324	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	324	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Chloride*	50.3	5.00	0.443	mg/L	5	06/04/20 00:20	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	06/04/20 00:20	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 12:59	EPA353.2		LLG
pH*	7.09			pH Units	1	06/03/20 09:10	EPA150.1		FGH
Total Dissolved Solids*	730	10.0		mg/L	1	06/02/20 15:15	EPA160.1		VJW
Sulfate*	230	5.00	0.762	mg/L	5	06/04/20 00:20	EPA300.0		AES
Total Organic Carbon*	1.84	0.500	0.135	mg/L	1	06/09/20 00:44	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	06/05/20 11:23	EPA200.7		AES
Calcium*	92.2	0.100	0.017	mg/L	1	06/05/20 11:22	EPA200.7		AES
Hardness as CaCO ₃	575	0.662	0.138	mg/L	1	06/05/20 11:22	2340 B		AES
Iron*	0.107	0.050	0.018	mg/L	1	06/05/20 11:23	EPA200.7		AES
Magnesium*	83.7	0.100	0.023	mg/L	1	06/05/20 11:22	EPA200.7		AES
Potassium*	2.00	1.00	0.130	mg/L	1	06/05/20 11:22	EPA200.7		AES
Silica (SiO ₂)	10.6	1.07	0.0354	mg/L	1	06/05/20 11:23	Calculation		AES
Silicon	4.98	0.500	0.017	mg/L	1	06/05/20 11:23	EPA200.7		AES
Sodium*	24.5	1.00	0.101	mg/L	1	06/05/20 11:22	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0009	0.0005	0.0001	mg/L	1	06/10/20 16:27	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/10/20 16:27	EPA200.8		AES
Copper*	<0.0005	0.0005	0.0002	mg/L	1	06/10/20 16:27	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:27	EPA200.8		AES
Manganese*	0.444	0.0005	0.0001	mg/L	1	06/10/20 16:27	EPA200.8		AES
Molybdenum*	0.0023	0.0005	0.0001	mg/L	1	06/10/20 16:27	EPA200.8		AES
Selenium*	0.0012	0.0010	0.0005	mg/L	1	06/10/20 16:27	EPA200.8		AES
Uranium	0.0016	0.0005	0.0002	mg/L	1	06/10/20 16:27	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	06/10/20 16:27	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -0.37

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

Haygulch Ditch Downgradient

2006009-02 (Surface Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	48.0	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	48.0	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Chloride*	1.87	1.00	0.0886	mg/L	1	06/04/20 11:16	EPA300.0		AES
Fluoride*	0.185	0.100	0.00971	mg/L	1	06/04/20 11:16	EPA300.0		AES
Nitrate/Nitrite as N*	0.031	0.020	0.006	mg/L as N	1	06/02/20 13:00	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	1.16	mg/L	1	06/03/20 08:40	EPA1664 A		VJW
pH*	7.49			pH Units	1	06/03/20 09:10	EPA150.1		FGH
SAR	0.10			No Unit	1	06/10/20 16:36	Calculation		AES
Total Dissolved Solids*	120	10.0		mg/L	1	06/02/20 15:15	EPA160.1		VJW
Total Suspended Solids*	17.5	4.00		mg/L	1	06/02/20 16:00	EPA160.2		VJW
Sulfate*	14.2	1.00	0.152	mg/L	1	06/04/20 11:16	EPA300.0		AES
Total Organic Carbon*	1.39	0.500	0.135	mg/L	1	06/09/20 01:00	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	06/05/20 11:27	EPA200.7		AES
Calcium*	20.3	0.100	0.017	mg/L	1	06/05/20 11:27	EPA200.7		AES
Hardness as CaCO ₃	63.6	0.662	0.138	mg/L	1	06/05/20 11:27	2340 B		AES
Iron*	<0.050	0.050	0.018	mg/L	1	06/05/20 11:27	EPA200.7		AES
Magnesium*	3.15	0.100	0.023	mg/L	1	06/05/20 11:27	EPA200.7		AES
Potassium*	<1.00	1.00	0.130	mg/L	1	06/05/20 11:27	EPA200.7		AES
Silica (SiO ₂)	6.38	1.07	0.0354	mg/L	1	06/05/20 11:27	Calculation		AES
Silicon	2.98	0.500	0.017	mg/L	1	06/05/20 11:27	EPA200.7		AES
Sodium*	1.90	1.00	0.101	mg/L	1	06/05/20 11:27	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:31	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/10/20 16:31	EPA200.8		AES
Copper*	0.0014	0.0005	0.0002	mg/L	1	06/10/20 16:31	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:31	EPA200.8		AES
Manganese*	0.0012	0.0005	0.0001	mg/L	1	06/10/20 16:31	EPA200.8		AES
Molybdenum*	0.0008	0.0005	0.0001	mg/L	1	06/10/20 16:31	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	06/10/20 16:31	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	06/10/20 16:31	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	06/10/20 16:31	EPA200.8		AES

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

Haygulch Ditch Downgradient

2006009-02 (Surface Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/10/20 12:01	EPA245.1		LLG
Cation/Anion Balance	1.96								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

Well #1 Upgradient

2006009-03 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	576	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	576	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Chloride*	4.76	2.00	0.177	mg/L	2	06/09/20 16:55	EPA300.0		AES
Fluoride*	0.366	0.200	0.0194	mg/L	2	06/09/20 16:55	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 13:02	EPA353.2		LLG
pH*	7.26			pH Units	1	06/03/20 09:10	EPA150.1		FGH
Total Dissolved Solids*	775	10.0		mg/L	1	06/02/20 15:15	EPA160.1		VJW
Sulfate*	110	4.00	0.610	mg/L	4	06/10/20 09:21	EPA300.0		AES
Total Organic Carbon*	3.37	0.500	0.135	mg/L	1	06/09/20 01:22	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	06/05/20 11:29	EPA200.7		AES
Calcium*	61.6	0.100	0.017	mg/L	1	06/05/20 11:29	EPA200.7		AES
Hardness as CaCO ₃	319	0.662	0.138	mg/L	1	06/05/20 11:29	2340 B		AES
Iron*	1.53	0.050	0.018	mg/L	1	06/05/20 11:29	EPA200.7		AES
Magnesium*	40.0	0.100	0.023	mg/L	1	06/05/20 11:29	EPA200.7		AES
Potassium*	3.05	1.00	0.130	mg/L	1	06/05/20 11:29	EPA200.7		AES
Silica (SiO ₂)	13.1	1.07	0.0354	mg/L	1	06/05/20 11:29	Calculation		AES
Silicon	6.14	0.500	0.017	mg/L	1	06/05/20 11:29	EPA200.7		AES
Sodium*	178	1.00	0.101	mg/L	1	06/05/20 11:29	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:34	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/10/20 16:34	EPA200.8		AES
Copper*	0.0017	0.0005	0.0002	mg/L	1	06/10/20 16:34	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:34	EPA200.8		AES
Manganese*	0.369	0.0005	0.0001	mg/L	1	06/10/20 16:34	EPA200.8		AES
Molybdenum*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:34	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	06/10/20 16:34	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	06/10/20 16:34	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	06/10/20 16:34	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance .99

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

MW-98

2006009-04 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	325	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	06/03/20 13:35	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	325	10.0	7.16	mg/L	1	06/03/20 13:35	2320 B		VJW
Chloride*	55.5	2.00	0.177	mg/L	2	06/09/20 17:15	EPA300.0		AES
Fluoride*	0.238	0.200	0.0194	mg/L	2	06/09/20 17:15	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 13:03	EPA353.2		LLG
pH*	7.20			pH Units	1	06/03/20 09:10	EPA150.1		FGH
Total Dissolved Solids*	720	10.0		mg/L	1	06/02/20 15:15	EPA160.1		VJW
Sulfate*	218	10.0	1.52	mg/L	10	06/10/20 09:41	EPA300.0		AES
Total Organic Carbon*	1.79	0.500	0.135	mg/L	1	06/09/20 01:37	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	06/05/20 11:34	EPA200.7		AES
Calcium*	94.9	0.100	0.017	mg/L	1	06/05/20 11:34	EPA200.7		AES
Hardness as CaCO ₃	592	0.662	0.138	mg/L	1	06/05/20 11:34	2340 B		AES
Iron*	0.100	0.050	0.018	mg/L	1	06/05/20 11:34	EPA200.7		AES
Magnesium*	86.4	0.100	0.023	mg/L	1	06/05/20 11:34	EPA200.7		AES
Potassium*	2.06	1.00	0.130	mg/L	1	06/05/20 11:34	EPA200.7		AES
Silica (SiO ₂)	10.8	1.07	0.0354	mg/L	1	06/05/20 11:34	Calculation		AES
Silicon	5.04	0.500	0.017	mg/L	1	06/05/20 11:34	EPA200.7		AES
Sodium*	25.0	1.00	0.101	mg/L	1	06/05/20 11:34	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0008	0.0005	0.0001	mg/L	1	06/10/20 16:38	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/10/20 16:38	EPA200.8		AES
Copper*	<0.0005	0.0005	0.0002	mg/L	1	06/10/20 16:38	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/10/20 16:38	EPA200.8		AES
Manganese*	0.412	0.0005	0.0001	mg/L	1	06/10/20 16:38	EPA200.8		AES
Molybdenum*	0.0022	0.0005	0.0001	mg/L	1	06/10/20 16:38	EPA200.8		AES
Selenium*	0.0010	0.0010	0.0005	mg/L	1	06/10/20 16:38	EPA200.8		AES
Uranium	0.0015	0.0005	0.0002	mg/L	1	06/10/20 16:38	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	06/10/20 16:38	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/10/20 11:27	EPA245.1		LLG
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Cation/Anion Balance 1.45

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200838 - General Prep - Wet Chem

Blank (B200838-BLK1) Prepared: 05/18/20 Analyzed: 05/20/20

Oil & Grease (HEM) ND 5.00 mg/L

LCS (B200838-BS1) Prepared: 05/18/20 Analyzed: 05/21/20

Oil & Grease (HEM) 34.2 5.00 mg/L 40.0 85.5 85-115

LCS Dup (B200838-BSD1) Prepared: 05/18/20 Analyzed: 05/20/20

Oil & Grease (HEM) 34.0 5.00 mg/L 40.0 85.0 85-115 0.587 20

Duplicate (B200838-DUP1) Source: 2006009-02 Prepared & Analyzed: 06/03/20

Oil & Grease (HEM) ND 5.00 mg/L ND 20

Batch B200923 - General Prep - Wet Chem

Blank (B200923-BLK1) Prepared & Analyzed: 06/02/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B200923-DUP1) Source: 2005200-01 Prepared & Analyzed: 06/02/20

Total Dissolved Solids 450 10.0 mg/L 450 0.00 20

Reference (B200923-SRM1) Prepared & Analyzed: 06/02/20

Total Dissolved Solids 565 10.0 mg/L 570 99.1 85-115

Batch B200925 - General Prep - Wet Chem

Blank (B200925-BLK1) Prepared: 06/01/20 Analyzed: 06/02/20

Total Suspended Solids ND 4.00 mg/L

Duplicate (B200925-DUP1) Source: 2005210-01 Prepared: 06/01/20 Analyzed: 06/02/20

