GCC Energy Hydrologic Monitoring Data

Hay Gulch Ditch Upgradient

Year		**2016**										**2017**						**2018**				**2019**				**2020**	
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	5
Sample Date		3/31	4/22	5/26	6/23	7/20	8/25	9/21	10/19	11/29	12/13	1/26	2/27	3/22	6/28	9/21	11/28	2/22	5/14	8/9	11/8	2/28	5/23	8/16	11/13	2/13	5/13
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	Y	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Flow Rate	**cfs**	0.7	1.0	1.2	1.6	1.0	1.0	1.1	1.0	NM	1.0	NM	0.8	0.3	2.7	NM	NM	NM	0.6	0.7	0.7	0.3	3.6	1.2	NM	NM	0.9
Temperature	**deg C**	9.8	20.9	11.3	21.1	20.8	16.8	14.9	16.4	5.9	7.0	1.5	4.7	10.7	20.2	19.7	8.8	4.7	11.3	22.1	1.1	5.9	5.9	16.9	5.7	1.5	16.5
pH	**SU**	7.75	8.27	7.95	8.15	8.24	8.26	8.47	8.19	8.79	8.58	8.2	8.69	8.77	8.88	8.39	7.60	7.9	7.58	9.07	7.16	6.4	7.53	8.03	7.33	7.75	8.39
Specific Conductance	**µS/cm**	247	323	197	141	189	207	233	210	258	234	687	455	454	106	549	868	1041	304	307	307	752	306	275	682	902	314
Oxygen Reduction Potential	**mV**	76.4	114.7	97.2	51.6	53.6	82.8	72.5	105.9	92.4	116.3	66.3	-12	-10.6	23.8	86.1	95.10	-164.1	111.4	-181.3	13.9	103.7	-24.0	24.4	-22.4	-4.5	81.7
Dissolved Oxygen	**mg/L**	8.1	6.4	8.0	6.0	6.5	6.9	7.2	4.7	6.7	6.1	10.6	9.0	6.9	4.8	6.7	9.3	9.4	8.5	6.4	10.2	8.0	8.9	7.8	7.9	7.0	7.5
Lab Analytical Results:																											
Hardness as CaCO3	**mg/L**	128			80.9			119		152				257	69.2	316	456	489	101	153	149	393	136	125	372	405	150
pH (Lab)	**SU**	8.17			8.04			8.16		8.19				8.06	8.06	8.22	8.31	8.39	7.99	9.07	7.86	7.45	7.69	7.83	7.40	7.22	7.60
Total Dissolved Solids (Lab)	**mg/L**	170			75			165		180				285	65.0	390	650	700	140	215	175	535	205	225	635	587	255
Total Suspended Solids	**mg/L**	30.0			117			17.0		4.8				2.50	63.5	2.00	5.75	6.01	106	6.25	14.8	22.0	113	20.0	5.38	<4	140
Calcium	**mg/L**	33.5			24			33.0		38.4				53.6	20.8	64.9	86.6	87.3	26.3	39.1	40.3	79.8	34.6	32.4	79.3	81.5	36.1
Magnesium	**mg/L**	10.9			5.08			9.01		13.7				29.8	4.21	37.5	58.3	65.9	8.61	13.5	11.9	47.0	12.1	10.8	42.2	49	14.5
Sodium	**mg/L**	4.46			2.19			3.90		6				10.9	1.97	13.8	27.1	34.6	3.31	5.33	5.00	19.1	7.24	5.81	25.4	30.9	7.67
Potassium	**mg/L**	<1			<1			1.35		<1.00				<1.00	1.75	2.15	3.05	3.52	1.18	1.24	<1.00	3.89	1.57	1.07	3.25	3.65	1.86
Alkalinity, Total	**mg/L**	160			65			98.0		118				185	55.0	177	305	244	67	111	120	260	390	103	233	315	102
Alkalinity, Bicarbonate	**mg/L**	160			65			94.0		118				185	55.0	161	285	244	67	107	120	260	390	103	233	295	102
Alkalinity, Carbonate	**mg/L**	<10			<10			<10		<10.0				<10.0	<10.0	16.0	20.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	**mg/L**	<10			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	**mg/L**	5.77			2.07			4.32		7.92				22.7	1.76	30.8	48.2	46.7	3.12	6.70	5.58	48.1	7.75	6.04	22.8	31.6	9.64
Fluoride	**mg/L**	0.213			0.208			0.223		0.208				0.215	0.195	0.265	0.283	0.285	0.224	0.272	0.224	0.252	0.208	0.214	<0.500	0.239	<0.500
Sulfate as SO4	**mg/L**	42.1			17.7			29.0		45.3				87.7	15.0	99.0	179	229	34	49.7	45.0	128	47.2	35.6	107	151	44.0
Total Organic Carbon (TOC)	**mg/L**	1.41			1.6			2.21		1.14				2.49	1.15	1.90	1.99	1.81	2.31	1.61	1.09	4.94	3.08	1.84	4.54	5.45	2.93
Oil & Grease	**mg/L**	<5			<5			<5		<5.00				<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5	<5.00
Nitrate/Nitrite as N	**mg/L**	<0.02			0.028			<0.020		<0.020				0.053	<0.020	0.045	0.088	0.105	0.026	<0.020	<0.020	0.263	0.050	0.072	0.104	0.044	0.302
Sodium Adsorption Ratio (SAR)	**no unit**	0.17			0.1			0.16		0.21				0.30	0.10	0.34	0.55	0.68	0.14	0.18	0.16	0.42	0.26	0.22	0.55	0.65	0.26
Ammonia as N ^	**mg/L**																								<0.100		
Ortho-Phosphate as P ^	**mg/L**																								<0.0500		
Aluminum	**mg/L**	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.050
Arsenic	**mg/L**	<0.0005			<0.0005			<0.0005		<0.0005				0.0005	<0.0005	0.0009	0.0007	<0.0025	<0.0005	0.0009	<0.0005	0.0007	0.0006	0.0007	0.0005	0.0006	<0.0005
Cadmium	**mg/L**	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	**mg/L**	0.0006			0.0011			0.0011		0.0005				0.0008	0.0013	0.0006	0.0005	0.0007	0.0011	0.0011	0.0013	0.0026	0.0013	0.0012	0.0005	0.0005	0.0010
Iron	**mg/L**	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05	<0.05	0.255	0.055	<0.050	0.316	0.551	<0.050
Lead	**mg/L**	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	**mg/L**	0.0059			0.0035			0.0043		0.0047				0.0070	0.0024	0.0098	0.0049	0.0049	0.0093	0.0016	0.0043	0.127	0.0349	0.0096	0.113	0.368	0.0297
Mercury	**mg/L**	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002
Molybdenum	**mg/L**	<0.0005			0.0009			0.0007		0.0008				0.0006	0.0009	0.0012	0.0008	<0.0025	0.001	0.0012	0.0009	0.0011	0.0009	0.0011	0.0007	0.0005	0.0009
Selenium	**mg/L**	<0.001			<0.001			<0.001		<0.0010				0.0023	<0.0010	<0.0010	0.0010	<0.0050	<0.001	<0.001	<0.001	0.0017	<0.0010	<0.0010	<0.0010	<0.001	<0.0010
Silica (Si02)	**mg/L**	7.78			8.23			10.5		9.71				9.04	7.71	9.45	10.1	11.0	8.4	8.64	8.31	11.3	8.55	9.17	13.4	13	7.57
Silicon	**mg/L**	3.64			3.85			4.89		4.54				4.23	3.60	4.42	4.71	5.14	3.93	4.04	3.88	5.29	3.99	4.29	6.25	6.06	3.54
Uranium	**mg/L**	0.0002			0.0001			0.0002		0.0003				0.0003	0.0001	0.0006	0.0009	0.0013	0.0001	0.0002	0.0003	0.0009	0.0003	0.0004	0.0007	<0.0005	<0.0005
Zinc	**mg/L**	<0.001			<0.001			<0.001		<0.0010				0.0022	<0.0020	<0.0040	<0.0020	<0.0100	<0.002	0.0033	<0.002	0.0044	<0.0020	<0.0020	0.0033	0.0087	<0.0020
Radium 226	**pCi/L**	<0.4			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	**pCi/L**	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

^ one-time analysis
Y/N yes or no
gpm gallons per minute
deg C degrees Celsius
SU standard pH units
µS/cm microsiemens per centimeter
mV millivolts
mg/L milligram per liter
pCi/L picocuries per liter
NM not measured (field)
NA not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

