



"Safety as a Value"

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

January 15, 2021

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: Water Monitoring Analysis; King I & King II
4th Quarter 2020

Ms. Binns:

Please find enclosed a copy of quarterly water analysis reports for the 3rd quarter of 2020 for the following water monitoring locations:

- Wiltse Well & Blind Duplicate MW-98-GW
- #1 Up-gradient Monitoring Well
- #2 Down-gradient Monitoring Well
- 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-4-MI, MW-4-A, MW-4-C
- MW-5-C, MW-5-MI
- MW-HGA-4
- MW-6-A, MW-6-LM & Blind Duplicate MW-99-A (MW-6-A)
- 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) 769-1160 if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Bird'. The signature is fluid and cursive, with a large loop at the end.

Tom Bird
GCC Energy, LLC

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	Q3	Q4	
Month		6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5	9	11
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	9/1	11/16
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	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	0.3	0.1	0.1
Total Purged	gal	12.8	NM*	NM*	NM	NM	2.0	2.0	1.0	1.5	2	1.5	1	1.3		1.5	1.5	1.6	1.0	1.5	1.1	1.5	1.0	1.0	1.0	1.3
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	215.56	215.8
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	9.6	9.4
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	7.22	7.24
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	1664	1670
Oxygen Reduction Potential	mV	-34.6	NM*	NM*	-54.7	-46.5	-50.0	-48.3	-49.6	-44.6	-52.8	-37.5	142.4	0.4		-26.4	-33.2	101.4	-11.8	25.4	-18.7	3.6	12.7	4.2	-20.1	111.4
Lab Analytical Results:																										
Hardness as CaCO3	mg/L	124				133		130			159			156			160	174	159	153	148	150	159	165	161	168
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	7.23	7.17
Total Dissolved Solids (Lab)	mg/L	975				1080		1120			1100			1150			1040	1130	1160	1150	1150	1140	1190	1150	1150	1170
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	30.6	32.8
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	20.6	20.9
Sodium	mg/L	324				329		325			348			327			333	358	357	319	348	333	337	349	348	353
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	2.29	<3.00
Alkalinity, Total	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340	325	366
Alkalinity, Bicarbonate	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340	325	366
Alkalinity, Carbonate	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	<10.0
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	<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	2.74	2.88
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	0.24	0.264
Sulfate as SO4	mg/L	427				432		511			518			522			515	511	508	494	537	495	506	532	510	508
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	1.49	1.57
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	<0.020	<0.02
Ammonia as N ^	mg/L	NA			NA			NA			NA			NA			NA	NA	NA	NA	NA	0.387	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA			NA			NA			NA			NA			NA	NA	NA	NA	NA	<0.0500	NA	NA	NA	NA
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	<0.050	<0.050
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	<0.0025	<0.0005
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	<0.0005	<0.0001
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	0.004	0.0024
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	0.637	0.579
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	<0.0025	<0.0015
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	0.032	0.0313
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
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	<0.0025	<0.0015
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	<0.0050	<0.0030
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	11.1	11.5
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	5.17	5.37
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	<0.0025	<0.0025
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	<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-1-MI																									
Year		2017						2018								2019				2020					
Quarter		Q2	Q3		Q4		Q1			Q2		Q3		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
Month		6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5	9	11
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	9/1	11/16
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	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	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
- 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-C																										
Year		2017							2018								2019				2020					
Quarter		Q2	Q3				Q4			Q1			Q2		Q3			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Month		6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5	9	11
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	9/1	11/16
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	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	0.05	0.05
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	0.80	1.00
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	216.41	216.66
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	11.2	9.7
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	6.93	6.99
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	2653	2709
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	21.8	49.6
Lab Analytical Results:																										
Hardness as CaCO3	mg/L	498				1290		1180			1190			1130			1120	1180	1010	1820	1840	1700	1600	1590	1400	1420
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	6.83	7.12
Total Dissolved Solids (Lab)	mg/L	2020				2440		2360			2360			2340			2170	2200	1960	2880	2890	2750	2610	2460	2420	2450
Calcium	mg/L	96.0				234		216			219			203			203	219	188	340	342	318	301	294	248	265
Magnesium	mg/L	62.8				172		155			156			150			148	154	131	237	240	219	207	207	189	183
Sodium	mg/L	506				242		253			260			239			239	255	265	146	119	119	143	155	168	194
Potassium	mg/L	11.4				3.81		<5.00			<5.00			3.07			3.04	2.65	3.13	<5.00	<5.00	<5.00	3.05	<5.00	2.82	<5.00
Alkalinity, Total	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490	445	520
Alkalinity, Bicarbonate	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490	445	520
Alkalinity, Carbonate	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	<10.0
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	<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	8.15	7.14
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	0.705	0.750
Sulfate as SO4	mg/L	1090				1350		1230			1160			1210			1090	1080	1070	1630	1730	1520	1400	1370	1280	1180
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	2.2	2.13
Nitrate/Nitrite as N	mg/L	<2.00				<0.400		<0.100			<0.020			<0.02			0.036	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L	NA				NA		NA			NA			NA			NA	NA	NA	NA	NA	0.140	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA				NA		NA			NA			NA			NA	NA	NA	NA	NA	<0.100	NA	NA	NA	NA
Aluminum	mg/L	<0.050				<0.050		<0.250			<0.250			<0.05			<0.05	<0.100	<0.100	<0.250	<0.250	<0.250	<0.150	<0.250	<0.050	<0.050
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	<0.0025	<0.0005
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	<0.0005	<0.0001
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	<0.0025	<0.0005
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	0.619	0.855
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	<0.0025	<0.0025
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	0.0445	0.0496
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
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	<0.0025	<0.0025
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	<0.0050	<0.0050
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	14.1	14.8
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	6.6	6.93
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	<0.0025	<0.0015
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	<0.0100	<0.0100

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	Q3	Q4
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	9	11
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	9/1	11/24
Lab Analysis (Y/N)	N	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	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. "<" 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	Q3	Q4
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	9	11
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	9/1	11/24
Lab Analysis (Y/N)	N	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	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. "<" 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	Q3	Q4
Month	3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	9	11
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	9/1	11/24
Lab Analysis (Y/N)	N	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	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. "<" 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-3-A																								
Year		2017							2018							2019				2020				
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	8	12
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	8/31	12/1
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	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	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	1.5	1.3
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	297.21	297.02
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	13.1	11.9
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	8.23	8.39
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	2112	2192
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	-98.8	-89.3
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	11.1	9.41
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	8.16	8.13
Total Dissolved Solids (Lab)	mg/L	1630	1670			1630		1690			1680			1670	1600	1540	1500	1530	1520	1510	1500	1460	1380	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	3.02	2.83
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	0.866	0.568
Sodium	mg/L	566	585			589		551			562			542	562	605	543	525	553	528	520	507	510	505
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	<5.00	<5.00
Alkalinity, Total	mg/L	530	470			500		490			430			480	480	475	540	450	459	420	460	430	440	470
Alkalinity, Bicarbonate	mg/L	380	470			440		460			360			480	420	385	330	430	423	420	460	400	440	450
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	<10.0	20
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	<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	13.5	14
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	0.366	0.372
Sulfate as SO4	mg/L	729	802			840		730			812			756	706	682	716	699	724	633	637	656	624	644
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	3.39	3.15
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	0.039	0.032
Ammonia as N ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.354	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.0730	NA	NA	NA	NA
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	<0.250	<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	<0.0025	<0.0025
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	<0.0005	<0.0005
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	0.0051	0.0055
Iron	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.5	<0.05	<0.100	<0.100	<0.05	<0.100	<0.250	<0.150	<0.250	<0.250	<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	<0.0025	<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	0.0120	0.0125
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	<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	<0.0025	<0.0025
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	0.0086	<0.0050
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	11.0	11.2
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	5.14	5.22
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	<0.0025	<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	<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 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	Q3	Q4	
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	8	12	
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	8/31	12/1	
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	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	0.1	0.1	0.3	0.5	0.3	0.1	0.1	
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	1.8	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	243.05	243.6	243.9	
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	12.8	11.7	
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	9.01	9.09	
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	1560	1555	
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	-111.0	-132.4	
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	6.39	5.94	
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	8.87	8.77	
Total Dissolved Solids (Lab)	mg/L	1550	1120			1140		1080			1170			1210	1110	1120	1120	1170	1010	1130	1130	1060	1160		
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	1.62	1.42	
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	0.570	0.579	
Sodium	mg/L	420	430			440		411			459			417	446	476	434	419	454	437	437	427	431	431	
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	<3.00	<4.00	
Alkalinity, Total	mg/L	740	675			700		660			700			680	730	720	685	755	720	690	705	680	625	770	
Alkalinity, Bicarbonate	mg/L	510	555			600		570			600			500	630	610	485	605	590	610	645	550	465	690	
Alkalinity, Carbonate	mg/L	230	120			100		90.0			100			180	100	110	200	150	130	80.0	60.0	130	160	80	
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	<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	9.45	10	
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	1.09	1.12	
Sulfate as SO4	mg/L	165	241			247		254			245			250	226	230	232	229	236	224	227	231	222	110	
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	5.79	5.46	
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	<0.020	<0.020	
Ammonia as N ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.317	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.348	NA	NA	NA	NA	
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	<0.150	<0.200	
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	0.0061	0.007	
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	<0.0005	<0.0004	
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	0.0046	0.0045	
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	<0.150	<0.200	
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	<0.0025	<0.0020	
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	0.0072	0.007	
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	<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	0.0149	0.0163	
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	<0.0050	<0.004	
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	8.84	9.11	
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	4.13	4.26	
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	0.0043	0.0049	
Zinc	mg/L	0.0405	<0.0100			<0.0100		<0.0100			<0.0020			0.0023	0.0023	<0.0040	0.0028	<0.0100	0.0070	<0.0040	<0.0040	<0.0100	<0.0100	<0.0080	

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	Q3	Q4	
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	8	11	
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	8/27	11/25	
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	Y	Y	
Field Parameters:																									
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.10	NM	0.1	0.1	0.1	0.1	0.06	0.06	0.06	0.13	0.03	0.03	0.13	0.13	
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	1.3	1.3	
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	336.88	336.13	
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	14.0	12.3	
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	8.27	8.30	
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	2165	2249	
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	-11.5	-10.6	
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	7.87	7.77	
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	8.19	8.16	
Total Dissolved Solids (Lab)	mg/L	1470	1470			1450		1500			1490			1470	1430	1350	1450	1410	1540	1490	1500	1480	1460	1560	
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	1.79	1.73	
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	0.826	0.836	
Sodium	mg/L	515	537			513		511			507			528	531	568	535	515	548	529	551	498	533	531	
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	<5.00	<5.00	
Alkalinity, Total	mg/L	635	560			630		590			530			560	575	575	545	565	575	544	560	585	605	538	
Alkalinity, Bicarbonate	mg/L	635	560			590		560			490			560	555	575	505	544	535	528	560	545	565	530	
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	40	<10.0	
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	<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	10.1	9.15	
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	<0.5	<0.2	
Sulfate as SO4	mg/L	594	588			783		594			579			561	522	450	567	584	615	559	557	580	542	607	
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	3.48	3.27	
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	<0.020	<0.020	
Ammonia as N ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.312	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	<0.0500	NA	NA	NA	NA	
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	<0.250	<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	<0.0025	<0.0025	
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	<0.0005	<0.0005	
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	0.0056	0.0053	
Iron	mg/L	<0.050	<0.050			<0.050		<0.250			<0.100			<0.5	<0.5	<0.100	<0.100	<0.100	<0.100	<0.250	<0.150	<0.250	<0.250	<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	<0.0025	<0.0025	<0.0025	
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	0.0029	0.0035	
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	<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	<0.0025	<0.0025	
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	<0.0050	<0.0050	
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	9.44	9.96	
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	4.42	4.65	
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	<0.0025	<0.0025	
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	<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 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-MI																								
Year		2017							2018							2019				2020				
Quarter		Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	8	11
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	8/27	11/25
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	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	0.10	0.06	0.06	0.13	0.25	0.13	0.13	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	1.3	1.3
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	332.45	333.29
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	12.9	11.8
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	8.45	8.57
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	1730	1777
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	-92.0	-87.7
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	5.19	2.84
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	8.28	8.38
Total Dissolved Solids (Lab)	mg/L	1160	1170			1180		1180			1220			1140	1120	1100	1130	1130	1140	1120	1110	1110	1070	1170
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	1.32	1.14
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	0.459	<0.400
Sodium	mg/L	408	458			449		452			447			471	470	500	462	458	496	477	441	460	459	458
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	<3.00	<4.00
Alkalinity, Total	mg/L	965	915			1100		985			965			955	968	995	510	890	970	978	985	1030	1020	1010
Alkalinity, Bicarbonate	mg/L	775	825			880		885			875			865	896	885	420	650	880	886	895	935	940	965
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	80	40
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	<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	5.02	4.97
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	5	5.27
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	20	18.7
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	5.93	5.77
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020		<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.040	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.240	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA	NA			NA		NA			NA			NA	NA	NA	NA	NA	NA	0.280	NA	NA	NA	NA
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	<0.15	<0.200
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	0.0084	0.0092
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	<0.0005	<0.0004
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	0.0052	0.0045
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	<0.15	<0.200
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	<0.0025	<0.0020
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	0.0086	0.0092
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	<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	0.0081	0.0089
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	<0.005	<0.004
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	8.39	8.88
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	3.92	4.15
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	0.0121	0.0139
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	<0.0100	<0.008

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	Q3	Q4	
Month	3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5	8	12	
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	8/27	12/1	
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	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	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
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	1.5	1.3
Depth to Water	ft bgs	328.33	314.05	309.87	306.86	303.96	303.80	302.47	304.80	282.35	281.30	303.30	304.05	NM	302.55	302.17	302.45	303.93	304.93	305.73	306.44	304.90	307.80	308.05
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	13.0	11.4
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	8.00	8.05
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	5429	5665
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	-132.1	-128.7
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	23	21.8	
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	7.92	7.94	
Total Dissolved Solids (Lab)	mg/L	3230	4050			3750		3780		3730			3660	3650	3590	3580	3590	3610	3610	3580	3570	3510	3610	
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	5.3	5.15	
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	2.36	2.18	
Sodium	mg/L	908	1510			1490		1400		1410			1400	1410	1590	1410	1370	1440	1430	1440	1390	1400	1400	
Potassium	mg/L	4.38	5.71			6.07		<10.0		<10.0			<5.00	<5.00	5.36	<5.00	<5.00	5.42	<10.0	<5.00	<10.0	<10.0	<10.0	
Alkalinity, Total	mg/L	1250	2360			2780		2680		2600			2410	2480	2450	2470	2550	2500	2470	2480	2460	2500	2950	
Alkalinity, Bicarbonate	mg/L	1250	2360			2780		2640		2600			2330	2480	2450	2470	2350	2390	2410	2420	2340	2390	2880	
Alkalinity, Carbonate	mg/L	<10.0	<10.0			<10.0		40.0		<10.0			80	<10.0	<10.0	<10.0	<10.0	200	110	60.0	120	110	70	
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	<10.0	<10.0	
Chloride	mg/L	181	550			587		608		592			573	533	590	575	554	580	525	528	555	543	565	
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	2.34	2.37	
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	<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	2.31	3.72	
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	<0.02	<0.020	
Ammonia as N ^	mg/L	NA	NA			NA		NA		NA			NA	NA	NA	NA	NA	NA	0.424	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA	NA			NA		NA		NA			NA	NA	NA	NA	NA	NA	0.182	NA	NA	NA	NA	
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	<0.500	<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	0.015	0.0182	
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	<0.001	<0.001	
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	0.0151	0.0148	
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	<0.500	0.553	
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	<0.005	<0.005	
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	0.008	0.0076	
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	<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	<0.005	<0.005	
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	0.0112	0.0182	
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	<10.7	<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	<5.00	<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	<0.005	<0.005	
Zinc	mg/L	0.0156	0.0265			<0.0200		<0.0200		<0.0100			<0.0100	<0.0100	<0.0100	<0.0100	0.0038	<0.0100	<0.0100	<0.0100	<0.0100	<0.0200	<0.0200	

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	Q3	Q4
Month		12	1	2	3	4	5	6	7	8	9	11	2	5	8	11
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	8/11	11/25
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	Y	Y	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	0.05	0.05
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	1.3	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	319.64	319.65
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	19.5	8.0
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	6.97	7.10
Specific Conductance	µS/cm	6573	6053	6072	6107	6012	6057	5725	5598	5562	5451	5108	5043	4779	4339	4656
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	62.3	55.2
Lab Analytical Results:																
Hardness as CaCO3	mg/L	4360		4190			3920			3540		3070	3200	2780	2690	2710
pH (Lab)	SU	7.10		6.85			6.77			6.85		6.87	6.9	6.93	6.66	7.04
Total Dissolved Solids (Lab)	mg/L	6520		6520			120*			6080		5210	4980	4670	4490	4570
Calcium	mg/L	615		559			553			492		431	467	400	398	406
Magnesium	mg/L	687		678			617			560		484	495	431	411	413
Sodium	mg/L	294		283			296			304		276	296	274	261	273
Potassium	mg/L	15.0		14.4			12.4			12.8		11.1	<20.0	10.6	10.3	10.5
Alkalinity, Total	mg/L	160		160			143			183		220	215	233	236	246
Alkalinity, Bicarbonate	mg/L	160		160			143			183		220	215	233	236	246
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0		<10.0	<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	<10.0
Chloride	mg/L	97.4		28.6			27.3			29.9		29.6	28.4	29.0	26.0	26.6
Fluoride	mg/L	2.83		<0.500			<0.500			<0.500		<0.500	<0.500	<0.500	<0.500	<0.500
Sulfate as SO4	mg/L	205		4300			4280			4260		3460	3080	3020	3160	2890
Total Organic Carbon (TOC)	mg/L	3.45		3.08			2.91			3.57		3.10	3.16	3.39	3.31	3.26
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020		<0.020	0.049	0.154	0.117	0.093
Ammonia as N ^	mg/L	NA		NA			NA			NA		2.72	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA		<0.0500	NA	NA	NA	NA
Aluminum	mg/L	<0.500		<0.250			<0.250			<0.250		<0.250	<1.00	<0.500	<0.250	<0.500
Arsenic	mg/L	<0.0025		<0.0025			0.0009			<0.0025		<0.0025	<0.0025	<0.0050	<0.0025	<0.0050
Cadmium	mg/L	<0.0005		<0.0005			0.0001			<0.0005		<0.0005	<0.0005	<0.0010	<0.0005	<0.0010
Copper	mg/L	0.0116		0.0081			0.0035			0.0039		0.0017	0.0028	<0.0050	<0.0025	<0.0050
Iron	mg/L	1.37		3.75			3.93			3.22		2.72	1.95	1.38	1.10	1.24
Lead	mg/L	<0.0025		<0.0025			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050	<0.0025	<0.0050
Manganese	mg/L	0.788		0.802			0.724			0.690		0.585	0.551	0.526	0.520	0.454
Mercury	mg/L	<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			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050	<0.0025	<0.005
Selenium	mg/L	<0.0050		<0.0050			0.0028			<0.0050		<0.0050	<0.005	<0.0100	<0.0050	<0.0100
Silica (SiO2)	mg/L	12.3		11.9			14.3			13.4		12.5	<21.4	11.0	11.4	12.3
Silicon	mg/L	5.77		5.57			6.69			6.28		5.83	<10	5.17	5.35	5.76
Uranium	mg/L	<0.0005		<0.0005			<0.0001			<0.0005		<0.0005	<0.0025	<0.0050	<0.0025	<0.0050
Zinc	mg/L	0.0689		<0.0100			0.0082			0.0108		0.0117	0.0107	<0.0200	0.0159	<0.0200