Total Suspended Solids 110 4.00 mg/L 120 8.70 20

Reference (B200925-SRM1) Prepared: 06/01/20 Analyzed: 06/02/20

Total Suspended Solids 101 4.00 mg/L 100 101 85-115

Batch B200931 - General Prep - Wet Chem

Blank (B200931-BLK1) Prepared & Analyzed: 06/02/20

Nitrate/Nitrite as N ND 0.020 mg/L as N

LCS (B200931-BS1) Prepared & Analyzed: 06/02/20

Nitrate/Nitrite as N 1.05 0.020 mg/L as N 1.00 105 90-110

LCS Dup (B200931-BSD1) Prepared & Analyzed: 06/02/20

Nitrate/Nitrite as N 0.989 0.020 mg/L as N 1.00 98.9 90-110 6.37 20

Batch B200937 - General Prep - Wet Chem

Blank (B200937-BLK1) Prepared & Analyzed: 06/03/20

Alkalinity, Total as CaCO3 ND 10.0 mg/L

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200937 - General Prep - Wet Chem (Continued)

LCS (B200937-BS1)

Prepared & Analyzed: 06/03/20

Alkalinity, Total as CaCO ₃	97.0	10.0	mg/L	100	97.0	85-115
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LCS Dup (B200937-BSD1)

Prepared & Analyzed: 06/03/20

Alkalinity, Total as CaCO ₃	98.0	10.0	mg/L	100	98.0	85-115	1.03	20
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Batch B200940 - General Prep - Wet Chem

Blank (B200940-BLK1)

Prepared & Analyzed: 06/03/20

Chloride	ND	1.00	mg/L
Fluoride	ND	0.100	mg/L
Sulfate	ND	1.00	mg/L

LCS (B200940-BS1)

Prepared & Analyzed: 06/03/20

Chloride	24.2	1.00	mg/L	25.0	96.9	90-110
Fluoride	2.60	0.100	mg/L	2.50	104	90-110
Sulfate	24.5	1.00	mg/L	25.0	97.8	90-110

LCS Dup (B200940-BSD1)

Prepared & Analyzed: 06/03/20

Chloride	24.4	1.00	mg/L	25.0	97.7	90-110	0.904	20
Fluoride	2.64	0.100	mg/L	2.50	106	90-110	1.49	20
Sulfate	24.0	1.00	mg/L	25.0	95.8	90-110	2.06	20

Batch B200946 - General Prep - Wet Chem

Duplicate (B200946-DUP1)

Source: 2006007-01

Prepared & Analyzed: 06/03/20

pH	7.82	pH Units	7.82	0.00	20
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Reference (B200946-SRM1)

Prepared & Analyzed: 06/03/20

pH	7.05	pH Units	7.00	101	98.5-101.4
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Batch B200969 - General Prep - Wet Chem

Blank (B200969-BLK1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	ND	0.500	mg/L
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LCS (B200969-BS1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	9.28	0.500	mg/L	10.0	92.8	85-115
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LCS Dup (B200969-BSD1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	9.58	0.500	mg/L	10.0	95.8	85-115	3.10	20
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Batch B200985 - General Prep - Wet Chem

Blank (B200985-BLK1)

Prepared & Analyzed: 06/09/20

Chloride	ND	1.00	mg/L
Fluoride	ND	0.100	mg/L
Sulfate	ND	1.00	mg/L

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch B200985 - General Prep - Wet Chem (Continued)

LCS (B200985-BS1)

Prepared & Analyzed: 06/09/20

Chloride	24.1	1.00	mg/L	25.0		96.3	90-110		
Fluoride	2.69	0.100	mg/L	2.50		108	90-110		
Sulfate	24.4	1.00	mg/L	25.0		97.5	90-110		

LCS Dup (B200985-BSD1)

Prepared & Analyzed: 06/09/20

Chloride	24.2	1.00	mg/L	25.0		96.7	90-110	0.452	20
Fluoride	2.61	0.100	mg/L	2.50		104	90-110	3.10	20
Sulfate	24.6	1.00	mg/L	25.0		98.3	90-110	0.817	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/11/20 14:53

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200928 - Diss. 200.7/200.8

Blank (B200928-BLK1)

Prepared: 06/04/20 Analyzed: 06/05/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200928-BS1)

Prepared: 06/04/20 Analyzed: 06/05/20

Aluminum	5.11	0.050	mg/L	5.00	102	85-115
Calcium	5.10	0.100	mg/L	5.00	102	85-115
Iron	4.93	0.050	mg/L	5.00	98.5	85-115
Magnesium	25.9	0.100	mg/L	25.0	104	85-115
Potassium	10.4	1.00	mg/L	10.0	104	85-115
Silicon	4.98	0.500	mg/L	5.00	99.6	85-115
Sodium	4.19	1.00	mg/L	4.05	104	85-115

LCS Dup (B200928-BSD1)

Prepared: 06/04/20 Analyzed: 06/05/20

Aluminum	5.10	0.050	mg/L	5.00	102	85-115	0.301	20
Calcium	4.97	0.100	mg/L	5.00	99.3	85-115	2.61	20
Iron	4.88	0.050	mg/L	5.00	97.6	85-115	0.926	20
Magnesium	25.5	0.100	mg/L	25.0	102	85-115	1.60	20
Potassium	10.3	1.00	mg/L	10.0	103	85-115	0.609	20
Silicon	4.92	0.500	mg/L	5.00	98.5	85-115	1.09	20
Sodium	4.14	1.00	mg/L	4.05	102	85-115	1.33	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200975 - Diss. 200.7/200.8

Blank (B200975-BLK1)

Prepared: 06/08/20 Analyzed: 06/09/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200975-BS1)

Prepared: 06/08/20 Analyzed: 06/09/20

Arsenic	0.0447	0.0005	mg/L	0.0500	89.5	85-115
Cadmium	0.0455	0.0001	mg/L	0.0500	91.0	85-115
Copper	0.0467	0.0005	mg/L	0.0500	93.4	85-115
Lead	0.0459	0.0005	mg/L	0.0500	91.8	85-115
Manganese	0.0461	0.0005	mg/L	0.0500	92.2	85-115
Molybdenum	0.0473	0.0005	mg/L	0.0500	94.6	85-115
Selenium	0.221	0.0010	mg/L	0.250	88.5	85-115
Uranium	0.0454	0.0005	mg/L	0.0500	90.8	85-115
Zinc	0.0462	0.0020	mg/L	0.0500	92.4	85-115

LCS Dup (B200975-BSD1)

Prepared: 06/08/20 Analyzed: 06/09/20

Arsenic	0.0434	0.0005	mg/L	0.0500	86.9	85-115	2.95	20
Cadmium	0.0459	0.0001	mg/L	0.0500	91.8	85-115	0.792	20
Copper	0.0477	0.0005	mg/L	0.0500	95.3	85-115	2.09	20
Lead	0.0465	0.0005	mg/L	0.0500	93.0	85-115	1.26	20
Manganese	0.0469	0.0005	mg/L	0.0500	93.8	85-115	1.70	20
Molybdenum	0.0475	0.0005	mg/L	0.0500	95.0	85-115	0.438	20
Selenium	0.217	0.0010	mg/L	0.250	86.9	85-115	1.87	20
Uranium	0.0454	0.0005	mg/L	0.0500	90.9	85-115	0.0597	20
Zinc	0.0476	0.0020	mg/L	0.0500	95.3	85-115	3.05	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200978 - EPA 245.1/7470

Blank (B200978-BLK1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	ND	0.0002	mg/L
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LCS (B200978-BS1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	0.0052	0.0002	mg/L	0.00500	104	85-115
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LCS Dup (B200978-BSD1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	0.0054	0.0002	mg/L	0.00500	108	85-115	3.34	20
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Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200933 - EPA 245.1/7470

Blank (B200933-BLK1)

Prepared: 06/02/20 Analyzed: 06/04/20

Mercury	ND	0.0002	mg/L
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LCS (B200933-BS1)

Prepared: 06/02/20 Analyzed: 06/04/20

Mercury	0.0052	0.0002	mg/L	0.00500	104	85-115
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LCS Dup (B200933-BSD1)

Prepared: 06/02/20 Analyzed: 06/04/20

Mercury	0.0052	0.0002	mg/L	0.00500	105	85-115	0.287	20
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Batch B200977 - EPA 245.1/7470

Blank (B200977-BLK1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	ND	0.0002	mg/L
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LCS (B200977-BS1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	0.0054	0.0002	mg/L	0.00500	109	85-115
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LCS Dup (B200977-BSD1)

Prepared: 06/08/20 Analyzed: 06/10/20

Mercury	0.0053	0.0002	mg/L	0.00500	107	85-115	1.60	20
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/11/20 14:53

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Project Information

(Continued)

Printed: 06/01/2020 3:21 pm

GCC Energy, LLC

6473 CR 120
Hesperus, CO 81326
Laboratory PM: Debbie Zufelt

King Coal

Phone: (970) 385-4528
Fax: (970) 385-4638

Project Name: GCC SW Baseline
Project Number: GCC SW Baseline
Client PM: Tom Bird
Comments: All Metals Are Field Filtered except for Total Hg. Send Out PRESERVED bottles per Landon. 11-01-18
Mark one Total Hg. If we do not receive an unfiltered metals bottle, pour some from the TSS bottle for Hg..
Client needs 1 additional O&G bottle per event

Analysis	Comment
Alkalinity, Bicarbonate	
Alkalinity, Carbonate	
Alkalinity, Hydroxide	
Alkalinity, Total	
Aluminum Dissolved by ICP	
Arsenic Dissolved by ICPMS	
Cadmium Dissolved by ICPMS	
Chloride by IC	
Copper Dissolved by ICPMS	
Fluoride by IC	
Hardness, diss	
Iron Dissolved by ICP	
Lead Dissolved by ICPMS	
Manganese Dissolved by ICPMS	
Mercury Total by CVAA	
Molybdenum Dissolved by ICPMS	
Nitrate/Nitrite as N	
Oil & Grease	
pH	
Potassium Dissolved by ICP	
SAR	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Solids, Total Suspended (TSS)	
Sulfate by IC	
Total Organic Carbon	
Uranium Dissolved by ICPMS	
Zinc Dissolved by ICPMS	
Hardness, diss subanalyses:	
Calcium Dissolved by ICP	
Magnesium Dissolved by ICP	
Silica Dissolved by ICP Package subanalyses:	
Silicon Dissolved by ICP	

Project Information

Printed: 06/01/2020 3:21 pm

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

King Coal

Phone: (970) 385-4528

Fax: (970) 385-4638

Project Name: GCC GW Baseline

Project Number: GCC GW Baseline

Client PM: Tom Bird

Comments: All Metals Are Field Filtered. Send Out PRESERVED bottles per Landon. 11-01-18

Analysis	Comment
Alkalinity, Bicarbonate	
Alkalinity, Carbonate	
Alkalinity, Hydroxide	
Alkalinity, Total	
Aluminum Dissolved by ICP	
Arsenic Dissolved by ICPMS	
Cadmium Dissolved by ICPMS	
Chloride by IC	
Copper Dissolved by ICPMS	
Fluoride by IC	
Hardness, diss	
Iron Dissolved by ICP	
Lead Dissolved by ICPMS	
Manganese Dissolved by ICPMS	
Mercury Dissolved by CVAA	
Molybdenum Dissolved by ICPMS	
Nitrate/Nitrite as N	
pH	
Potassium Dissolved by ICP	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Sulfate by IC	
Total Organic Carbon	
Uranium Dissolved by ICPMS	
Zinc Dissolved by ICPMS	

Hardness, diss subanalyses:

Calcium Dissolved by ICP

Magnesium Dissolved by ICP

Silica Dissolved by ICP Package subanalyses:

Silicon Dissolved by ICP



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09 June 2020

Landon Beck
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 05/28/20 11:11.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-1-A	2005197-01	Water	05/28/20 07:57	05/28/20 11:11	
MW-1-C	2005197-02	Water	05/28/20 08:40	05/28/20 11:11	
MW-5-MI	2005197-03	Water	05/28/20 09:39	05/28/20 11:11	
MW-5-C	2005197-04	Water	05/28/20 10:15	05/28/20 11:11	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon BeckReported:
06/09/20 16:24