Hay Gulch Ditch Downgradient

Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	6
Sample Date		3/31	4/22	5/26	6/23	7/20	8/25	9/21	10/19	11/29	12/13	1/26	2/27	3/22	6/28	9/21	11/28	2/22	5/7	8/9	11/7	2/28	5/23	8/16	11/13	2/6	6/1
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Flow Rate	*cfs*	1.1	1.2	1.1	NM	1.1	1.1	NM	0.8	NM	NM	NM	0.8	0.3	0.3	NM	dry	NM	NM	NM	0.5	0.25	0.3	1.05	NM	NM	1.5
Temperature	*deg C*	11.8	17.6	10.9	21.9	21.3	18.8	16.1	11.8	7.0	6.6	7.2	5.0	12.7	17.6	18.7		6.3	11.3	20.6	4.7	6.88	8.23	15.15	3.51	3.73	14.21
pH	*SU*	8.57	8.55	8.14	8.14	8.55	8.37	8.3	8.36	8.64	8.06	7.28	8.06	9.00	8.53	8.66		8.33	7.58	7.43	7.48	6.42	7.77	7.61	8.38	7.94	8.24
Specific Conductance	*µS/cm*	429	530	297	116	308	257	1183	420	421	728	678	987	17	114	164		742	304	356	309	577	202	295	554	882	137
Oxygen Reduction Potential	*mV*	57.5	105.9	33.2	32.5	68.6	38.4	18.7	88.6	117.5	155.2	147.6	-15.5	137.8	185.3	48		51.6	111.4	-10	-88.9	125.6	50.6	111.6	-108.1	124.2	104.8
Dissolved Oxygen	*mg/L*	7.9	7.7	8.7	6.0	6.7	5.6	6.8	7.1	6.5	7.2	7.6	9.8	5.6	6.4	7.1		9.8	8.5	6.3	9.1	7.6	8.8	7.2	9.6	9.5	8.0
Lab Analytical Results:																											
Hardness as CaCO3	*mg/L*	226			67.8			480		267				503	59.1	91.4		329	140	182	167	281	91.9	137	295	416	63.6
pH (Lab)	*SU*	8.42			8.13			8.25		8.24				8.15	7.98	7.98		8.17	8.05	8.09	7.95	7.84	7.68	7.73	7.73	7.80	7.49
Total Dissolved Solids (Lab)	*mg/L*	270			55			630		320				615	65.0	80.0		420	220	260	185	390	185	195	355	573	120
Total Suspended Solids	*mg/L*	27.3			18			4.20		12.4				12.7	3.00	<0.500		49.5	<2	5.67	4.40	18.4	153	22.5	<4.00	4.20	17.5
Calcium	*mg/L*	55.5			21.9			94.7		65.5				112	19.0	29.5		75.4	37.5	49.0	44.7	61.6	26.0	34.5	67.2	85.6	20.3
Magnesium	*mg/L*	21.1			3.15			59.1		25.2				54.6	2.86	4.31		34.2	11.2	14.4	13.4	31	6.54	12.3	30.8	49.0	3.15
Sodium	*mg/L*	8.69			1.57			16.8		10.7				22.5	1.49	2.37		18.1	5.42	6.49	5.15	16.5	5.03	6.62	17.0	28.5	1.90
Potassium	*mg/L*	1.49			<1			4.48		1.46				2.33	<1.00	<1.00		2.84	1.14	1.58	1.34	3.13	1.31	1.27	2.60	3.81	<1.00
Alkalinity, Total	*mg/L*	220			59			220		225				320	47.0	85.0		265	112	170	140	150	340	140	194	297	48.0
Alkalinity, Bicarbonate	*mg/L*	220			59			140		155				320	47.0	85.0		259	104	170	140	150	340	140	188	283	48.0
Alkalinity, Carbonate	*mg/L*	<10			<10			80.0		70				<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	14.0	<10.0
Alkalinity, Hydroxide	*mg/L*	<10			<10			<10		<10.0				<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	*mg/L*	9.40			1.26			97.9		12				31.9	<1.00	1.54		23.1	7.54	7.47	5.69	40.2	16.9	7.65	14.8	30.7	1.87
Fluoride	*mg/L*	0.244			0.195			0.244		0.227				0.224	0.290	0.227		0.308	0.228	0.295	0.228	0.232	0.205	0.218	0.252	0.272	0.185
Sulfate as SO4	*mg/L*	68.1			13.5			144		89.5				204	11.3	17.9		86.5	40.2	46.8	45.0	91.4	18.5	42.7	83.3	143	14.2
Total Organic Carbon (TOC)	*mg/L*	1.53			1.4			3.48		1.65				2.31	2.16	0.932		1.56	1.28	1.33	1.76	2.90	2.37	2.10	3.26	4.53	1.39
Oil & Grease	*mg/L*	<5			<5			<5		<5.00				<5.00	<5.00	<5.00		<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Nitrate/Nitrite as N	*mg/L*	<0.02			0.026			0.027		<0.020				<0.020	<0.020	<0.020		<0.020	<0.020	<0.020	<0.020	0.17	0.146	0.090	<0.020	0.056	0.031
Sodium Adsorption Ratio (SAR)	*no unit*	0.25			0.03			0.33		0.28				0.44	0.08	0.11		0.43	0.2	0.20	0.17	0.43	0.22	0.24	0.41	0.61	0.10
Ammonia as N ^	*mg/L*																								<0.100		
Ortho-Phosphate as P ^	*mg/L*																								<0.0500		
Aluminum	*mg/L*	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	*mg/L*	0.0005			<0.0005			0.0015		0.0006				0.0006	0.0005	0.0006		0.0005	0.0005	0.0008	<0.0005	0.0006	0.0006	0.0006	0.0005	0.0006	<0.0005
Cadmium	*mg/L*	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	*mg/L*	0.0004			0.0016			0.0012		0.0005				0.0004	0.0020	0.0013		0.0005	0.0008	0.0008	0.0008	<0.0010	0.0021	0.0009	0.0007	0.0006	0.0014
Iron	*mg/L*	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050		<0.050	<0.050	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Lead	*mg/L*	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	*mg/L*	0.0039			0.0044			0.0059		0.0063				0.0112	0.0009	0.0010		0.0962	0.0038	0.0445	0.0102	0.048	0.0125	0.0033	0.0102	0.0286	0.0012
Mercury	*mg/L*	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002
Molybdenum	*mg/L*	<0.0005			0.0008			0.0013		0.0007				<0.0005	0.0009	0.0011		0.0010	0.0011	0.0012	0.0010	0.001	0.0011	0.0012	0.0007	0.0006	0.0008
Selenium	*mg/L*	<0.001			<0.001			0.0026		<0.0010				0.0022	<0.0010	<0.0010		0.0011	<0.0010	<0.0010	<0.001	0.0012	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silica (Si02)	*mg/L*	8.96			7.48			11.8		10.9				12.2	6.80	8.53		10.7	8.41	8.77	8.66	8.46	5.70	8.86	11.8	12.3	6.38
Silicon	*mg/L*	4.19			3.5			5.51		5.11				5.70	3.18	3.99		5.01	3.93	4.10	4.05	3.95	2.67	4.14	5.50	5.75	2.98
Uranium	*mg/L*	0.0004			0.0001			0.0006		0.0006				0.0009	0.0001	0.0002		0.0012	0.0004	0.0005	0.0003	0.0009	0.0002	0.0004	0.0007	0.0006	<0.0005
Zinc	*mg/L*	<0.001			0.0021			0.0013		0.0012				<0.0020	<0.0020	<0.0040		<0.0020	0.0074	0.0048	0.0035	0.0022	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Radium 226	*pCi/L*	<0.4			NA			NA		NA				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	*pCi/L*	<0.8			NA			NA		NA				NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

^ one-time analysis
Y/N yes or no
gpm gallons per minute
deg C degrees Celsius
SU standard pH units
µS/cm microsiemens per centimeter
mV millivolts
mg/L milligram per liter
pCi/L picocuries per liter
NM not measured (field)
NA not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

Well #1 Upgradient

Year		2016										2017						2018				2019				2020	
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	6
Sample Date		3/30	4/27	5/26	6/23	7/19	8/24	9/21	10/24	11/30	12/14	1/18	2/27	3/22	6/28	9/28	11/29	2/22	5/14	8/9	11/7	2/25	5/23	8/16	11/14	2/13	6/1
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Purge Flow Rate	gpm	1.5	7.9	7.1	5.8	7.1	7.4	6.8	7.5	9.3	7.5	7.7	7.5	8.2	7.0	7.1	7.5	7.2	7.2	10	7.2	10.0	8.3	11.0	6.5	8.0	10.0
Total Purged	gal	306	522	870	297	280	284	288	300	280	295	298	297	291	286	259	287	268	280	267	305	300	321	327	293	314	300
Depth to Water	ft bgs	4.40	5.07	4.60	4.95	5.55	6.30	6.03	5.73	5.69	5.08	4.30	3.80	3.82	4.50	5.51	5.50	5.40	5.77	5.65	6.50	5.98	4.50	5.68	6.08	5.55	4.17
Temperature	deg C	8.8	13.1	11.9	14.2	14.1	12.7	12.5	12.6	10.6	11.3	10.9	10.4	11.2	11.9	11.8	11.6	11.5	11.7	12.0	12.5	11.7	11.5	11.8	12.9	11.6	12.1
pH	SU	7.77	7.57	7.46	7.6	7.69	7.59	7.67	7.77	7.72	7.68	7.6	7.67	7.67	7.59	7.6	7.58	7.56	7.49	7.35	7.34	7.44	7.39	7.37	7.32	7.37	7.38
Specific Conductance	µS/cm	1224	1199	1284	1246	1226	1143	1176	1223	1280	1305	1392	1415	1351	1159	1162	1241	1278	1218	1289	1204	1235	1308	1253	1232	1277	1268
Oxygen Reduction Potential	mV	-123.1	-162.2	-142.5	-185.4	-156.6	-196.8	-140.6	-148.9	-152.9	-141.0	-143.6	-125.6	-132.2	-201	-176.9	-213.20	-185.3	-219.3	-251.6	-273.0	-232.0	-194.0	-192.0	-159.9	-193.0	-221.7
Lab Analytical Results:																											
Hardness as CaCO3	mg/L	230			306			216		271				391	277	215	280	274	275	369	287	252	350	303	263	290	319
pH (Lab)	SU	7.73			7.57			7.58		7.59				7.46	7.74	7.66	7.56	7.75	7.95	7.48	7.50	7.77	7.56	7.23	7.35	7.12	7.26
Total Dissolved Solids (Lab)	mg/L	760			745			735		725				775	725	705	790	745	770	835	730	735	860	780	705	700	775
Calcium	mg/L	44.0			59.7			42.4		51.7				75.7	54.0	41.6	55.6	53.4	53.8	71.5	56.7	49.1	67.8	58.2	51.5	56.5	61.6
Magnesium	mg/L	29.1			38.2			26.7		34.5				49.1	34.6	27.1	34.4	34.2	34.1	46.4	35.4	31.4	43.8	38.3	32.7	36.1	40.0
Sodium	mg/L	199			196			210		189				167	189	203	195	183	191	154	212	196	172	167	198	183	178
Potassium	mg/L	3.00			3.15			3.01		3.01				3.30	3.00	3.09	2.99	3.09	3.03	3.16	3.15	3.01	3.32	3.01	3.01	<5	3.05
Alkalinity, Total	mg/L	610			660			620		615				640	585	670	625	620	595	630	640	610	615	615	590	600	576
Alkalinity, Bicarbonate	mg/L	570			660			620		615				640	585	670	625	620	595	630	640	610	615	615	590	600	576
Alkalinity, Carbonate	mg/L	40.0			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	mg/L	4.33			6.12			4.30		4.44				4.53	4.32	6.21	4.39	4.30	4.35	4.34	4.23	4.35	4.59	4.36	6.19	4.76	4.76
Fluoride	mg/L	0.347			<0.5			0.353		0.337				0.337	0.362	<0.500	0.358	0.354	0.335	0.390	0.359	0.355	0.349	0.335	<0.500	0.348	0.366
Sulfate as SO4	mg/L	90.1			108			83.8		117				156	97.4	74.0	101	106	97.2	147	89.9	91.4	131	112	92.1	104	110
Total Organic Carbon (TOC)	mg/L	2.54			3.3			2.80		3.18				3.84	5.82	2.84	3.33	3.37	3.5	3.94	3.35	3.31	3.70	3.53	3.14	3.29	3.37
Nitrate/Nitrite as N	mg/L	<0.02			<0.02			<0.02		<0.200				<0.020	<0.400	<0.400	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																								0.931		
Ortho-Phosphate as P ^	mg/L																								0.0590		
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.100	<0.25	<0.050
Arsenic	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				0.0009	<0.0005	<0.0005	<0.0005	0.0005	0.0005	0.0005	<0.0005	0.0005	0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002	<0.0001	<0.0001
Copper	mg/L	0.0035			0.003			0.0021		0.0041				0.0020	0.0020	0.0030	0.0027	0.0035	0.003	0.0022	0.0025	0.0042	0.0015	0.0019	0.0012	0.0017	0.0017
Iron	mg/L	1.20			1.51			0.946		1.64				2.01	1.34	0.101	1.44	1.44	1.39	1.98	1.52	1.26	1.74	1.58	1.41	1.49	1.53
Lead	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Manganese	mg/L	0.267			0.344			0.221		0.312				0.491	0.315	0.202	0.311	0.307	0.306	0.498	0.286	0.355	0.439	0.428	0.354	0.366	0.369
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	<0.0005			<0.0005			<0.0005		0.0005				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0005	<0.0005	<0.0005	<0.0010	<0.0005	<0.0005
Selenium	mg/L	<0.001			<0.001			<0.001		<0.0010				0.0245	<0.0010	<0.0010	<0.0010	<0.0010	0.0171	0.0120	0.0022	0.0032	0.0024	<0.0010	<0.0020	<0.001	<0.0010
Silica (Si02)	mg/L	13.8			15.2			14.8		12.9				14.2	14.9	14.3	14.7	13.4	14.6	13.8	13.7	13.5	13.1	13.1	14.3	13.1	13.1
Silicon	mg/L	6.45			7.12			6.94		6.05				6.64	6.94	6.68	6.86	6.27	6.81	6.45	6.41	6.3	6.13	6.11	6.68	6.13	6.14
Uranium	mg/L	<0.0001			0.0021			<0.0001		0.0002				0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	<0.0002	<0.0005	<0.0005
Zinc	mg/L	<0.001			<0.001			0.0023		0.0301				<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0040	<0.002	<0.0020
Radium 226	pCi/L	<0.4			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