Notes & Definitions:		
*	Anomalous value under review	
^	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-6-C																	
Year		2018	2019										2020				
Quarter		Q4	Q1			Q2			Q3			Q4	Q1	Q2	Q3	Q4	
Month		12	1	2	3	4	5	6	7	8	9	11	2	5	8	11	
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	8/11	11/24	
Lab Analysis (Y/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	
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. "<" 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-6-MI																		
Year		2018	2019											2020				
Quarter		Q4	Q1			Q2			Q3			Q4	Q1	Q2	Q3	Q4		
Month		12	1	2	3	4	5	5	6	7	8	9	11	2	5	8	11	
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	8/11	11/24	
Lab Analysis (Y/N)		Y	N	Y	N	N	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	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	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	
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	
mg/L	milligram per liter	
pCi/L	picocuries per liter	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.
NM	not measured (field)	
NA	not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-6-LM																		
Year		2018	2019											2020				
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2	Q3	Q4	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11	
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	8/11	11/25	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	0.01	0.03	0.01	0.13	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	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	539.80	540.18	539.70	539.45	539.98	540.30	
Temperature	deg C	7.9	14.3	7.8	8.1	9.1	9.3	11.7	14.0	13.4	11.6	10.1	12.4	10.5	11.3	14.8	11.4	
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	7.44	7.47	
Specific Conductance	µS/cm	6011	3784	3503	1461	1164	1296	1400	1272	1532	2104	2267	2113	2283	2287	2442	2495	
Oxygen Reduction Potential	mV	185.3	10.7	40.9	-32.8	-35.8	-111.0	-194.5	-163.6	-67.2	6.4	-48.0	19.9	-128.9	-222.9	32.1	21.8	
Lab Analytical Results:																		
Hardness as CaCO3	mg/L	2260		1270			431			621			843	1060	965	1130	1160	
pH (Lab)	SU	7.60		7.52			7.47			7.59			7.32	7.43	7.18	6.95	7.45	
Total Dissolved Solids (Lab)	mg/L	5100		2840			875			1150			1630	1840	1840	2040	2020	
Calcium	mg/L	367		216			75.9			103			136	173	150	179	184	
Magnesium	mg/L	325		177			58.7			88.3			122	153	143	165	171	
Sodium	mg/L	459		248			129			153			172	203	188	194	194	
Potassium	mg/L	173		64.5			14.0			13.7			11.3	11	7.82	7.20	6.04	
Alkalinity, Total	mg/L	205		315			371			381			355	320	353	335	329	
Alkalinity, Bicarbonate	mg/L	205		315			371			381			355	320	353	335	329	
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<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	<10.0	
Chloride	mg/L	256		43.7			5.73			8.70			11.4	11	11.7	12.2	12.4	
Fluoride	mg/L	0.530		<0.500			0.324			<0.500			<0.500	0.352	<0.500	0.346	0.356	
Sulfate as SO4	mg/L	3050		1790			338			492			830	951	904	1260	1170	
Total Organic Carbon (TOC)	mg/L	3.46		2.61			1.57			1.78			1.85	1.76	1.84	1.87	1.93	
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020	
Ammonia as N ^	mg/L	NA		NA			NA			NA			1.99	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			<0.0500	NA	NA	NA	NA	
Aluminum	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.250	<0.250	<0.150	<0.250	
Arsenic	mg/L	0.0039		0.0049			0.0036			0.0038			0.0035	0.0044	0.0034	0.0038	0.0036	
Cadmium	mg/L	<0.0005		<0.0005			<0.0001			<0.0001			<0.0002	<0.0002	<0.0005	<0.0003	<0.0005	
Copper	mg/L	0.0135		0.0064			0.0017			0.0018			0.0069	0.0014	<0.0025	<0.0015	<0.0025	
Iron	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.250	<0.250	<0.150	<0.250	
Lead	mg/L	<0.0025		<0.0025			<0.0005			<0.0005			<0.0010	<0.001	<0.0025	<0.0015	<0.0025	
Manganese	mg/L	0.383		0.223			0.0692			0.148			0.166	0.184	0.171	0.267	0.292	
Mercury	mg/L	<0.0002		<0.0002			<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	0.0023	<0.0025	
Selenium	mg/L	0.0080		<0.0050			<0.0010			<0.0010			<0.0020	<0.002	<0.0050	<0.0030	<0.0050	
Silica (SiO2)	mg/L	10.5		13.5			17.0			17.4			15.9	17.1	15.1	14.7	16.0	
Silicon	mg/L	4.91		6.29			7.96			8.12			7.43	7.97	7.07	6.88	7.47	
Uranium	mg/L	0.0230		0.0075			0.0039			0.0054			0.0047	0.0055	0.0043	0.0046	0.0042	
Zinc	mg/L	0.0323		<0.0100			<0.0020			<0.0040			<0.0040	<0.004	<0.0100	0.0069	<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	Q3	Q4
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11
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	8/25	11/11
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	0.13	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	16.0	17.0
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	36.35	37.10
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	12.1	10.3	10.3
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	7.17	7.09	7.12
Specific Conductance	µS/cm	2001	1910	1910	1926	1912	1767	1836	1885	1890	1913	1936	1922	1993	1890	1772	1628
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	-49.2	17.6	-8.6
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	936		1030			982			997			1020	963	1020	1080	939
pH (Lab)	SU	7.2		7.37			7.17			7.09			6.99	6.92	6.89	7.23	7.06
Total Dissolved Solids (Lab)	mg/L	1460		1480			1490			1480			1530	1520	1430	1480	1450
Calcium	mg/L	170		179			171			173			162	165	175	183	157
Magnesium	mg/L	124		142			135			137			144	134	142	150	133
Sodium	mg/L	75.3		81.3			75.0			75.2			74.9	73.7	76.0	80.9	73.4
Potassium	mg/L	3.87		3.9			<5.00			3.74			3.74	3.82	<5.00	<5.00	<5.00
Alkalinity, Total	mg/L	380		367			405			392			350	357	355	268	430
Alkalinity, Bicarbonate	mg/L	380		367			405			392			425	357	355	268	430
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<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	<10.0
Chloride	mg/L	11.9		10.7			10.8			10.9			11.6	10.3	10.7	10.2	10.1
Fluoride	mg/L	<0.500		0.332			0.322			0.322			<0.500	0.354	0.330	0.322	0.322
Sulfate as SO4	mg/L	732		736			733			844			746	774	803	767	742
Total Organic Carbon (TOC)	mg/L	3.72		3.57			3.73			3.70			3.45	3.42	3.63	4.01	3.39
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L	NA		NA			NA			NA			0.178	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			<0.0500	NA	NA	NA	NA
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.100	<0.250	<0.250	<0.250
Arsenic	mg/L	0.0014		0.0015			0.0013			0.0016			0.0013	0.0013	0.0011	<0.0015	<0.0025
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0002	<0.0002	<0.0002	<0.0003	<0.0005
Copper	mg/L	0.0003		0.0018			0.0011			0.0008			0.0006	<0.0010	<0.0010	<0.0015	<0.0025
Iron	mg/L	1.82		1.95			1.81			2.12			2.00	1.84	1.71	2.16	2.15
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.001	<0.0010	<0.0015	<0.0025
Manganese	mg/L	3.72		4.49			4.01			4.22			4.76	4.86	3.63	4.49	4.42
Mercury	mg/L	<0.0002		<0.0002			<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	<0.0015	<0.0025
Selenium	mg/L	<0.0020		<0.0020			<0.0010			0.0011			<0.0020	<0.002	<0.0020	<0.0030	<0.0050
Silica (SiO2)	mg/L	16.6		16.1			16.1			16.9			16.8	16.4	15.8	16.9	14.9
Silicon	mg/L	7.75		7.52			7.55			7.90			7.83	7.67	7.37	7.91	6.96
Uranium	mg/L	0.0021		0.0018			0.0017			0.0018			0.0020	0.0019	0.0016	0.0018	<0.0025
Zinc	mg/L	<0.0050		<0.0040			0.0021			0.0020			<0.0040	<0.004	<0.0040	<0.0060	<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-8-EAA																		
Year		2018	2019											2020				
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2	Q3	Q4	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11	
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	8/25	11/11	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	0.13	0.13	
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	16.0	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	34.50	40.83	
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	11.1	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	7.19	7.19	
Specific Conductance	µS/cm	1781	1696	1720	1725	1729	1628	1676	1699	172	1739	1774	1739	1758	1760	1675	1716	
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	1.4	-14.7	
Lab Analytical Results:																		
Hardness as CaCO3	mg/L	870		861			864			883			867	861	907	937	810	
pH (Lab)	SU	7.28		7.36			7.13			7.05			7.01	7.11	6.96	7.18	7.1	
Total Dissolved Solids (Lab)	mg/L	1220		1290			1240			1280			1380	1290	1260	1280	1310	
Calcium	mg/L	152		151			148			154			143	149	153	160	134	
Magnesium	mg/L	119		118			120			121			124	119	127	130	115	
Sodium	mg/L	81.7		82.6			77.2			78.6			77.1	77.2	77.7	82.9	74.3	
Potassium	mg/L	3.80		3.27			3.55			3.18			3.52	3.8	<5.00	<5.00	<5.00	
Alkalinity, Total	mg/L	400		435			450			431			445	404	385	288	480	
Alkalinity, Bicarbonate	mg/L	400		435			450			431			445	404	385	288	480	
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<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	<10.0	
Chloride	mg/L	9.83		10.5			10.3			11.1			11.0	10.2	10.3	10.1	11.3	
Fluoride	mg/L	0.380		0.370			0.338			0.342			<0.500	0.33	0.346	0.336	0.334	
Sulfate as SO4	mg/L	533		559			606			643			577	602	625	605	582	
Total Organic Carbon (TOC)	mg/L	3.77		3.59			3.77			3.68			3.52	3.49	3.56	3.82	3.54	
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020	
Ammonia as N ^	mg/L	NA		NA			NA			NA			NA	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			NA	NA	NA	NA	NA	
Aluminum	mg/L	<0.100		<0.100			<0.050			<0.100			<0.050	<0.100	<0.250	<0.250	<0.250	
Arsenic	mg/L	0.0020		0.0018			0.0018			0.0021			0.0018	0.0017	0.0017	0.0018	<0.0025	
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002	<0.0003	<0.0005	
Copper	mg/L	0.0004		0.0024			0.0023			0.0008			0.0010	0.001	<0.0010	<0.0015	<0.0025	
Iron	mg/L	2.12		2.13			2.42			2.46			2.30	2.28	2.29	2.31	0.762	
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0010	<0.0015	<0.0025	
Manganese	mg/L	3.17		3.52			3.06			3.37			3.39	3.7	3.36	3.54	3.81	
Mercury	mg/L	<0.0002		<0.0002			<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	<0.0010	<0.0010	<0.0015	<0.0025	
Selenium	mg/L	<0.0020		<0.0020			0.0010			0.0013			<0.0010	<0.0020	<0.0020	<0.0030	<0.0050	
Silica (SiO2)	mg/L	16.3		15.3			15.7			16.1			15.9	15.7	15.0	16.1	14.2	
Silicon	mg/L	7.63		7.15			7.32			7.52			7.42	7.32	7.02	7.53	6.63	
Uranium	mg/L	0.0021		0.0017			0.0016			0.0018			0.0019	0.0019	0.0017	0.0017	<0.0025	
Zinc	mg/L	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.0040	<0.0040	<0.0060	<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-8-MI																		
Year		2018	2019											2020				
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2	Q3	Q4	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11	
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	8/25	11/11	
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	0.10	0.25	
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	2.0	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	45.84	46.24	
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	13.1	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	7.44	7.43	
Specific Conductance	µS/cm	1786	1667	1651	1658	1643	1595	1639	1645	1658	1637	1689	1642	1651	1659	1598	1628	
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	-107.0	-112.2	
Lab Analytical Results:																		
Hardness as CaCO3	mg/L	167		249			273			253			267	254	309	355	339	
pH (Lab)	SU	7.73		7.54			7.24			7.46			7.44	7.53	7.25	7.34	7.27	
Total Dissolved Solids (Lab)	mg/L	1050		1030			1100			1110			1050	1060	1040	1010	1040	
Calcium	mg/L	34.0		48.5			52.4			49.7			51.3	48.7	58.5	65.9	62.6	
Magnesium	mg/L	19.9		31.0			34.5			31.4			33.8	32.1	39.6	46.2	44.4	
Sodium	mg/L	344		312			289			289			275	269	272	260	232	
Potassium	mg/L	4.47		5.25			<5.00			4.55			5.07	4.71	5.00	5.56	5.22	
Alkalinity, Total	mg/L	500		565			560			573			585	543	545	448	590	
Alkalinity, Bicarbonate	mg/L	500		565			560			573			585	543	545	448	590	
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<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	<10.0	
Chloride	mg/L	12.7		10.0			9.33			9.06			9.66	8.19	8.23	8.12	7.91	
Fluoride	mg/L	<0.500		<0.200			<0.200			<0.200			<0.500	<0.200	<0.200	<0.200	<0.200	
Sulfate as SO4	mg/L	347		353			343			366			317	314	316	335	319	
Total Organic Carbon (TOC)	mg/L	2.73		2.83			2.81			2.74			2.65	2.6	2.94	2.87	2.76	
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020	
Ammonia as N ^	mg/L	NA		NA			NA			NA			1.31	NA	NA	NA	NA	
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			<0.0500	NA	NA	NA	NA	
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.100	<0.250	<0.250	<0.250	
Arsenic	mg/L	0.0008		<0.0010			0.0006			0.0005			0.0005	<0.0010	<0.0010	<0.0015	<0.0025	
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002	<0.0003	<0.0005	
Copper	mg/L	0.0031		0.0066			0.0036			0.0035			0.0037	0.0027	<0.0010	<0.0015	<0.0025	
Iron	mg/L	0.137		0.162			<0.250			0.129			0.130	0.108	<0.250	<0.250	<0.250	
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0025	<0.0015	<0.0025	
Manganese	mg/L	0.0495		0.0383			0.0327			0.0351			0.0377	0.0391	0.0393	0.0551	0.0546	
Mercury	mg/L	<0.0002		<0.0002			<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	<0.0015	<0.0025	
Selenium	mg/L	<0.0020		<0.0020			0.0010			0.0010			<0.0010	<0.0020	0.0020	<0.0030	<0.0050	
Silica (SiO2)	mg/L	12.1		12.4			12.8			12.5			12.6	12.2	11.9	12.9	12.1	
Silicon	mg/L	5.65		5.78			5.99			5.83			5.88	5.71	5.55	6.05	5.67	
Uranium	mg/L	0.0002		0.0002			0.0002			0.0001			0.0001	<0.0010	<0.0025	<0.0015	<0.0025	
Zinc	mg/L	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.0040	<0.0040	<0.0060	<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-8-LM																	
Year		2018	2019											2020			
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2	Q3	Q4
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11
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	8/25	11/11
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	0.13	0.13
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	2.0	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	127.90	125.75
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	13.6	8.8
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	8.83	8.81
Specific Conductance	µS/cm	2306	1274	1265	1310	1262	1234	1264	1226	1269	1252	1299	1255	1294	1282	1055	1117
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	-106.9	-93.6
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	45.0		7.29			16.9			6.67			6.38	6.79	7.76	7.53	6.35
pH (Lab)	SU	8.57		8.63			8.02			8.56			8.52	8.55	8.41	8.45	8.48
Total Dissolved Solids (Lab)	mg/L	1420		770			780			785			780	840	730	740	700
Calcium	mg/L	10.8		1.93			3.84			1.78			1.68	1.77	2.09	2.05	1.71
Magnesium	mg/L	4.39		0.600			1.77			0.541			0.528	0.574	0.620	0.587	0.502
Sodium	mg/L	382		341			317			306			305	309	315	337	304
Potassium	mg/L	45.7		3.49			<5.00			2.27			2.18	2.06	<5.00	<5.00	<5.00
Alkalinity, Total	mg/L	615		720			745			731			745	685	630	675	780
Alkalinity, Bicarbonate	mg/L	535		610			645			645			685	595	530	585	680
Alkalinity, Carbonate	mg/L	80.0		110			100			86.0			60.0	90	100	90	100
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	175		5.11			6.80			2.63			2.48	3.04	3.01	2.98	2.47
Fluoride	mg/L	2.06		3.91			3.95			3.97			3.88	3.61	3.63	3.53	3.66
Sulfate as SO4	mg/L	190		3.79			9.58			1.02			<1.00	<2.00	<2.00	<2.00	<1.00
Total Organic Carbon (TOC)	mg/L	2.80		1.80			3.33			1.94			1.69	1.69	1.92	1.82	1.66
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L	NA		NA			NA			NA			0.282	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			<0.0500	NA	NA	NA	NA
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.100	<0.250	<0.250	<0.250
Arsenic	mg/L	0.0106		<0.0010			0.0006			0.0007			0.0006	<0.0005	<0.0010	<0.0015	<0.0025
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0001	<0.0002	<0.0003	<0.0005
Copper	mg/L	0.0337		0.0077			0.0047			0.0041			0.0051	0.0033	0.0012	0.0017	<0.0025
Iron	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.100	<0.250	<0.250	<0.250
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.0005	<0.0010	<0.0015	<0.0025
Manganese	mg/L	0.0258		0.0038			0.0150			0.0020			0.0026	0.0025	0.0029	0.0026	0.0028
Mercury	mg/L	<0.0002		<0.0002			<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	<0.0015	<0.0025
Selenium	mg/L	0.0020		<0.0020			<0.0010			<0.0010			<0.0010	<0.0010	<0.0020	<0.0030	<0.0050
Silica (SiO2)	mg/L	9.09		8.45			8.68			8.28			7.77	7.62	7.40	7.84	7.4
Silicon	mg/L	4.25		3.95			4.06			3.87			3.63	3.56	3.46	3.67	3.46
Uranium	mg/L	0.0044		<0.0002			0.0001			0.0001			<0.0002	<0.0005	<0.0010	<0.0015	<0.0025
Zinc	mg/L	0.0080		<0.0040			0.0023			<0.0020			<0.0020	<0.002	<0.0040	<0.0060	<0.0100

Notes & Definitions:		
^	one-time analysis	
Y/N	yes or no	
gpm	gallons per minute	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.
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	
mg/L	milligram per liter	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.
pCi/L	picocuries per liter	
NM	not measured (field)	
NA	not analyzed (lab)	

GCC Energy Hydrologic Monitoring Data

MW-8-PL																	
Year		2018	2019											2020			
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2	Q3	Q4
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5	8	11
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	8/25	11/11
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	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	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	2.3	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	128.00	127.31
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	14.9	14.1
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	7.52	7.52
Specific Conductance	µS/cm	1690	1531	1571	1558	1554	1411	1326	1165	1083	947	940	900	862	844	792	827
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	-38.0	-37.3
Lab Analytical Results:																	
Hardness as CaCO3	mg/L	617		644			596			411			294	278	298	292	268
pH (Lab)	SU	7.28		7.40			7.26			7.22			7.39	7.47	7.19	7.16	7.41
Total Dissolved Solids (Lab)	mg/L	1150		1090			995			705			620	500	490	525	465
Calcium	mg/L	112		120			105			73.1			52.1	49.3	53.8	53.3	49.1
Magnesium	mg/L	82.1		83.8			81.4			55.4			39.7	37.6	39.7	38.5	35.4
Sodium	mg/L	106		124			102			91.7			83.3	78.5	80.4	81.6	77.2
Potassium	mg/L	5.14		5.62			<5.00			2.80			2.35	2.32	2.11	<2.00	<2.00
Alkalinity, Total	mg/L	370		415			435			393			390	339	340	315	410
Alkalinity, Bicarbonate	mg/L	370		415			435			393			390	339	340	315	410
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<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	<10.0
Chloride	mg/L	18.8		18.5			9.03			5.61			5.66	3.51	3.38	3.33	3.32
Fluoride	mg/L	0.505		0.474			0.290			0.291			<0.500	0.258	0.240	0.233	0.224
Sulfate as SO4	mg/L	478		471			390			232			127	109	103	99.2	99
Total Organic Carbon (TOC)	mg/L	4.17		4.02			2.92			2.21			1.75	1.63	1.63	1.61	1.44
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L	NA		NA			NA			NA			0.199	NA	NA	NA	NA
Ortho-Phosphate as P ^	mg/L	NA		NA			NA			NA			<0.0500	NA	NA	NA	NA
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.05	<0.100	<0.100	<0.100
Arsenic	mg/L	0.0074		0.0124			0.0190			0.0156			0.0104	0.0073	0.0075	0.0064	0.0058
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0001	<0.0002	<0.0002
Copper	mg/L	0.0016		0.0025			0.0017			0.0011			0.0004	0.001	<0.0025	<0.001	0.0014
Iron	mg/L	<0.050		0.352			<0.250			0.129			0.075	0.054	<0.100	<0.100	<0.100
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Manganese	mg/L	1.31		1.22			0.697			0.505			0.313	0.303	0.307	0.259	0.219
Mercury	mg/L	<0.0002		<0.0002			<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	<0.0010	<0.0010
Selenium	mg/L	0.0012		<0.0020			<0.0010			<0.0010			<0.0010	<0.001	<0.0010	<0.0020	<0.0020
Silica (SiO2)	mg/L	14.1		16.3			17.7			18.5			18.0	18.9	18.7	19.9	18.5
Silicon	mg/L	6.58		7.64			8.28			8.67			8.42	8.82	8.75	9.28	8.66
Uranium	mg/L	0.0052		0.0040			0.0010			0.0009			0.0004	<0.0005	<0.0005	<0.0010	<0.0010
Zinc	mg/L	0.0344		<0.0040			<0.0020			<0.0080			<0.0020	<0.0020	<0.0100	<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.	