MW-1-A

2005197-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	340	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	340	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	2.71	2.00	0.177	mg/L	2	06/03/20 16:33	EPA300.0		AES
Fluoride*	0.228	0.200	0.0194	mg/L	2	06/03/20 16:33	EPA300.0		AES
Nitrate/Nitrite as N*	0.046	0.020	0.006	mg/L as N	1	06/02/20 12:14	EPA353.2	M5	LLG
pH*	6.91			pH Units	1	05/28/20 14:45	EPA150.1		FGH
Total Dissolved Solids*	1150	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	532	20.0	3.05	mg/L	20	06/03/20 16:53	EPA300.0		AES
Total Organic Carbon*	1.55	0.500	0.135	mg/L	1	06/08/20 21:02	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:19	EPA200.7		AES
Calcium*	31.6	0.500	0.083	mg/L	5	06/02/20 12:19	EPA200.7		AES
Hardness as CaCO ₃	165	3.31	0.690	mg/L	5	06/02/20 12:19	2340 B		AES
Iron*	0.559	0.250	0.092	mg/L	5	06/02/20 12:19	EPA200.7		AES
Magnesium*	20.8	0.500	0.117	mg/L	5	06/02/20 12:19	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 12:19	EPA200.7		AES
Silica (SiO ₂)	10.4	5.35	0.177	mg/L	5	06/02/20 12:19	Calculation		AES
Silicon	4.85	2.50	0.083	mg/L	5	06/02/20 12:19	EPA200.7		AES
Sodium*	349	5.00	0.503	mg/L	5	06/02/20 12:19	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:48	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:48	EPA200.8		AES
Copper*	0.0012	0.0010	0.0004	mg/L	2	06/03/20 12:48	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 13:09	EPA200.8		AES
Manganese*	0.0329	0.0010	0.0002	mg/L	2	06/03/20 12:48	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:48	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:48	EPA200.8		AES
Uranium	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 13:09	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:48	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 1.6

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon BeckReported:
06/09/20 16:24

MW-1-C

2005197-02 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	490	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	490	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	8.20	5.00	0.443	mg/L	5	06/03/20 17:12	EPA300.0		AES
Fluoride*	0.695	0.500	0.0486	mg/L	5	06/03/20 17:12	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 12:18	EPA353.2		LLG
pH*	6.62			pH Units	1	05/28/20 14:45	EPA150.1		FGH
Total Dissolved Solids*	2460	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	1370	50.0	7.62	mg/L	50	06/03/20 17:32	EPA300.0		AES
Total Organic Carbon*	2.32	0.500	0.135	mg/L	1	06/08/20 21:19	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:22	EPA200.7		AES
Calcium*	294	0.500	0.083	mg/L	5	06/02/20 12:22	EPA200.7		AES
Hardness as CaCO ₃	1590	3.31	0.690	mg/L	5	06/02/20 12:22	2340 B		AES
Iron*	0.606	0.250	0.092	mg/L	5	06/02/20 12:22	EPA200.7		AES
Magnesium*	207	0.500	0.117	mg/L	5	06/02/20 12:22	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 12:22	EPA200.7		AES
Silica (SiO ₂)	13.8	5.35	0.177	mg/L	5	06/02/20 12:22	Calculation		AES
Silicon	6.47	2.50	0.083	mg/L	5	06/02/20 12:22	EPA200.7		AES
Sodium*	155	5.00	0.503	mg/L	5	06/02/20 12:22	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0019	0.0015	0.0003	mg/L	3	06/03/20 12:52	EPA200.8		AES
Cadmium*	<0.0003	0.0003	0.0002	mg/L	3	06/03/20 12:52	EPA200.8		AES
Copper*	<0.0015	0.0015	0.0007	mg/L	3	06/03/20 12:52	EPA200.8		AES
Lead*	<0.0015	0.0015	0.0003	mg/L	3	06/03/20 13:13	EPA200.8		AES
Manganese*	0.0473	0.0015	0.0003	mg/L	3	06/03/20 12:52	EPA200.8		AES
Molybdenum*	<0.0015	0.0015	0.0003	mg/L	3	06/03/20 12:52	EPA200.8		AES
Selenium*	<0.0030	0.0030	0.0016	mg/L	3	06/03/20 12:52	EPA200.8		AES
Uranium	0.0020	0.0015	0.0006	mg/L	3	06/03/20 13:13	EPA200.8		AES
Zinc*	<0.0060	0.0060	0.0010	mg/L	3	06/03/20 12:52	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -0.06

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon BeckReported:
06/09/20 16:24

MW-5-MI

2005197-03 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	775	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	90.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	865	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	5.30	2.00	0.177	mg/L	2	06/03/20 17:51	EPA300.0		AES
Fluoride*	0.308	0.200	0.0194	mg/L	2	06/03/20 17:51	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 12:19	EPA353.2		LLG
pH*	8.17			pH Units	1	05/28/20 14:45	EPA150.1		FGH
Total Dissolved Solids*	950	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	5.99	2.00	0.305	mg/L	2	06/03/20 17:51	EPA300.0		AES
Total Organic Carbon*	2.72	0.500	0.135	mg/L	1	06/08/20 22:15	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:26	EPA200.7		AES
Calcium*	2.24	0.500	0.083	mg/L	5	06/02/20 12:26	EPA200.7		AES
Hardness as CaCO ₃	8.72	3.31	0.690	mg/L	5	06/02/20 12:26	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 12:26	EPA200.7		AES
Magnesium*	0.758	0.500	0.117	mg/L	5	06/02/20 12:26	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 12:26	EPA200.7		AES
Silica (SiO ₂)	7.36	5.35	0.177	mg/L	5	06/02/20 12:26	Calculation		AES
Silicon	3.44	2.50	0.083	mg/L	5	06/02/20 12:26	EPA200.7		AES
Sodium*	407	5.00	0.503	mg/L	5	06/02/20 12:26	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0126	0.0025	0.0005	mg/L	5	06/02/20 16:45	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	06/02/20 16:45	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	06/02/20 16:45	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 16:45	EPA200.8		AES
Manganese*	0.0169	0.0025	0.0006	mg/L	5	06/02/20 16:45	EPA200.8		AES
Molybdenum*	0.0031	0.0025	0.0006	mg/L	5	06/02/20 16:45	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	06/02/20 16:45	EPA200.8		AES
Uranium	0.0068	0.0025	0.0010	mg/L	5	06/02/20 16:45	EPA200.8		AES
Zinc*	0.0641	0.0100	0.0016	mg/L	5	06/02/20 16:45	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance .89

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon BeckReported:
06/09/20 16:24

MW-5-C

2005197-04 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	1470	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	50.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	1520	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	6.12	5.00	0.443	mg/L	5	06/03/20 18:10	EPA300.0		AES
Fluoride*	2.01	0.500	0.0486	mg/L	5	06/03/20 18:10	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 12:20	EPA353.2		LLG
pH*	7.73			pH Units	1	05/28/20 14:45	EPA150.1		FGH
Total Dissolved Solids*	2800	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	721	50.0	7.62	mg/L	50	06/03/20 18:30	EPA300.0		AES
Total Organic Carbon*	2.73	0.500	0.135	mg/L	1	06/08/20 22:36	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	06/02/20 12:29	EPA200.7		AES
Calcium*	7.50	1.00	0.166	mg/L	10	06/02/20 12:29	EPA200.7		AES
Hardness as CaCO ₃	33.2	6.62	1.38	mg/L	10	06/02/20 12:29	2340 B		AES
Iron*	<0.500	0.500	0.184	mg/L	10	06/02/20 12:29	EPA200.7		AES
Magnesium*	3.51	1.00	0.235	mg/L	10	06/02/20 12:29	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	06/02/20 12:29	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	06/02/20 12:29	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	06/02/20 12:29	EPA200.7		AES
Sodium*	1060	10.0	1.01	mg/L	10	06/02/20 12:29	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	06/02/20 16:52	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	06/02/20 16:52	EPA200.8		AES
Copper*	0.0040	0.0025	0.0011	mg/L	5	06/02/20 16:52	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 16:52	EPA200.8		AES
Manganese*	0.0059	0.0025	0.0006	mg/L	5	06/02/20 16:52	EPA200.8		AES
Molybdenum*	0.0031	0.0025	0.0006	mg/L	5	06/02/20 16:52	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	06/02/20 16:52	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	06/02/20 16:52	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	06/02/20 16:52	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 1.25

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon BeckReported:
06/09/20 16:24

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200907 - General Prep - Wet Chem

Blank (B200907-BLK1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ ND 10.0 mg/L

LCS (B200907-BS1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ 90.0 10.0 mg/L 100 90.0 85-115

LCS Dup (B200907-BSD1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ 102 10.0 mg/L 100 102 85-115 12.5 20

Batch B200909 - General Prep - Wet Chem

Blank (B200909-BLK1)

Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B200909-DUP1)

Source: 2005179-04 Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids 100 10.0 mg/L 115 13.8 20

Reference (B200909-SRM1)

Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids 535 10.0 mg/L 570 93.9 85-115

Batch B200914 - General Prep - Wet Chem

Duplicate (B200914-DUP2)

Source: 2005193-01 Prepared & Analyzed: 05/28/20

pH 7.14 pH Units 7.11 0.421 20

Reference (B200914-SRM1)

Prepared & Analyzed: 05/28/20

pH 7.08 pH Units 7.00 101 98.5-101.4

Batch B200917 - General Prep - Wet Chem

Blank (B200917-BLK1)

Prepared: 06/01/20 Analyzed: 06/02/20

Nitrate/Nitrite as N ND 0.020 mg/L as N

LCS (B200917-BS1)

Prepared: 06/01/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 1.06 0.020 mg/L as N 1.00 106 90-110

LCS Dup (B200917-BSD1)

Prepared: 06/01/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 0.991 0.020 mg/L as N 1.00 99.1 90-110 6.76 20

Batch B200940 - General Prep - Wet Chem

Blank (B200940-BLK1)

Prepared & Analyzed: 06/03/20

Chloride ND 1.00 mg/L

Fluoride ND 0.100 mg/L

Sulfate ND 1.00 mg/L

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

**General Chemistry - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch B200940 - General Prep - Wet Chem (Continued)

LCS (B200940-BS1)

Prepared & Analyzed: 06/03/20

Chloride	24.2	1.00	mg/L	25.0		96.9	90-110		
Fluoride	2.60	0.100	mg/L	2.50		104	90-110		
Sulfate	24.5	1.00	mg/L	25.0		97.8	90-110		

LCS Dup (B200940-BSD1)

Prepared & Analyzed: 06/03/20

Chloride	24.4	1.00	mg/L	25.0		97.7	90-110	0.904	20
Fluoride	2.64	0.100	mg/L	2.50		106	90-110	1.49	20
Sulfate	24.0	1.00	mg/L	25.0		95.8	90-110	2.06	20

Batch B200969 - General Prep - Wet Chem

Blank (B200969-BLK1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	ND	0.500	mg/L						
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LCS (B200969-BS1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	9.28	0.500	mg/L	10.0		92.8	85-115		
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LCS Dup (B200969-BSD1)

Prepared & Analyzed: 06/08/20

Total Organic Carbon	9.58	0.500	mg/L	10.0		95.8	85-115	3.10	20
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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200927 - Diss. 200.7/200.8

Blank (B200927-BLK1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200927-BS1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	4.97	0.050	mg/L	5.00	99.4	85-115
Calcium	5.03	0.100	mg/L	5.00	101	85-115
Iron	4.96	0.050	mg/L	5.00	99.2	85-115
Magnesium	25.5	0.100	mg/L	25.0	102	85-115
Potassium	10.1	1.00	mg/L	10.0	101	85-115
Silicon	4.82	0.500	mg/L	5.00	96.4	85-115
Sodium	4.07	1.00	mg/L	4.05	101	85-115