Well #2 Downgradient																												
Year		2016										2017						2018					2019				2020	
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	8	11	2	5	8	11	2	6
Sample Date		3/30	4/21	5/25	6/23	7/19	8/24	9/20	10/19	11/30	12/14	1/26	2/27	3/22	6/13	9/21	11/28	2/22	5/7	8/8	8/9	11/7	2/27	5/22	8/16	11/13	2/6	6/1
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																												
Purge Flow Rate	***gpm***	0.5	0.5	0.5	0.5	0.5	0.5	0.5	NM	7.2	2	NM	NM	NM	NM	NM	NM	0.1	1	0.1	1	0.5	0.3	0.5	0.3	0.5	0.3	0.3
Total Purged	***gal***	7	6	7	7	6	6	6	6	6	6	8	8	6	8	8	6	6	11	2	6.5	7.5	13	10	9	8	12	8
Depth to Water	***ft bgs***	3.69	3.17	4.25	1.42	4.17	4.17	5.50	6.4	4.7	5	3.95	2.74	6.35	0.95	4.85	5.68	6.68	7.4	6.65	6.59	5.17	5.85	0.92	3.60	5.20	5.60	4.00
Temperature	***deg C***	6.3	10.1	13.5	18.4	19.8	14.0	14.1	13.3	10.4	12.4	7.0	4.4	8.4	17.1	12.1	11.7	9.8	8.9	14.0	11.1	11.9	9.1	8.1	10.5	11.5	10.4	9.1
pH	***SU***	7.58	7.6	7.6	7.64	7.68	7.73	7.53	7.66	7.66	7.71	7.57	7.68	7.78	7.56	7.66	7.52	7.59	7.48	7.84	7.20	7.15	7.41	7.34	7.23	7.19	7.32	7.41
Specific Conductance	***µS/cm***	899	867	804	600	369	815	877	881	904	872	908	1193	921	633	852	879	887	847	828	895	955	960	1091	1051	1083	1083	1134
Oxygen Reduction Potential	***mV***	-9.4	-13.7	-35.7	-66.9	-112.1	-76.3	-88.3	-82	-72.7	-81.1	-66.8	-55.7	-67	-54.3	-53.7	-63.70	-44.9	-34	-75.6	-127	-91.9	48.4	-57.8	-30.1	-5.48	25.27	-51.3
Lab Analytical Results:																												
Hardness as CaCO3	***mg/L***	444			314			452		432				485	352	378	449	412	415	422	415	465	488	537	513	603	540	575
pH (Lab)	***SU***	7.63			7.66			7.48		7.55				7.72	7.6	7.51	7.51	7.62	7.6	7.61	7.45	7.50	7.5	7.4	7.04	7.12	7.20	7.09
Total Dissolved Solids (Lab)	***mg/L***	685			470			525		495				635	415	525	540	515	545	545	575	550	575	695	655	690	695	730
Calcium	***mg/L***	72.2			54.9			75.9		72.7				81.0	60.9	64.8	78.0	70.1	70.2	72.7	70.4	78.7	81.3	87.1	83.3	99.4	87.2	92.2
Magnesium	***mg/L***	63.9			43.1			63.8		60.8				68.7	48.5	52.6	61.8	57.4	58.2	58.4	58.2	65.2	69.2	77.6	74.0	86.3	78.2	83.7
Sodium	***mg/L***	22.2			16.5			19.8		20.7				21.8	16.1	17.0	20.1	19.4	19.2	19.6	19.1	21.3	22.1	23.4	21.4	25.5	23.3	24.5
Potassium	***mg/L***	2.04			2.1			2.16		2.05				1.94	2.22	1.64	2.19	1.76	1.68	2.00	1.82	2.08	1.97	1.94	2.06	2.40	2.04	2.00
Alkalinity, Total	***mg/L***	342			280			380		380				375	285	395	375	333	350	380	328	340	395	460	365	348	324	324
Alkalinity, Bicarbonate	***mg/L***	338			280			380		380				375	285	395	375	333	350	380	328	340	395	460	365	348	324	324
Alkalinity, Carbonate	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	***mg/L***	35.8			6.8			27.4		26.2				23.3	7.11	19.0	23.4	24.7	27.2	34.5	34.1	39.3	40.1	42.9	45.2	47.2	48.9	50.3
Fluoride	***mg/L***	0.230			0.298			0.272		0.256				0.228	0.313	0.263	0.246	0.244	0.224	0.259	0.281	0.263	0.244	0.246	0.221	<0.500	<0.500	<0.500
Sulfate as SO4	***mg/L***	129			70			114		117				153	75.2	98.4	94.7	104	102	112	111	137	138	196	189	182	199	230
Total Organic Carbon (TOC)	***mg/L***	3.34			14			2.64		3.4				3.52	3.56	2.61	2.25	2.10	2.02	2.06	1.93	2.08	1.87	2.69	2.28	1.99	1.80	1.84
Nitrate/Nitrite as N	***mg/L***	0.042			<0.02			<0.02		0.089				<0.020	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	***mg/L***																									<0.100		
Ortho-Phosphate as P ^	***mg/L***																									<0.0500		
Aluminum	***mg/L***	0.156			<0.05			<0.05		<0.050				<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Arsenic	***mg/L***	0.0008			0.0015			0.0010		0.0013				0.0009	0.0017	0.0006	0.0011	0.0010	0.0009	0.0012	0.0012	0.0010	0.0012	0.0011	0.0012	0.0012	0.0011	0.0009
Cadmium	***mg/L***	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Copper	***mg/L***	0.0004			0.0005			0.0003		0.0051				0.0007	0.0002	0.0004	0.0001	0.0056	0.0002	0.0006	0.0004	0.0003	0.001	0.0016	0.0003	0.0002	<0.0005	<0.0005
Iron	***mg/L***	0.081			0.085			0.118		<0.050				0.213	<0.05	<0.050	0.074	0.060	0.073	0.089	0.163	0.082	0.062	0.116	0.105	0.119	0.094	0.107
Lead	***mg/L***	<0.0005			<0.0005			<0.0005		0.0078				<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Manganese	***mg/L***	0.497			0.54			0.354		0.359				0.384	0.259	0.307	0.309	0.304	0.306	0.349	0.375	0.320	0.423	0.504	0.404	0.427	0.454	0.444
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	***mg/L***	0.0014			0.0022			0.0024		0.0025				0.0021	0.0025	0.0021	0.0020	0.0024	0.0022	0.0024	0.0029	0.0024	0.0029	0.0026	0.0019	0.0024	0.0021	0.0023
Selenium	***mg/L***	<0.001			<0.001			<0.001		0.0011				0.0045	<0.001	<0.0010	<0.0010	0.0012	<0.001	0.0012	0.0015	0.0013	0.0021	0.001	0.0011	0.0011	<0.0010	0.0012
Silica (Si02)	***mg/L***	11.6			14.7			12.8		11.9				10.9	15.5	13.0	13.3	11.1	11.5	11.4	11.5	11.0	11.2	10.5	11.6	12.8	11.2	10.6
Silicon	***mg/L***	5.42			6.89			5.97		5.55				5.12	7.23	6.08	6.20	5.19	5.39	5.34	5.38	5.15	5.26	4.93	5.44	5.99	5.22	4.98
Uranium	***mg/L***	0.0013			0.0007			0.0015		0.0016				0.0014	0.0008	0.0013	0.0013	0.0013	0.0013	0.0013	0.0015	0.0014	0.0019	0.0016	0.0012	0.0015	0.0016	0.0016
Zinc	***mg/L***	0.0034			<0.001			0.0010		0.0311				<0.0020	<0.002	<0.0040	<0.0020	0.0053	0.0022	0.0028	<0.0020	<0.0020	0.0025	<0.002	<0.0020	<0.0020	<0.0020	<0.0020
Radium 226	***pCi/L***	<0.4			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