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04 January 2021

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 12/15/20 15:15.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Wiltse Well	2012137-01	Water	12/15/20 13:17	12/15/20 15:15	
MW-98-GW	2012137-02	Water	12/15/20 13:37	12/15/20 15:15	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55

Wiltse Well

2012137-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	470	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	470	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Chloride*	57.9	2.00	0.177	mg/L	2	12/16/20 23:23	EPA300.0		AES
Fluoride*	0.292	0.200	0.0194	mg/L	2	12/16/20 23:23	EPA300.0		AES
Nitrate/Nitrite as N*	1.48	0.020	0.006	mg/L as N	1	12/16/20 11:06	EPA353.2		LLG
pH*	6.86			pH Units	1	12/15/20 16:00	EPA150.1		VJW
Total Dissolved Solids*	1540	10.0		mg/L	1	12/21/20 15:00	EPA160.1		VJW
Sulfate*	728	20.0	3.05	mg/L	20	12/16/20 23:44	EPA300.0		AES
Total Organic Carbon*	3.43	0.500	0.135	mg/L	1	12/23/20 14:34	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/31/20 12:15	EPA200.7		AES
Calcium*	215	0.100	0.017	mg/L	1	12/31/20 12:14	EPA200.7		AES
Hardness as CaCO ₃	1130	4.37	1.01	mg/L	10	12/31/20 14:22	2340 B		AES
Iron*	0.216	0.050	0.018	mg/L	1	12/31/20 12:15	EPA200.7		AES
Magnesium*	144	1.00	0.235	mg/L	10	12/31/20 14:22	EPA200.7		AES
Potassium*	4.54	1.00	0.130	mg/L	1	12/31/20 12:14	EPA200.7		AES
Silica (SiO ₂)	15.7	1.07	0.0354	mg/L	1	12/31/20 12:15	Calculation		AES
Silicon	7.33	0.500	0.017	mg/L	1	12/31/20 12:15	EPA200.7		AES
Sodium*	67.5	1.00	0.101	mg/L	1	12/31/20 12:14	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:45	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/29/20 17:45	EPA200.8		AES
Copper*	0.0006	0.0005	0.0002	mg/L	1	12/29/20 17:45	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:45	EPA200.8		AES
Manganese*	0.943	0.0005	0.0001	mg/L	1	12/29/20 17:45	EPA200.8		AES
Molybdenum*	0.0017	0.0005	0.0001	mg/L	1	12/29/20 17:45	EPA200.8		AES
Selenium*	0.0022	0.0010	0.0005	mg/L	1	12/29/20 17:45	EPA200.8		AES
Uranium	0.0032	0.0005	0.0002	mg/L	1	12/29/20 17:45	EPA200.8		AES
Zinc*	0.0098	0.0020	0.0003	mg/L	1	12/29/20 17:45	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/23/20 10:38	EPA245.1		LLG
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Cation/Anion Balance -1.14

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55

MW-98-GW

2012137-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	470	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	470	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Chloride*	57.8	2.00	0.177	mg/L	2	12/17/20 00:04	EPA300.0		AES
Fluoride*	0.296	0.200	0.0194	mg/L	2	12/17/20 00:04	EPA300.0		AES
Nitrate/Nitrite as N*	1.43	0.020	0.006	mg/L as N	1	12/16/20 11:08	EPA353.2		LLG
pH*	7.26			pH Units	1	12/15/20 16:00	EPA150.1		VJW
Total Dissolved Solids*	1570	10.0		mg/L	1	12/21/20 15:00	EPA160.1		VJW
Sulfate*	719	20.0	3.05	mg/L	20	12/17/20 00:25	EPA300.0		AES
Total Organic Carbon*	3.32	0.500	0.135	mg/L	1	12/23/20 15:22	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/31/20 12:19	EPA200.7		AES
Calcium*	214	0.100	0.017	mg/L	1	12/31/20 12:19	EPA200.7		AES
Hardness as CaCO ₃	1120	4.37	1.01	mg/L	10	12/31/20 14:25	2340 B		AES
Iron*	0.211	0.050	0.018	mg/L	1	12/31/20 12:19	EPA200.7		AES
Magnesium*	143	1.00	0.235	mg/L	10	12/31/20 14:25	EPA200.7		AES
Potassium*	4.55	1.00	0.130	mg/L	1	12/31/20 12:19	EPA200.7		AES
Silica (SiO ₂)	15.6	1.07	0.0354	mg/L	1	12/31/20 12:19	Calculation		AES
Silicon	7.27	0.500	0.017	mg/L	1	12/31/20 12:19	EPA200.7		AES
Sodium*	67.3	1.00	0.101	mg/L	1	12/31/20 12:19	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:56	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/29/20 17:56	EPA200.8		AES
Copper*	0.0005	0.0005	0.0002	mg/L	1	12/29/20 17:56	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:56	EPA200.8		AES
Manganese*	0.961	0.0005	0.0001	mg/L	1	12/29/20 17:56	EPA200.8		AES
Molybdenum*	0.0018	0.0005	0.0001	mg/L	1	12/29/20 17:56	EPA200.8		AES
Selenium*	0.0014	0.0010	0.0005	mg/L	1	12/29/20 17:56	EPA200.8		AES
Uranium	0.0033	0.0005	0.0002	mg/L	1	12/29/20 17:56	EPA200.8		AES
Zinc*	0.0094	0.0020	0.0003	mg/L	1	12/29/20 17:56	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/23/20 10:38	EPA245.1		LLG
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Cation/Anion Balance -1.05

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55

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 B202733 - General Prep - Wet Chem

Blank (B202733-BLK1)

Prepared: 12/15/20 Analyzed: 12/16/20

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

LCS (B202733-BS1)

Prepared: 12/15/20 Analyzed: 12/16/20

Nitrate/Nitrite as N 0.980 0.020 mg/L as N 1.00 98.0 90-110

LCS Dup (B202733-BSD1)

Prepared: 12/15/20 Analyzed: 12/16/20

Nitrate/Nitrite as N 0.982 0.020 mg/L as N 1.00 98.2 90-110 0.153 20

Batch B202741 - General Prep - Wet Chem

Duplicate (B202741-DUP1)

Source: 2012121-03

Prepared & Analyzed: 12/15/20

pH 7.71 pH Units 7.72 0.130 20

Reference (B202741-SRM1)

Prepared & Analyzed: 12/15/20

pH 6.95 pH Units 7.00 99.3 98.57-101.42

Batch B202747 - General Prep - Wet Chem

Blank (B202747-BLK1)

Prepared & Analyzed: 12/16/20

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

LCS (B202747-BS1)

Prepared & Analyzed: 12/16/20

Chloride 24.5 1.00 mg/L 25.0 97.9 90-110
Fluoride 2.55 0.100 mg/L 2.50 102 90-110
Sulfate 25.2 1.00 mg/L 25.0 101 90-110

LCS Dup (B202747-BSD1)

Prepared & Analyzed: 12/16/20

Chloride 24.7 1.00 mg/L 25.0 98.8 90-110 0.968 20
Fluoride 2.58 0.100 mg/L 2.50 103 90-110 1.05 20
Sulfate 25.1 1.00 mg/L 25.0 101 90-110 0.246 20

Batch B202756 - General Prep - Wet Chem

Blank (B202756-BLK1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon ND 0.500 mg/L

LCS (B202756-BS1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon 9.26 0.500 mg/L 10.0 92.6 85-115

LCS Dup (B202756-BSD1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon 9.26 0.500 mg/L 10.0 92.6 85-115 0.00 20

Batch B202774 - General Prep - Wet Chem

Blank (B202774-BLK1)

Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids 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 Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55General 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 B202774 - General Prep - Wet Chem (Continued)

Duplicate (B202774-DUP1) Source: 2012121-01 Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids	680	10.0	mg/L		685			0.741	20	
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Reference (B202774-SRM1) Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids	395	10.0	mg/L	380	104	85-115				
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Batch B202803 - General Prep - Wet Chem

Blank (B202803-BLK1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							

LCS (B202803-BS1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	101	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO ₃	101	10.0	mg/L	100	101	85-115				

LCS Dup (B202803-BSD1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	103	10.0	mg/L				85-115	1.96	20	
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO ₃	103	10.0	mg/L	100	103	85-115	1.96		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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55

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 B202818 - Diss. 200.7/200.8

Blank (B202818-BLK1)

Prepared: 12/28/20 Analyzed: 12/31/20

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 (B202818-BS1)

Prepared: 12/28/20 Analyzed: 12/31/20

Aluminum	4.91	0.050	mg/L	5.00	98.2	85-115
Calcium	4.91	0.100	mg/L	5.00	98.3	85-115
Iron	4.77	0.050	mg/L	5.00	95.4	85-115
Magnesium	24.3	0.100	mg/L	25.0	97.1	85-115
Potassium	9.97	1.00	mg/L	10.0	99.7	85-115
Silicon	5.19	0.500	mg/L	5.00	104	85-115
Sodium	3.99	1.00	mg/L	4.05	98.6	85-115

LCS Dup (B202818-BSD1)

Prepared: 12/28/20 Analyzed: 12/31/20

Aluminum	4.96	0.050	mg/L	5.00	99.1	85-115	0.992	20
Calcium	4.94	0.100	mg/L	5.00	98.8	85-115	0.550	20
Iron	4.86	0.050	mg/L	5.00	97.2	85-115	1.80	20
Magnesium	24.1	0.100	mg/L	25.0	96.4	85-115	0.778	20
Potassium	9.85	1.00	mg/L	10.0	98.5	85-115	1.23	20
Silicon	5.24	0.500	mg/L	5.00	105	85-115	1.02	20
Sodium	4.04	1.00	mg/L	4.05	99.7	85-115	1.17	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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:55

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 B202820 - Diss. 200.7/200.8

Blank (B202820-BLK1)

Prepared: 12/28/20 Analyzed: 12/29/20

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 (B202820-BS1)

Prepared: 12/28/20 Analyzed: 12/29/20

Arsenic	0.0487	0.0005	mg/L	0.0500	97.5	85-115
Cadmium	0.0514	0.0001	mg/L	0.0500	103	85-115
Copper	0.0501	0.0005	mg/L	0.0500	100	85-115
Lead	0.0499	0.0005	mg/L	0.0500	99.7	85-115
Manganese	0.0486	0.0005	mg/L	0.0500	97.2	85-115
Molybdenum	0.0502	0.0005	mg/L	0.0500	100	85-115
Selenium	0.247	0.0010	mg/L	0.250	98.8	85-115
Uranium	0.0488	0.0005	mg/L	0.0500	97.7	85-115
Zinc	0.0488	0.0020	mg/L	0.0500	97.6	85-115

LCS Dup (B202820-BSD1)

Prepared: 12/28/20 Analyzed: 12/29/20

Arsenic	0.0498	0.0005	mg/L	0.0500	99.6	85-115	2.12	20
Cadmium	0.0511	0.0001	mg/L	0.0500	102	85-115	0.531	20
Copper	0.0504	0.0005	mg/L	0.0500	101	85-115	0.579	20
Lead	0.0516	0.0005	mg/L	0.0500	103	85-115	3.37	20
Manganese	0.0525	0.0005	mg/L	0.0500	105	85-115	7.61	20
Molybdenum	0.0513	0.0005	mg/L	0.0500	103	85-115	2.13	20
Selenium	0.259	0.0010	mg/L	0.250	103	85-115	4.58	20
Uranium	0.0505	0.0005	mg/L	0.0500	101	85-115	3.27	20
Zinc	0.0498	0.0020	mg/L	0.0500	99.5	85-115	1.93	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:55

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202729 - EPA 245.1/7470										
Blank (B202729-BLK1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	ND	0.0002	mg/L							
LCS (B202729-BS1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	0.0048	0.0002	mg/L	0.00500		96.7	85-115			
LCS Dup (B202729-BSD1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	0.0048	0.0002	mg/L	0.00500		96.6	85-115	0.145	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:55

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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75 Sittle St Durango, CO

FORM-006
COC - Rev

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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

04 January 2021

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 12/14/20 15:00.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Well #2 Downgradient	2012121-01	Water	12/14/20 10:13	12/14/20 15:00	
MW-HGA-4	2012121-02	Water	12/14/20 11:25	12/14/20 15:00	
Well #1 Upgradient	2012121-03	Water	12/14/20 12:47	12/14/20 15:00	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45

Well #2 Downgradient

2012121-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	333	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	341	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Chloride*	44.6	5.00	0.443	mg/L	5	12/16/20 21:21	EPA300.0		AES
Fluoride*	0.248	0.100	0.00971	mg/L	1	12/17/20 11:36	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/16/20 10:59	EPA353.2		LLG
pH*	7.20			pH Units	1	12/15/20 13:15	EPA150.1		VJW
Total Dissolved Solids*	685	10.0		mg/L	1	12/21/20 15:00	EPA160.1		VJW
Sulfate*	219	5.00	0.762	mg/L	5	12/16/20 21:21	EPA300.0		AES
Total Organic Carbon*	1.74	0.500	0.135	mg/L	1	12/23/20 13:05	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/31/20 11:53	EPA200.7		AES
Calcium*	90.0	0.100	0.017	mg/L	1	12/31/20 11:53	EPA200.7		AES
Hardness as CaCO ₃	569	2.31	0.525	mg/L	5	12/31/20 14:10	2340 B		AES
Iron*	0.159	0.050	0.018	mg/L	1	12/31/20 11:53	EPA200.7		AES
Magnesium*	83.7	0.500	0.117	mg/L	5	12/31/20 14:10	EPA200.7		AES
Potassium*	2.22	1.00	0.130	mg/L	1	12/31/20 11:53	EPA200.7		AES
Silica (SiO ₂)	12.7	1.07	0.0354	mg/L	1	12/31/20 11:53	Calculation		AES
Silicon	5.94	0.500	0.017	mg/L	1	12/31/20 11:53	EPA200.7		AES
Sodium*	24.5	1.00	0.101	mg/L	1	12/31/20 11:53	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0013	0.0005	0.0001	mg/L	1	12/29/20 17:28	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/29/20 17:28	EPA200.8		AES
Copper*	<0.0005	0.0005	0.0002	mg/L	1	12/29/20 17:28	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:28	EPA200.8		AES
Manganese*	0.441	0.0005	0.0001	mg/L	1	12/29/20 17:28	EPA200.8		AES
Molybdenum*	0.0027	0.0005	0.0001	mg/L	1	12/29/20 17:28	EPA200.8		AES
Selenium*	0.0012	0.0010	0.0005	mg/L	1	12/29/20 17:28	EPA200.8		AES
Uranium	0.0017	0.0005	0.0002	mg/L	1	12/29/20 17:28	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	12/29/20 17:28	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/23/20 10:38	EPA245.1		LLG
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Cation/Anion Balance -57

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45

MW-HGA-4

2012121-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	457	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	457	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Chloride*	10.1	1.00	0.0886	mg/L	1	12/16/20 21:41	EPA300.0		AES
Fluoride*	0.473	0.100	0.00971	mg/L	1	12/16/20 21:41	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/16/20 11:00	EPA353.2		LLG
pH*	6.95			pH Units	1	12/15/20 13:15	EPA150.1		VJW
Total Dissolved Solids*	665	10.0		mg/L	1	12/21/20 15:00	EPA160.1		VJW
Sulfate*	187	5.00	0.762	mg/L	5	12/16/20 22:02	EPA300.0		AES
Total Organic Carbon*	4.67	0.500	0.135	mg/L	1	12/23/20 13:57	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/31/20 12:06	EPA200.7		AES
Calcium*	122	0.100	0.017	mg/L	1	12/31/20 12:06	EPA200.7		AES
Hardness as CaCO ₃	612	2.31	0.525	mg/L	5	12/31/20 14:17	2340 B		AES
Iron*	9.31	0.050	0.018	mg/L	1	12/31/20 12:06	EPA200.7		AES
Magnesium*	74.9	0.500	0.117	mg/L	5	12/31/20 14:17	EPA200.7		AES
Potassium*	2.11	1.00	0.130	mg/L	1	12/31/20 12:06	EPA200.7		AES
Silica (SiO ₂)	18.3	1.07	0.0354	mg/L	1	12/31/20 12:06	Calculation		AES
Silicon	8.56	0.500	0.017	mg/L	1	12/31/20 12:06	EPA200.7		AES
Sodium*	26.8	1.00	0.101	mg/L	1	12/31/20 12:06	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0038	0.0005	0.0001	mg/L	1	12/29/20 17:31	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/29/20 17:31	EPA200.8		AES
Copper*	<0.0005	0.0005	0.0002	mg/L	1	12/29/20 17:31	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:31	EPA200.8		AES
Manganese*	2.36	0.0005	0.0001	mg/L	1	12/29/20 17:31	EPA200.8		AES
Molybdenum*	0.0029	0.0005	0.0001	mg/L	1	12/29/20 17:31	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	12/29/20 17:31	EPA200.8		AES
Uranium	0.0005	0.0005	0.0002	mg/L	1	12/29/20 17:31	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	12/29/20 17:31	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/23/20 10:38	EPA245.1		LLG
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Cation/Anion Balance 1.7

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45

Well #1 Upgradient

2012121-03 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	587	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	18.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/23/20 15:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	605	10.0	7.16	mg/L	1	12/23/20 15:00	2320 B		VJW
Chloride*	4.34	1.00	0.0886	mg/L	1	12/17/20 11:56	EPA300.0		AES
Fluoride*	0.342	0.100	0.00971	mg/L	1	12/17/20 11:56	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/16/20 11:02	EPA353.2		LLG
pH*	7.72			pH Units	1	12/15/20 13:15	EPA150.1		VJW
Total Dissolved Solids*	690	10.0		mg/L	1	12/21/20 15:00	EPA160.1		VJW
Sulfate*	87.9	5.00	0.762	mg/L	5	12/16/20 22:22	EPA300.0		AES
Total Organic Carbon*	3.17	0.500	0.135	mg/L	1	12/23/20 14:18	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/31/20 12:10	EPA200.7		AES
Calcium*	47.4	0.100	0.017	mg/L	1	12/31/20 12:10	EPA200.7		AES
Hardness as CaCO ₃	247	2.31	0.525	mg/L	5	12/31/20 14:20	2340 B		AES
Iron*	1.70	0.050	0.018	mg/L	1	12/31/20 12:10	EPA200.7		AES
Magnesium*	31.1	0.500	0.117	mg/L	5	12/31/20 14:20	EPA200.7		AES
Potassium*	3.02	1.00	0.130	mg/L	1	12/31/20 12:10	EPA200.7		AES
Silica (SiO ₂)	14.3	1.07	0.0354	mg/L	1	12/31/20 12:10	Calculation		AES
Silicon	6.67	0.500	0.017	mg/L	1	12/31/20 12:10	EPA200.7		AES
Sodium*	196	1.00	0.101	mg/L	1	12/31/20 12:10	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0008	0.0005	0.0001	mg/L	1	12/29/20 17:42	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/29/20 17:42	EPA200.8		AES
Copper*	0.0007	0.0005	0.0002	mg/L	1	12/29/20 17:42	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:42	EPA200.8		AES
Manganese*	0.297	0.0005	0.0001	mg/L	1	12/29/20 17:42	EPA200.8		AES
Molybdenum*	0.0005	0.0005	0.0001	mg/L	1	12/29/20 17:42	EPA200.8		AES
Selenium*	0.0171	0.0010	0.0005	mg/L	1	12/29/20 17:42	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	12/29/20 17:42	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	12/29/20 17:42	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/23/20 10:38	EPA245.1		LLG
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Cation/Anion Balance -1.73

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: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45

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 B202733 - General Prep - Wet Chem

Blank (B202733-BLK1)

Prepared: 12/15/20 Analyzed: 12/16/20

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

LCS (B202733-BS1)

Prepared: 12/15/20 Analyzed: 12/16/20

Nitrate/Nitrite as N 0.980 0.020 mg/L as N 1.00 98.0 90-110

LCS Dup (B202733-BSD1)

Prepared: 12/15/20 Analyzed: 12/16/20

Nitrate/Nitrite as N 0.982 0.020 mg/L as N 1.00 98.2 90-110 0.153 20

Batch B202741 - General Prep - Wet Chem

Duplicate (B202741-DUP1)

Source: 2012121-03

Prepared & Analyzed: 12/15/20

pH 7.71 pH Units 7.72 0.130 20

Reference (B202741-SRM1)

Prepared & Analyzed: 12/15/20

pH 6.95 pH Units 7.00 99.3 98.57-101.42

Batch B202747 - General Prep - Wet Chem

Blank (B202747-BLK1)

Prepared & Analyzed: 12/16/20

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

LCS (B202747-BS1)