LCS Dup (B200927-BSD1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	5.03	0.050	mg/L	5.00	101	85-115	1.13	20
Calcium	4.93	0.100	mg/L	5.00	98.7	85-115	1.98	20
Iron	5.00	0.050	mg/L	5.00	100	85-115	0.785	20
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	0.436	20
Potassium	10.2	1.00	mg/L	10.0	102	85-115	1.35	20
Silicon	4.84	0.500	mg/L	5.00	96.7	85-115	0.305	20
Sodium	4.08	1.00	mg/L	4.05	101	85-115	0.242	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200913 - Diss. 200.7/200.8

Blank (B200913-BLK1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200913-BS1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0520	0.0005	mg/L	0.0500	104	85-115
Cadmium	0.0532	0.0001	mg/L	0.0500	106	85-115
Copper	0.0520	0.0005	mg/L	0.0500	104	85-115
Lead	0.0532	0.0005	mg/L	0.0500	106	85-115
Manganese	0.0529	0.0005	mg/L	0.0500	106	85-115
Molybdenum	0.0528	0.0005	mg/L	0.0500	106	85-115
Selenium	0.262	0.0010	mg/L	0.250	105	85-115
Uranium	0.0535	0.0005	mg/L	0.0500	107	85-115
Zinc	0.0520	0.0020	mg/L	0.0500	104	85-115

LCS Dup (B200913-BSD1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0521	0.0005	mg/L	0.0500	104	85-115	0.170	20
Cadmium	0.0520	0.0001	mg/L	0.0500	104	85-115	2.18	20
Copper	0.0519	0.0005	mg/L	0.0500	104	85-115	0.282	20
Lead	0.0528	0.0005	mg/L	0.0500	106	85-115	0.704	20
Manganese	0.0524	0.0005	mg/L	0.0500	105	85-115	0.874	20
Molybdenum	0.0532	0.0005	mg/L	0.0500	106	85-115	0.678	20
Selenium	0.265	0.0010	mg/L	0.250	106	85-115	1.27	20
Uranium	0.0533	0.0005	mg/L	0.0500	107	85-115	0.366	20
Zinc	0.0518	0.0020	mg/L	0.0500	104	85-115	0.423	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B200933 - EPA 245.1/7470									
Blank (B200933-BLK1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	ND	0.0002	mg/L						
LCS (B200933-BS1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	104	85-115			
LCS Dup (B200933-BSD1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	105	85-115	0.287	20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCCE GW Baseline
Project Manager: Landon Beck

Reported:
06/09/20 16:24

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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jenna.emerick@greenanalytical.com or
dzufelt@greenanalytical.com
75 Suttle St Durango, CO 81303

FORM-006
COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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Durango, CO 81303
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www.greenanalytical.com

08 June 2020

Landon Beck
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: BTEX

Enclosed are the results of analyses for samples received by the laboratory on 05/26/20 14:25. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: BTEX
Project Name / Number: [none]
Project Manager: Landon Beck

Reported:
06/08/20 16:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-3-C	2005176-01	Water	05/26/20 12:53	05/26/20 14:25	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: BTEX
Project Name / Number: [none]
Project Manager: Landon Beck

Reported:
06/08/20 16:11

MW-3-C

2005176-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Subcontracted -- Cardinal Laboratories

Volatile Organic Compounds by EPA Method 8021

Benzene*	0.026	0.001	0.00006	mg/L	1	06/04/20 17:46	8021B		MS
Toluene*	0.007	0.001	0.0003	mg/L	1	06/04/20 17:46	8021B		MS
Ethylbenzene*	0.001	0.001	0.0001	mg/L	1	06/04/20 17:46	8021B		MS
Total Xylenes*	0.005	0.003	0.0003	mg/L	1	06/04/20 17:46	8021B		MS
Total BTEX	0.040	0.006	0.0005	mg/L	1	06/04/20 17:46	8021B		MS

Surrogate: 4-Bromofluorobenzene (PID)

104 % 58.2-133

06/04/20
17:46

8021B

MS

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: BTEX
Project Name / Number: [none]
Project Manager: Landon BeckReported:
06/08/20 16:11

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 0060303 - Volatiles

Blank (0060303-BLK1)

Prepared: 06/03/20 Analyzed: 06/04/20

Surrogate: 4-Bromofluorobenzene (PID)	0.0523		mg/L	0.0500		105	58.2-133			
Benzene	ND	0.001	mg/L							
Ethylbenzene	ND	0.001	mg/L							
Toluene	ND	0.001	mg/L							
Total BTEX	ND	0.006	mg/L							
Total Xylenes	ND	0.003	mg/L							

LCS (0060303-BS1)

Prepared: 06/03/20 Analyzed: 06/04/20

Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/L	0.0500		104	58.2-133			
Benzene	0.021	0.001	mg/L	0.0200		105	84.9-114			
Ethylbenzene	0.021	0.001	mg/L	0.0200		103	76.2-120			
Toluene	0.020	0.001	mg/L	0.0200		102	76.9-116			
Total Xylenes	0.061	0.003	mg/L	0.0600		101	79.7-115			

LCS Dup (0060303-BSD1)

Prepared: 06/03/20 Analyzed: 06/04/20

Surrogate: 4-Bromofluorobenzene (PID)	0.0522		mg/L	0.0500		104	58.2-133			
Benzene	0.021	0.001	mg/L	0.0200		105	84.9-114	0.152	3.95	
Ethylbenzene	0.021	0.001	mg/L	0.0200		103	76.2-120	0.477	6.85	
Toluene	0.020	0.001	mg/L	0.0200		102	76.9-116	0.137	4.44	
Total Xylenes	0.060	0.003	mg/L	0.0600		100	79.7-115	0.477	4.01	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: BTEX
Project Name / Number: [none]
Project Manager: Landon Beck

Reported:
06/08/20 16:11

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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jenna.emerick@greenanalytical.com or
dzufelt@greenanalytical.com
75 Suttle St Durango, CO 81303

FORM-006
COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

05 June 2020

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 05/26/20 14:25.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-4-MI	2005175-01	Water	05/26/20 08:51	05/26/20 14:25	
MW-4-A	2005175-02	Water	05/26/20 09:54	05/26/20 14:25	
MW-4-C	2005175-03	Water	05/26/20 10:31	05/26/20 14:25	
MW-3-MI	2005175-04	Water	05/26/20 11:20	05/26/20 14:25	
MW-3-A	2005175-05	Water	05/26/20 11:49	05/26/20 14:25	
MW-3-C	2005175-06	Water	05/26/20 12:53	05/26/20 14:25	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-4-MI

2005175-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	935	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	90.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	1030	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	5.11	2.00	0.177	mg/L	2	06/02/20 20:40	EPA300.0		AES
Fluoride*	5.16	0.200	0.0194	mg/L	2	06/02/20 20:40	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:09	EPA353.2		LLG
pH*	8.02			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	1110	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	21.9	2.00	0.305	mg/L	2	06/02/20 20:40	EPA300.0		AES
Total Organic Carbon*	6.55	0.500	0.135	mg/L	1	05/28/20 19:00	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 11:15	EPA200.7		AES
Calcium*	1.22	0.500	0.083	mg/L	5	06/02/20 11:15	EPA200.7		AES
Hardness as CaCO ₃	<3.31	3.31	0.690	mg/L	5	06/02/20 11:15	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 11:15	EPA200.7		AES
Magnesium*	<0.500	0.500	0.117	mg/L	5	06/02/20 11:15	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 11:14	EPA200.7		AES
Silica (SiO ₂)	7.81	5.35	0.177	mg/L	5	06/02/20 11:15	Calculation		AES
Silicon	3.65	2.50	0.083	mg/L	5	06/02/20 11:15	EPA200.7		AES
Sodium*	460	5.00	0.503	mg/L	5	06/02/20 11:14	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0139	0.0005	0.0001	mg/L	1	06/02/20 15:17	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/02/20 15:17	EPA200.8		AES
Copper*	0.0020	0.0010	0.0004	mg/L	2	06/02/20 15:49	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/02/20 15:17	EPA200.8		AES
Manganese*	0.0086	0.0010	0.0002	mg/L	2	06/02/20 15:49	EPA200.8		AES
Molybdenum*	0.0091	0.0005	0.0001	mg/L	1	06/02/20 15:17	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	06/02/20 15:17	EPA200.8		AES
Uranium	0.0195	0.0005	0.0002	mg/L	1	06/02/20 15:17	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/02/20 15:49	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -2.99

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-4-A

2005175-02 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	545	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	40.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	585	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	8.89	2.00	0.177	mg/L	2	06/02/20 21:19	EPA300.0		AES
Fluoride*	<0.200	0.200	0.0194	mg/L	2	06/02/20 21:19	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:10	EPA353.2		LLG
pH*	7.90			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	1480	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	580	20.0	3.05	mg/L	20	06/02/20 21:39	EPA300.0		AES
Total Organic Carbon*	3.49	0.500	0.135	mg/L	1	05/28/20 19:57	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 11:17	EPA200.7		AES
Calcium*	1.67	0.500	0.083	mg/L	5	06/02/20 11:17	EPA200.7		AES
Hardness as CaCO ₃	7.46	3.31	0.690	mg/L	5	06/02/20 11:17	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 11:17	EPA200.7		AES
Magnesium*	0.798	0.500	0.117	mg/L	5	06/02/20 11:17	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 11:17	EPA200.7		AES
Silica (SiO ₂)	8.55	5.35	0.177	mg/L	5	06/02/20 11:17	Calculation		AES
Silicon	4.00	2.50	0.083	mg/L	5	06/02/20 11:17	EPA200.7		AES
Sodium*	498	5.00	0.503	mg/L	5	06/02/20 11:17	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:16	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:16	EPA200.8		AES
Copper*	0.0020	0.0010	0.0004	mg/L	2	06/03/20 12:16	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:16	EPA200.8		AES
Manganese*	0.0031	0.0010	0.0002	mg/L	2	06/03/20 12:16	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:16	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:16	EPA200.8		AES
Uranium	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 12:16	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:16	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -4.77

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-4-C

2005175-03 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	2340	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	120	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	2460	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	555	25.0	2.21	mg/L	25	06/02/20 22:18	EPA300.0		AES
Fluoride*	2.36	0.500	0.0486	mg/L	5	06/02/20 21:58	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:11	EPA353.2	M5	LLG
pH*	7.76			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	3570	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	<5.00	5.00	0.762	mg/L	5	06/02/20 21:58	EPA300.0		AES
Total Organic Carbon*	2.50	0.500	0.135	mg/L	1	05/28/20 20:16	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	06/02/20 11:19	EPA200.7		AES
Calcium*	5.31	1.00	0.166	mg/L	10	06/02/20 11:19	EPA200.7		AES
Hardness as CaCO ₃	22.7	6.62	1.38	mg/L	10	06/02/20 11:19	2340 B		AES
Iron*	0.551	0.500	0.184	mg/L	10	06/02/20 11:19	EPA200.7		AES
Magnesium*	2.30	1.00	0.235	mg/L	10	06/02/20 11:19	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	06/02/20 11:19	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	06/02/20 11:19	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	06/02/20 11:19	EPA200.7		AES
Sodium*	1390	10.0	1.01	mg/L	10	06/02/20 11:19	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0195	0.0025	0.0005	mg/L	5	06/02/20 15:24	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	06/02/20 15:24	EPA200.8		AES
Copper*	0.0069	0.0025	0.0011	mg/L	5	06/02/20 15:24	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 15:24	EPA200.8		AES
Manganese*	0.0103	0.0025	0.0006	mg/L	5	06/02/20 15:24	EPA200.8		AES
Molybdenum*	0.0044	0.0025	0.0006	mg/L	5	06/02/20 15:24	EPA200.8		AES
Selenium*	0.0129	0.0050	0.0027	mg/L	5	06/02/20 15:24	EPA200.8		AES
Uranium	0.0039	0.0025	0.0010	mg/L	5	06/02/20 15:24	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	06/02/20 15:24	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -3.12