Wiltse Well

Year		**2016**										**2017**						**2018**				**2019**				**2020**	
Quarter		Q1	Q2			Q3			Q4			Q1		Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9	11	2	5	8	11	2	5	8	11	2	5
Sample Date		3/31	4/27	5/25	6/23	7/19	8/24	9/20	10/24	11/29	12/13	1/18	2/27	3/21	6/13	9/28	11/28	2/22	5/16	8/9	11/8	2/28	5/23	8/19	11/11	2/17	5/13
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																											
Purge Flow Rate	***gpm***	150.0	38.5	23.4	18.6	19.9	17.3	15.8	17.0	10.6	18.1	39.5	39.6	39.6	NM	18.3	23.5	11.9	12.0	18.5	12.3	28.0	38.0	18.0	17.0	35.0	24.4
Total Purged	***gal***	5850	4228	4229	3686	2844	2979	2637	2724	2992	2916	3595	3580	3560	2980	2712	2423	2700	2890	2783	2747	3017	3200	3010	3058	3825	3495
Depth to Water	***ft bgs***	0.35	0.00	0.85	2.15	2.99	2.60	3.32	6.85	1.90	1.95	0.30	0.00	0.00	2.05	3.40	3.40	3.35	3.93	4.13	3.78	2.40	0.05	2.47	2.68	0.43	1.60
Temperature	***deg C***	6.7	8.8	10.4	10.7	11.5	12.1	11.5	11.0	9.1	8.8	7.6	7.2	7.5	10.3	11.3	9.7	8.0	10.2	11.7	10.4	8.0	9.3	10.7	9.9	6.7	9.8
pH	***SU***	7.22	7.32	7.34	7.26	7.26	7.24	7.22	7.22	7.32	7.29	7.2	7.17	7.12	7.41	7.27	7.30	7.26	7.13	7.04	7.07	7.17	7.08	7.09	7.09	7.01	7.12
Specific Conductance	***µS/cm***	2043	1633	1805	1768	1478	1602	1941	1937	2014	2036	2262	2276	2085	1869	2074	2190	2232	2144	2072	2167	2170	2151	1964	1970	2171	2017
Oxygen Reduction Potential	***mV***	105.6	17.9	20.1	38.5	26.9	20.0	28.6	21.6	13.7	20.9	3.2	18.3	6.0	13.3	19.5	19.2	14.3	29.9	-52.7	-18.8	22.7	-10.6	-23.7	51.9	49.33	71.86
Lab Analytical Results:																											
Hardness as CaCO3	***mg/L***	990			1050			1030		963				1040	1060	1140	1150	1090	1160	1130	1180	1150	1080	1080	1060	982	1060
pH (Lab)	***SU***	7.22			7.34			7.29		7.36				7.22	7.46	7.30	7.33	7.70	8.35	7.22	7.42	7.38	7.35	7.11	7.09	7.12	7.09
Total Dissolved Solids (Lab)	***mg/L***	1580			1480			1520		1520				1480	1510	1680	1740	1740	1740	1750	1720	1710	1670	1520	1480	1600	1560
Calcium	***mg/L***	197			208			206		186				205	211	219	226	211	216	221	230	226	214	214	208	191	206
Magnesium	***mg/L***	121			128			126		121				128	129	143	142	136	150	139	147	143	132	132	132	123	132
Sodium	***mg/L***	95.9			75.2			80.7		82.4				110	87.5	80.7	83.4	80.4	82.3	79.1	81.2	83.2	89.4	72.4	67.3	68.1	69.1
Potassium	***mg/L***	4.64			4.56			4.90		4.42				4.61	4.79	4.62	<5.00	4.73	4.98	5.01	5.00	5.01	4.77	4.92	4.85	4.33	<5.00
Alkalinity, Total	***mg/L***	460			500			470		450				410	445	510	475	445	435	463	505	515	469	474	460	460	431
Alkalinity, Bicarbonate	***mg/L***	440			500			470		450				410	445	510	475	445	435	463	505	515	469	474	460	460	431
Alkalinity, Carbonate	***mg/L***	20.0			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	***mg/L***	81.0			76.3			62.3		70.1				72.5	72.5	68.7	68.9	66.7	60	57.2	57.5	67.2	67.8	49.9	48.2	57.7	51.8
Fluoride	***mg/L***	0.285			<0.5			<0.5		0.3				<0.500	0.332	<0.500	<0.500	<0.500	<0.500	<0.500	0.298	0.324	0.306	<0.500	<0.500	<0.500	<0.500
Sulfate as SO4	***mg/L***	671			595			656		676				731	702	779	772	832	714	733	741	801	709	627	627	711	633
Total Organic Carbon (TOC)	***mg/L***	3.54			4.1			3.15		3.02				3.40	3.54	3.34	3.26	3.37	3.5	3.51	3.63	3.82	4.87	4.27	3.30	4.22	3.80
Nitrate/Nitrite as N	***mg/L***	0.456			0.891			1.08		0.965				0.492	1.07	1.80	1.94	2.26	2.48	2.26	1.99	1.95	0.651	0.896	1.31	1.05	0.865
Ammonia as N ^	***mg/L***																								<0.100		
Ortho-Phosphate as P ^	***mg/L***																								<0.0500		
Aluminum	***mg/L***	<0.05			<0.05			<0.05		<0.050				<0.050	<0.1	<0.050	<0.250	<0.100	<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.250
Arsenic	***mg/L***	<0.0025			<0.0025			0.0005		0.0008				0.0009	0.0006	0.0005	0.0029	0.0009	0.0006	<0.0025	<0.001	<0.0010	0.0006	<0.0010	<0.0010	<0.0010	<0.0025
Cadmium	***mg/L***	<0.0005			<0.0005			<0.0005		<0.0001				<0.0001	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0005
Copper	***mg/L***	0.0018			0.0024			0.0020		0.0038				0.0023	0.0019	0.0025	0.0097	0.0020	0.0019	0.0018	0.0030	0.002	0.0021	0.0021	0.0012	0.0020	<0.0025
Iron	***mg/L***	0.100			<0.05			0.060		0.136				0.286	0.161	<0.050	<0.250	0.132	0.151	0.125	0.121	0.151	0.379	0.287	0.209	0.285	<0.250
Lead	***mg/L***	<0.0025			<0.0025			<0.0025		<0.0005				<0.0005	<0.0005	<0.0005	<0.0025	<0.0005	<0.0005	<0.0005	<0.001	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0025
Manganese	***mg/L***	0.673			0.857			0.756		0.608				0.440	0.797	0.881	4.50	0.845	0.997	1.37	1.08	0.937	0.357	0.902	0.892	0.419	0.816
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	***mg/L***	<0.0025			<0.0025			0.0017		0.0016				0.0016	0.0021	0.0021	0.0093	0.0020	0.002	0.002	0.0019	0.0017	0.0014	0.0020	0.0017	0.0013	<0.0025
Selenium	***mg/L***	<0.005			<0.005			0.0013		0.0023				0.0027	0.0019	0.0016	0.0087	0.0027	0.0025	0.0025	<0.002	0.0025	0.0016	<0.0020	<0.0020	<0.0020	<0.0050
Silica (Si02)	***mg/L***	13.9			16.1			16.4		14.3				14.7	15.5	16.1	13.4	14.1	15.9	16.2	15.9	14.1	13.2	15.4	14.9	12.2	12.9
Silicon	***mg/L***	6.51			7.53			7.67		6.69				6.85	7.22	7.54	6.29	6.58	7.42	7.58	7.44	6.6	6.19	7.20	6.96	5.72	6.05
Uranium	***mg/L***	0.0029			0.0021			0.0023		0.0026				0.0024	0.0021	0.0021	0.0110	0.0025	0.0024	0.0024	0.0032	0.0036	0.0044	0.0029	0.0023	0.0039	0.0032
Zinc	***mg/L***	0.0156			0.0364			0.0301		0.0269				0.0194	0.026	0.0208	0.0855	0.0216	0.0225	0.0214	0.0172	0.0175	0.0128	0.0138	0.0108	0.0122	0.0132
Radium 226	***pCi/L***	0.7 +/- 0.1			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes & Definitions:

^	**one-time analysis**
Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
pCi/L	**picocuries per liter**
NM	**not measured (field)**
NA	**not analyzed (lab)**

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-HGA-4

Year		**2016**	**2017**												**2018**					**2019**					**2020**	
Quarter		Q4	Q1			Q2			Q3			Q4			Q1		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	5	8	11	2	5	8	11	2	5
Sample Date		12/12	1/26	2/28	3/22	4/27	5/31	6/13	7/27	8/16	9/21	10/27	11/28	12/12	1/3	2/22	5/15	8/9	11/8	2/28	5/23	8/16	11/13	2/13	5/13
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	N	Y	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																									
Purge Flow Rate	**gpm**	0.5	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	9.4	NM	0.1	1.5	2.0	1.0	1.1	1.0	1.0	0.3	1.0	0.3
Total Purged	**gal**	21	21	21	21	21	21	19.5	20	20	21	21	21	24	19	21	21	19	21	24	22	21	21	22	21
Depth to Water	**ft bgs**	0.73	0.57	0.60	0.83	0.94	2.06	2.53	3.25	2.65	3.31	3.31	1.76	4.31	1.37	0.55	2.60	3.98	1.90	0.49	0.42	1.95	1.15	0.38	2.36
Temperature	**deg C**	7.3	4.8	6.4	8.1	7.2	9.9	8.4	8.6	8.8	9.0	9.2	9.0	9.3	8.8	7.8	8.1	8.7	8.8	7.6	7.7	8.5	8.8	7.9	7.4
pH	**SU**	7.29	7.36	7.40	7.41	7.33	7.36	7.40	7.36	7.35	7.33	7.31	7.27	7.27	7.33	7.30	7.18	7.27	7.05	7.15	7.18	7.16	7.09	7.12	7.23
Specific Conductance	**µS/cm**	1284	1257	1201	1155	1153	1113	1055	1099	1050	1124	1072	1171	1160	1141	1154	1098	1057	1167	1183	1102	1083	1127	1122	1093
Oxygen Reduction Potential	**mV**	-72.1	-86.6	-105.1	-104.4	-74.5	-91.3	-134.7	-137.6	-131.0	-139.5	-77.3	-157.9	-70.1	-96.6	-157.3	-130.9	-230.8	-190.9	-128.3	-140.7	-130.9	-104.9	-107.8	-86.7
Lab Analytical Results:																									
Hardness as CaCO3	**mg/L**	724			611			616			522		595			561	555	524	625	613	563	544	624	563	528
pH (Lab)	**SU**	7.30			7.17			7.31			7.25		7.21			7.58	8.15	7.33	7.12	7.2	8.17	6.95	6.88	6.78	6.89
Total Dissolved Solids (Lab)	**mg/L**	855			710			715			750		775			740	730	695	770	795	695	695	715	705	685
Calcium	**mg/L**	147			118			121			102		118			110	108	102	124	122	110	106	123	112	101
Magnesium	**mg/L**	86.7			76.7			76.6			64.9		72.8			69.3	69	65.4	76.5	74.7	70.3	67.9	76.8	68.9	67.0
Sodium	**mg/L**	19.5			27.4			28.6			24.9		27.2			26.5	30.4	29.9	27.6	27	28.6	28.3	31.9	27.9	30.3
Potassium	**mg/L**	2.02			2.13			2.11			1.75		2.21			2.17	2.22	2.33	2.13	2.16	2.00	2.10	2.38	2.05	2.06
Alkalinity, Total	**mg/L**	545			465			415			465		475			460	425	410	460	455	445	455	432	435	416
Alkalinity, Bicarbonate	**mg/L**	545			465			415			465		475			460	425	410	460	455	445	455	432	435	416
Alkalinity, Carbonate	**mg/L**	ND			<10.0			<10			<10.0		<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Alkalinity, Hydroxide	**mg/L**	ND			<10.0			<10			<10.0		<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10	<10.0
Chloride	**mg/L**	10.9			8.75			7.95			8.96		8.74			8.43	7.57	6.47	9.40	10.5	8.06	8.44	9.46	8.39	7.64
Fluoride	**mg/L**	0.577			0.485			0.506			0.517		0.495			0.496	0.459	0.482	0.487	0.484	0.456	0.443	0.520	0.447	0.449
Sulfate as SO4	**mg/L**	240			229			192			205		204			222	190	169	201	221	186	212	190	193	181
Total Organic Carbon (TOC)	**mg/L**	NA			4.54			4.35			4.69		4.79			4.56	4.57	4.30	4.72	4.82	4.45	4.58	4.35	4.8	4.30
Nitrate/Nitrite as N	**mg/L**	<0.020			<0.020			<0.02			<0.020		<0.100			<0.020	<0.020	<0.020	<0.020	0.173	<0.020	<0.020	<0.020	<0.02	<0.100
Ammonia as N ^	**mg/L**																						0.528		
Ortho-Phosphate as P ^	**mg/L**																						<0.0500		
Aluminum	**mg/L**	0.423			<0.050			<0.05			<0.050		<0.050			<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.1	<0.100
Arsenic	**mg/L**	0.0030			0.0029			0.0028			<0.0005		0.0035			0.0037	0.0034	0.0036	0.0032	0.0031	0.0029	0.0028	0.0033	0.0022	0.0025
Cadmium	**mg/L**	<0.0001			<0.0001			<0.0001			<0.0001		<0.0001			<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0002
Copper	**mg/L**	0.0006			0.0008			0.0002			0.0004		0.0002			0.0006	0.0008	0.0004	0.0008	<0.0010	0.0003	0.0004	0.0002	0.0005	<0.0010
Iron	**mg/L**	3.71			7.29			7.32			0.378		7.84			7.60	7.92	8.55	8.44	8.35	7.98	8.38	9.76	8.59	8.22
Lead	**mg/L**	<0.0005			<0.0005			<0.0005			<0.0005		<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0010
Manganese	**mg/L**	4.07			2.78			2.37			2.03		2.11			1.99	1.81	1.58	2.13	2.56	2.12	1.84	1.78	1.77	1.49
Mercury	**mg/L**	ND			<0.0002			<0.0002			<0.0002		<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	**mg/L**	0.0013			0.0024			0.0027			0.0028		0.0027			0.0030	0.0031	0.0038	0.0029	0.0026	0.0027	0.0029	0.0031	0.0025	0.0030
Selenium	**mg/L**	<0.001			0.0030			<0.001			<0.0010		<0.0010			<0.0010	0.002	0.0016	<0.001	0.001	<0.0010	<0.0010	<0.0010	<0.001	<0.0020
Silica (Si02)	**mg/L**	22.3			16.8			18			16.5		17.9			15.8	16.4	15.7	17.3	15.9	14.9	14.9	16.5	15.2	13.9
Silicon	**mg/L**	10.4			7.86			8.41			7.72		8.35			7.37	7.67	7.34	8.10	7.46	6.96	6.96	7.69	7.09	6.48
Uranium	**mg/L**	0.0010			0.0004			0.0004			0.0004		0.0004			0.0004	0.0004	0.0003	0.0005	0.0005	0.0004	0.0004	0.0003	<0.0005	<0.0010
Zinc	**mg/L**	0.0039			0.0046			<0.002			<0.0040		<0.0020			<0.002	<0.002	<0.002	<0.002	<0.0020	<0.0020	<0.0020	<0.0020	<0.002	<0.0040