Prepared & Analyzed: 12/16/20

Chloride 24.5 1.00 mg/L 25.0 97.9 90-110
Fluoride 2.55 0.100 mg/L 2.50 102 90-110
Sulfate 25.2 1.00 mg/L 25.0 101 90-110

LCS Dup (B202747-BSD1)

Prepared & Analyzed: 12/16/20

Chloride 24.7 1.00 mg/L 25.0 98.8 90-110 0.968 20
Fluoride 2.58 0.100 mg/L 2.50 103 90-110 1.05 20
Sulfate 25.1 1.00 mg/L 25.0 101 90-110 0.246 20

Batch B202756 - General Prep - Wet Chem

Blank (B202756-BLK1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon ND 0.500 mg/L

LCS (B202756-BS1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon 9.26 0.500 mg/L 10.0 92.6 85-115

LCS Dup (B202756-BSD1)

Prepared & Analyzed: 12/23/20

Total Organic Carbon 9.26 0.500 mg/L 10.0 92.6 85-115 0.00 20

Batch B202774 - General Prep - Wet Chem

Blank (B202774-BLK1)

Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids 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 Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45General 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 B202774 - General Prep - Wet Chem (Continued)

Duplicate (B202774-DUP1) Source: 2012121-01 Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids	680	10.0	mg/L		685			0.741	20	
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Reference (B202774-SRM1) Prepared: 12/18/20 Analyzed: 12/21/20

Total Dissolved Solids	395	10.0	mg/L	380		104	85-115			
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Batch B202803 - General Prep - Wet Chem

Blank (B202803-BLK1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							

LCS (B202803-BS1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	101	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO ₃	101	10.0	mg/L	100		101	85-115			

LCS Dup (B202803-BSD1) Prepared & Analyzed: 12/23/20

Alkalinity, Bicarbonate as CaCO ₃	103	10.0	mg/L				85-115	1.96	20	
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO ₃	103	10.0	mg/L	100		103	85-115	1.96	20	

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
01/04/21 11:45

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 B202818 - Diss. 200.7/200.8

Blank (B202818-BLK1)

Prepared: 12/28/20 Analyzed: 12/31/20

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 (B202818-BS1)

Prepared: 12/28/20 Analyzed: 12/31/20

Aluminum	4.91	0.050	mg/L	5.00	98.2	85-115
Calcium	4.91	0.100	mg/L	5.00	98.3	85-115
Iron	4.77	0.050	mg/L	5.00	95.4	85-115
Magnesium	24.3	0.100	mg/L	25.0	97.1	85-115
Potassium	9.97	1.00	mg/L	10.0	99.7	85-115
Silicon	5.19	0.500	mg/L	5.00	104	85-115
Sodium	3.99	1.00	mg/L	4.05	98.6	85-115

LCS Dup (B202818-BSD1)

Prepared: 12/28/20 Analyzed: 12/31/20

Aluminum	4.96	0.050	mg/L	5.00	99.1	85-115	0.992	20
Calcium	4.94	0.100	mg/L	5.00	98.8	85-115	0.550	20
Iron	4.86	0.050	mg/L	5.00	97.2	85-115	1.80	20
Magnesium	24.1	0.100	mg/L	25.0	96.4	85-115	0.778	20
Potassium	9.85	1.00	mg/L	10.0	98.5	85-115	1.23	20
Silicon	5.24	0.500	mg/L	5.00	105	85-115	1.02	20
Sodium	4.04	1.00	mg/L	4.05	99.7	85-115	1.17	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:45

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 B202820 - Diss. 200.7/200.8

Blank (B202820-BLK1)

Prepared: 12/28/20 Analyzed: 12/29/20

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 (B202820-BS1)

Prepared: 12/28/20 Analyzed: 12/29/20

Arsenic	0.0487	0.0005	mg/L	0.0500	97.5	85-115
Cadmium	0.0514	0.0001	mg/L	0.0500	103	85-115
Copper	0.0501	0.0005	mg/L	0.0500	100	85-115
Lead	0.0499	0.0005	mg/L	0.0500	99.7	85-115
Manganese	0.0486	0.0005	mg/L	0.0500	97.2	85-115
Molybdenum	0.0502	0.0005	mg/L	0.0500	100	85-115
Selenium	0.247	0.0010	mg/L	0.250	98.8	85-115
Uranium	0.0488	0.0005	mg/L	0.0500	97.7	85-115
Zinc	0.0488	0.0020	mg/L	0.0500	97.6	85-115

LCS Dup (B202820-BSD1)

Prepared: 12/28/20 Analyzed: 12/29/20

Arsenic	0.0498	0.0005	mg/L	0.0500	99.6	85-115	2.12	20
Cadmium	0.0511	0.0001	mg/L	0.0500	102	85-115	0.531	20
Copper	0.0504	0.0005	mg/L	0.0500	101	85-115	0.579	20
Lead	0.0516	0.0005	mg/L	0.0500	103	85-115	3.37	20
Manganese	0.0525	0.0005	mg/L	0.0500	105	85-115	7.61	20
Molybdenum	0.0513	0.0005	mg/L	0.0500	103	85-115	2.13	20
Selenium	0.259	0.0010	mg/L	0.250	103	85-115	4.58	20
Uranium	0.0505	0.0005	mg/L	0.0500	101	85-115	3.27	20
Zinc	0.0498	0.0020	mg/L	0.0500	99.5	85-115	1.93	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:45

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202729 - EPA 245.1/7470										
Blank (B202729-BLK1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	ND	0.0002	mg/L							
LCS (B202729-BS1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	0.0048	0.0002	mg/L	0.00500		96.7	85-115			
LCS Dup (B202729-BSD1)				Prepared: 12/18/20 Analyzed: 12/23/20						
Mercury	0.0048	0.0002	mg/L	0.00500		96.6	85-115	0.145	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
01/04/21 11:45

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

21 December 2020

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

Enclosed are the results of analyses for samples received by the laboratory on 12/03/20 14:20.
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 SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
Haygulch Ditch Downgradient	2012051-01	Water	12/03/20 12:52	12/03/20 14:20	
Haygulch Ditch upgradient	2012051-02	Water	12/03/20 13:20	12/03/20 14:20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:56

Haygulch Ditch Downgradient

2012051-01 (Surface Water)

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

Alkalinity, Bicarbonate as CaCO3*	154	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO3*	158	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	17.1	1.00	0.0886	mg/L	1	12/17/20 10:55	EPA300.0	M5	AES
Fluoride*	0.244	0.100	0.00971	mg/L	1	12/17/20 10:55	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/16/20 10:55	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	1.16	mg/L	1	12/15/20 09:00	EPA1664 A		VJW
pH*	7.85			pH Units	1	12/04/20 14:45	EPA150.1		VJW
SAR	0.26			No Unit	1	12/10/20 11:28	Calculation		AES
Total Dissolved Solids*	370	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Total Suspended Solids*	10.5	4.00		mg/L	1	12/10/20 09:05	EPA160.2		VJW
Sulfate*	70.2	5.00	0.762	mg/L	5	12/16/20 19:18	EPA300.0		AES
Total Organic Carbon*	1.55	0.500	0.135	mg/L	1	12/11/20 00:04	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/10/20 11:28	EPA200.7		AES
Calcium*	55.6	0.100	0.017	mg/L	1	12/10/20 11:28	EPA200.7		AES
Hardness as CaCO3	232	0.662	0.138	mg/L	1	12/10/20 11:28	2340 B		AES
Iron*	<0.050	0.050	0.018	mg/L	1	12/10/20 11:28	EPA200.7		AES
Magnesium*	22.7	0.100	0.023	mg/L	1	12/10/20 11:28	EPA200.7		AES
Potassium*	1.89	1.00	0.130	mg/L	1	12/10/20 11:28	EPA200.7		AES
Silica (SiO2)	10.6	1.07	0.0354	mg/L	1	12/10/20 11:28	Calculation		AES
Silicon	4.94	0.500	0.017	mg/L	1	12/10/20 11:28	EPA200.7		AES
Sodium*	9.03	1.00	0.101	mg/L	1	12/10/20 11:28	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.0001	mg/L	1	12/09/20 11:55	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/09/20 11:55	EPA200.8		AES
Copper*	0.0005	0.0005	0.0002	mg/L	1	12/09/20 11:55	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/09/20 11:55	EPA200.8		AES
Manganese*	0.0116	0.0005	0.0001	mg/L	1	12/09/20 11:55	EPA200.8		AES
Molybdenum*	0.0009	0.0005	0.0001	mg/L	1	12/09/20 11:55	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	12/09/20 11:55	EPA200.8		AES
Uranium	0.0005	0.0005	0.0002	mg/L	1	12/09/20 11:55	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	12/09/20 11:55	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 SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

Haygulch Ditch Downgradient

2012051-01 (Surface Water)

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

Mercury*	<0.00001	0.0002	0.00001	mg/L	1	12/09/20 15:20	EPA245.1		LLG
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Cation/Anion Balance	-.33
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Green Analytical Laboratories

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:56

Haygulch Ditch upgradient

2012051-02 (Surface Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	131	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	137	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	14.8	1.00	0.0886	mg/L	1	12/17/20 11:15	EPA300.0	M5	AES
Fluoride*	0.226	0.100	0.00971	mg/L	1	12/17/20 11:15	EPA300.0		AES
Nitrate/Nitrite as N*	0.026	0.020	0.006	mg/L as N	1	12/16/20 10:58	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	1.16	mg/L	1	12/15/20 09:00	EPA1664 A		VJW
pH*	7.92			pH Units	1	12/04/20 14:45	EPA150.1		VJW
SAR	0.25			No Unit	1	12/10/20 11:30	Calculation		AES
Total Dissolved Solids*	160	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Total Suspended Solids*	13.2	4.00		mg/L	1	12/10/20 09:05	EPA160.2		VJW
Sulfate*	64.4	5.00	0.762	mg/L	5	12/16/20 20:19	EPA300.0		AES
Total Organic Carbon*	1.22	0.500	0.135	mg/L	1	12/11/20 00:19	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.012	mg/L	1	12/10/20 11:30	EPA200.7		AES
Calcium*	49.9	0.100	0.017	mg/L	1	12/10/20 11:30	EPA200.7		AES
Hardness as CaCO ₃	213	0.662	0.138	mg/L	1	12/10/20 11:30	2340 B		AES
Iron*	<0.050	0.050	0.018	mg/L	1	12/10/20 11:30	EPA200.7		AES
Magnesium*	21.5	0.100	0.023	mg/L	1	12/10/20 11:30	EPA200.7		AES
Potassium*	1.53	1.00	0.130	mg/L	1	12/10/20 11:30	EPA200.7		AES
Silica (SiO ₂)	9.86	1.07	0.0354	mg/L	1	12/10/20 11:30	Calculation		AES
Silicon	4.61	0.500	0.017	mg/L	1	12/10/20 11:30	EPA200.7		AES
Sodium*	8.39	1.00	0.101	mg/L	1	12/10/20 11:30	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.0001	mg/L	1	12/09/20 11:59	EPA200.8		AES
Cadmium*	<0.0001	0.0001	0.00007	mg/L	1	12/09/20 11:59	EPA200.8		AES
Copper*	0.0005	0.0005	0.0002	mg/L	1	12/09/20 11:59	EPA200.8		AES
Lead*	<0.0005	0.0005	0.0001	mg/L	1	12/09/20 11:59	EPA200.8		AES
Manganese*	0.0047	0.0005	0.0001	mg/L	1	12/09/20 11:59	EPA200.8		AES
Molybdenum*	0.0009	0.0005	0.0001	mg/L	1	12/09/20 11:59	EPA200.8		AES
Selenium*	<0.0010	0.0010	0.0005	mg/L	1	12/09/20 11:59	EPA200.8		AES
Uranium	<0.0005	0.0005	0.0002	mg/L	1	12/09/20 11:59	EPA200.8		AES
Zinc*	<0.0020	0.0020	0.0003	mg/L	1	12/09/20 11:59	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 SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

Haygulch Ditch upgradient

2012051-02 (Surface Water)

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

Mercury*	<0.00001	0.0002	0.00001	mg/L	1	12/09/20 15:20	EPA245.1		LLG
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Cation/Anion Balance	1.66
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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 SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

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 B202598 - General Prep - Wet Chem

Blank (B202598-BLK1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon	ND	0.500	mg/L
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LCS (B202598-BS1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon	10.5	0.500	mg/L	10.0	105	85-115
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LCS Dup (B202598-BSD1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon	10.5	0.500	mg/L	10.0	105	85-115	0.285	20
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Batch B202602 - General Prep - Wet Chem

Blank (B202602-BLK1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L

LCS (B202602-BS1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO ₃	101	10.0	mg/L			85-115
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L			85-115
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L			85-115
Alkalinity, Total as CaCO ₃	101	10.0	mg/L	100	101	85-115

LCS Dup (B202602-BSD1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO ₃	104	10.0	mg/L			85-115	2.93	20
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L			85-115		20
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L			85-115		20
Alkalinity, Total as CaCO ₃	104	10.0	mg/L	100	104	85-115	2.93	20

Batch B202623 - General Prep - Wet Chem

Blank (B202623-BLK1)

Prepared & Analyzed: 12/04/20

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B202623-DUP1)

Source: 2012013-01

Prepared & Analyzed: 12/04/20

Total Dissolved Solids	3570	10.0	mg/L	3610			1.12	20
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Reference (B202623-SRM1)

Prepared & Analyzed: 12/04/20

Total Dissolved Solids	355	10.0	mg/L	380	93.4	85-115
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Batch B202640 - General Prep - Wet Chem

Duplicate (B202640-DUP1)

Source: 2012051-01

Prepared & Analyzed: 12/04/20

pH	7.85		pH Units	7.85			0.00	20
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Reference (B202640-SRM1)

Prepared & Analyzed: 12/04/20

pH	7.00		pH Units	7.00	100	98.57-101.42
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Batch B202686 - General Prep - Wet Chem

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:56General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (B202686-BLK1) Prepared & Analyzed: 12/10/20										
Total Suspended Solids	ND	4.00	mg/L							
Duplicate (B202686-DUP1) Source: 2012051-01 Prepared & Analyzed: 12/10/20										
Total Suspended Solids	14.8	4.00	mg/L		10.5			33.7	20	R1
Reference (B202686-SRM1) Prepared & Analyzed: 12/10/20										
Total Suspended Solids	98.0	4.00	mg/L	100		98.0	85-115			
Batch B202723 - General Prep - Wet Chem										
Blank (B202723-BLK1) Prepared & Analyzed: 12/15/20										
Oil & Grease (HEM)	ND	5.00	mg/L							
LCS (B202723-BS1) Prepared & Analyzed: 12/15/20										
Oil & Grease (HEM)	37.4	5.00	mg/L	40.0		93.5	85-115			
LCS Dup (B202723-BSD1) Prepared & Analyzed: 12/15/20										
Oil & Grease (HEM)	37.8	5.00	mg/L	40.0		94.5	85-115	1.06	20	
Batch B202733 - General Prep - Wet Chem										
Blank (B202733-BLK1) Prepared: 12/15/20 Analyzed: 12/16/20										
Nitrate/Nitrite as N	ND	0.020	mg/L as N							
LCS (B202733-BS1) Prepared: 12/15/20 Analyzed: 12/16/20										
Nitrate/Nitrite as N	0.980	0.020	mg/L as N	1.00		98.0	90-110			
LCS Dup (B202733-BSD1) Prepared: 12/15/20 Analyzed: 12/16/20										
Nitrate/Nitrite as N	0.982	0.020	mg/L as N	1.00		98.2	90-110	0.153	20	
Batch B202747 - General Prep - Wet Chem										
Blank (B202747-BLK1) Prepared & Analyzed: 12/16/20										
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B202747-BS1) Prepared & Analyzed: 12/16/20										
Chloride	24.5	1.00	mg/L	25.0		97.9	90-110			
Fluoride	2.55	0.100	mg/L	2.50		102	90-110			
Sulfate	25.2	1.00	mg/L	25.0		101	90-110			
LCS Dup (B202747-BSD1) Prepared & Analyzed: 12/16/20										
Chloride	24.7	1.00	mg/L	25.0		98.8	90-110	0.968	20	
Fluoride	2.58	0.100	mg/L	2.50		103	90-110	1.05	20	
Sulfate	25.1	1.00	mg/L	25.0		101	90-110	0.246	20	

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

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 B202630 - Diss. 200.7/200.8

Blank (B202630-BLK1)

Prepared: 12/07/20 Analyzed: 12/10/20

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 (B202630-BS1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.6	85-115
Calcium	4.98	0.100	mg/L	5.00	99.7	85-115
Iron	4.83	0.050	mg/L	5.00	96.7	85-115
Magnesium	25.0	0.100	mg/L	25.0	99.9	85-115
Potassium	9.86	1.00	mg/L	10.0	98.6	85-115
Silicon	5.08	0.500	mg/L	5.00	102	85-115
Sodium	3.91	1.00	mg/L	4.05	96.7	85-115

LCS Dup (B202630-BSD1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.5	85-115	0.0624	20
Calcium	4.96	0.100	mg/L	5.00	99.3	85-115	0.391	20
Iron	4.83	0.050	mg/L	5.00	96.6	85-115	0.128	20
Magnesium	24.9	0.100	mg/L	25.0	99.6	85-115	0.288	20
Potassium	9.90	1.00	mg/L	10.0	99.0	85-115	0.445	20
Silicon	5.05	0.500	mg/L	5.00	101	85-115	0.618	20
Sodium	3.92	1.00	mg/L	4.05	96.8	85-115	0.107	20

Green Analytical Laboratories

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

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 B202631 - Diss. 200.7/200.8

Blank (B202631-BLK1)

Prepared: 12/07/20 Analyzed: 12/09/20

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 (B202631-BS1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0481	0.0005	mg/L	0.0500	96.2	85-115
Cadmium	0.0476	0.0001	mg/L	0.0500	95.3	85-115
Copper	0.0484	0.0005	mg/L	0.0500	96.8	85-115
Lead	0.0504	0.0005	mg/L	0.0500	101	85-115
Manganese	0.0510	0.0005	mg/L	0.0500	102	85-115
Molybdenum	0.0509	0.0005	mg/L	0.0500	102	85-115
Selenium	0.246	0.0010	mg/L	0.250	98.5	85-115
Uranium	0.0487	0.0005	mg/L	0.0500	97.4	85-115
Zinc	0.0483	0.0020	mg/L	0.0500	96.6	85-115

LCS Dup (B202631-BSD1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0490	0.0005	mg/L	0.0500	97.9	85-115	1.77	20
Cadmium	0.0473	0.0001	mg/L	0.0500	94.7	85-115	0.635	20
Copper	0.0498	0.0005	mg/L	0.0500	99.7	85-115	2.90	20
Lead	0.0497	0.0005	mg/L	0.0500	99.3	85-115	1.51	20
Manganese	0.0498	0.0005	mg/L	0.0500	99.6	85-115	2.47	20
Molybdenum	0.0507	0.0005	mg/L	0.0500	101	85-115	0.336	20
Selenium	0.248	0.0010	mg/L	0.250	99.3	85-115	0.821	20
Uranium	0.0479	0.0005	mg/L	0.0500	95.8	85-115	1.74	20
Zinc	0.0506	0.0020	mg/L	0.0500	101	85-115	4.72	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202639 - EPA 245.1/7470										
Blank (B202639-BLK1)				Prepared: 12/07/20 Analyzed: 12/09/20						
Mercury	ND	0.0002	mg/L							
LCS (B202639-BS1)				Prepared: 12/07/20 Analyzed: 12/09/20						
Mercury	0.0044	0.0002	mg/L	0.00500		88.6	85-115			
LCS Dup (B202639-BSD1)				Prepared: 12/07/20 Analyzed: 12/09/20						
Mercury	0.0044	0.0002	mg/L	0.00500		88.0	85-115	0.680	20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC SW Baseline
Project Name / Number: GCC SW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:56

Notes and Definitions

R1	Duplicate sample RPD exceeded laboratory acceptance criteria. Sample(s) may be difficult to homogenize.
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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Fax: (970) 247-4227

75 Suttle St Durango, CO 81303

FORM-006
COC - Revision 6.0

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]

Project Information

Printed: 12/03/2020 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 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	



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01 December 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 11/16/20 15:10.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/01/20 16:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-1-A	2011139-01	Water	11/16/20 10:23	11/16/20 15:10	
MW-1-C	2011139-02	Water	11/16/20 11:26	11/16/20 15:10	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