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-3-MI

2005175-04 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	550	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	130	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	680	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	9.61	2.00	0.177	mg/L	2	06/02/20 23:16	EPA300.0		AES
Fluoride*	1.13	0.200	0.0194	mg/L	2	06/02/20 23:16	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:15	EPA353.2		LLG
pH*	8.59			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	1130	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	231	10.0	1.52	mg/L	10	06/02/20 23:35	EPA300.0		AES
Total Organic Carbon*	6.07	0.500	0.135	mg/L	1	05/28/20 20:35	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 11:22	EPA200.7		AES
Calcium*	1.76	0.500	0.083	mg/L	5	06/02/20 11:22	EPA200.7		AES
Hardness as CaCO ₃	7.25	3.31	0.690	mg/L	5	06/02/20 11:22	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 11:22	EPA200.7		AES
Magnesium*	0.694	0.500	0.117	mg/L	5	06/02/20 11:22	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 11:22	EPA200.7		AES
Silica (SiO ₂)	8.24	5.35	0.177	mg/L	5	06/02/20 11:22	Calculation		AES
Silicon	3.85	2.50	0.083	mg/L	5	06/02/20 11:22	EPA200.7		AES
Sodium*	427	5.00	0.503	mg/L	5	06/02/20 11:22	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0086	0.0025	0.0005	mg/L	5	06/02/20 15:27	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	06/02/20 15:27	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	06/02/20 15:27	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 15:27	EPA200.8		AES
Manganese*	0.0102	0.0025	0.0006	mg/L	5	06/02/20 15:27	EPA200.8		AES
Molybdenum*	0.0195	0.0025	0.0006	mg/L	5	06/02/20 15:27	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	06/02/20 15:27	EPA200.8		AES
Uranium	0.0059	0.0025	0.0010	mg/L	5	06/02/20 15:27	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	06/02/20 15:27	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance .05

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-3-A

2005175-05 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	400	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	30.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	430	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	13.9	2.00	0.177	mg/L	2	06/02/20 23:55	EPA300.0		AES
Fluoride*	0.374	0.200	0.0194	mg/L	2	06/02/20 23:55	EPA300.0		AES
Nitrate/Nitrite as N*	0.026	0.020	0.006	mg/L as N	1	06/02/20 11:18	EPA353.2		LLG
pH*	7.68			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	1460	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	656	20.0	3.05	mg/L	20	06/03/20 00:14	EPA300.0		AES
Total Organic Carbon*	3.48	0.500	0.135	mg/L	1	05/28/20 20:52	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 11:25	EPA200.7		AES
Calcium*	3.07	0.500	0.083	mg/L	5	06/02/20 11:25	EPA200.7		AES
Hardness as CaCO ₃	10.3	3.31	0.690	mg/L	5	06/02/20 11:25	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 11:25	EPA200.7		AES
Magnesium*	0.645	0.500	0.117	mg/L	5	06/02/20 11:25	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 11:25	EPA200.7		AES
Silica (SiO ₂)	10.5	5.35	0.177	mg/L	5	06/02/20 11:25	Calculation		AES
Silicon	4.92	2.50	0.083	mg/L	5	06/02/20 11:25	EPA200.7		AES
Sodium*	507	5.00	0.503	mg/L	5	06/02/20 11:25	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:20	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:20	EPA200.8		AES
Copper*	0.0021	0.0010	0.0004	mg/L	2	06/03/20 12:20	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 15:31	EPA200.8		AES
Manganese*	0.0136	0.0010	0.0002	mg/L	2	06/03/20 12:20	EPA200.8		AES
Molybdenum*	0.0015	0.0010	0.0002	mg/L	2	06/03/20 12:20	EPA200.8		AES
Selenium*	0.0033	0.0020	0.0011	mg/L	2	06/03/20 12:20	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	06/02/20 15:31	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:20	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -83

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

MW-3-C

2005175-06 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	1800	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	250	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	2050	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	555	25.0	2.21	mg/L	25	06/03/20 00:53	EPA300.0		AES
Fluoride*	3.51	0.500	0.0486	mg/L	5	06/03/20 00:34	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:20	EPA353.2		LLG
pH*	8.41			pH Units	1	05/26/20 16:30	EPA150.1		FGH
Total Dissolved Solids*	3180	10.0		mg/L	1	05/26/20 16:45	EPA160.1		VJW
Sulfate*	<5.00	5.00	0.762	mg/L	5	06/03/20 00:34	EPA300.0		AES
Total Organic Carbon*	23.4	2.50	0.675	mg/L	5	05/29/20 08:56	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	06/02/20 11:27	EPA200.7		AES
Calcium*	3.81	1.00	0.166	mg/L	10	06/02/20 11:27	EPA200.7		AES
Hardness as CaCO ₃	16.0	6.62	1.38	mg/L	10	06/02/20 11:27	2340 B		AES
Iron*	<0.500	0.500	0.184	mg/L	10	06/02/20 11:27	EPA200.7		AES
Magnesium*	1.58	1.00	0.235	mg/L	10	06/02/20 11:27	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	06/02/20 11:27	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	06/02/20 11:27	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	06/02/20 11:27	EPA200.7		AES
Sodium*	1240	10.0	1.01	mg/L	10	06/02/20 11:27	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0133	0.0025	0.0005	mg/L	5	06/02/20 15:52	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	06/02/20 15:52	EPA200.8		AES
Copper*	0.0064	0.0025	0.0011	mg/L	5	06/02/20 15:52	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 15:52	EPA200.8		AES
Manganese*	0.0175	0.0025	0.0006	mg/L	5	06/02/20 15:52	EPA200.8		AES
Molybdenum*	0.0085	0.0025	0.0006	mg/L	5	06/02/20 15:52	EPA200.8		AES
Selenium*	0.0129	0.0050	0.0027	mg/L	5	06/02/20 15:52	EPA200.8		AES
Uranium	0.0033	0.0025	0.0010	mg/L	5	06/02/20 15:52	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	06/02/20 15:52	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -2.25

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:29

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200888 - General Prep - Wet Chem

Blank (B200888-BLK1) Prepared & Analyzed: 05/26/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B200888-DUP1) Source: 2005171-01 Prepared & Analyzed: 05/26/20

Total Dissolved Solids 2010 10.0 mg/L 2010 0.00472 20

Reference (B200888-SRM1) Prepared & Analyzed: 05/26/20

Total Dissolved Solids 565 10.0 mg/L 570 99.1 85-115

Batch B200895 - General Prep - Wet Chem

Duplicate (B200895-DUP1) Source: 2005151-01 Prepared & Analyzed: 05/26/20

pH 7.71 pH Units 7.65 0.781 20

Reference (B200895-SRM1) Prepared & Analyzed: 05/26/20

pH 7.07 pH Units 7.00 101 98.5-101.4

Batch B200904 - General Prep - Wet Chem

Blank (B200904-BLK1) Prepared & Analyzed: 05/28/20

Total Organic Carbon ND 0.500 mg/L

LCS (B200904-BS1) Prepared & Analyzed: 05/28/20

Total Organic Carbon 9.59 0.500 mg/L 10.0 95.9 85-115

LCS Dup (B200904-BSD1) Prepared & Analyzed: 05/28/20

Total Organic Carbon 9.86 0.500 mg/L 10.0 98.6 85-115 2.76 20

Batch B200907 - General Prep - Wet Chem

Blank (B200907-BLK1) Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ ND 10.0 mg/L

LCS (B200907-BS1) Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ 90.0 10.0 mg/L 100 90.0 85-115

LCS Dup (B200907-BSD1) Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO₃ 102 10.0 mg/L 100 102 85-115 12.5 20

Batch B200916 - General Prep - Wet Chem

Blank (B200916-BLK1) Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N ND 0.020 mg/L as N

LCS (B200916-BS1) Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 0.917 0.020 mg/L as N 1.00 91.7 90-110

LCS Dup (B200916-BSD1) Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 0.922 0.020 mg/L as N 1.00 92.2 90-110 0.544 20

Batch B200926 - General Prep - Wet Chem

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Blank (B200926-BLK1) Prepared: 06/01/20 Analyzed: 06/02/20									
Chloride	ND	1.00	mg/L						
Fluoride	ND	0.100	mg/L						
Sulfate	ND	1.00	mg/L						
LCS (B200926-BS1) Prepared: 06/01/20 Analyzed: 06/02/20									
Chloride	24.4	1.00	mg/L	25.0		97.7	90-110		
Fluoride	2.58	0.100	mg/L	2.50		103	90-110		
Sulfate	23.9	1.00	mg/L	25.0		95.6	90-110		
LCS Dup (B200926-BSD1) Prepared: 06/01/20 Analyzed: 06/02/20									
Chloride	24.1	1.00	mg/L	25.0		96.5	90-110	1.27	20
Fluoride	2.55	0.100	mg/L	2.50		102	90-110	1.17	20
Sulfate	24.3	1.00	mg/L	25.0		97.4	90-110	1.81	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200927 - Diss. 200.7/200.8

Blank (B200927-BLK1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200927-BS1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	4.97	0.050	mg/L	5.00	99.4	85-115
Calcium	5.03	0.100	mg/L	5.00	101	85-115
Iron	4.96	0.050	mg/L	5.00	99.2	85-115
Magnesium	25.5	0.100	mg/L	25.0	102	85-115
Potassium	10.1	1.00	mg/L	10.0	101	85-115
Silicon	4.82	0.500	mg/L	5.00	96.4	85-115
Sodium	4.07	1.00	mg/L	4.05	101	85-115

LCS Dup (B200927-BSD1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	5.03	0.050	mg/L	5.00	101	85-115	1.13	20
Calcium	4.93	0.100	mg/L	5.00	98.7	85-115	1.98	20
Iron	5.00	0.050	mg/L	5.00	100	85-115	0.785	20
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	0.436	20
Potassium	10.2	1.00	mg/L	10.0	102	85-115	1.35	20
Silicon	4.84	0.500	mg/L	5.00	96.7	85-115	0.305	20
Sodium	4.08	1.00	mg/L	4.05	101	85-115	0.242	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200913 - Diss. 200.7/200.8

Blank (B200913-BLK1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200913-BS1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0520	0.0005	mg/L	0.0500	104	85-115
Cadmium	0.0532	0.0001	mg/L	0.0500	106	85-115
Copper	0.0520	0.0005	mg/L	0.0500	104	85-115
Lead	0.0532	0.0005	mg/L	0.0500	106	85-115
Manganese	0.0529	0.0005	mg/L	0.0500	106	85-115
Molybdenum	0.0528	0.0005	mg/L	0.0500	106	85-115
Selenium	0.262	0.0010	mg/L	0.250	105	85-115
Uranium	0.0535	0.0005	mg/L	0.0500	107	85-115
Zinc	0.0520	0.0020	mg/L	0.0500	104	85-115