Notes & Definitions:

^	**one-time analysis**
Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
pCi/L	**picocuries per liter**
NM	**not measured (field)**
NA	**not analyzed (lab)**

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-1-A

Year		2017								2018									2019				2020	
Quarter		Q2	Q3			Q4				Q1			Q2		Q3			Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5
Sample Date		6/7	7/18	8/23	9/7	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/1	2/20	5/30	8/14	11/5	2/12	5/28
Lab Analysis (Y/N)		Y	N	N	N	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																								
Purge Flow Rate	gpm	NM	NM*	NM*	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	***	0.1	0.1	0.1	0.12	0.1	0.1	0.3	0.25	0.25
Total Purged	gal	12.8	NM*	NM*	NM	NM	2	2	1	1.5	2	1.5	1	1.3		1.5	1.5	1.6	1.0	1.5	1.12	1.5	1.0	1.0
Depth to Water	ft bgs	215.42	NM*	215.92	215.54	216.33	216.31	216.47	216.58	216.21	216.47	216.47	216.54	216.54		216.63	216.63	216.65	216.55	216.43	216.33	216.13	216.05	215.85
Temperature	deg C	17.7	NM*	NM*	10.7	9.7	9.1	9.1	8.7	9.5	9.0	8.7	9.6	9.2		9.9	10.0	8.9	7.5	10.3	9.6	9.7	8.1	9.1
pH	SU	7.78	NM*	NM*	7.35	7.38	7.29	7.28	7.25	7.19	7.37	7.28	6.8	6.97		6.99	7.05	7.01	7.13	6.96	7.05	7.00	7.13	7.18
Specific Conductance	µS/cm	1362	NM*	NM*	1555	1563	1616	1650	1693	1700	1723	1735	1647	1761		1734	1815	1781	1776	1681	1757	1737	1797	1855
Oxygen Reduction Potential	mV	-34.6	NM*	NM*	-54.7	-46.5	-50	-48.3	-49.6	-44.6	-52.8	-37.5	142.4	0.4		-26.4	-33.2	101.4	-11.8	25.4	-18.71	3.59	12.7	4.24
Lab Analytical Results:																								
Hardness as CaCO3	mg/L	124				133		130			159			156			160	174	159	153	148	150	159	165
pH (Lab)	SU	7.74				7.35		7.33			7.22			7.45			7.17	7.27	7.13	7.03	7.14	6.92	7.19	6.91
Total Dissolved Solids (Lab)	mg/L	975				1080		1120			1100			1150			1040	1130	1160	1150	1150	1140	1190	1150
Calcium	mg/L	24.7				25.8		24.9			30.5			29.7			30.9	34.0	31.2	29.8	27.9	29.0	30.9	31.6
Magnesium	mg/L	15.1				16.7		16.6			20.1			19.9			20.1	21.5	19.7	19.1	18.9	18.8	19.9	20.8
Sodium	mg/L	324				329		325			348			327			333	358	357	319	348	333	337	349
Potassium	mg/L	1.98				2.02		<5.00			<5.00			2.12			2.23	2.47	2.34	2.18	2.29	2.12	2.13	<5.00
Alkalinity, Total	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340
Alkalinity, Bicarbonate	mg/L	375				450		380			415			353			385	395	375	355	368	420	360	340
Alkalinity, Carbonate	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	2.75				2.16		<5.00			2.19			<5			2.12	2.20	2.74	2.33	2.72	2.66	2.74	2.71
Fluoride	mg/L	0.268				0.245		<0.500			0.240			<0.5			0.260	0.240	0.266	0.242	0.252	0.246	0.234	0.228
Sulfate as SO4	mg/L	427				432		511			518			522			515	511	508	494	537	495	506	532
Total Organic Carbon (TOC)	mg/L	5.03				1.36		1.58			1.51			1.54			1.60	1.75	1.61	1.67	1.59	1.50	1.55	1.55
Nitrate/Nitrite as N	mg/L	<0.200				<0.400		<0.100			<0.020			<0.02			<0.02	0.028	<0.020	<0.02	<0.020	0.020	<0.020	0.046
Ammonia as N ^	mg/L																					0.387		
Ortho-Phosphate as P ^	mg/L																					<0.0500		
Aluminum	mg/L	<0.050				<0.050		<0.250			<0.250			<0.05			<0.05	<0.1	<0.100	<0.05	<0.050	<0.050	<0.100	<0.250
Arsenic	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Cadmium	mg/L	<0.0001				<0.0001		<0.0005			<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002
Copper	mg/L	0.0043				0.0057		0.0045			0.0066			0.0041			0.0048	0.0048	0.0075	0.0064	0.0040	0.0147	0.0034	0.0012
Iron	mg/L	0.128				0.367		<0.250			0.590			0.614			0.644	0.647	0.581	0.589	0.613	0.510	0.614	0.559
Lead	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Manganese	mg/L	0.0260				0.0218		0.0259			0.0279			0.026			0.0242	0.0282	0.0281	0.0235	0.0270	0.0248	0.0303	0.0329
Mercury	mg/L	<0.0002				<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0007				0.0010		<0.0025			<0.0025			0.0009			0.0008	0.0007	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010
Selenium	mg/L	<0.0010				<0.0010		<0.0050			<0.0050			<0.001			<0.001	<0.001	<0.0020	<0.001	<0.0010	<0.0010	<0.0020	<0.0020
Silica (Si02)	mg/L	12.3				11.9		8.27			11.2			11.2			11.4	12.0	11.1	11.2	11.6	11.0	11.1	10.4
Silicon	mg/L	5.74				5.56		3.87			5.24			5.25			5.31	5.62	5.2	5.23	5.43	5.13	5.19	4.85
Uranium	mg/L	0.0004				0.0002		<0.0005			<0.0005			0.0003			0.0002	0.0003	0.0002	0.0001	0.0001	0.0001	<0.0010	<0.0010
Zinc	mg/L	0.0270				0.0088		<0.0100			<0.0100			0.0051			<0.0100	<0.002	<0.0040	0.0022	<0.0040	0.0020	<0.0040	<0.0040

Notes & Definitions:

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

^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-1-MI

Year		2017							2018								2019				2020	
Quarter		Q2	Q3			Q4			Q1			Q2		Q3		Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5
Sample Date		6/7	7/18	8/23	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/1	2/20	5/30	8/14	11/5	2/12	5/28
Lab Analysis (Y/N)		Y	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N
Field Parameters:																							
Purge Flow Rate	gpm	NM	NM*	NM	NM	dry	dry	dry	dry	dry	dry	dry	dry	***	dry	dry	dry	dry	dry	dry	dry	dry	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 (Si02)	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.*