MW-1-A

2011139-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	366	10.0	7.16	mg/L	1	11/24/20 12:30	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	11/24/20 12:30	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	11/24/20 12:30	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	366	10.0	7.16	mg/L	1	11/24/20 12:30	2320 B		VJW
Chloride*	2.88	2.00	0.177	mg/L	2	11/23/20 14:52	EPA300.0		AES
Fluoride*	0.264	0.200	0.0194	mg/L	2	11/23/20 14:52	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:11	EPA353.2		LLG
pH*	7.17			pH Units	1	11/18/20 08:30	EPA150.1		VJW
Total Dissolved Solids*	1170	10.0		mg/L	1	11/17/20 10:32	EPA160.1		VJW
Sulfate*	508	20.0	3.05	mg/L	20	11/23/20 15:12	EPA300.0		AES
Total Organic Carbon*	1.57	0.500	0.135	mg/L	1	11/20/20 16:31	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.150	0.150	0.037	mg/L	3	11/25/20 12:11	EPA200.7		AES
Calcium*	32.8	0.300	0.050	mg/L	3	11/25/20 12:11	EPA200.7		AES
Hardness as CaCO ₃	168	1.98	0.414	mg/L	3	11/25/20 12:11	2340 B		AES
Iron*	0.579	0.150	0.055	mg/L	3	11/25/20 12:11	EPA200.7		AES
Magnesium*	20.9	0.300	0.070	mg/L	3	11/25/20 12:11	EPA200.7		AES
Potassium*	<3.00	3.00	0.390	mg/L	3	11/25/20 12:11	EPA200.7		AES
Silica (SiO ₂)	11.5	3.21	0.106	mg/L	3	11/25/20 12:11	Calculation		AES
Silicon	5.37	1.50	0.050	mg/L	3	11/25/20 12:11	EPA200.7		AES
Sodium*	353	3.00	0.302	mg/L	3	11/25/20 12:11	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0015	0.0015	0.0003	mg/L	3	11/25/20 15:40	EPA200.8		AES
Cadmium*	<0.0003	0.0003	0.0002	mg/L	3	11/25/20 15:40	EPA200.8		AES
Copper*	0.0024	0.0015	0.0007	mg/L	3	11/25/20 15:40	EPA200.8		AES
Lead*	<0.0015	0.0015	0.0003	mg/L	3	11/25/20 15:40	EPA200.8		AES
Manganese*	0.0313	0.0015	0.0003	mg/L	3	11/25/20 15:40	EPA200.8		AES
Molybdenum*	<0.0015	0.0015	0.0003	mg/L	3	11/25/20 15:40	EPA200.8		AES
Selenium*	<0.0030	0.0030	0.0016	mg/L	3	11/25/20 15:40	EPA200.8		AES
Uranium	<0.0015	0.0015	0.0006	mg/L	3	11/25/20 15:40	EPA200.8		AES
Zinc*	<0.0060	0.0060	0.0010	mg/L	3	11/25/20 15:40	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance 2.19

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

MW-1-C

2011139-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	520	10.0	7.16	mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	520	10.0	7.16	mg/L	5	11/24/20 12:30	2320 B		VJW
Chloride*	7.14	3.00	0.266	mg/L	3	11/23/20 23:43	EPA300.0		AES
Fluoride*	0.750	0.300	0.0291	mg/L	3	11/23/20 23:43	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:12	EPA353.2		LLG
pH*	7.12			pH Units	1	11/18/20 08:30	EPA150.1		VJW
Total Dissolved Solids*	2450	10.0		mg/L	1	11/17/20 10:32	EPA160.1		VJW
Sulfate*	1180	60.0	9.15	mg/L	60	11/24/20 00:03	EPA300.0		AES
Total Organic Carbon*	2.13	0.500	0.135	mg/L	1	11/20/20 16:51	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	11/25/20 12:15	EPA200.7		AES
Calcium*	265	0.500	0.083	mg/L	5	11/25/20 12:15	EPA200.7		AES
Hardness as CaCO ₃	1420	3.31	0.690	mg/L	5	11/25/20 12:15	2340 B		AES
Iron*	0.855	0.250	0.092	mg/L	5	11/25/20 12:15	EPA200.7		AES
Magnesium*	183	0.500	0.117	mg/L	5	11/25/20 12:15	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	11/25/20 12:15	EPA200.7		AES
Silica (SiO ₂)	14.8	5.35	0.177	mg/L	5	11/25/20 12:15	Calculation		AES
Silicon	6.93	2.50	0.083	mg/L	5	11/25/20 12:15	EPA200.7		AES
Sodium*	194	5.00	0.503	mg/L	5	11/25/20 12:15	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	11/25/20 15:43	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	11/25/20 15:43	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	11/25/20 15:43	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	11/25/20 15:43	EPA200.8		AES
Manganese*	0.0496	0.0025	0.0006	mg/L	5	11/25/20 15:43	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	11/25/20 15:43	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	11/25/20 15:43	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	11/25/20 15:43	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	11/25/20 15:43	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance 2.26

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202468 - General Prep - Wet Chem										
Blank (B202468-BLK1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	ND	0.500	mg/L							
LCS (B202468-BS1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	9.64	0.500	mg/L	10.0		96.4	85-115			
LCS Dup (B202468-BSD1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	9.63	0.500	mg/L	10.0		96.3	85-115	0.0519	20	
Batch B202478 - General Prep - Wet Chem										
Blank (B202478-BLK1)				Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B202478-DUP1)				Source: 2011139-01 Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	1150	10.0	mg/L		1170			1.73	20	
Reference (B202478-SRM1)				Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	355	10.0	mg/L	380		93.4	85-115			
Batch B202500 - General Prep - Wet Chem										
Duplicate (B202500-DUP1)				Source: 2011139-01 Prepared & Analyzed: 11/18/20						
pH	7.26		pH Units		7.17			1.25	20	
Reference (B202500-SRM1)				Prepared & Analyzed: 11/18/20						
pH	7.06		pH Units	7.00		101	98.57-101.42			
Batch B202503 - General Prep - Wet Chem										
Blank (B202503-BLK1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	ND	0.020	mg/L as N							
LCS (B202503-BS1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	1.08	0.020	mg/L as N	1.00		108	90-110			
LCS Dup (B202503-BSD1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	1.10	0.020	mg/L as N	1.00		110	90-110	2.19	20	
Batch B202529 - General Prep - Wet Chem										
Blank (B202529-BLK1)				Prepared & Analyzed: 11/23/20						
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/01/20 16:43

**General 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 B202529 - General Prep - Wet Chem (Continued)

LCS (B202529-BS1)

Prepared & Analyzed: 11/23/20

Chloride	24.1	1.00	mg/L	25.0		96.4	90-110			
Fluoride	2.58	0.100	mg/L	2.50		103	90-110			
Sulfate	24.4	1.00	mg/L	25.0		97.4	90-110			

LCS Dup (B202529-BSD1)

Prepared & Analyzed: 11/23/20

Chloride	24.1	1.00	mg/L	25.0		96.4	90-110	0.0788	20	
Fluoride	2.56	0.100	mg/L	2.50		103	90-110	0.661	20	
Sulfate	24.3	1.00	mg/L	25.0		97.4	90-110	0.0986	20	

Batch B202536 - General Prep - Wet Chem

Blank (B202536-BLK1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							

LCS (B202536-BS1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	102	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO ₃	102	10.0	mg/L	100		102	85-115			

LCS Dup (B202536-BSD1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	100	10.0	mg/L				85-115	1.98	20	
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO ₃	100	10.0	mg/L	100		100	85-115	1.98	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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

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 B202512 - Diss. 200.7/200.8

Blank (B202512-BLK1)

Prepared: 11/20/20 Analyzed: 11/25/20

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 (B202512-BS1)

Prepared: 11/20/20 Analyzed: 11/25/20

Aluminum	4.98	0.050	mg/L	5.00	99.7	85-115
Calcium	5.38	0.100	mg/L	5.00	108	85-115
Iron	5.33	0.050	mg/L	5.00	107	85-115
Magnesium	26.3	0.100	mg/L	25.0	105	85-115
Potassium	10.5	1.00	mg/L	10.0	105	85-115
Silicon	5.29	0.500	mg/L	5.00	106	85-115
Sodium	4.39	1.00	mg/L	4.05	108	85-115

LCS Dup (B202512-BSD1)

Prepared: 11/20/20 Analyzed: 11/25/20

Aluminum	4.93	0.050	mg/L	5.00	98.5	85-115	1.16	20
Calcium	5.34	0.100	mg/L	5.00	107	85-115	0.663	20
Iron	5.30	0.050	mg/L	5.00	106	85-115	0.442	20
Magnesium	26.1	0.100	mg/L	25.0	105	85-115	0.688	20
Potassium	10.5	1.00	mg/L	10.0	105	85-115	0.136	20
Silicon	5.16	0.500	mg/L	5.00	103	85-115	2.33	20
Sodium	4.24	1.00	mg/L	4.05	105	85-115	3.57	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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

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 B202514 - Diss. 200.7/200.8

Blank (B202514-BLK1)

Prepared: 11/20/20 Analyzed: 11/25/20

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 (B202514-BS1)

Prepared: 11/20/20 Analyzed: 11/25/20

Arsenic	0.0530	0.0005	mg/L	0.0500	106	85-115
Cadmium	0.0545	0.0001	mg/L	0.0500	109	85-115
Copper	0.0533	0.0005	mg/L	0.0500	107	85-115
Lead	0.0548	0.0005	mg/L	0.0500	110	85-115
Manganese	0.0548	0.0005	mg/L	0.0500	110	85-115
Molybdenum	0.0520	0.0005	mg/L	0.0500	104	85-115
Selenium	0.265	0.0010	mg/L	0.250	106	85-115
Uranium	0.0551	0.0005	mg/L	0.0500	110	85-115
Zinc	0.0544	0.0020	mg/L	0.0500	109	85-115

LCS Dup (B202514-BSD1)

Prepared: 11/20/20 Analyzed: 11/25/20

Arsenic	0.0569	0.0005	mg/L	0.0500	114	85-115	7.08	20
Cadmium	0.0562	0.0001	mg/L	0.0500	112	85-115	2.99	20
Copper	0.0570	0.0005	mg/L	0.0500	114	85-115	6.79	20
Lead	0.0569	0.0005	mg/L	0.0500	114	85-115	3.83	20
Manganese	0.0567	0.0005	mg/L	0.0500	113	85-115	3.42	20
Molybdenum	0.0552	0.0005	mg/L	0.0500	110	85-115	6.02	20
Selenium	0.257	0.0010	mg/L	0.250	103	85-115	3.03	20
Uranium	0.0577	0.0005	mg/L	0.0500	115	85-115	4.57	20
Zinc	0.0562	0.0020	mg/L	0.0500	112	85-115	3.37	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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/01/20 16:43

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202487 - EPA 245.1/7470										
Blank (B202487-BLK1)			Prepared: 11/18/20 Analyzed: 11/19/20							
Mercury	ND	0.0002	mg/L							
LCS (B202487-BS1)			Prepared: 11/18/20 Analyzed: 11/19/20							
Mercury	0.0047	0.0002	mg/L	0.00500		93.2	85-115			
LCS Dup (B202487-BSD1)			Prepared: 11/18/20 Analyzed: 11/19/20							
Mercury	0.0047	0.0002	mg/L	0.00500		94.0	85-115	0.897	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/01/20 16:43

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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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006
COC - Revision 6.0

[illegible]



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

21 December 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 12/01/20 15:00.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:43

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-4-C	2012013-01	Water	12/01/20 10:32	12/01/20 15:00	
MW-3-MI	2012013-02	Water	12/01/20 11:12	12/01/20 15:00	
MW-3-A	2012013-03	Water	12/01/20 11:38	12/01/20 15:00	
MW-3-C	2012013-04	Water	12/01/20 12:31	12/01/20 15:00	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43

MW-4-C

2012013-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	2880	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	70.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	2950	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Chloride*	565	25.0	2.21	mg/L	25	12/16/20 16:14	EPA300.0		AES
Fluoride*	2.37	0.500	0.0486	mg/L	5	12/16/20 15:54	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 15:08	EPA353.2		LLG
pH*	7.94			pH Units	1	12/02/20 14:00	EPA150.1		VJW
Total Dissolved Solids*	3610	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Sulfate*	<5.00	5.00	0.762	mg/L	5	12/16/20 15:54	EPA300.0		AES
Total Organic Carbon*	3.72	0.500	0.135	mg/L	1	12/10/20 22:01	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	12/10/20 11:15	EPA200.7		AES
Calcium*	5.15	1.00	0.166	mg/L	10	12/10/20 11:15	EPA200.7		AES
Hardness as CaCO ₃	21.8	6.62	1.38	mg/L	10	12/10/20 11:15	2340 B		AES
Iron*	0.553	0.500	0.184	mg/L	10	12/10/20 11:15	EPA200.7		AES
Magnesium*	2.18	1.00	0.235	mg/L	10	12/10/20 11:15	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	12/10/20 11:15	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	12/10/20 11:15	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	12/10/20 11:15	EPA200.7		AES
Sodium*	1400	10.0	1.01	mg/L	10	12/10/20 11:15	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0182	0.0050	0.0011	mg/L	10	12/09/20 11:34	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	12/09/20 11:34	EPA200.8		AES
Copper*	0.0148	0.0050	0.0022	mg/L	10	12/09/20 11:34	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:34	EPA200.8		AES
Manganese*	0.0076	0.0050	0.0011	mg/L	10	12/09/20 11:34	EPA200.8		AES
Molybdenum*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:34	EPA200.8		AES
Selenium*	0.0182	0.0100	0.0053	mg/L	10	12/09/20 11:34	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	12/09/20 11:34	EPA200.8		AES
Zinc*	<0.0200	0.0200	0.0032	mg/L	10	12/09/20 11:34	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/09/20 11:34	EPA245.1		LLG
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Cation/Anion Balance -9.98

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43

MW-3-MI

2012013-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	690	10.0	7.16	mg/L	10	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	80.0	10.0		mg/L	10	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	770	10.0	7.16	mg/L	10	12/09/20 16:00	2320 B		LLG
Chloride*	10.0	2.00	0.177	mg/L	2	12/16/20 16:35	EPA300.0		AES
Fluoride*	1.12	0.200	0.0194	mg/L	2	12/16/20 16:35	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 15:09	EPA353.2		LLG
pH*	8.77			pH Units	1	12/02/20 14:00	EPA150.1		VJW
Total Dissolved Solids*	1160	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Sulfate*	110	10.0	1.52	mg/L	10	12/16/20 16:55	EPA300.0		AES
Total Organic Carbon*	5.46	0.500	0.135	mg/L	1	12/10/20 22:19	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.200	0.200	0.049	mg/L	4	12/10/20 11:21	EPA200.7		AES
Calcium*	1.42	0.400	0.066	mg/L	4	12/10/20 11:21	EPA200.7		AES
Hardness as CaCO ₃	5.94	2.65	0.552	mg/L	4	12/10/20 11:21	2340 B		AES
Iron*	<0.200	0.200	0.074	mg/L	4	12/10/20 11:21	EPA200.7		AES
Magnesium*	0.579	0.400	0.094	mg/L	4	12/10/20 11:21	EPA200.7		AES
Potassium*	<4.00	4.00	0.521	mg/L	4	12/10/20 11:21	EPA200.7		AES
Silica (SiO ₂)	9.11	4.28	0.142	mg/L	4	12/10/20 11:21	Calculation		AES
Silicon	4.26	2.00	0.066	mg/L	4	12/10/20 11:21	EPA200.7		AES
Sodium*	431	4.00	0.402	mg/L	4	12/10/20 11:21	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0070	0.0020	0.0004	mg/L	4	12/09/20 11:38	EPA200.8		AES
Cadmium*	<0.0004	0.0004	0.0003	mg/L	4	12/09/20 11:38	EPA200.8		AES
Copper*	0.0045	0.0020	0.0009	mg/L	4	12/09/20 11:38	EPA200.8		AES
Lead*	<0.0020	0.0020	0.0005	mg/L	4	12/09/20 11:38	EPA200.8		AES
Manganese*	0.0070	0.0020	0.0004	mg/L	4	12/09/20 11:38	EPA200.8		AES
Molybdenum*	0.0163	0.0020	0.0005	mg/L	4	12/09/20 11:38	EPA200.8		AES
Selenium*	<0.0040	0.0040	0.0021	mg/L	4	12/09/20 11:38	EPA200.8		AES
Uranium	0.0049	0.0020	0.0008	mg/L	4	12/09/20 11:38	EPA200.8		AES
Zinc*	<0.0080	0.0080	0.0013	mg/L	4	12/09/20 11:38	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/09/20 11:34	EPA245.1		LLG
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Cation/Anion Balance 2.35

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43

MW-3-A

2012013-03 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	450	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	20.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	470	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Chloride*	14.0	2.00	0.177	mg/L	2	12/16/20 17:15	EPA300.0		AES
Fluoride*	0.372	0.200	0.0194	mg/L	2	12/16/20 17:15	EPA300.0		AES
Nitrate/Nitrite as N*	0.032	0.020	0.006	mg/L as N	1	12/02/20 15:10	EPA353.2		LLG
pH*	8.13			pH Units	1	12/02/20 14:00	EPA150.1		VJW
Total Dissolved Solids*	1460	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Sulfate*	644	20.0	3.05	mg/L	20	12/16/20 17:36	EPA300.0		AES
Total Organic Carbon*	3.15	0.500	0.135	mg/L	1	12/10/20 22:40	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	12/10/20 11:23	EPA200.7		AES
Calcium*	2.83	0.500	0.083	mg/L	5	12/10/20 11:23	EPA200.7		AES
Hardness as CaCO ₃	9.41	3.31	0.690	mg/L	5	12/10/20 11:23	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	12/10/20 11:23	EPA200.7		AES
Magnesium*	0.568	0.500	0.117	mg/L	5	12/10/20 11:23	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	12/10/20 11:23	EPA200.7		AES
Silica (SiO ₂)	11.2	5.35	0.177	mg/L	5	12/10/20 11:23	Calculation		AES
Silicon	5.22	2.50	0.083	mg/L	5	12/10/20 11:23	EPA200.7		AES
Sodium*	505	5.00	0.503	mg/L	5	12/10/20 11:23	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	12/09/20 11:48	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	12/09/20 11:48	EPA200.8		AES
Copper*	0.0055	0.0025	0.0011	mg/L	5	12/09/20 11:48	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:48	EPA200.8		AES
Manganese*	0.0125	0.0025	0.0006	mg/L	5	12/09/20 11:48	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:48	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	12/09/20 11:48	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	12/09/20 11:48	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	12/09/20 11:48	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/09/20 11:34	EPA245.1		LLG
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Cation/Anion Balance -2.29

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43

MW-3-C

2012013-04 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	1970	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	120	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	2090	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Chloride*	578	25.0	2.21	mg/L	25	12/16/20 18:17	EPA300.0		AES
Fluoride*	3.53	0.500	0.0486	mg/L	5	12/16/20 17:56	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 15:12	EPA353.2		LLG
pH*	8.36			pH Units	1	12/02/20 14:00	EPA150.1		VJW
Total Dissolved Solids*	3280	10.0		mg/L	1	12/04/20 16:45	EPA160.1		VJW
Sulfate*	<5.00	5.00	0.762	mg/L	5	12/16/20 17:56	EPA300.0		AES
Total Organic Carbon*	15.7	0.500	0.135	mg/L	1	12/10/20 23:01	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	12/10/20 11:25	EPA200.7		AES
Calcium*	3.72	1.00	0.166	mg/L	10	12/10/20 11:25	EPA200.7		AES
Hardness as CaCO ₃	16.9	6.62	1.38	mg/L	10	12/10/20 11:25	2340 B		AES
Iron*	<0.500	0.500	0.184	mg/L	10	12/10/20 11:25	EPA200.7		AES
Magnesium*	1.84	1.00	0.235	mg/L	10	12/10/20 11:25	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	12/10/20 11:25	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	12/10/20 11:25	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	12/10/20 11:25	EPA200.7		AES
Sodium*	1250	10.0	1.01	mg/L	10	12/10/20 11:25	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0125	0.0050	0.0011	mg/L	10	12/09/20 11:52	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	12/09/20 11:52	EPA200.8		AES
Copper*	0.0156	0.0050	0.0022	mg/L	10	12/09/20 11:52	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:52	EPA200.8		AES
Manganese*	0.0079	0.0050	0.0011	mg/L	10	12/09/20 11:52	EPA200.8		AES
Molybdenum*	0.0075	0.0050	0.0011	mg/L	10	12/09/20 11:52	EPA200.8		AES
Selenium*	0.0191	0.0100	0.0053	mg/L	10	12/09/20 11:52	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	12/09/20 11:52	EPA200.8		AES
Zinc*	0.0332	0.0200	0.0032	mg/L	10	12/09/20 11:52	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/09/20 11:34	EPA245.1		LLG
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Cation/Anion Balance -3.08