LCS Dup (B200913-BSD1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0521	0.0005	mg/L	0.0500	104	85-115	0.170	20
Cadmium	0.0520	0.0001	mg/L	0.0500	104	85-115	2.18	20
Copper	0.0519	0.0005	mg/L	0.0500	104	85-115	0.282	20
Lead	0.0528	0.0005	mg/L	0.0500	106	85-115	0.704	20
Manganese	0.0524	0.0005	mg/L	0.0500	105	85-115	0.874	20
Molybdenum	0.0532	0.0005	mg/L	0.0500	106	85-115	0.678	20
Selenium	0.265	0.0010	mg/L	0.250	106	85-115	1.27	20
Uranium	0.0533	0.0005	mg/L	0.0500	107	85-115	0.366	20
Zinc	0.0518	0.0020	mg/L	0.0500	104	85-115	0.423	20

Green Analytical Laboratories

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B200933 - EPA 245.1/7470									
Blank (B200933-BLK1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	ND	0.0002	mg/L						
LCS (B200933-BS1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	104	85-115			
LCS Dup (B200933-BSD1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	105	85-115	0.287	20	

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:29

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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jenna.emerick@greenanalytical.com or
dzufelt@greenanalytical.com
75 Suttle St Durango, CO 81303

FORM-006
COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Project Information

Printed: 05/26/2020 3:17 pm

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

King Coal

Phone: (970) 385-4528

Fax: (970) 385-4638

Project Name: GCC GW Baseline

Project Number: GCC GW Baseline

Client PM: Tom Bird

Comments: All Metals Are Field Filtered. Send Out PRESERVED bottles per Landon. 11-01-18

Analysis	Comment
Alkalinity, Bicarbonate	
Alkalinity, Carbonate	
Alkalinity, Hydroxide	
Alkalinity, Total	
Aluminum Dissolved by ICP	
Arsenic Dissolved by ICPMS	
Cadmium Dissolved by ICPMS	
Chloride by IC	
Copper Dissolved by ICPMS	
Fluoride by IC	
Hardness, diss	
Iron Dissolved by ICP	
Lead Dissolved by ICPMS	
Manganese Dissolved by ICPMS	
Mercury Dissolved by CVAA	
Molybdenum Dissolved by ICPMS	
Nitrate/Nitrite as N	
pH	
Potassium Dissolved by ICP	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Sulfate by IC	
Total Organic Carbon	
Uranium Dissolved by ICPMS	
Zinc Dissolved by ICPMS	
Hardness, diss subanalyses:	
Calcium Dissolved by ICP	
Magnesium Dissolved by ICP	
Silica Dissolved by ICP Package subanalyses:	
Silicon Dissolved by ICP	



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24 June 2020

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 05/14/20 12:30. This data replaces the previous report (See case narrative). If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/24/20 14:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-6-LM	2005105-01	Water	05/14/20 09:37	05/14/20 12:30	
MW-6-A	2005105-02	Water	05/14/20 10:53	05/14/20 12:30	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/24/20 14:53

Upon review of historical data and field parameters by GCC, it was determined that the samples were mislabeled in the field. This RE report is revised to correct the sample IDs and replaces the original report dated 05/26/20.

Green Analytical Laboratories

A handwritten signature in black ink that reads 'Debbie Zufelt'.

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

MW-6-LM

2005105-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	353	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	353	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Chloride*	11.7	5.00	0.443	mg/L	5	05/19/20 22:06	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	05/19/20 22:06	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	05/26/20 12:16	EPA353.2		LLG
pH*	7.18			pH Units	1	05/14/20 15:00	EPA150.1		FGH
Total Dissolved Solids*	1840	10.0		mg/L	1	05/18/20 12:07	EPA160.1		VJW
Sulfate*	904	100	15.2	mg/L	100	05/19/20 22:25	EPA300.0		AES
Total Organic Carbon*	1.84	0.500	0.135	mg/L	1	05/20/20 18:45	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	05/18/20 14:26	EPA200.7		AES
Calcium*	150	0.500	0.083	mg/L	5	05/18/20 14:26	EPA200.7		AES
Hardness as CaCO ₃	965	3.31	0.690	mg/L	5	05/18/20 14:26	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	05/18/20 14:26	EPA200.7		AES
Magnesium*	143	0.500	0.117	mg/L	5	05/18/20 14:26	EPA200.7		AES
Potassium*	7.82	5.00	0.651	mg/L	5	05/18/20 14:26	EPA200.7		AES
Silica (SiO ₂)	15.1	5.35	0.177	mg/L	5	05/18/20 14:26	Calculation		AES
Silicon	7.07	2.50	0.083	mg/L	5	05/18/20 14:26	EPA200.7		AES
Sodium*	188	5.00	0.503	mg/L	5	05/18/20 14:26	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0034	0.0025	0.0005	mg/L	5	05/21/20 14:59	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	05/21/20 12:58	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	05/21/20 12:58	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	05/21/20 12:58	EPA200.8		AES
Manganese*	0.171	0.0025	0.0006	mg/L	5	05/21/20 12:58	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	05/21/20 12:58	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	05/21/20 12:58	EPA200.8		AES
Uranium	0.0043	0.0025	0.0010	mg/L	5	05/21/20 12:58	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	05/21/20 12:58	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	05/18/20 10:16	EPA245.1		LLG
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Cation/Anion Balance 2.6

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

MW-6-A

2005105-02 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	233	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	05/15/20 09:45	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	233	10.0	7.16	mg/L	1	05/15/20 09:45	2320 B		VJW
Chloride*	29.0	5.00	0.443	mg/L	5	05/19/20 23:24	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	05/19/20 23:24	EPA300.0		AES
Nitrate/Nitrite as N*	0.154	0.020	0.006	mg/L as N	1	05/26/20 12:17	EPA353.2		LLG
pH*	6.93			pH Units	1	05/14/20 15:00	EPA150.1		FGH
Total Dissolved Solids*	4670	10.0		mg/L	1	05/18/20 12:07	EPA160.1		VJW
Sulfate*	3020	100	15.2	mg/L	100	05/20/20 10:30	EPA300.0		AES
Total Organic Carbon*	3.39	0.500	0.135	mg/L	1	05/20/20 19:02	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	05/18/20 14:30	EPA200.7		AES
Calcium*	400	1.00	0.166	mg/L	10	05/18/20 14:30	EPA200.7		AES
Hardness as CaCO ₃	2780	6.62	1.38	mg/L	10	05/18/20 14:30	2340 B		AES
Iron*	1.38	0.500	0.184	mg/L	10	05/18/20 14:30	EPA200.7		AES
Magnesium*	431	1.00	0.235	mg/L	10	05/18/20 14:30	EPA200.7		AES
Potassium*	10.6	10.0	1.30	mg/L	10	05/18/20 14:30	EPA200.7		AES
Silica (SiO ₂)	11.0	10.7	0.354	mg/L	10	05/18/20 14:30	Calculation		AES
Silicon	5.17	5.00	0.166	mg/L	10	05/18/20 14:30	EPA200.7		AES
Sodium*	274	10.0	1.01	mg/L	10	05/18/20 14:30	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0050	0.0050	0.0011	mg/L	10	05/21/20 13:09	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	05/21/20 13:09	EPA200.8		AES
Copper*	<0.0050	0.0050	0.0022	mg/L	10	05/21/20 13:09	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	05/21/20 13:09	EPA200.8		AES
Manganese*	0.526	0.0050	0.0011	mg/L	10	05/21/20 13:09	EPA200.8		AES
Molybdenum*	<0.0050	0.0050	0.0011	mg/L	10	05/21/20 13:09	EPA200.8		AES
Selenium*	<0.0100	0.0100	0.0053	mg/L	10	05/21/20 13:09	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	05/21/20 13:09	EPA200.8		AES
Zinc*	<0.0200	0.0200	0.0032	mg/L	10	05/21/20 13:09	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	05/18/20 10:16	EPA245.1		LLG
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Cation/Anion Balance -52

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200823 - General Prep - Wet Chem

Blank (B200823-BLK1)

Prepared: 05/14/20 Analyzed: 05/15/20

Alkalinity, Total as CaCO₃ ND 10.0 mg/L

LCS (B200823-BS1)

Prepared: 05/14/20 Analyzed: 05/15/20

Alkalinity, Total as CaCO₃ 88.0 10.0 mg/L 100 88.0 85-115

LCS Dup (B200823-BSD1)

Prepared: 05/14/20 Analyzed: 05/15/20

Alkalinity, Total as CaCO₃ 93.0 10.0 mg/L 100 93.0 85-115 5.52 20

Batch B200826 - General Prep - Wet Chem

Duplicate (B200826-DUP2)

Source: 2005086-01 Prepared & Analyzed: 05/14/20

pH 7.03 pH Units 7.00 0.428 20

Reference (B200826-SRM1)

Prepared & Analyzed: 05/14/20

pH 7.09 pH Units 7.00 101 98.5-101.4

Batch B200834 - General Prep - Wet Chem

Blank (B200834-BLK1)

Prepared & Analyzed: 05/18/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B200834-DUP1)

Source: 2005083-05 Prepared & Analyzed: 05/18/20

Total Dissolved Solids 605 10.0 mg/L 600 0.792 20

Reference (B200834-SRM1)

Prepared & Analyzed: 05/18/20

Total Dissolved Solids 605 10.0 mg/L 570 106 85-115

Batch B200840 - General Prep - Wet Chem

Blank (B200840-BLK1)

Prepared & Analyzed: 05/19/20

Chloride ND 1.00 mg/L

Fluoride ND 0.100 mg/L

Sulfate ND 1.00 mg/L

LCS (B200840-BS1)

Prepared & Analyzed: 05/19/20

Chloride 24.8 1.00 mg/L 25.0 99.4 90-110

Fluoride 2.60 0.100 mg/L 2.50 104 90-110

Sulfate 24.4 1.00 mg/L 25.0 97.8 90-110

LCS Dup (B200840-BSD1)

Prepared & Analyzed: 05/19/20

Chloride 24.2 1.00 mg/L 25.0 97.0 90-110 2.42 20

Fluoride 2.60 0.100 mg/L 2.50 104 90-110 0.0770 20

Sulfate 24.4 1.00 mg/L 25.0 97.6 90-110 0.246 20

Batch B200850 - General Prep - Wet Chem

Blank (B200850-BLK1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon ND 0.500 mg/L

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200850 - General Prep - Wet Chem (Continued)

LCS (B200850-BS1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon	9.49	0.500	mg/L	10.0	94.9	85-115
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LCS Dup (B200850-BSD1)

Prepared & Analyzed: 05/20/20

Total Organic Carbon	9.43	0.500	mg/L	10.0	94.3	85-115	0.698	20
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Batch B200874 - General Prep - Wet Chem

Blank (B200874-BLK1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	ND	0.020	mg/L as N
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LCS (B200874-BS1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	0.941	0.020	mg/L as N	1.00	94.1	90-110
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LCS Dup (B200874-BSD1)

Prepared: 05/22/20 Analyzed: 05/26/20

Nitrate/Nitrite as N	0.947	0.020	mg/L as N	1.00	94.7	90-110	0.614	20
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200835 - Diss. 200.7/200.8

Blank (B200835-BLK1)

Prepared & Analyzed: 05/18/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200835-BS1)

Prepared & Analyzed: 05/18/20

Aluminum	5.31	0.050	mg/L	5.00	106	85-115
Calcium	5.26	0.100	mg/L	5.00	105	85-115
Iron	5.05	0.050	mg/L	5.00	101	85-115
Magnesium	26.9	0.100	mg/L	25.0	108	85-115
Potassium	10.7	1.00	mg/L	10.0	107	85-115
Silicon	5.17	0.500	mg/L	5.00	103	85-115
Sodium	4.22	1.00	mg/L	4.05	104	85-115

LCS Dup (B200835-BSD1)