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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
Month		6	7	8	9	9	10	11	12	1	2	3	4	5	6	7	8	11	2	5	8	11	2	5
Sample Date		6/7	7/18	8/23	9/7	9/26	10/26	11/16	12/5	1/2	2/9	3/22	4/11	5/10	--	7/23	8/7	11/18	2/20	5/30	8/14	11/5	2/12	5/28
Lab Analysis (Y/N)		Y	N	N	N	Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																								
Purge Flow Rate	gpm	NM	NM*	NM*	NM	NM	NM	NM	NM	MM	0.1	NM	0.1	0.1	***	0.05	0.1	0.1	0.06	0.02	0.03	0.01	0.01	0.10
Total Purged	gal	5	NM*	NM*	NM	NM	1.00	1.00	1.00	1	1	1	1	1.25		1	1	1.10	1.00	1.10	1.00	1.00	1.00	0.75
Depth to Water	ft bgs	216.5	NM*	216.91	216.95	216.59	216.52	216.48	216.52	216.38	216.38	216.37	216.35	216.41		216.41	216.05	216.04	216.41	216.20	216.02	216.04	216.12	216.10
Temperature	deg C	16.0	NM*	NM*	NM	12.9	11.7	10.6	7.0	9.7	9.6	6.7	9.2	10.5		20.0	14.1	9.7	5.4	9.8	10.4	11.1	6.4	9.5
pH	SU	7.52	NM*	NM*	NM	7.17	7.16	7.15	7.17	7.11	7.19	7.32	7.03	7.05		6.91	6.97	6.93	7.09	6.80	6.65	6.70	6.79	6.85
Specific Conductance	µS/cm	2446	NM*	NM*	NM	2725	2738	2739	2778	2778	2738	2751	2700	2749		2693	2675	2751	2621	3139	3172	3080	3005	3002
Oxygen Reduction Potential	mV	74.3	NM*	NM*	NM	77.4	31.7	23.9	13.0	6.2	-4.3	-29.6	-15.3	-42.3		-41.8	-32.5	-110.0	-23.4	27.6	10.5	51.0	50.7	-57.7
Lab Analytical Results:																								
Hardness as CaCO3	mg/L	498				1290		1180			1190			1130			1120	1180	1010	1820	1840	1700	1600	1590
pH (Lab)	SU	8.35				7.36		7.34			7.22			7.2			7.20	7.02	7.24	6.93	6.67	6.63	6.80	6.62
Total Dissolved Solids (Lab)	mg/L	2020				2440		2360			2360			2340			2170	2200	1960	2880	2890	2750	2610	2460
Calcium	mg/L	96.0				234		216			219			203			203	219	188	340	342	318	301	294
Magnesium	mg/L	62.8				172		155			156			150			148	154	131	237	240	219	207	207
Sodium	mg/L	506				242		253			260			239			239	255	265	146	119	119	143	155
Potassium	mg/L	11.4				3.81		<5.00			<5.00			3.07			3.04	2.65	3.13	<5	<5.00	<5.00	3.05	<5.00
Alkalinity, Total	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490
Alkalinity, Bicarbonate	mg/L	530				700		540			570			580			560	410	525	530	518	505	515	490
Alkalinity, Carbonate	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10.0				<10.0		<10.0			<10.0			<10.0			<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	24.2				6.97		8.03			7.78			7.75			5.97	6.22	6.36	10.2	9.31	8.78	8.54	8.20
Fluoride	mg/L	1.59				0.864		0.955			1.03			0.96			0.888	0.924	0.975	0.67	0.525	0.565	0.615	0.695
Sulfate as SO4	mg/L	1090				1350		1230			1160			1210			1090	1080	1070	1630	1730	1520	1400	1370
Total Organic Carbon (TOC)	mg/L	4.56				2.84		2.12			2.21			2.2			2.35	2.37	2.32	2.62	2.52	2.30	2.30	2.32
Nitrate/Nitrite as N	mg/L	<2.00				<0.400		<0.100			<0.020			<0.02			0.036	<0.02	<0.020	<0.02	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																					0.140		
Ortho-Phosphate as P ^	mg/L																					<0.100		
Aluminum	mg/L	<0.050				<0.050		<0.250			<0.250			<0.05			<0.05	<0.10	<0.100	<0.25	<0.250	<0.250	<0.150	<0.250
Arsenic	mg/L	0.0029				0.0016		<0.0025			<0.0025			0.0051			0.0052	0.0035	0.0038	0.0048	0.0034	<0.0025	<0.0025	0.0019
Cadmium	mg/L	<0.0001				<0.0001		<0.0005			<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0002	<0.0005	<0.0005	<0.0003
Copper	mg/L	0.0088				0.0085		0.0036			0.0052			0.003			0.0049	0.0033	0.0054	0.0057	0.0014	0.0096	<0.0025	<0.0015
Iron	mg/L	<0.050				<0.050		<0.250			<0.250			0.643			1.01	1.12	0.988	2.3	0.819	0.543	0.570	0.606
Lead	mg/L	<0.0005				<0.0005		<0.0025			<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0010	<0.0025	<0.0025	<0.0015
Manganese	mg/L	0.0744				0.0853		0.0959			0.0989			0.153			0.140	0.106	0.0807	0.075	0.0562	0.0512	0.0537	0.0473
Mercury	mg/L	<0.0002				<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0164				0.0049		<0.0025			<0.0025			0.0006			<0.0025	<0.0005	<0.0010	<0.0005	<0.0010	<0.0025	<0.0025	<0.0015
Selenium	mg/L	0.0136				0.0012		<0.0050			<0.0050			<0.001			<0.0050	0.0011	<0.0020	0.0016	0.0023	<0.0050	<0.0050	<0.0030
Silica (Si02)	mg/L	10.6				16.6		13.2			14.8			15.2			14.7	14.5	14	16.6	17.3	16.4	15.7	13.8
Silicon	mg/L	4.94				7.77		6.16			6.94			7.09			6.87	6.78	6.55	7.75	8.07	7.65	7.35	6.47
Uranium	mg/L	0.0500				0.0044		0.0028			0.0024			0.0025			0.0022	0.0021	0.0016	0.002	0.0025	0.0023	<0.0025	0.0020
Zinc	mg/L	0.0293				0.0294		<0.0100			<0.0100			0.0062			<0.0100	0.0055	<0.0040	0.0085	0.0077	<0.0100	<0.0100	<0.0060

Notes & Definitions:

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

^ one-time analysis

Y/N yes or no

gpm gallons per minute

deg C degrees Celsius

SU standard pH units

µS/cm microsiemens per centimeter

mV millivolts

mg/L milligram per liter

pCi/L picocuries per liter

NM not measured (field)

NA not analyzed (lab)

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GCC Energy Hydrologic Monitoring Data

MW-2-A																					
Year		2017							2018							2019				2020	
Quarter		Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																					
Purge Flow Rate	*gpm*	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	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 (Si02)	*mg/L*																				
Silicon	*mg/L*																				
Uranium	*mg/L*																				
Zinc	*mg/L*																				

Notes & Definitions:

Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
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GCC Energy Hydrologic Monitoring Data

MW-2-MI

		2017							2018							2019				2020	
Year																					
Quarter		Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																					
Purge Flow Rate	*gpm*	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	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*																				
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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 (Si02)	*mg/L*																				
Silicon	*mg/L*																				
Uranium	*mg/L*																				
Zinc	*mg/L*																				

Notes & Definitions:

Y/N	**yes or no**
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deg C	**degrees Celsius**
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GCC Energy Hydrologic Monitoring Data

MW-2-C																					
Year		2017							2018							2019				2020	
Quarter		Q1	Q2	Q3		Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/7	7/18	8/23	10/30	11/16	12/5	1/2	2/9	3/22	4/11	5/10	8/7	11/1	2/20	5/29	8/14	11/6	2/11	5/27
Lab Analysis (Y/N)		N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:																					
Purge Flow Rate	*gpm*	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	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*																				
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Notes & Definitions:

Y/N	**yes or no**
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deg C	**degrees Celsius**
SU	**standard pH units**
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GCC Energy Hydrologic Monitoring Data

MW-3-A																						
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/27	6/30	7/18	8/24	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	8/14	11/12	2/4	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	***gpm***	0.5	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.1	0.1
Total Purged	***gal***	30	2.0	NM	NM	NM	1.0	1.0	1.0	1.3	1.5	1.5	1	1.25	1	1.1	1.5	1.3	1.3	1.5	1.1	1.2
Depth to Water	***ft bgs***	297.35	298.24	297.45	298.24	298.11	298.12	298.01	298.05	298.37	298.04	297.86	297.76	298.17	298.55	298.27	297.85	296.79	297.27	297.33	296.47	296.87
Temperature	***deg C***	11.7	13.2	19.5	12.6	12.3	12.5	11.7	12.0	11.8	11.7	12.2	11.9	13.5	13.5	11.9	11.8	12.1	NM	13.1	11.5	13.2
pH	***SU***	8.82	8.75	8.56	8.67	8.72	8.64	8.61	8.57	8.54	8.52	8.61	8.21	8.38	8.30	8.31	8.28	8.31	8.13	8.51	8.11	8.26
Specific Conductance	***µS/cm***	2535	2446	2115	2524	2470	2430	2483	2494	2528	2506	2458	2415	2253	2336	2391	2355	2309	NM	2204	2211	2249
Oxygen Reduction Potential	***mV***	-269.0	-101.5	-55.3	-87.4	-142.3	-124.5	-125.6	-146.8	-120.3	-125.2	-181.6	-135.8	-138.2	-155.8	-164.6	-145.9	-132.3	-138.6	-120.1	-65.7	-156.8
Lab Analytical Results:																						
Hardness as CaCO3	***mg/L***	7.53	12.6			12.6		10.4			11.5			11.2	12.6	14.1	11.9	10.7	10.4	11.1	10.8	10.3
pH (Lab)	***SU***	8.63	8.69			8.53		8.29			8.45			8.36	8.37	8.24	8.28	8.29	8.27	8.39	8.09	7.68
Total Dissolved Solids (Lab)	***mg/L***	1630	1670			1630		1690			1680			1670	1600	1540	1500	1530	1520	1510	1500	1460
Calcium	***mg/L***	2.00	3.67			3.63		3.27			3.33			3.2	3.71	4.15	3.55	3.16	3.08	3.34	3.14	3.07
Magnesium	***mg/L***	0.616	0.823			0.859		0.550			0.776			0.774	0.811	0.913	0.739	0.692	0.655	0.680	0.723	0.645
Sodium	***mg/L***	566	585			589		551			562			542	562	605	543	525	553	528	520	507
Potassium	***mg/L***	1.72	2.02			2.04		<5.00			<2.00			1.8	<2.00	2.17	<2.00	1.92	<2.00	<5.00	<3.00	<5.00
Alkalinity, Total	***mg/L***	530	470			500		490			430			480	480	475	540	450	459	420	460	430
Alkalinity, Bicarbonate	***mg/L***	380	470			440		460			360			480	420	385	330	430	423	420	460	400
Alkalinity, Carbonate	***mg/L***	150	<10.0			60.0		30.0			70.0			<10.0	60.0	90.0	210	20	36.0	<10.0	<10.0	30.0
Alkalinity, Hydroxide	***mg/L***	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	***mg/L***	16.1	17.4			18.5		16.9			16.4			16.1	15.1	16.0	15.2	15	15.0	14.7	13.9	13.9
Fluoride	***mg/L***	0.464	0.488			0.535		<0.500			<0.500			<0.5	NA	0.383	0.406	0.404	0.396	<0.500	0.370	0.374
Sulfate as SO4	***mg/L***	729	802			840		730			812			756	706	682	716	699	724	633	637	656
Total Organic Carbon (TOC)	***mg/L***	3.52	10.0			7.26		6.07			5.32			4.7	4.62	4.52	4.15	4.10	3.84	3.81	3.42	3.48
Nitrate/Nitrite as N	***mg/L***	<0.100	<0.100			<0.020		<0.020			<0.020			<0.02	<0.02	<0.02	0.266	<0.02	<0.020	<0.020	0.024	0.026
Ammonia as N ^	***mg/L***																			0.354		
Ortho-Phosphate as P ^	***mg/L***																			0.0730		
Aluminum	***mg/L***	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.10	<0.100	<0.05	<0.100	<0.250	<0.150	<0.250
Arsenic	***mg/L***	0.0025	<0.0025			<0.0025		<0.0025			<0.0025			0.0006	<0.0025	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0010
Cadmium	***mg/L***	<0.0001	<0.0005			<0.0005		<0.0005			<0.0005			<0.0001	<0.0001	<0.0002	<0.0002	<0.0005	<0.0002	<0.0002	<0.0002	<0.0002
Copper	***mg/L***	0.0061	0.0081			0.0080		0.0079			0.0236			0.0063	0.0117	0.0086	0.0137	0.0078	0.0067	0.0039	0.0037	0.0021
Iron	***mg/L***	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.05	<0.100	<0.250	<0.150	<0.250
Lead	***mg/L***	<0.0005	<0.0025			<0.0025		<0.0025			<0.0025			<0.0005	<0.0005	<0.0010	<0.0010	<0.0025	<0.0010	<0.0010	<0.0010	<0.0025
Manganese	***mg/L***	0.0042	0.0251			0.0194		0.0269			0.0232			0.018	0.0222	0.0187	0.0172	0.0185	0.0166	0.0140	0.0162	0.0136
Mercury	***mg/L***	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	***mg/L***	0.0005	0.0274			0.0091		0.0078			0.0065			0.0046	0.0043	0.0033	0.003	0.003	0.0018	0.0027	0.0022	0.0015
Selenium	***mg/L***	0.0577	<0.0050			<0.0050		<0.0050			<0.0050			0.0109	<0.0050	0.0028	0.0039	<0.005	0.0020	<0.0020	<0.0020	0.0033
Silica (Si02)	***mg/L***	10.1	10.9			11.6		7.66			11.1			11	12.0	12.8	11.7	11	12.7	11.8	11.6	10.5
Silicon	***mg/L***	4.70	5.10			5.41		3.58			5.18			5.17	5.62	5.97	5.46	5.16	5.95	5.53	5.43	4.92
Uranium	***mg/L***	0.0002	0.0040			0.0051		0.0036			0.0030			0.0026	0.0026	0.0027	0.0018	0.0014	0.0012	0.0011	0.0010	<0.0025
Zinc	***mg/L***	0.0031	<0.0100			<0.0100		<0.0100			<0.0100			<0.002	<0.002	<0.0040	<0.0040	<0.01	<0.0080	<0.0040	<0.0040	<0.0040