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43

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 B202583 - General Prep - Wet Chem

Blank (B202583-BLK1)

Prepared: 12/01/20 Analyzed: 12/02/20

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

LCS (B202583-BS1)

Prepared: 12/01/20 Analyzed: 12/02/20

Nitrate/Nitrite as N 0.961 0.020 mg/L as N 1.00 96.1 90-110

LCS Dup (B202583-BSD1)

Prepared: 12/01/20 Analyzed: 12/02/20

Nitrate/Nitrite as N 0.954 0.020 mg/L as N 1.00 95.4 90-110 0.710 20

Batch B202598 - General Prep - Wet Chem

Blank (B202598-BLK1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon ND 0.500 mg/L

LCS (B202598-BS1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon 10.5 0.500 mg/L 10.0 105 85-115

LCS Dup (B202598-BSD1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon 10.5 0.500 mg/L 10.0 105 85-115 0.285 20

Batch B202602 - General Prep - Wet Chem

Blank (B202602-BLK1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO₃ ND 10.0 mg/LAlkalinity, Carbonate as CaCO₃ ND 10.0 mg/LAlkalinity, Hydroxide as CaCO₃ ND 10.0 mg/LAlkalinity, Total as CaCO₃ ND 10.0 mg/L

LCS (B202602-BS1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO₃ 101 10.0 mg/L 85-115Alkalinity, Carbonate as CaCO₃ ND 10.0 mg/L 85-115Alkalinity, Hydroxide as CaCO₃ ND 10.0 mg/L 85-115Alkalinity, Total as CaCO₃ 101 10.0 mg/L 100 101 85-115

LCS Dup (B202602-BSD1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO₃ 104 10.0 mg/L 85-115 2.93 20Alkalinity, Carbonate as CaCO₃ ND 10.0 mg/L 85-115 20Alkalinity, Hydroxide as CaCO₃ ND 10.0 mg/L 85-115 20Alkalinity, Total as CaCO₃ 104 10.0 mg/L 100 104 85-115 2.93 20

Batch B202607 - General Prep - Wet Chem

Duplicate (B202607-DUP1)

Source: 2012013-04 Prepared & Analyzed: 12/02/20

pH 8.38 pH Units 8.36 0.239 20

Reference (B202607-SRM1)

Prepared & Analyzed: 12/02/20

pH 7.01 pH Units 7.00 100 98.57-101.42

Batch B202623 - General Prep - Wet Chem

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:43General Chemistry - Quality Control
(Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (B202623-BLK1) Prepared & Analyzed: 12/04/20										
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B202623-DUP1) Source: 2012013-01 Prepared & Analyzed: 12/04/20										
Total Dissolved Solids	3570	10.0	mg/L		3610			1.12	20	
Reference (B202623-SRM1) Prepared & Analyzed: 12/04/20										
Total Dissolved Solids	355	10.0	mg/L	380		93.4	85-115			
Batch B202747 - General Prep - Wet Chem										
Blank (B202747-BLK1) Prepared & Analyzed: 12/16/20										
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B202747-BS1) Prepared & Analyzed: 12/16/20										
Chloride	24.5	1.00	mg/L	25.0		97.9	90-110			
Fluoride	2.55	0.100	mg/L	2.50		102	90-110			
Sulfate	25.2	1.00	mg/L	25.0		101	90-110			
LCS Dup (B202747-BSD1) Prepared & Analyzed: 12/16/20										
Chloride	24.7	1.00	mg/L	25.0		98.8	90-110	0.968	20	
Fluoride	2.58	0.100	mg/L	2.50		103	90-110	1.05	20	
Sulfate	25.1	1.00	mg/L	25.0		101	90-110	0.246	20	

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:43

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 B202630 - Diss. 200.7/200.8

Blank (B202630-BLK1)

Prepared: 12/07/20 Analyzed: 12/10/20

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 (B202630-BS1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.6	85-115
Calcium	4.98	0.100	mg/L	5.00	99.7	85-115
Iron	4.83	0.050	mg/L	5.00	96.7	85-115
Magnesium	25.0	0.100	mg/L	25.0	99.9	85-115
Potassium	9.86	1.00	mg/L	10.0	98.6	85-115
Silicon	5.08	0.500	mg/L	5.00	102	85-115
Sodium	3.91	1.00	mg/L	4.05	96.7	85-115

LCS Dup (B202630-BSD1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.5	85-115	0.0624	20
Calcium	4.96	0.100	mg/L	5.00	99.3	85-115	0.391	20
Iron	4.83	0.050	mg/L	5.00	96.6	85-115	0.128	20
Magnesium	24.9	0.100	mg/L	25.0	99.6	85-115	0.288	20
Potassium	9.90	1.00	mg/L	10.0	99.0	85-115	0.445	20
Silicon	5.05	0.500	mg/L	5.00	101	85-115	0.618	20
Sodium	3.92	1.00	mg/L	4.05	96.8	85-115	0.107	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:43

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 B202631 - Diss. 200.7/200.8

Blank (B202631-BLK1)

Prepared: 12/07/20 Analyzed: 12/09/20

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 (B202631-BS1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0481	0.0005	mg/L	0.0500	96.2	85-115
Cadmium	0.0476	0.0001	mg/L	0.0500	95.3	85-115
Copper	0.0484	0.0005	mg/L	0.0500	96.8	85-115
Lead	0.0504	0.0005	mg/L	0.0500	101	85-115
Manganese	0.0510	0.0005	mg/L	0.0500	102	85-115
Molybdenum	0.0509	0.0005	mg/L	0.0500	102	85-115
Selenium	0.246	0.0010	mg/L	0.250	98.5	85-115
Uranium	0.0487	0.0005	mg/L	0.0500	97.4	85-115
Zinc	0.0483	0.0020	mg/L	0.0500	96.6	85-115

LCS Dup (B202631-BSD1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0490	0.0005	mg/L	0.0500	97.9	85-115	1.77	20
Cadmium	0.0473	0.0001	mg/L	0.0500	94.7	85-115	0.635	20
Copper	0.0498	0.0005	mg/L	0.0500	99.7	85-115	2.90	20
Lead	0.0497	0.0005	mg/L	0.0500	99.3	85-115	1.51	20
Manganese	0.0498	0.0005	mg/L	0.0500	99.6	85-115	2.47	20
Molybdenum	0.0507	0.0005	mg/L	0.0500	101	85-115	0.336	20
Selenium	0.248	0.0010	mg/L	0.250	99.3	85-115	0.821	20
Uranium	0.0479	0.0005	mg/L	0.0500	95.8	85-115	1.74	20
Zinc	0.0506	0.0020	mg/L	0.0500	101	85-115	4.72	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:43

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B202637 - EPA 245.1/7470									
Blank (B202637-BLK1)				Prepared: 12/07/20 Analyzed: 12/09/20					
Mercury	ND	0.0002	mg/L						
LCS (B202637-BS1)				Prepared: 12/07/20 Analyzed: 12/09/20					
Mercury	0.0046	0.0002	mg/L	0.00500	92.5	85-115			
LCS Dup (B202637-BSD1)				Prepared: 12/07/20 Analyzed: 12/09/20					
Mercury	0.0045	0.0002	mg/L	0.00500	90.8	85-115	1.94	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:43

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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75 Suttle St Durango, CO

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

03 December 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 11/16/20 15:10.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/03/20 16:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-5-MI	2011140-01	Water	11/16/20 12:37	11/16/20 15:10	
MW-5-C	2011140-02	Water	11/16/20 13:04	11/16/20 15:10	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/03/20 16:48

MW-5-MI

2011140-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	845	10.0	7.16	mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	90.0	10.0		mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/24/20 12:30	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	935	10.0	7.16	mg/L	5	11/24/20 12:30	2320 B		VJW
Chloride*	5.23	2.00	0.177	mg/L	2	11/23/20 15:32	EPA300.0		AES
Fluoride*	0.274	0.200	0.0194	mg/L	2	11/23/20 15:32	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:15	EPA353.2		LLG
pH*	8.38			pH Units	1	11/18/20 08:30	EPA150.1		VJW
Total Dissolved Solids*	900	10.0		mg/L	1	11/17/20 10:32	EPA160.1		VJW
Sulfate*	5.71	2.00	0.305	mg/L	2	11/23/20 15:32	EPA300.0		AES
Total Organic Carbon*	2.57	0.500	0.135	mg/L	1	11/20/20 17:12	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.150	0.150	0.037	mg/L	3	11/25/20 12:19	EPA200.7		AES
Calcium*	2.36	0.300	0.050	mg/L	3	11/25/20 12:19	EPA200.7		AES
Hardness as CaCO ₃	9.10	1.98	0.414	mg/L	3	11/25/20 12:19	2340 B		AES
Iron*	<0.150	0.150	0.055	mg/L	3	11/25/20 12:19	EPA200.7		AES
Magnesium*	0.779	0.300	0.070	mg/L	3	11/25/20 12:19	EPA200.7		AES
Potassium*	<3.00	3.00	0.390	mg/L	3	11/25/20 12:19	EPA200.7		AES
Silica (SiO ₂)	8.45	3.21	0.106	mg/L	3	11/25/20 12:19	Calculation		AES
Silicon	3.95	1.50	0.050	mg/L	3	11/25/20 12:19	EPA200.7		AES
Sodium*	413	3.00	0.302	mg/L	3	11/25/20 12:19	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0145	0.0015	0.0003	mg/L	3	11/25/20 15:54	EPA200.8		AES
Cadmium*	<0.0003	0.0003	0.0002	mg/L	3	11/25/20 15:54	EPA200.8		AES
Copper*	0.0028	0.0015	0.0007	mg/L	3	11/25/20 15:54	EPA200.8		AES
Lead*	<0.0015	0.0015	0.0003	mg/L	3	11/25/20 15:54	EPA200.8		AES
Manganese*	0.0225	0.0015	0.0003	mg/L	3	11/25/20 15:54	EPA200.8		AES
Molybdenum*	0.0028	0.0015	0.0003	mg/L	3	11/25/20 15:54	EPA200.8		AES
Selenium*	<0.0030	0.0030	0.0016	mg/L	3	11/25/20 15:54	EPA200.8		AES
Uranium	0.0071	0.0015	0.0006	mg/L	3	11/25/20 15:54	EPA200.8		AES
Zinc*	0.0854	0.0060	0.0010	mg/L	3	11/25/20 15:54	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -2.16

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/03/20 16:48

MW-5-C

2011140-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	1510	10.0	7.16	mg/L	5	12/03/20 11:30	2320 B	H3	VJW
Alkalinity, Carbonate as CaCO ₃ *	60.0	10.0		mg/L	5	12/03/20 11:30	2320 B	H3	VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	12/03/20 11:30	2320 B	H3	VJW
Alkalinity, Total as CaCO ₃ *	1570	10.0	7.16	mg/L	5	12/03/20 11:30	2320 B	H3	VJW
Chloride*	6.04	5.00	0.443	mg/L	5	11/23/20 15:53	EPA300.0		AES
Fluoride*	2.03	0.500	0.0486	mg/L	5	11/23/20 15:53	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:17	EPA353.2		LLG
pH*	7.92			pH Units	1	11/18/20 08:30	EPA150.1		VJW
Total Dissolved Solids*	2640	10.0		mg/L	1	11/17/20 10:32	EPA160.1		VJW
Sulfate*	686	25.0	3.81	mg/L	25	11/23/20 16:54	EPA300.0		AES
Total Organic Carbon*	2.69	0.500	0.135	mg/L	1	11/20/20 17:32	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	11/25/20 12:22	EPA200.7		AES
Calcium*	7.02	1.00	0.166	mg/L	10	11/25/20 12:22	EPA200.7		AES
Hardness as CaCO ₃	31.7	6.62	1.38	mg/L	10	11/25/20 12:22	2340 B		AES
Iron*	<0.500	0.500	0.184	mg/L	10	11/25/20 12:22	EPA200.7		AES
Magnesium*	3.43	1.00	0.235	mg/L	10	11/25/20 12:22	EPA200.7		AES
Potassium*	<10.0	10.0	1.30	mg/L	10	11/25/20 12:21	EPA200.7		AES
Silica (SiO ₂)	<10.7	10.7	0.354	mg/L	10	11/25/20 12:22	Calculation		AES
Silicon	<5.00	5.00	0.166	mg/L	10	11/25/20 12:22	EPA200.7		AES
Sodium*	1030	10.0	1.01	mg/L	10	11/25/20 12:21	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0050	0.0050	0.0011	mg/L	10	11/25/20 15:57	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	11/25/20 15:57	EPA200.8		AES
Copper*	0.0078	0.0050	0.0022	mg/L	10	11/25/20 15:57	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	11/25/20 15:57	EPA200.8		AES
Manganese*	0.0053	0.0050	0.0011	mg/L	10	11/25/20 15:57	EPA200.8		AES
Molybdenum*	<0.0050	0.0050	0.0011	mg/L	10	11/25/20 15:57	EPA200.8		AES
Selenium*	<0.0100	0.0100	0.0053	mg/L	10	11/25/20 15:57	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	11/25/20 15:57	EPA200.8		AES
Zinc*	<0.0200	0.0200	0.0032	mg/L	10	11/25/20 15:57	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -48

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/03/20 16:48

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202468 - General Prep - Wet Chem										
Blank (B202468-BLK1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	ND	0.500	mg/L							
LCS (B202468-BS1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	9.64	0.500	mg/L	10.0		96.4	85-115			
LCS Dup (B202468-BSD1)				Prepared & Analyzed: 11/20/20						
Total Organic Carbon	9.63	0.500	mg/L	10.0		96.3	85-115	0.0519	20	
Batch B202478 - General Prep - Wet Chem										
Blank (B202478-BLK1)				Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B202478-DUP1)				Source: 2011139-01 Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	1150	10.0	mg/L		1170			1.73	20	
Reference (B202478-SRM1)				Prepared & Analyzed: 11/17/20						
Total Dissolved Solids	355	10.0	mg/L	380		93.4	85-115			
Batch B202500 - General Prep - Wet Chem										
Duplicate (B202500-DUP1)				Source: 2011139-01 Prepared & Analyzed: 11/18/20						
pH	7.26		pH Units		7.17			1.25	20	
Reference (B202500-SRM1)				Prepared & Analyzed: 11/18/20						
pH	7.06		pH Units	7.00		101	98.57-101.42			
Batch B202503 - General Prep - Wet Chem										
Blank (B202503-BLK1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	ND	0.020	mg/L as N							
LCS (B202503-BS1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	1.08	0.020	mg/L as N	1.00		108	90-110			
LCS Dup (B202503-BSD1)				Prepared: 11/19/20 Analyzed: 11/20/20						
Nitrate/Nitrite as N	1.10	0.020	mg/L as N	1.00		110	90-110	2.19	20	
Batch B202529 - General Prep - Wet Chem										
Blank (B202529-BLK1)				Prepared & Analyzed: 11/23/20						
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 Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
12/03/20 16:48General 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 B202529 - General Prep - Wet Chem (Continued)

LCS (B202529-BS1)

Prepared & Analyzed: 11/23/20

Chloride	24.1	1.00	mg/L	25.0		96.4	90-110			
Fluoride	2.58	0.100	mg/L	2.50		103	90-110			
Sulfate	24.4	1.00	mg/L	25.0		97.4	90-110			

LCS Dup (B202529-BSD1)

Prepared & Analyzed: 11/23/20

Chloride	24.1	1.00	mg/L	25.0		96.4	90-110	0.0788	20	
Fluoride	2.56	0.100	mg/L	2.50		103	90-110	0.661	20	
Sulfate	24.3	1.00	mg/L	25.0		97.4	90-110	0.0986	20	

Batch B202536 - General Prep - Wet Chem

Blank (B202536-BLK1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L							
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							

LCS (B202536-BS1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	102	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO ₃	102	10.0	mg/L	100		102	85-115			

LCS Dup (B202536-BSD1)

Prepared: 11/23/20 Analyzed: 11/24/20

Alkalinity, Bicarbonate as CaCO ₃	100	10.0	mg/L				85-115	1.98	20	
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO ₃	100	10.0	mg/L	100		100	85-115	1.98	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/03/20 16:48

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 B202512 - Diss. 200.7/200.8

Blank (B202512-BLK1)

Prepared: 11/20/20 Analyzed: 11/25/20

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 (B202512-BS1)

Prepared: 11/20/20 Analyzed: 11/25/20

Aluminum	4.98	0.050	mg/L	5.00	99.7	85-115
Calcium	5.38	0.100	mg/L	5.00	108	85-115
Iron	5.33	0.050	mg/L	5.00	107	85-115
Magnesium	26.3	0.100	mg/L	25.0	105	85-115
Potassium	10.5	1.00	mg/L	10.0	105	85-115
Silicon	5.29	0.500	mg/L	5.00	106	85-115
Sodium	4.39	1.00	mg/L	4.05	108	85-115

LCS Dup (B202512-BSD1)

Prepared: 11/20/20 Analyzed: 11/25/20

Aluminum	4.93	0.050	mg/L	5.00	98.5	85-115	1.16	20
Calcium	5.34	0.100	mg/L	5.00	107	85-115	0.663	20
Iron	5.30	0.050	mg/L	5.00	106	85-115	0.442	20
Magnesium	26.1	0.100	mg/L	25.0	105	85-115	0.688	20
Potassium	10.5	1.00	mg/L	10.0	105	85-115	0.136	20
Silicon	5.16	0.500	mg/L	5.00	103	85-115	2.33	20
Sodium	4.24	1.00	mg/L	4.05	105	85-115	3.57	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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/03/20 16:48

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 B202514 - Diss. 200.7/200.8

Blank (B202514-BLK1)

Prepared: 11/20/20 Analyzed: 11/25/20

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 (B202514-BS1)

Prepared: 11/20/20 Analyzed: 11/25/20

Arsenic	0.0530	0.0005	mg/L	0.0500	106	85-115
Cadmium	0.0545	0.0001	mg/L	0.0500	109	85-115
Copper	0.0533	0.0005	mg/L	0.0500	107	85-115
Lead	0.0548	0.0005	mg/L	0.0500	110	85-115
Manganese	0.0548	0.0005	mg/L	0.0500	110	85-115
Molybdenum	0.0520	0.0005	mg/L	0.0500	104	85-115
Selenium	0.265	0.0010	mg/L	0.250	106	85-115
Uranium	0.0551	0.0005	mg/L	0.0500	110	85-115
Zinc	0.0544	0.0020	mg/L	0.0500	109	85-115

LCS Dup (B202514-BSD1)

Prepared: 11/20/20 Analyzed: 11/25/20

Arsenic	0.0569	0.0005	mg/L	0.0500	114	85-115	7.08	20
Cadmium	0.0562	0.0001	mg/L	0.0500	112	85-115	2.99	20
Copper	0.0570	0.0005	mg/L	0.0500	114	85-115	6.79	20
Lead	0.0569	0.0005	mg/L	0.0500	114	85-115	3.83	20
Manganese	0.0567	0.0005	mg/L	0.0500	113	85-115	3.42	20
Molybdenum	0.0552	0.0005	mg/L	0.0500	110	85-115	6.02	20
Selenium	0.257	0.0010	mg/L	0.250	103	85-115	3.03	20
Uranium	0.0577	0.0005	mg/L	0.0500	115	85-115	4.57	20
Zinc	0.0562	0.0020	mg/L	0.0500	112	85-115	3.37	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/03/20 16:48

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202487 - EPA 245.1/7470										
Blank (B202487-BLK1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	ND	0.0002	mg/L							
LCS (B202487-BS1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	0.0047	0.0002	mg/L	0.00500		93.2	85-115			
LCS Dup (B202487-BSD1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	0.0047	0.0002	mg/L	0.00500		94.0	85-115	0.897	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/03/20 16:48

Notes and Definitions

H3	Initial analysis performed within hold-time but not reportable due to QC failure or other issue. Sample was subsequently re-analyzed past hold time specified by method.
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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ANALYSIS REQUEST



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

21 December 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 11/25/20 15:00.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-6-A	2011234-01	Water	11/25/20 09:52	11/25/20 15:00	
MW-6-LM	2011234-02	Water	11/25/20 11:20	11/25/20 15:00	
MW-4-MI	2011234-03	Water	11/25/20 12:41	11/25/20 15:00	
MW-4-A	2011234-04	Water	11/25/20 13:25	11/25/20 15:00	
MW-99-A	2011234-05	Water	11/25/20 08:25	11/25/20 15:00	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