Prepared & Analyzed: 05/18/20

Aluminum	5.05	0.050	mg/L	5.00	101	85-115	4.94	20
Calcium	4.98	0.100	mg/L	5.00	99.6	85-115	5.33	20
Iron	4.80	0.050	mg/L	5.00	96.1	85-115	4.97	20
Magnesium	25.6	0.100	mg/L	25.0	102	85-115	5.23	20
Potassium	10.4	1.00	mg/L	10.0	104	85-115	2.71	20
Silicon	4.91	0.500	mg/L	5.00	98.1	85-115	5.25	20
Sodium	4.09	1.00	mg/L	4.05	101	85-115	3.05	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200836 - Diss. 200.7/200.8

Blank (B200836-BLK1)

Prepared: 05/20/20 Analyzed: 05/21/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200836-BS1)

Prepared: 05/20/20 Analyzed: 05/22/20

Arsenic	0.0503	0.0005	mg/L	0.0500	101	85-115
Cadmium	0.0491	0.0001	mg/L	0.0500	98.2	85-115
Copper	0.0439	0.0005	mg/L	0.0500	87.7	85-115
Lead	0.0433	0.0005	mg/L	0.0500	86.5	85-115
Manganese	0.0450	0.0005	mg/L	0.0500	90.1	85-115
Molybdenum	0.0428	0.0005	mg/L	0.0500	85.7	85-115
Selenium	0.250	0.0010	mg/L	0.250	100	85-115
Uranium	0.0438	0.0005	mg/L	0.0500	87.6	85-115
Zinc	0.0437	0.0020	mg/L	0.0500	87.4	85-115

LCS Dup (B200836-BSD1)

Prepared: 05/20/20 Analyzed: 05/21/20

Arsenic	0.0471	0.0005	mg/L	0.0500	94.1	85-115	6.54	20
Cadmium	0.0491	0.0001	mg/L	0.0500	98.3	85-115	0.0780	20
Copper	0.0513	0.0005	mg/L	0.0500	103	85-115	15.6	20
Lead	0.0500	0.0005	mg/L	0.0500	100	85-115	14.4	20
Manganese	0.0518	0.0005	mg/L	0.0500	104	85-115	13.9	20
Molybdenum	0.0496	0.0005	mg/L	0.0500	99.3	85-115	14.7	20
Selenium	0.238	0.0010	mg/L	0.250	95.2	85-115	4.99	20
Uranium	0.0498	0.0005	mg/L	0.0500	99.6	85-115	12.8	20
Zinc	0.0516	0.0020	mg/L	0.0500	103	85-115	16.6	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/24/20 14:53

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B200824 - EPA 245.1/7470										
Blank (B200824-BLK1)				Prepared: 05/15/20 Analyzed: 05/18/20						
Mercury	ND	0.0002	mg/L							
LCS (B200824-BS1)				Prepared: 05/15/20 Analyzed: 05/18/20						
Mercury	0.0054	0.0002	mg/L	0.00500		108	85-115			
LCS Dup (B200824-BSD1)				Prepared: 05/15/20 Analyzed: 05/18/20						
Mercury	0.0053	0.0002	mg/L	0.00500		105	85-115	2.54	20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/24/20 14:53

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.
RPD Relative Percent Difference
LCS Laboratory Control Sample (Blank Spike)
RL Report Limit
MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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FORM-006
COC - Revision 6.0

Page 12 of 12 2005105 RE_GAL FINAL 06 24 20 1453 06/24/20 14:53:51

Just Click Printing Form #17-0301



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
970.247.4227 Fax
www.greenanalytical.com

05 June 2020

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326
RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 05/27/20 14:35.
If you need any further assistance, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The script is cursive and fluid, with the first name 'Debbie' and last name 'Zufelt' clearly legible.

Debbie Zufelt
Reports Manager

All accredited analytes contained in this report are denoted by an asterisk (*). For a complete list of accredited analytes please do not hesitate to contact us via any of the contact information contained in this report. All of our certifications can be viewed at <http://greenanalytical.com/certifications/>

Green Analytical Laboratories is NELAP accredited through the Texas Commission on Environmental Quality. Accreditation applies to drinking water and non-potable water matrices for trace metals and a variety of inorganic parameters. Green Analytical Laboratories is also accredited through the Colorado Department of Public Health and Environment and EPA region 8 for trace metals, Cyanide, Fluoride, Nitrate, and Nitrite in drinking water.

Our affiliate laboratory, Cardinal Laboratories, is also NELAP accredited through the Texas Commission on Environmental Quality for a variety of organic constituents in drinking water, non-potable water and solid matrices. Cardinal is also accredited for regulated VOCs, TTHM, and HAA-5 in drinking water through the Colorado Department of Public Health and Environment and EPA region 8.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-7-EAA	2005189-01	Water	05/27/20 08:46	05/27/20 14:35	
MW-8-EAA	2005189-02	Water	05/27/20 09:53	05/27/20 14:35	
MW-8-MI	2005189-03	Water	05/27/20 10:12	05/27/20 14:35	
MW-8-LM	2005189-04	Water	05/27/20 10:31	05/27/20 14:35	
MW-8-PL	2005189-05	Water	05/27/20 10:51	05/27/20 14:35	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

MW-7-EAA

2005189-01 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	355	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	355	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	10.7	2.00	0.177	mg/L	2	06/03/20 03:48	EPA300.0		AES
Fluoride*	0.330	0.200	0.0194	mg/L	2	06/03/20 03:48	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:35	EPA353.2	M5	LLG
pH*	6.89			pH Units	1	05/28/20 10:15	EPA150.1		FGH
Total Dissolved Solids*	1430	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	803	20.0	3.05	mg/L	20	06/03/20 04:08	EPA300.0		AES
Total Organic Carbon*	3.63	0.500	0.135	mg/L	1	05/28/20 21:35	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 11:59	EPA200.7		AES
Calcium*	175	0.500	0.083	mg/L	5	06/02/20 11:59	EPA200.7		AES
Hardness as CaCO ₃	1020	3.31	0.690	mg/L	5	06/02/20 11:59	2340 B		AES
Iron*	1.71	0.250	0.092	mg/L	5	06/02/20 11:59	EPA200.7		AES
Magnesium*	142	0.500	0.117	mg/L	5	06/02/20 11:59	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 11:59	EPA200.7		AES
Silica (SiO ₂)	15.8	5.35	0.177	mg/L	5	06/02/20 11:59	Calculation		AES
Silicon	7.37	2.50	0.083	mg/L	5	06/02/20 11:59	EPA200.7		AES
Sodium*	76.0	5.00	0.503	mg/L	5	06/02/20 11:59	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0011	0.0010	0.0002	mg/L	2	06/03/20 12:23	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:23	EPA200.8		AES
Copper*	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 12:23	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:23	EPA200.8		AES
Manganese*	3.63	0.0010	0.0002	mg/L	2	06/03/20 12:23	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:23	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:23	EPA200.8		AES
Uranium	0.0016	0.0010	0.0004	mg/L	2	06/03/20 12:23	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:23	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance -52

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

MW-8-EAA

2005189-02 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	385	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	385	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	10.3	2.00	0.177	mg/L	2	06/03/20 04:27	EPA300.0		AES
Fluoride*	0.346	0.200	0.0194	mg/L	2	06/03/20 04:27	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:38	EPA353.2		LLG
pH*	6.96			pH Units	1	05/28/20 10:15	EPA150.1		FGH
Total Dissolved Solids*	1260	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	625	20.0	3.05	mg/L	20	06/03/20 04:46	EPA300.0		AES
Total Organic Carbon*	3.56	0.500	0.135	mg/L	1	05/28/20 22:25	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:04	EPA200.7		AES
Calcium*	153	0.500	0.083	mg/L	5	06/02/20 12:04	EPA200.7		AES
Hardness as CaCO ₃	907	3.31	0.690	mg/L	5	06/02/20 12:04	2340 B		AES
Iron*	2.29	0.250	0.092	mg/L	5	06/02/20 12:04	EPA200.7		AES
Magnesium*	127	0.500	0.117	mg/L	5	06/02/20 12:04	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 12:04	EPA200.7		AES
Silica (SiO ₂)	15.0	5.35	0.177	mg/L	5	06/02/20 12:04	Calculation		AES
Silicon	7.02	2.50	0.083	mg/L	5	06/02/20 12:04	EPA200.7		AES
Sodium*	77.7	5.00	0.503	mg/L	5	06/02/20 12:04	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0017	0.0010	0.0002	mg/L	2	06/03/20 12:27	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:27	EPA200.8		AES
Copper*	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 12:27	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:27	EPA200.8		AES
Manganese*	3.36	0.0010	0.0002	mg/L	2	06/03/20 12:27	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:27	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:27	EPA200.8		AES
Uranium	0.0017	0.0010	0.0004	mg/L	2	06/03/20 12:27	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:27	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 1.47

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

MW-8-MI

2005189-03 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	545	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	545	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	8.23	2.00	0.177	mg/L	2	06/03/20 13:39	EPA300.0		AES
Fluoride*	<0.200	0.200	0.0194	mg/L	2	06/03/20 13:39	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:40	EPA353.2		LLG
pH*	7.25			pH Units	1	05/28/20 10:15	EPA150.1		FGH
Total Dissolved Solids*	1040	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	316	10.0	1.52	mg/L	10	06/03/20 13:58	EPA300.0		AES
Total Organic Carbon*	2.94	0.500	0.135	mg/L	1	05/28/20 22:47	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:07	EPA200.7		AES
Calcium*	58.5	0.500	0.083	mg/L	5	06/02/20 12:06	EPA200.7		AES
Hardness as CaCO ₃	309	3.31	0.690	mg/L	5	06/02/20 12:07	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 12:07	EPA200.7		AES
Magnesium*	39.6	0.500	0.117	mg/L	5	06/02/20 12:07	EPA200.7		AES
Potassium*	5.00	5.00	0.651	mg/L	5	06/02/20 12:06	EPA200.7		AES
Silica (SiO ₂)	11.9	5.35	0.177	mg/L	5	06/02/20 12:07	Calculation		AES
Silicon	5.55	2.50	0.083	mg/L	5	06/02/20 12:07	EPA200.7		AES
Sodium*	272	5.00	0.503	mg/L	5	06/02/20 12:06	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:37	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:37	EPA200.8		AES
Copper*	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 12:37	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	06/02/20 16:13	EPA200.8		AES
Manganese*	0.0393	0.0010	0.0002	mg/L	2	06/03/20 12:37	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:37	EPA200.8		AES
Selenium*	0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:37	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	06/02/20 16:13	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:37	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 1.18

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

MW-8-LM

2005189-04 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	530	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	100	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	630	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	3.01	2.00	0.177	mg/L	2	06/03/20 14:17	EPA300.0		AES
Fluoride*	3.63	0.200	0.0194	mg/L	2	06/03/20 14:17	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 11:41	EPA353.2		LLG
pH*	8.41			pH Units	1	05/28/20 10:15	EPA150.1		FGH
Total Dissolved Solids*	730	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	<2.00	2.00	0.305	mg/L	2	06/03/20 14:17	EPA300.0		AES
Total Organic Carbon*	1.92	0.500	0.135	mg/L	1	05/28/20 23:07	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	06/02/20 12:14	EPA200.7		AES
Calcium*	2.09	0.500	0.083	mg/L	5	06/02/20 12:14	EPA200.7		AES
Hardness as CaCO ₃	7.76	3.31	0.690	mg/L	5	06/02/20 12:14	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	06/02/20 12:14	EPA200.7		AES
Magnesium*	0.620	0.500	0.117	mg/L	5	06/02/20 12:14	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	06/02/20 12:14	EPA200.7		AES
Silica (SiO ₂)	7.40	5.35	0.177	mg/L	5	06/02/20 12:14	Calculation		AES
Silicon	3.46	2.50	0.083	mg/L	5	06/02/20 12:14	EPA200.7		AES
Sodium*	315	5.00	0.503	mg/L	5	06/02/20 12:14	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:41	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	06/03/20 12:41	EPA200.8		AES
Copper*	0.0012	0.0010	0.0004	mg/L	2	06/03/20 12:41	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 13:02	EPA200.8		AES
Manganese*	0.0029	0.0010	0.0002	mg/L	2	06/03/20 12:41	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	06/03/20 12:41	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	06/03/20 12:41	EPA200.8		AES
Uranium	<0.0010	0.0010	0.0004	mg/L	2	06/03/20 13:02	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	06/03/20 12:41	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 3.76