Notes & Definitions:

^	**one-time analysis**
Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
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GCC Energy Hydrologic Monitoring Data

MW-3-MI																							
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/27	6/30	7/18	8/16	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	8/21	11/12	2/4	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.12	0.12	0.06	0.25	0.5	0.25
Total Purged	gal	19.0	2.0	NM	NM	NM	1.0	1.0	1.0	1.3	1.5	1.5	1.0	1.3	1.0	1.1	1.5	1.3	2.0	1.0	1.5	1.3
Depth to Water	ft bgs	304.49	241.15	240.46	240.53	240.46	240.44	240.44	240.58	240.73	240.55	240.65	240.84	241.04	241.97	242.13	242.15	242.32	246.55	243.07	242.85	293.05
Temperature	deg C	10.0	12.6	22.0	12.9	11.0	12.1	11.7	11.7	11.9	11.3	11.9	11.8	12.6	13.0	12.4	11.6	11.3	13.2	12.3	11.6	12.6
pH	SU	9.34	8.94	8.46	8.90	8.74	8.90	8.86	8.86	8.84	8.83	8.84	8.51	8.48	8.49	8.46	8.51	8.55	8.71	8.75	8.71	8.92
Specific Conductance	µS/cm	1907	1699	1402	1598	1737	1729	1745	1786	1790	1810	1771	1772	1727	1709	1746	1753	1739	1691	1739	1758	1737
Oxygen Reduction Potential	mV	-87.0	-54.5	-26.4	-108.2	-107.3	-113.8	-124.2	-163.1	-136.0	-131.4	-160.7	-99.9	-103.9	-127.8	-176.5	-113.0	-84.5	43.9	-130.8	-104.3	-174.5
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	4.85	8.73			9.02		7.75			9.92			8.65	8.63	8.88	7.63	6.84	7.98	6.64	6.50	7.25
pH (Lab)	SU	8.95	8.75			8.72		8.72			8.66			8.56	8.58	8.34	8.5	8.45	8.58	8.62	8.61	8.59
Total Dissolved Solids (Lab)	mg/L	1550	1120			1140		1080			1170			1210	1110	1120	1120	1170	1010	1130	1130	1130
Calcium	mg/L	1.32	2.32			2.34		2.06			2.22			1.91	1.95	2.03	1.87	1.7	2.04	1.73	1.63	1.76
Magnesium	mg/L	0.374	0.714			0.775		0.632			1.07			0.945	0.911	0.926	0.715	0.629	0.703	0.561	0.591	0.694
Sodium	mg/L	420	430			440		411			459			417	446	476	434	419	454	437	437	427
Potassium	mg/L	2.15	2.21			1.93		<5.00			<2.00			1.63	<2.00	<2.00	1.39	1.65	<2.00	<5.00	<2.00	<5.00
Alkalinity, Total	mg/L	740	675			700		660			700			680	730	720	685	755	720	690	705	680
Alkalinity, Bicarbonate	mg/L	510	555			600		570			600			500	630	610	485	605	590	610	645	550
Alkalinity, Carbonate	mg/L	230	120			100		90.0			100			180	100	110	200	150	130	80.0	60.0	130
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	8.66	10.1			10.7		10.6			10.7			10.7	8.54	8.83	9.21	9.25	10.2	9.13	9.21	9.61
Fluoride	mg/L	0.952	1.34			1.26		1.26			1.30			1.2	1.16	1.19	1.21	1.22	1.19	1.19	1.13	1.13
Sulfate as SO4	mg/L	165	241			247		254			245			250	226	230	232	229	236	224	227	231
Total Organic Carbon (TOC)	mg/L	8.34	14.8			10.9		10.3			9.24			8.67	7.83	7.28	6.73	6.56	6.17	5.78	5.58	6.07
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020		<0.020			<0.020			<0.02	<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	0.034	<0.020
Ammonia as N ^	mg/L																			0.317		
Ortho-Phosphate as P ^	mg/L																			0.348		
Aluminum	mg/L	<0.050	0.102			<0.050		<0.250			<0.100			<0.05	<0.05	<0.10	<0.050	<0.050	0.167	<0.250	<0.100	<0.250
Arsenic	mg/L	0.0134	0.0167			0.0131		0.0135			0.0160			0.0152	0.0127	0.0104	0.0149	0.0107	0.0142	0.0099	0.0093	0.0086
Cadmium	mg/L	<0.0001	<0.0005			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0005	<0.0001	<0.0002	<0.0002	<0.0005
Copper	mg/L	0.0055	0.0058			0.0065		0.0059			0.0122			0.0048	0.0071	0.0073	0.0068	0.0063	0.0049	0.0037	0.0024	<0.0025
Iron	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.05	<0.1	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Lead	mg/L	0.0024	<0.0025			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.001	<0.0005	<0.0025	<0.0005	<0.0010	<0.0010	<0.0025
Manganese	mg/L	0.0022	0.0058			0.0033		0.0045			0.0049			0.006	0.0054	0.0072	0.0078	0.0082	0.0079	0.0099	0.0095	0.0102
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0061	0.0211			0.0148		0.0152			0.0170			0.016	0.0149	0.0158	0.0157	0.0167	0.0277	0.0372	0.0204	0.0195
Selenium	mg/L	0.0013	<0.0050			<0.0050		<0.0050			0.0010			0.0019	<0.0050	<0.002	0.0034	<0.005	<0.0010	<0.0020	<0.0020	<0.0050
Silica (Si02)	mg/L	7.97	8.18			9.05		5.35			9.33			8.83	9.49	10.2	8.95	8.85	9.73	9.46	8.80	8.24
Silicon	mg/L	3.73	3.82			4.23		2.50			4.36			4.13	4.44	4.76	4.18	4.14	4.55	4.42	4.11	3.85
Uranium	mg/L	0.0049	0.0084			0.0140		0.0124			0.0125			0.0126	0.0111	0.0110	0.011	0.0085	0.0080	0.0070	0.0063	0.0059
Zinc	mg/L	0.0405	<0.0100			<0.0100		<0.0100			<0.0020			0.0023	0.0023	<0.0040	0.0028	<0.01	0.0070	<0.0040	<0.0040	<0.0100