MW-6-A

2011234-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	246	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	246	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	26.6	5.00	0.443	mg/L	5	12/16/20 12:09	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	12/16/20 12:09	EPA300.0		AES
Nitrate/Nitrite as N*	0.093	0.020	0.006	mg/L as N	1	12/02/20 14:43	EPA353.2		LLG
pH*	7.04			pH Units	1	11/25/20 16:30	EPA150.1		VJW
Total Dissolved Solids*	4570	10.0		mg/L	1	11/30/20 12:00	EPA160.1		VJW
Sulfate*	2890	100	15.2	mg/L	100	12/16/20 12:30	EPA300.0		AES
Total Organic Carbon*	3.26	0.500	0.135	mg/L	1	12/10/20 19:22	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.500	0.500	0.124	mg/L	10	12/10/20 10:50	EPA200.7		AES
Calcium*	406	1.00	0.166	mg/L	10	12/10/20 10:50	EPA200.7		AES
Hardness as CaCO ₃	2710	6.62	1.38	mg/L	10	12/10/20 10:50	2340 B		AES
Iron*	1.24	0.500	0.184	mg/L	10	12/10/20 10:50	EPA200.7		AES
Magnesium*	413	1.00	0.235	mg/L	10	12/10/20 10:50	EPA200.7		AES
Potassium*	10.5	10.0	1.30	mg/L	10	12/10/20 10:50	EPA200.7		AES
Silica (SiO ₂)	12.3	10.7	0.354	mg/L	10	12/10/20 10:50	Calculation		AES
Silicon	5.76	5.00	0.166	mg/L	10	12/10/20 10:50	EPA200.7		AES
Sodium*	273	10.0	1.01	mg/L	10	12/10/20 10:50	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:03	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	12/09/20 11:03	EPA200.8		AES
Copper*	<0.0050	0.0050	0.0022	mg/L	10	12/09/20 11:03	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:03	EPA200.8		AES
Manganese*	0.454	0.0050	0.0011	mg/L	10	12/09/20 11:03	EPA200.8		AES
Molybdenum*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:03	EPA200.8		AES
Selenium*	<0.0100	0.0100	0.0053	mg/L	10	12/09/20 11:03	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	12/09/20 11:03	EPA200.8		AES
Zinc*	<0.0200	0.0200	0.0032	mg/L	10	12/09/20 11:03	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/07/20 12:25	EPA245.1		LLG
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Cation/Anion Balance .42

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

MW-6-LM

2011234-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	329	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	329	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	12.4	2.00	0.177	mg/L	2	12/16/20 12:50	EPA300.0		AES
Fluoride*	0.356	0.200	0.0194	mg/L	2	12/16/20 12:50	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 14:47	EPA353.2		LLG
pH*	7.45			pH Units	1	11/25/20 16:30	EPA150.1		VJW
Total Dissolved Solids*	2020	10.0		mg/L	1	11/30/20 12:00	EPA160.1		VJW
Sulfate*	1170	50.0	7.62	mg/L	50	12/16/20 13:10	EPA300.0		AES
Total Organic Carbon*	1.93	0.500	0.135	mg/L	1	12/10/20 20:13	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	12/10/20 10:58	EPA200.7		AES
Calcium*	184	0.500	0.083	mg/L	5	12/10/20 10:58	EPA200.7		AES
Hardness as CaCO ₃	1160	3.31	0.690	mg/L	5	12/10/20 10:58	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	12/10/20 10:58	EPA200.7		AES
Magnesium*	171	0.500	0.117	mg/L	5	12/10/20 10:58	EPA200.7		AES
Potassium*	6.04	5.00	0.651	mg/L	5	12/10/20 10:58	EPA200.7		AES
Silica (SiO ₂)	16.0	5.35	0.177	mg/L	5	12/10/20 10:58	Calculation		AES
Silicon	7.47	2.50	0.083	mg/L	5	12/10/20 10:58	EPA200.7		AES
Sodium*	194	5.00	0.503	mg/L	5	12/10/20 10:58	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0036	0.0025	0.0005	mg/L	5	12/09/20 11:06	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	12/09/20 11:06	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	12/09/20 11:06	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:06	EPA200.8		AES
Manganese*	0.292	0.0025	0.0006	mg/L	5	12/09/20 11:06	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:06	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	12/09/20 11:06	EPA200.8		AES
Uranium	0.0042	0.0025	0.0010	mg/L	5	12/09/20 11:06	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	12/09/20 11:06	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/07/20 12:25	EPA245.1		LLG
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Cation/Anion Balance .85

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

MW-4-MI

2011234-03 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	965	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	40.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	1010	10.0	7.16	mg/L	5	12/09/20 16:00	2320 B		LLG
Chloride*	4.97	2.00	0.177	mg/L	2	12/16/20 13:31	EPA300.0		AES
Fluoride*	5.27	0.200	0.0194	mg/L	2	12/16/20 13:31	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 14:48	EPA353.2		LLG
pH*	8.38			pH Units	1	11/25/20 16:30	EPA150.1		VJW
Total Dissolved Solids*	1170	10.0		mg/L	1	11/30/20 12:00	EPA160.1		VJW
Sulfate*	18.7	2.00	0.305	mg/L	2	12/16/20 13:31	EPA300.0		AES
Total Organic Carbon*	5.77	0.500	0.135	mg/L	1	12/10/20 20:31	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.200	0.200	0.049	mg/L	4	12/10/20 11:02	EPA200.7		AES
Calcium*	1.14	0.400	0.066	mg/L	4	12/10/20 11:02	EPA200.7		AES
Hardness as CaCO ₃	2.84	2.65	0.552	mg/L	4	12/10/20 11:02	2340 B		AES
Iron*	<0.200	0.200	0.074	mg/L	4	12/10/20 11:02	EPA200.7		AES
Magnesium*	<0.400	0.400	0.094	mg/L	4	12/10/20 11:02	EPA200.7		AES
Potassium*	<4.00	4.00	0.521	mg/L	4	12/10/20 11:02	EPA200.7		AES
Silica (SiO ₂)	8.88	4.28	0.142	mg/L	4	12/10/20 11:02	Calculation		AES
Silicon	4.15	2.00	0.066	mg/L	4	12/10/20 11:02	EPA200.7		AES
Sodium*	458	4.00	0.402	mg/L	4	12/10/20 11:02	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0092	0.0020	0.0004	mg/L	4	12/09/20 11:17	EPA200.8		AES
Cadmium*	<0.0004	0.0004	0.0003	mg/L	4	12/09/20 11:17	EPA200.8		AES
Copper*	0.0045	0.0020	0.0009	mg/L	4	12/09/20 11:17	EPA200.8		AES
Lead*	<0.0020	0.0020	0.0005	mg/L	4	12/09/20 11:17	EPA200.8		AES
Manganese*	0.0092	0.0020	0.0004	mg/L	4	12/09/20 11:17	EPA200.8		AES
Molybdenum*	0.0089	0.0020	0.0005	mg/L	4	12/09/20 11:17	EPA200.8		AES
Selenium*	<0.0040	0.0040	0.0021	mg/L	4	12/09/20 11:17	EPA200.8		AES
Uranium	0.0139	0.0020	0.0008	mg/L	4	12/09/20 11:17	EPA200.8		AES
Zinc*	<0.0080	0.0080	0.0013	mg/L	4	12/09/20 11:17	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/07/20 12:25	EPA245.1		LLG
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Cation/Anion Balance -2.12

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

MW-4-A

2011234-04 (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	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	538	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	9.15	2.00	0.177	mg/L	2	12/16/20 13:51	EPA300.0		AES
Fluoride*	<0.200	0.200	0.0194	mg/L	2	12/16/20 13:51	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 14:49	EPA353.2		LLG
pH*	8.16			pH Units	1	11/25/20 16:30	EPA150.1		VJW
Total Dissolved Solids*	1560	10.0		mg/L	1	11/30/20 12:00	EPA160.1		VJW
Sulfate*	607	20.0	3.05	mg/L	20	12/16/20 14:12	EPA300.0		AES
Total Organic Carbon*	3.27	0.500	0.135	mg/L	1	12/10/20 20:52	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	12/10/20 11:04	EPA200.7		AES
Calcium*	1.73	0.500	0.083	mg/L	5	12/10/20 11:04	EPA200.7		AES
Hardness as CaCO ₃	7.77	3.31	0.690	mg/L	5	12/10/20 11:04	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	12/10/20 11:04	EPA200.7		AES
Magnesium*	0.836	0.500	0.117	mg/L	5	12/10/20 11:04	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	12/10/20 11:04	EPA200.7		AES
Silica (SiO ₂)	9.96	5.35	0.177	mg/L	5	12/10/20 11:04	Calculation		AES
Silicon	4.65	2.50	0.083	mg/L	5	12/10/20 11:04	EPA200.7		AES
Sodium*	531	5.00	0.503	mg/L	5	12/10/20 11:04	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	12/09/20 11:27	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	12/09/20 11:27	EPA200.8		AES
Copper*	0.0053	0.0025	0.0011	mg/L	5	12/09/20 11:27	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:27	EPA200.8		AES
Manganese*	0.0035	0.0025	0.0006	mg/L	5	12/09/20 11:27	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	12/09/20 11:27	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	12/09/20 11:27	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	12/09/20 11:27	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	12/09/20 11:27	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/07/20 12:25	EPA245.1		LLG
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Cation/Anion Balance -0.82

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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:32

MW-99-A

2011234-05 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	249	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	12/09/20 16:00	2320 B		LLG
Alkalinity, Total as CaCO ₃ *	249	10.0	7.16	mg/L	1	12/09/20 16:00	2320 B		LLG
Chloride*	26.9	5.00	0.443	mg/L	5	12/16/20 15:13	EPA300.0		AES
Fluoride*	<0.500	0.500	0.0486	mg/L	5	12/16/20 15:13	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	12/02/20 14:50	EPA353.2		LLG
pH*	6.97			pH Units	1	11/25/20 16:30	EPA150.1		VJW
Total Dissolved Solids*	4580	10.0		mg/L	1	11/30/20 12:00	EPA160.1		VJW
Sulfate*	2940	100	15.2	mg/L	100	12/17/20 10:35	EPA300.0		AES
Total Organic Carbon*	3.17	0.500	0.135	mg/L	1	12/10/20 21:07	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<1.00	1.00	0.247	mg/L	20	12/10/20 11:07	EPA200.7		AES
Calcium*	418	2.00	0.332	mg/L	20	12/10/20 11:07	EPA200.7		AES
Hardness as CaCO ₃	2780	13.2	2.76	mg/L	20	12/10/20 11:07	2340 B		AES
Iron*	1.47	1.00	0.368	mg/L	20	12/10/20 11:07	EPA200.7		AES
Magnesium*	422	2.00	0.470	mg/L	20	12/10/20 11:07	EPA200.7		AES
Potassium*	<20.0	20.0	2.60	mg/L	20	12/10/20 11:07	EPA200.7		AES
Silica (SiO ₂)	<21.4	21.4	0.708	mg/L	20	12/10/20 11:07	Calculation		AES
Silicon	<10.0	10.0	0.331	mg/L	20	12/10/20 11:07	EPA200.7		AES
Sodium*	279	20.0	2.01	mg/L	20	12/10/20 11:07	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:31	EPA200.8		AES
Cadmium*	<0.0010	0.0010	0.0007	mg/L	10	12/09/20 11:31	EPA200.8		AES
Copper*	<0.0050	0.0050	0.0022	mg/L	10	12/09/20 11:31	EPA200.8		AES
Lead*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:31	EPA200.8		AES
Manganese*	0.478	0.0050	0.0011	mg/L	10	12/09/20 11:31	EPA200.8		AES
Molybdenum*	<0.0050	0.0050	0.0011	mg/L	10	12/09/20 11:31	EPA200.8		AES
Selenium*	<0.0100	0.0100	0.0053	mg/L	10	12/09/20 11:31	EPA200.8		AES
Uranium	<0.0050	0.0050	0.0019	mg/L	10	12/09/20 11:31	EPA200.8		AES
Zinc*	<0.0200	0.0200	0.0032	mg/L	10	12/09/20 11:31	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	12/07/20 12:25	EPA245.1		LLG
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Cation/Anion Balance .8

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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

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 B202561 - General Prep - Wet Chem

Blank (B202561-BLK1)

Prepared & Analyzed: 11/30/20

Total Dissolved Solids ND 10.0 mg/L

Duplicate (B202561-DUP1)

Source: 2011234-05

Prepared & Analyzed: 11/30/20

Total Dissolved Solids 4480 10.0 mg/L 4580 2.21 20

Reference (B202561-SRM1)

Prepared & Analyzed: 11/30/20

Total Dissolved Solids 410 10.0 mg/L 380 108 85-115

Batch B202566 - General Prep - Wet Chem

Duplicate (B202566-DUP1)

Source: 2011234-01

Prepared & Analyzed: 11/25/20

pH 7.08 pH Units 7.04 0.567 20

Reference (B202566-SRM1)

Prepared & Analyzed: 11/25/20

pH 6.98 pH Units 7.00 99.7 98.57-101.42

Batch B202583 - General Prep - Wet Chem

Blank (B202583-BLK1)

Prepared: 12/01/20 Analyzed: 12/02/20

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

LCS (B202583-BS1)

Prepared: 12/01/20 Analyzed: 12/02/20

Nitrate/Nitrite as N 0.961 0.020 mg/L as N 1.00 96.1 90-110

LCS Dup (B202583-BSD1)

Prepared: 12/01/20 Analyzed: 12/02/20

Nitrate/Nitrite as N 0.954 0.020 mg/L as N 1.00 95.4 90-110 0.710 20

Batch B202598 - General Prep - Wet Chem

Blank (B202598-BLK1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon ND 0.500 mg/L

LCS (B202598-BS1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon 10.5 0.500 mg/L 10.0 105 85-115

LCS Dup (B202598-BSD1)

Prepared & Analyzed: 12/10/20

Total Organic Carbon 10.5 0.500 mg/L 10.0 105 85-115 0.285 20

Batch B202602 - General Prep - Wet Chem

Blank (B202602-BLK1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO3 ND 10.0 mg/L

Alkalinity, Carbonate as CaCO3 ND 10.0 mg/L

Alkalinity, Hydroxide as CaCO3 ND 10.0 mg/L

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 Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32General 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 B202602 - General Prep - Wet Chem (Continued)

LCS (B202602-BS1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO ₃	101	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO ₃	101	10.0	mg/L	100		101	85-115			

LCS Dup (B202602-BSD1)

Prepared: 12/08/20 Analyzed: 12/09/20

Alkalinity, Bicarbonate as CaCO ₃	104	10.0	mg/L				85-115	2.93	20	
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO ₃	104	10.0	mg/L	100		104	85-115	2.93	20	

Batch B202747 - General Prep - Wet Chem

Blank (B202747-BLK1)

Prepared & Analyzed: 12/16/20

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

LCS (B202747-BS1)

Prepared & Analyzed: 12/16/20

Chloride	24.5	1.00	mg/L	25.0		97.9	90-110			
Fluoride	2.55	0.100	mg/L	2.50		102	90-110			
Sulfate	25.2	1.00	mg/L	25.0		101	90-110			

LCS Dup (B202747-BSD1)

Prepared & Analyzed: 12/16/20

Chloride	24.7	1.00	mg/L	25.0		98.8	90-110	0.968	20	
Fluoride	2.58	0.100	mg/L	2.50		103	90-110	1.05	20	
Sulfate	25.1	1.00	mg/L	25.0		101	90-110	0.246	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: GCC GW Baseline
Project Manager: Tom BirdReported:
12/21/20 09:32

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 B202630 - Diss. 200.7/200.8

Blank (B202630-BLK1)

Prepared: 12/07/20 Analyzed: 12/10/20

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 (B202630-BS1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.6	85-115
Calcium	4.98	0.100	mg/L	5.00	99.7	85-115
Iron	4.83	0.050	mg/L	5.00	96.7	85-115
Magnesium	25.0	0.100	mg/L	25.0	99.9	85-115
Potassium	9.86	1.00	mg/L	10.0	98.6	85-115
Silicon	5.08	0.500	mg/L	5.00	102	85-115
Sodium	3.91	1.00	mg/L	4.05	96.7	85-115

LCS Dup (B202630-BSD1)

Prepared: 12/07/20 Analyzed: 12/10/20

Aluminum	4.83	0.050	mg/L	5.00	96.5	85-115	0.0624	20
Calcium	4.96	0.100	mg/L	5.00	99.3	85-115	0.391	20
Iron	4.83	0.050	mg/L	5.00	96.6	85-115	0.128	20
Magnesium	24.9	0.100	mg/L	25.0	99.6	85-115	0.288	20
Potassium	9.90	1.00	mg/L	10.0	99.0	85-115	0.445	20
Silicon	5.05	0.500	mg/L	5.00	101	85-115	0.618	20
Sodium	3.92	1.00	mg/L	4.05	96.8	85-115	0.107	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:32

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 B202631 - Diss. 200.7/200.8

Blank (B202631-BLK1)

Prepared: 12/07/20 Analyzed: 12/09/20

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 (B202631-BS1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0481	0.0005	mg/L	0.0500	96.2	85-115
Cadmium	0.0476	0.0001	mg/L	0.0500	95.3	85-115
Copper	0.0484	0.0005	mg/L	0.0500	96.8	85-115
Lead	0.0504	0.0005	mg/L	0.0500	101	85-115
Manganese	0.0510	0.0005	mg/L	0.0500	102	85-115
Molybdenum	0.0509	0.0005	mg/L	0.0500	102	85-115
Selenium	0.246	0.0010	mg/L	0.250	98.5	85-115
Uranium	0.0487	0.0005	mg/L	0.0500	97.4	85-115
Zinc	0.0483	0.0020	mg/L	0.0500	96.6	85-115

LCS Dup (B202631-BSD1)

Prepared: 12/07/20 Analyzed: 12/09/20

Arsenic	0.0490	0.0005	mg/L	0.0500	97.9	85-115	1.77	20
Cadmium	0.0473	0.0001	mg/L	0.0500	94.7	85-115	0.635	20
Copper	0.0498	0.0005	mg/L	0.0500	99.7	85-115	2.90	20
Lead	0.0497	0.0005	mg/L	0.0500	99.3	85-115	1.51	20
Manganese	0.0498	0.0005	mg/L	0.0500	99.6	85-115	2.47	20
Molybdenum	0.0507	0.0005	mg/L	0.0500	101	85-115	0.336	20
Selenium	0.248	0.0010	mg/L	0.250	99.3	85-115	0.821	20
Uranium	0.0479	0.0005	mg/L	0.0500	95.8	85-115	1.74	20
Zinc	0.0506	0.0020	mg/L	0.0500	101	85-115	4.72	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:32

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
Batch B202567 - EPA 245.1/7470									
Blank (B202567-BLK1)				Prepared: 12/01/20 Analyzed: 12/07/20					
Mercury	ND	0.0002	mg/L						
LCS (B202567-BS1)				Prepared: 12/01/20 Analyzed: 12/07/20					
Mercury	0.0054	0.0002	mg/L	0.00500	109	85-115			
LCS Dup (B202567-BSD1)				Prepared: 12/01/20 Analyzed: 12/07/20					
Mercury	0.0053	0.0002	mg/L	0.00500	107	85-115	1.69	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
12/21/20 09:32

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

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

Debbie Zufelt, Reports Manager

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FORM-006
COC - Revision 6.0

(970) 247-4220
Fax: (970) 247-4227

Company or Client: GALE ENERGY LLC							P.O. #:											
Address: 6073 County Road 120 Heperus																		
City: Heperus																		
State: CO																		
Zip: 81324																		
Phone #: 970-385-4528							Attn:											
Contact Person: TOM BIRD / TBIRD@GAL.COM							Address:											
Email Report to: LANDON BECK							City:											
Project Name: Beck @ Resource Hydrogeologic.com							State:											
Sampler Name (Print): Michelle McFarland & Wade Benary							Phone #:											
							Email:											
For Lab Use	Sample Name or Location	Collected		Matrix (check one)						# of containers		ANALYSIS REQUEST						
		Date	Time	GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCED WATER	SOIL	DRINKING WATER	OTHER :	No preservation (general)		HNO ₃	HCl	H ₂ SO ₄	Other:	Other:	
	2011-234-01 MW-L-A	11-25-20	0952	X							1	1	4				GCE GW BASELINE	
	-02 MW-G-LM	11-25-20	1120	X							1	1	4				X	
	-03 MW-4-MI	11-25-20	1241	X							1	1	4				X	
	-04 MW-4-A	11-25-20	1325	X							1	1	4				X	
	-05 MW-9A - A per Milevel M. by 11-25-20	11-25-20	0825	X							1	1	4				X	
PLEASE NOTE: GAL's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by GAL within 30 days after completion. In no event shall GAL be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder.																		
Relinquished by: Michael J. Steland							Date: 11-25-20	Received by:	ADDITIONAL REMARKS:									
Relinquished by:							Date: 11-25-20	Received by:	Report to State? (Circle) Yes No									
Relinquished by:							Date: 11-25-20	Received by:	# 3 Laser									
Relinquished by:							Date: 11-25-20	Received by:	Temperature at receipt: 8.3°C									
Relinquished by:							Date: 11-25-20	Received by:	CHECKED BY: DJ									
Relinquished by:							Date: 11-25-20	Received by:	On Ice X									
Relinquished by:							Date: 11-25-20	Received by:	No Ice									