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

MW-8-PL

2005189-05 (Ground Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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General Chemistry

Alkalinity, Bicarbonate as CaCO ₃ *	340	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	05/28/20 14:05	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	340	10.0	7.16	mg/L	5	05/28/20 14:05	2320 B		VJW
Chloride*	3.38	1.00	0.0886	mg/L	1	06/03/20 14:37	EPA300.0		AES
Fluoride*	0.240	0.100	0.00971	mg/L	1	06/03/20 14:37	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	06/02/20 12:13	EPA353.2		LLG
pH*	7.19			pH Units	1	05/28/20 10:15	EPA150.1		FGH
Total Dissolved Solids*	490	10.0		mg/L	1	05/29/20 11:20	EPA160.1		VJW
Sulfate*	103	5.00	0.762	mg/L	5	06/03/20 14:56	EPA300.0		AES
Total Organic Carbon*	1.63	0.500	0.135	mg/L	1	05/29/20 00:03	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.025	mg/L	2	06/02/20 12:17	EPA200.7		AES
Calcium*	53.8	0.200	0.033	mg/L	2	06/02/20 12:17	EPA200.7		AES
Hardness as CaCO ₃	298	1.32	0.276	mg/L	2	06/02/20 12:17	2340 B		AES
Iron*	<0.100	0.100	0.037	mg/L	2	06/02/20 12:17	EPA200.7		AES
Magnesium*	39.7	0.200	0.047	mg/L	2	06/02/20 12:17	EPA200.7		AES
Potassium*	2.11	2.00	0.260	mg/L	2	06/02/20 12:17	EPA200.7		AES
Silica (SiO ₂)	18.7	2.14	0.0708	mg/L	2	06/02/20 12:17	Calculation		AES
Silicon	8.75	1.00	0.033	mg/L	2	06/02/20 12:17	EPA200.7		AES
Sodium*	80.4	2.00	0.201	mg/L	2	06/02/20 12:17	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0075	0.0005	0.0001	mg/L	1	06/02/20 16:27	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	06/02/20 16:27	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	06/03/20 12:45	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	06/02/20 16:27	EPA200.8		AES
Manganese*	0.307	0.0025	0.0006	mg/L	5	06/03/20 12:45	EPA200.8		AES
Molybdenum*	<0.0005	0.0005	0.0001	mg/L	1	06/02/20 16:27	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	06/02/20 16:27	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	06/02/20 16:27	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	06/03/20 12:45	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	06/04/20 11:51	EPA245.1		LLG
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Cation/Anion Balance 2.44

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200904 - General Prep - Wet Chem

Blank (B200904-BLK1)

Prepared & Analyzed: 05/28/20

Total Organic Carbon ND 0.500 mg/L

LCS (B200904-BS1)

Prepared & Analyzed: 05/28/20

Total Organic Carbon 9.59 0.500 mg/L 10.0 95.9 85-115

LCS Dup (B200904-BSD1)

Prepared & Analyzed: 05/28/20

Total Organic Carbon 9.86 0.500 mg/L 10.0 98.6 85-115 2.76 20

Batch B200907 - General Prep - Wet Chem

Blank (B200907-BLK1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO3 ND 10.0 mg/L

LCS (B200907-BS1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO3 90.0 10.0 mg/L 100 90.0 85-115

LCS Dup (B200907-BSD1)

Prepared & Analyzed: 05/28/20

Alkalinity, Total as CaCO3 102 10.0 mg/L 100 102 85-115 12.5 20

Batch B200909 - General Prep - Wet Chem

Blank (B200909-BLK1)

Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B200909-DUP1)

Source: 2005179-04 Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids 100 10.0 mg/L 115 13.8 20

Reference (B200909-SRM1)

Prepared: 05/28/20 Analyzed: 05/29/20

Total Dissolved Solids 535 10.0 mg/L 570 93.9 85-115

Batch B200914 - General Prep - Wet Chem

Duplicate (B200914-DUP2)

Source: 2005193-01 Prepared & Analyzed: 05/28/20

pH 7.14 pH Units 7.11 0.421 20

Reference (B200914-SRM1)

Prepared & Analyzed: 05/28/20

pH 7.08 pH Units 7.00 101 98.5-101.4

Batch B200916 - General Prep - Wet Chem

Blank (B200916-BLK1)

Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N ND 0.020 mg/L as N

LCS (B200916-BS1)

Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 0.917 0.020 mg/L as N 1.00 91.7 90-110

LCS Dup (B200916-BSD1)

Prepared: 05/29/20 Analyzed: 06/02/20

Nitrate/Nitrite as N 0.922 0.020 mg/L as N 1.00 92.2 90-110 0.544 20

Batch B200917 - General Prep - Wet Chem

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
06/05/20 09:41General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (B200917-BLK1) Prepared: 06/01/20 Analyzed: 06/02/20										
Nitrate/Nitrite as N	ND	0.020	mg/L as N							
LCS (B200917-BS1) Prepared: 06/01/20 Analyzed: 06/02/20										
Nitrate/Nitrite as N	1.06	0.020	mg/L as N	1.00		106	90-110			
LCS Dup (B200917-BSD1) Prepared: 06/01/20 Analyzed: 06/02/20										
Nitrate/Nitrite as N	0.991	0.020	mg/L as N	1.00		99.1	90-110	6.76	20	
Batch B200926 - General Prep - Wet Chem										
Blank (B200926-BLK1) Prepared: 06/01/20 Analyzed: 06/02/20										
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B200926-BS1) Prepared: 06/01/20 Analyzed: 06/02/20										
Chloride	24.4	1.00	mg/L	25.0		97.7	90-110			
Fluoride	2.58	0.100	mg/L	2.50		103	90-110			
Sulfate	23.9	1.00	mg/L	25.0		95.6	90-110			
LCS Dup (B200926-BSD1) Prepared: 06/01/20 Analyzed: 06/02/20										
Chloride	24.1	1.00	mg/L	25.0		96.5	90-110	1.27	20	
Fluoride	2.55	0.100	mg/L	2.50		102	90-110	1.17	20	
Sulfate	24.3	1.00	mg/L	25.0		97.4	90-110	1.81	20	
Batch B200940 - General Prep - Wet Chem										
Blank (B200940-BLK1) Prepared & Analyzed: 06/03/20										
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B200940-BS1) Prepared & Analyzed: 06/03/20										
Chloride	24.2	1.00	mg/L	25.0		96.9	90-110			
Fluoride	2.60	0.100	mg/L	2.50		104	90-110			
Sulfate	24.5	1.00	mg/L	25.0		97.8	90-110			
LCS Dup (B200940-BSD1) Prepared & Analyzed: 06/03/20										
Chloride	24.4	1.00	mg/L	25.0		97.7	90-110	0.904	20	
Fluoride	2.64	0.100	mg/L	2.50		106	90-110	1.49	20	
Sulfate	24.0	1.00	mg/L	25.0		95.8	90-110	2.06	20	

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:41

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200927 - Diss. 200.7/200.8

Blank (B200927-BLK1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	ND	0.050	mg/L
Calcium	ND	0.100	mg/L
Iron	ND	0.050	mg/L
Magnesium	ND	0.100	mg/L
Potassium	ND	1.00	mg/L
Silicon	ND	0.500	mg/L
Sodium	ND	1.00	mg/L

LCS (B200927-BS1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	4.97	0.050	mg/L	5.00	99.4	85-115
Calcium	5.03	0.100	mg/L	5.00	101	85-115
Iron	4.96	0.050	mg/L	5.00	99.2	85-115
Magnesium	25.5	0.100	mg/L	25.0	102	85-115
Potassium	10.1	1.00	mg/L	10.0	101	85-115
Silicon	4.82	0.500	mg/L	5.00	96.4	85-115
Sodium	4.07	1.00	mg/L	4.05	101	85-115

LCS Dup (B200927-BSD1)

Prepared: 06/01/20 Analyzed: 06/02/20

Aluminum	5.03	0.050	mg/L	5.00	101	85-115	1.13	20
Calcium	4.93	0.100	mg/L	5.00	98.7	85-115	1.98	20
Iron	5.00	0.050	mg/L	5.00	100	85-115	0.785	20
Magnesium	25.7	0.100	mg/L	25.0	103	85-115	0.436	20
Potassium	10.2	1.00	mg/L	10.0	102	85-115	1.35	20
Silicon	4.84	0.500	mg/L	5.00	96.7	85-115	0.305	20
Sodium	4.08	1.00	mg/L	4.05	101	85-115	0.242	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:41

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B200913 - Diss. 200.7/200.8

Blank (B200913-BLK1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	ND	0.0005	mg/L
Cadmium	ND	0.0001	mg/L
Copper	ND	0.0005	mg/L
Lead	ND	0.0005	mg/L
Manganese	ND	0.0005	mg/L
Molybdenum	ND	0.0005	mg/L
Selenium	ND	0.0010	mg/L
Uranium	ND	0.0005	mg/L
Zinc	ND	0.0020	mg/L

LCS (B200913-BS1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0520	0.0005	mg/L	0.0500	104	85-115
Cadmium	0.0532	0.0001	mg/L	0.0500	106	85-115
Copper	0.0520	0.0005	mg/L	0.0500	104	85-115
Lead	0.0532	0.0005	mg/L	0.0500	106	85-115
Manganese	0.0529	0.0005	mg/L	0.0500	106	85-115
Molybdenum	0.0528	0.0005	mg/L	0.0500	106	85-115
Selenium	0.262	0.0010	mg/L	0.250	105	85-115
Uranium	0.0535	0.0005	mg/L	0.0500	107	85-115
Zinc	0.0520	0.0020	mg/L	0.0500	104	85-115

LCS Dup (B200913-BSD1)

Prepared: 05/29/20 Analyzed: 06/02/20

Arsenic	0.0521	0.0005	mg/L	0.0500	104	85-115	0.170	20
Cadmium	0.0520	0.0001	mg/L	0.0500	104	85-115	2.18	20
Copper	0.0519	0.0005	mg/L	0.0500	104	85-115	0.282	20
Lead	0.0528	0.0005	mg/L	0.0500	106	85-115	0.704	20
Manganese	0.0524	0.0005	mg/L	0.0500	105	85-115	0.874	20
Molybdenum	0.0532	0.0005	mg/L	0.0500	106	85-115	0.678	20
Selenium	0.265	0.0010	mg/L	0.250	106	85-115	1.27	20
Uranium	0.0533	0.0005	mg/L	0.0500	107	85-115	0.366	20
Zinc	0.0518	0.0020	mg/L	0.0500	104	85-115	0.423	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:41

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B200933 - EPA 245.1/7470									
Blank (B200933-BLK1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	ND	0.0002	mg/L						
LCS (B200933-BS1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	104	85-115			
LCS Dup (B200933-BSD1)				Prepared: 06/02/20 Analyzed: 06/04/20					
Mercury	0.0052	0.0002	mg/L	0.00500	105	85-115	0.287	20	

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom Bird

Reported:
06/05/20 09:41

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

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dzufelt@greenanalytical.com
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ANALYSIS REQUEST

COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]