Project Information

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

Phone:(970) 385-4528

Fax:(970) 385-4638

King Coal

11/25/2020

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

30 November 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 11/11/20 15:35.
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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
11/30/20 12:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received	Notes
MW-7-EAA	2011099-01	Water	11/11/20 10:41	11/11/20 15:35	
MW-8-EAA	2011099-02	Water	11/11/20 11:57	11/11/20 15:35	
MW-8-MI	2011099-03	Water	11/11/20 12:21	11/11/20 15:35	
MW-8-PL	2011099-04	Water	11/11/20 12:53	11/11/20 15:35	
MW-8-LM	2011099-05	Water	11/11/20 13:24	11/11/20 15:35	

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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

MW-7-EAA

2011099-01 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	430	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	430	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Chloride*	10.1	2.00	0.177	mg/L	2	11/13/20 19:23	EPA300.0		AES
Fluoride*	0.322	0.200	0.0194	mg/L	2	11/13/20 19:23	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:05	EPA353.2		LLG
pH*	7.06			pH Units	1	11/12/20 10:30	EPA150.1		VJW
Total Dissolved Solids*	1450	10.0		mg/L	1	11/13/20 16:30	EPA160.1		VJW
Sulfate*	742	50.0	7.62	mg/L	50	11/16/20 12:40	EPA300.0		AES
Total Organic Carbon*	3.39	0.500	0.135	mg/L	1	11/20/20 13:55	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	11/18/20 18:00	EPA200.7		AES
Calcium*	157	0.500	0.083	mg/L	5	11/18/20 18:00	EPA200.7		AES
Hardness as CaCO ₃	939	3.31	0.690	mg/L	5	11/18/20 18:00	2340 B		AES
Iron*	2.15	0.250	0.092	mg/L	5	11/24/20 14:52	EPA200.7		AES
Magnesium*	133	0.500	0.117	mg/L	5	11/18/20 18:00	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	11/18/20 18:00	EPA200.7		AES
Silica (SiO ₂)	14.9	5.35	0.177	mg/L	5	11/18/20 18:00	Calculation		AES
Silicon	6.96	2.50	0.083	mg/L	5	11/18/20 18:00	EPA200.7		AES
Sodium*	73.4	5.00	0.503	mg/L	5	11/18/20 18:00	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	11/24/20 12:17	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	11/24/20 12:17	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	11/24/20 12:17	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:17	EPA200.8		AES
Manganese*	4.42	0.0025	0.0006	mg/L	5	11/24/20 12:17	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:17	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	11/24/20 12:17	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	11/24/20 12:17	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	11/24/20 12:17	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

MW-8-EAA

2011099-02 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	480	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	480	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Chloride*	11.3	2.00	0.177	mg/L	2	11/13/20 19:43	EPA300.0		AES
Fluoride*	0.334	0.200	0.0194	mg/L	2	11/13/20 19:43	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:06	EPA353.2		LLG
pH*	7.10			pH Units	1	11/12/20 10:30	EPA150.1		VJW
Total Dissolved Solids*	1310	10.0		mg/L	1	11/13/20 16:30	EPA160.1		VJW
Sulfate*	582	50.0	7.62	mg/L	50	11/16/20 12:59	EPA300.0		AES
Total Organic Carbon*	3.54	0.500	0.135	mg/L	1	11/20/20 14:47	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	11/18/20 18:04	EPA200.7		AES
Calcium*	134	0.500	0.083	mg/L	5	11/18/20 18:04	EPA200.7		AES
Hardness as CaCO ₃	810	3.31	0.690	mg/L	5	11/18/20 18:04	2340 B		AES
Iron*	0.762	0.250	0.092	mg/L	5	11/24/20 14:57	EPA200.7		AES
Magnesium*	115	0.500	0.117	mg/L	5	11/18/20 18:04	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	11/18/20 18:04	EPA200.7		AES
Silica (SiO ₂)	14.2	5.35	0.177	mg/L	5	11/18/20 18:04	Calculation		AES
Silicon	6.63	2.50	0.083	mg/L	5	11/18/20 18:04	EPA200.7		AES
Sodium*	74.3	5.00	0.503	mg/L	5	11/18/20 18:04	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	11/24/20 12:28	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	11/24/20 12:28	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	11/24/20 12:28	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:28	EPA200.8		AES
Manganese*	3.81	0.0025	0.0006	mg/L	5	11/24/20 12:28	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:28	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	11/24/20 12:28	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	11/24/20 12:28	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	11/24/20 12:28	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -6.16

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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

MW-8-MI

2011099-03 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	590	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	590	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Chloride*	7.91	2.00	0.177	mg/L	2	11/13/20 20:02	EPA300.0		AES
Fluoride*	<0.200	0.200	0.0194	mg/L	2	11/13/20 20:02	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:07	EPA353.2		LLG
pH*	7.27			pH Units	1	11/12/20 10:30	EPA150.1		VJW
Total Dissolved Solids*	1040	10.0		mg/L	1	11/13/20 16:30	EPA160.1		VJW
Sulfate*	319	20.0	3.05	mg/L	20	11/16/20 13:19	EPA300.0		AES
Total Organic Carbon*	2.76	0.500	0.135	mg/L	1	11/20/20 15:08	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	11/18/20 18:06	EPA200.7		AES
Calcium*	62.6	0.500	0.083	mg/L	5	11/18/20 18:06	EPA200.7		AES
Hardness as CaCO ₃	339	3.31	0.690	mg/L	5	11/18/20 18:06	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	11/24/20 14:58	EPA200.7		AES
Magnesium*	44.4	0.500	0.117	mg/L	5	11/18/20 18:06	EPA200.7		AES
Potassium*	5.22	5.00	0.651	mg/L	5	11/18/20 18:06	EPA200.7		AES
Silica (SiO ₂)	12.1	5.35	0.177	mg/L	5	11/18/20 18:06	Calculation		AES
Silicon	5.67	2.50	0.083	mg/L	5	11/18/20 18:06	EPA200.7		AES
Sodium*	232	5.00	0.503	mg/L	5	11/18/20 18:06	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	11/24/20 12:45	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	11/24/20 12:45	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	11/24/20 12:45	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:45	EPA200.8		AES
Manganese*	0.0546	0.0025	0.0006	mg/L	5	11/24/20 12:45	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:45	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	11/24/20 12:45	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	11/24/20 12:45	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	11/24/20 12:45	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -4.66

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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

MW-8-PL

2011099-04 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	410	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	410	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Chloride*	3.32	1.00	0.0886	mg/L	1	11/13/20 20:22	EPA300.0		AES
Fluoride*	0.224	0.100	0.00971	mg/L	1	11/13/20 20:22	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:08	EPA353.2		LLG
pH*	7.41			pH Units	1	11/12/20 10:30	EPA150.1		VJW
Total Dissolved Solids*	465	10.0		mg/L	1	11/13/20 16:30	EPA160.1		VJW
Sulfate*	99.0	5.00	0.762	mg/L	5	11/16/20 13:38	EPA300.0		AES
Total Organic Carbon*	1.44	0.500	0.135	mg/L	1	11/20/20 15:23	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.025	mg/L	2	11/18/20 18:08	EPA200.7		AES
Calcium*	49.1	0.200	0.033	mg/L	2	11/18/20 18:08	EPA200.7		AES
Hardness as CaCO ₃	268	1.32	0.276	mg/L	2	11/18/20 18:08	2340 B		AES
Iron*	<0.100	0.100	0.037	mg/L	2	11/24/20 15:00	EPA200.7		AES
Magnesium*	35.4	0.200	0.047	mg/L	2	11/18/20 18:08	EPA200.7		AES
Potassium*	<2.00	2.00	0.260	mg/L	2	11/18/20 18:08	EPA200.7		AES
Silica (SiO ₂)	18.5	2.14	0.0708	mg/L	2	11/18/20 18:08	Calculation		AES
Silicon	8.66	1.00	0.033	mg/L	2	11/18/20 18:08	EPA200.7		AES
Sodium*	77.2	2.00	0.201	mg/L	2	11/18/20 18:08	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	0.0058	0.0010	0.0002	mg/L	2	11/24/20 12:49	EPA200.8		AES
Cadmium*	<0.0002	0.0002	0.0001	mg/L	2	11/24/20 12:49	EPA200.8		AES
Copper*	0.0014	0.0010	0.0004	mg/L	2	11/24/20 12:49	EPA200.8		AES
Lead*	<0.0010	0.0010	0.0002	mg/L	2	11/24/20 12:49	EPA200.8		AES
Manganese*	0.219	0.0010	0.0002	mg/L	2	11/24/20 12:49	EPA200.8		AES
Molybdenum*	<0.0010	0.0010	0.0002	mg/L	2	11/24/20 12:49	EPA200.8		AES
Selenium*	<0.0020	0.0020	0.0011	mg/L	2	11/24/20 12:49	EPA200.8		AES
Uranium	<0.0010	0.0010	0.0004	mg/L	2	11/24/20 12:49	EPA200.8		AES
Zinc*	<0.0040	0.0040	0.0006	mg/L	2	11/24/20 12:49	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -8.35

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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

MW-8-LM

2011099-05 (Ground Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	680	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Carbonate as CaCO ₃ *	100	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	11/13/20 12:00	2320 B		VJW
Alkalinity, Total as CaCO ₃ *	780	10.0	7.16	mg/L	5	11/13/20 12:00	2320 B		VJW
Chloride*	2.47	1.00	0.0886	mg/L	1	11/16/20 13:58	EPA300.0		AES
Fluoride*	3.66	0.100	0.00971	mg/L	1	11/16/20 13:58	EPA300.0		AES
Nitrate/Nitrite as N*	<0.020	0.020	0.006	mg/L as N	1	11/20/20 14:10	EPA353.2		LLG
pH*	8.48			pH Units	1	11/12/20 10:30	EPA150.1		VJW
Total Dissolved Solids*	700	10.0		mg/L	1	11/13/20 16:30	EPA160.1		VJW
Sulfate*	<1.00	1.00	0.152	mg/L	1	11/16/20 13:58	EPA300.0		AES
Total Organic Carbon*	1.66	0.500	0.135	mg/L	1	11/20/20 15:43	5310C		LLG

Dissolved Metals by ICP

Aluminum*	<0.250	0.250	0.062	mg/L	5	11/18/20 18:14	EPA200.7		AES
Calcium*	1.71	0.500	0.083	mg/L	5	11/18/20 18:14	EPA200.7		AES
Hardness as CaCO ₃	6.35	3.31	0.690	mg/L	5	11/18/20 18:14	2340 B		AES
Iron*	<0.250	0.250	0.092	mg/L	5	11/24/20 15:07	EPA200.7		AES
Magnesium*	0.502	0.500	0.117	mg/L	5	11/18/20 18:14	EPA200.7		AES
Potassium*	<5.00	5.00	0.651	mg/L	5	11/18/20 18:14	EPA200.7		AES
Silica (SiO ₂)	7.40	5.35	0.177	mg/L	5	11/18/20 18:14	Calculation		AES
Silicon	3.46	2.50	0.083	mg/L	5	11/18/20 18:14	EPA200.7		AES
Sodium*	304	5.00	0.503	mg/L	5	11/18/20 18:14	EPA200.7		AES

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0005	mg/L	5	11/24/20 12:53	EPA200.8		AES
Cadmium*	<0.0005	0.0005	0.0004	mg/L	5	11/24/20 12:53	EPA200.8		AES
Copper*	<0.0025	0.0025	0.0011	mg/L	5	11/24/20 12:53	EPA200.8		AES
Lead*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:53	EPA200.8		AES
Manganese*	0.0028	0.0025	0.0006	mg/L	5	11/24/20 12:53	EPA200.8		AES
Molybdenum*	<0.0025	0.0025	0.0006	mg/L	5	11/24/20 12:53	EPA200.8		AES
Selenium*	<0.0050	0.0050	0.0027	mg/L	5	11/24/20 12:53	EPA200.8		AES
Uranium	<0.0025	0.0025	0.0010	mg/L	5	11/24/20 12:53	EPA200.8		AES
Zinc*	<0.0100	0.0100	0.0016	mg/L	5	11/24/20 12:53	EPA200.8		AES

Dissolved Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00001	mg/L	1	11/19/20 13:20	EPA245.1		LLG
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Cation/Anion Balance -8.46

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: GCC GW Baseline
Project Manager: Tom BirdReported:
11/30/20 12:16

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 B202435 - General Prep - Wet Chem

Blank (B202435-BLK1)

Prepared: 11/12/20 Analyzed: 11/13/20

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

LCS (B202435-BS1)

Prepared: 11/12/20 Analyzed: 11/13/20

Chloride	23.2	1.00	mg/L	25.0	92.9	90-110
Fluoride	2.58	0.100	mg/L	2.50	103	90-110
Sulfate	24.1	1.00	mg/L	25.0	96.4	90-110

LCS Dup (B202435-BSD1)

Prepared: 11/12/20 Analyzed: 11/13/20

Chloride	23.8	1.00	mg/L	25.0	95.1	90-110	2.32	20
Fluoride	2.62	0.100	mg/L	2.50	105	90-110	1.58	20
Sulfate	24.2	1.00	mg/L	25.0	96.7	90-110	0.273	20

Batch B202445 - General Prep - Wet Chem

Blank (B202445-BLK1)

Prepared & Analyzed: 11/13/20

Alkalinity, Bicarbonate as CaCO ₃	ND	10.0	mg/L
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L
Alkalinity, Total as CaCO ₃	ND	10.0	mg/L

LCS (B202445-BS1)

Prepared & Analyzed: 11/13/20

Alkalinity, Bicarbonate as CaCO ₃	96.0	10.0	mg/L			85-115
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L			85-115
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L			85-115
Alkalinity, Total as CaCO ₃	96.0	10.0	mg/L	100	96.0	85-115

LCS Dup (B202445-BSD1)

Prepared & Analyzed: 11/13/20

Alkalinity, Bicarbonate as CaCO ₃	91.0	10.0	mg/L			85-115	5.35	20
Alkalinity, Carbonate as CaCO ₃	ND	10.0	mg/L			85-115		20
Alkalinity, Hydroxide as CaCO ₃	ND	10.0	mg/L			85-115		20
Alkalinity, Total as CaCO ₃	91.0	10.0	mg/L	100	91.0	85-115	5.35	20

Batch B202459 - General Prep - Wet Chem

Blank (B202459-BLK1)

Prepared & Analyzed: 11/13/20

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B202459-DUP1)

Source: 2011099-05 Prepared & Analyzed: 11/13/20

Total Dissolved Solids	785	10.0	mg/L	700			11.4	20
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Reference (B202459-SRM1)

Prepared & Analyzed: 11/13/20

Total Dissolved Solids	385	10.0	mg/L	380	101	85-115
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Batch B202462 - 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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
11/30/20 12:16

**General 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 B202462 - General Prep - Wet Chem (Continued)

Duplicate (B202462-DUP1)

Source: 2011099-01

Prepared & Analyzed: 11/12/20

pH	7.12		pH Units	7.06				0.846	20	
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Reference (B202462-SRM1)

Prepared & Analyzed: 11/12/20

pH	6.99		pH Units	7.00		99.9	98.57-101.42			
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Batch B202468 - General Prep - Wet Chem

Blank (B202468-BLK1)

Prepared & Analyzed: 11/20/20

Total Organic Carbon	ND	0.500	mg/L							
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LCS (B202468-BS1)

Prepared & Analyzed: 11/20/20

Total Organic Carbon	9.64	0.500	mg/L	10.0		96.4	85-115			
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LCS Dup (B202468-BSD1)

Prepared & Analyzed: 11/20/20

Total Organic Carbon	9.63	0.500	mg/L	10.0		96.3	85-115	0.0519	20	
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Batch B202503 - General Prep - Wet Chem

Blank (B202503-BLK1)

Prepared: 11/19/20 Analyzed: 11/20/20

Nitrate/Nitrite as N	ND	0.020	mg/L as N							
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LCS (B202503-BS1)

Prepared: 11/19/20 Analyzed: 11/20/20

Nitrate/Nitrite as N	1.08	0.020	mg/L as N	1.00		108	90-110			
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LCS Dup (B202503-BSD1)

Prepared: 11/19/20 Analyzed: 11/20/20

Nitrate/Nitrite as N	1.10	0.020	mg/L as N	1.00		110	90-110	2.19	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 Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom Bird

Reported:
11/30/20 12:16

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 B202443 - Diss. 200.7/200.8

Blank (B202443-BLK1)

Prepared: 11/13/20 Analyzed: 11/18/20

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 (B202443-BS1)

Prepared: 11/13/20 Analyzed: 11/18/20

Aluminum	4.73	0.050	mg/L	5.00	94.7	85-115
Calcium	4.52	0.100	mg/L	5.00	90.5	85-115
Iron	5.23	0.050	mg/L	5.00	105	85-115
Magnesium	23.7	0.100	mg/L	25.0	94.8	85-115
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115
Silicon	4.70	0.500	mg/L	5.00	93.9	85-115
Sodium	3.96	1.00	mg/L	4.05	97.7	85-115

LCS Dup (B202443-BSD1)

Prepared: 11/13/20 Analyzed: 11/18/20

Aluminum	4.70	0.050	mg/L	5.00	94.1	85-115	0.611	20
Calcium	4.54	0.100	mg/L	5.00	90.8	85-115	0.330	20
Iron	4.88	0.050	mg/L	5.00	97.6	85-115	6.81	20
Magnesium	23.8	0.100	mg/L	25.0	95.2	85-115	0.380	20
Potassium	9.65	1.00	mg/L	10.0	96.5	85-115	0.323	20
Silicon	4.69	0.500	mg/L	5.00	93.9	85-115	0.0112	20
Sodium	3.94	1.00	mg/L	4.05	97.2	85-115	0.483	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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dzufelt@greenanalytical.com p: 970.247.4220 f: 970.247.4227 75 Suttle Street Durango, CO 81303

www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom Bird

Reported:
11/30/20 12:16

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 B202513 - Diss. 200.7/200.8

Blank (B202513-BLK1)

Prepared: 11/20/20 Analyzed: 11/24/20

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 (B202513-BS1)

Prepared: 11/20/20 Analyzed: 11/24/20

Arsenic	0.0482	0.0005	mg/L	0.0500	96.4	85-115				
Cadmium	0.0502	0.0001	mg/L	0.0500	100	85-115				
Copper	0.0482	0.0005	mg/L	0.0500	96.4	85-115				
Lead	0.0508	0.0005	mg/L	0.0500	102	85-115				
Manganese	0.0505	0.0005	mg/L	0.0500	101	85-115				
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115				
Selenium	0.244	0.0010	mg/L	0.250	97.7	85-115				
Uranium	0.0508	0.0005	mg/L	0.0500	102	85-115				
Zinc	0.0504	0.0020	mg/L	0.0500	101	85-115				

LCS Dup (B202513-BSD1)

Prepared: 11/20/20 Analyzed: 11/24/20

Arsenic	0.0477	0.0005	mg/L	0.0500	95.4	85-115	1.07	20		
Cadmium	0.0500	0.0001	mg/L	0.0500	100	85-115	0.500	20		
Copper	0.0482	0.0005	mg/L	0.0500	96.5	85-115	0.0267	20		
Lead	0.0520	0.0005	mg/L	0.0500	104	85-115	2.36	20		
Manganese	0.0507	0.0005	mg/L	0.0500	101	85-115	0.491	20		
Molybdenum	0.0482	0.0005	mg/L	0.0500	96.5	85-115	1.67	20		
Selenium	0.245	0.0010	mg/L	0.250	98.0	85-115	0.235	20		
Uranium	0.0520	0.0005	mg/L	0.0500	104	85-115	2.45	20		
Zinc	0.0498	0.0020	mg/L	0.0500	99.6	85-115	1.07	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: GCC GW Baseline
Project Manager: Tom Bird

Reported:
11/30/20 12:16

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B202487 - EPA 245.1/7470										
Blank (B202487-BLK1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	ND	0.0002	mg/L							
LCS (B202487-BS1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	0.0047	0.0002	mg/L	0.00500		93.2	85-115			
LCS Dup (B202487-BSD1)				Prepared: 11/18/20 Analyzed: 11/19/20						
Mercury	0.0047	0.0002	mg/L	0.00500		94.0	85-115	0.897	20	

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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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006

COC - Revision 6.0

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