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-3-C																							
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	9	11	3	5
Sample Date		3/27	6/30	7/27	8/24	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/7	8/8	11/6	2/27	5/21	9/17	11/12	3/13	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	*gpm*	0.5	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.10	0.06	0.06	0.13	0.13	0.10	0.03
Total Purged	*gal*	20	2	NM	NM	NM	1	1	1	1.5	1.5	1.5	1	1.3	1.3	1.1	1.25	1.5	10	1.5	11	1.1
Depth to Water	*ft bgs*	304.21	296.3	296.93	296.87	297.43	297.46	297.43	297.35	297.01	296.66	296.57	296.62	296.78	297.12	296.8	296.39	295.56	295.7	295.5	299.35	294.99
Temperature	*deg C*	10.5	12.9	13.1	12.5	11.8	12.7	11.5	11.7	11.7	11.4	11.6	12.2	13.0	13.3	11.5	11.0	11.4	13.5	12.5	11.3	13.4
pH	*SU*	8.61	8.57	8.51	8.46	8.44	8.48	8.41	8.48	8.43	8.43	8.45	8.25	8.28	8.26	8.17	8.28	8.29	8.31	8.20	7.98	8.44
Specific Conductance	*µS/cm*	3549	3588	3815	4112	4351	4412	4659	4596	4923	4864	5063	5019	4916	4953	5127	5155	5184	5144	5144	4921	3143
Oxygen Reduction Potential	*mV*	-129.0	-87.2	-137.5	-128.8	-149.9	-198.3	-200.7	-222.2	-187.9	-183.5	-155.4	-154.7	-161.4	-180.5	-217.6	-185.4	-188.5	-151.8	-184.4	-155.0	-240.5
Lab Analytical Results:																						
Hardness as CaCO3	*mg/L*	14.4	11.8			15.1		14.9			16.1			40.3	17.9	21.7	17.3	16.8	18.6	18.6	18.3	16.0
pH (Lab)	*SU*	8.5	8.48			8.35		8.28			8.35			8.34	8.31	8.24	8.2	8.23	8.31	8.12	7.98	8.41
Total Dissolved Solids (Lab)	*mg/L*	2130	2360			3070		3310			3540			3610	3520	3360	3300	3440	3500	3390	3220	3180
Calcium	*mg/L*	3.60	2.87			3.50		3.58			3.81			7.28	4.01	4.70	4.05	3.74	4.30	4.23	4.26	3.81
Magnesium	*mg/L*	1.31	1.12			1.55		1.44			1.59			5.38	1.92	2.41	1.75	1.8	1.91	1.94	1.86	1.58
Sodium	*mg/L*	796	890			1100		1130			1200			1350	1220	1460	1270	1100	1360	1300	1280	1240
Potassium	*mg/L*	3.47	3.24			4.01		<5.00			<10.0			<5.00	<5.00	<5.00	<5.00	5.24	<5.00	<10.0	<10.0	<10.0
Alkalinity, Total	*mg/L*	1490	1570			1690		1880			1910			1760	1730	2050	2000	2110	2190	2130	2160	2050
Alkalinity, Bicarbonate	*mg/L*	1360	1480			1650		1830			1810			1600	1670	1900	1830	2000	2020	2070	2000	1800
Alkalinity, Carbonate	*mg/L*	130	90.0			40.0		50.0			100			160	60.0	150	170	110	170	60.0	160	250
Alkalinity, Hydroxide	*mg/L*	<10.0	<10.0			<10.0		<10.0			<10.0			<10	NA	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	*mg/L*	182	330			477		506			549			544	524	561	577	575	620	542	549	555
Fluoride	*mg/L*	4.89	4.94			4.52		4.34			4.15			3.52	3.84	4.04	4.04	3.91	3.78	3.66	3.61	3.51
Sulfate as SO4	*mg/L*	73.4	73.5			46.4		24.5			<10.0			<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
Total Organic Carbon (TOC)	*mg/L*	10.6	58.5			219		251			337			343	306	141	122	129	132	107	81.9	23.4
Nitrate/Nitrite as N	*mg/L*	<0.020	<0.400			<0.400		<0.020			<0.020			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	*mg/L*																			0.500		
Ortho-Phosphate as P ^	*mg/L*																			0.212		
Aluminum	*mg/L*	<0.050	<0.100			<0.050		<0.250			<0.500			1.47	<0.500	<0.250	<0.250	<0.500	<0.250	<0.500	<0.500	<0.500
Arsenic	*mg/L*	0.0115	0.0088			0.0098		0.0091			0.0194			0.0168	0.0148	0.0155	0.0218	0.0171	0.0192	0.0188	0.0087	0.0133
Cadmium	*mg/L*	<0.0001	<0.0010			<0.0010		<0.0005			<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005
Copper	*mg/L*	0.0109	0.0147			0.0174		0.0160			0.0409			0.0183	0.0257	0.0227	0.0223	0.0168	0.0102	0.0109	0.0069	0.0064
Iron	*mg/L*	<0.050	<0.050			<0.050		<0.250			<0.500			0.252	<0.500	<0.250	<0.250	0.344	0.328	<0.500	<0.500	<0.500
Lead	*mg/L*	0.0085	<0.0050			<0.0050		<0.0025			<0.0025			<0.0025	<0.0025	<0.0025	<0.0025	<0.005	<0.0025	<0.0025	<0.0025	<0.0025
Manganese	*mg/L*	0.0091	0.0188			0.0178		0.0202			0.0307			0.0275	0.0243	0.0252	0.0483	0.063	0.0378	0.0266	0.0245	0.0175
Mercury	*mg/L*	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	*mg/L*	0.0143	0.0291			0.0241		0.0241			0.0221			0.0189	0.0155	0.0140	0.0134	0.0121	0.0081	0.0075	0.0082	0.0085
Selenium	*mg/L*	0.0233	0.0121			0.0149		0.0240			0.0383			0.0268	0.0232	0.0261	0.0464	0.0203	0.0203	0.0173	0.0125	0.0129
Silica (Si02)	*mg/L*	7.82	8.86			9.16		6.01			<10.7			9.69	8.68	10.7	8.24	8.35	9.06	<10.7	<10.7	<10.7
Silicon	*mg/L*	3.66	4.14			4.28		2.81			<5.00			4.53	4.06	5.01	3.85	3.9	4.24	<5.00	<5.00	<5.00
Uranium	*mg/L*	0.0091	0.0102			0.0137		0.0100			0.0091			0.0087	0.0089	0.0113	0.0077	0.0046	0.0053	0.0034	0.0045	0.0033
Zinc	*mg/L*	0.375	<0.0200			<0.0200		<0.0100			<0.0100			<0.0100	0.0664	0.0814	0.123	0.128	0.0567	0.0886	<0.0100	<0.0100

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-4-A																							
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/29	6/30	7/19	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/6	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	**gpm**	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.06	0.06	0.06	0.125	0.03	0.03
Total Purged	**gal**	19.0	2.0	1.5	0.5	1.0	1.0	1.0	1.0	1.3	1.5	1.5	1	1.5	1.5	1.1	1.5	1.3	1.1	1.0	1.5	1.2
Depth to Water	**ft bgs**	338.6	334.96	335.59	334.79	334.81	334.86	332.29	334.09	334.31	334.73	334.81	335.07	335.58	336.06	336.73	335.6	335.07	335.21	335.16	336.35	337.16
Temperature	**deg C**	15.6	16.8	25.5	17.6	11.9	11.6	10.8	10.1	10.9	9.8	11.4	10.9	17.8	12.9	11.6	11.1	10.4	13.6	11.6	10.3	12.5
pH	**SU**	8.61	8.29	8.55	7.98	8.41	8.32	8.38	8.32	8.33	8.37	8.41	8.19	8.20	8.10	8.12	8.15	8.08	8.02	8.11	8.07	8.19
Specific Conductance	**µS/cm**	2163	2053	1876	2096	2180	2165	2186	2261	2259	2267	2207	2214	2183	2192	2246	2205	2237	2201	2211	2271	2273
Oxygen Reduction Potential	**mV**	28.6	54.0	60.2	61.7	-8.6	-27.0	-12.3	-51.8	-35.2	-75.9	-117.3	-77.9	-81.8	-137.5	-157.6	-92.3	-89.3	-54.3	-19.8	15.3	-71.3
Lab Analytical Results:																						
Hardness as CaCO3	**mg/L**	9.16	9.85			7.77		7.11			7.73			7.84	7.69	8.81	7.76	7.31	8.62	8.00	8.19	7.46
pH (Lab)	**SU**	8.2	8.40			8.36		8.40			8.28			8.31	8.21	8.24	8.05	8.08	8.15	8.02	8.11	7.90
Total Dissolved Solids (Lab)	**mg/L**	1470	1470			1450		1500			1490			1470	1430	1350	1450	1410	1540	1490	1500	1480
Calcium	**mg/L**	2.23	2.43			1.76		1.87			1.81			1.75	1.71	1.92	1.77	1.68	1.94	1.82	1.88	1.67
Magnesium	**mg/L**	0.871	0.916			0.823		0.591			0.778			0.846	0.832	0.973	0.809	0.756	0.914	0.837	0.850	0.798
Sodium	**mg/L**	515	537			513		511			507			528	531	568	535	515	548	529	551	498
Potassium	**mg/L**	1.57	1.75			1.63		<5.00			<2.00			1.5	<2.00	<2.00	<2.00	<2.00	4.75	<5.00	<3.00	<5.00
Alkalinity, Total	**mg/L**	635	560			630		590			530			560	575	575	545	565	575	544	560	585
Alkalinity, Bicarbonate	**mg/L**	635	560			590		560			490			560	555	575	505	544	535	528	560	545
Alkalinity, Carbonate	**mg/L**	<10.0	<10.0			40.0		30.0			40.0			<10.0	20.0	<10.0	40	32	40.0	16.0	<10.0	40.0
Alkalinity, Hydroxide	**mg/L**	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10	<10.0	<10.0	<10.0	<10.0
Chloride	**mg/L**	9.56	9.66			10.3		10.3			10.0			9.94	9.55	8.60	8.93	8.99	8.91	8.76	8.83	8.89
Fluoride	**mg/L**	<0.400	<0.400			<0.500		<0.500			<0.500			<0.5	<0.5	0.143	<0.200	<0.2	<0.200	<0.200	<0.200	<0.200
Sulfate as SO4	**mg/L**	594	588			783		594			579			561	522	450	567	584	615	559	557	580
Total Organic Carbon (TOC)	**mg/L**	6.63	11.7			3.52		3.27			3.46			3.59	3.60	3.59	3.47	3.40	3.33	3.25	3.10	3.49
Nitrate/Nitrite as N	**mg/L**	0.035	<0.020			<0.020		<0.020			<0.020			<0.02	<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	**mg/L**																			0.312		
Ortho-Phosphate as P ^	**mg/L**																			<0.0500		
Aluminum	**mg/L**	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.250	<0.150	<0.250
Arsenic	**mg/L**	0.0016	<0.0025			<0.0025		<0.0025			0.0019			0.0005	<0.0025	<0.0010	<0.0010	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010
Cadmium	**mg/L**	<0.0001	<0.0005			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0002	<0.0002
Copper	**mg/L**	0.0053	0.0093			0.0076		0.0073			0.0124			0.0077	0.0105	0.0084	0.0081	0.0061	0.0120	0.0037	0.0034	0.0020
Iron	**mg/L**	<0.050	<0.050			<0.050		<0.250			<0.100			<0.05	<0.05	<0.100	<0.100	<0.100	<0.100	<0.250	<0.150	<0.250
Lead	**mg/L**	0.0014	<0.0025			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010
Manganese	**mg/L**	0.0044	0.0063			0.0044		0.0040			0.0035			0.0033	<0.0075	0.0034	0.0032	0.0031	0.0026	0.0016	0.0033	0.0031
Mercury	**mg/L**	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	**mg/L**	0.0009	0.0275			<0.0025		<0.0025			0.0005			<0.0005	<0.0005	<0.0010	<0.0010	<0.0005	<0.0005	<0.0010	<0.0010	<0.0010
Selenium	**mg/L**	0.0016	<0.0050			<0.0050		<0.0050			0.0014			0.0025	<0.0050	<0.0020	0.0036	<0.001	<0.0010	<0.0020	<0.0020	<0.0020
Silica (Si02)	**mg/L**	10.2	10.6			9.99		6.85			9.47			10	10.2	11.2	9.65	9.81	11.0	10.5	10.3	8.55
Silicon	**mg/L**	4.75	4.97			4.67		3.20			4.43			4.7	4.77	5.22	4.51	4.59	5.14	4.89	4.79	4.00
Uranium	**mg/L**	0.0016	<0.0005			<0.0005		0.0005			0.0003			<0.0001	<0.0005	<0.0002	<0.0002	<0.0001	<0.0002	<0.0002	<0.0010	<0.0010
Zinc	**mg/L**	0.269	0.0319			<0.0100		<0.0100			0.0022			0.0024	<0.0100	<0.0040	<0.0040	0.0033	<0.0020	<0.0040	<0.0040	<0.0040

Notes & Definitions:

^	**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
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/16	7/27	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/6	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.1	0.06	0.06	0.125	0.25	0.13	0.13
Total Purged	gal	0.5	6.5	NM	NM	1.0	1.0	1.0	1.0	1.3	1.5	1.5	1	1.3	1.8	1.6	2.0	1.3	1.1	1.0	1.3	1.2
Depth to Water	ft bgs	378.2	330.15	330.94	330.85	330.81	330.80	330.74	330.67	330.52	330.42	330.53	330.5	329.62	331.1	336.57	331.1	331.06	331.92	332.1	332.5	332.87
Temperature	deg C	15.0	14.6	12.9	12.5	11.4	10.7	11.3	11.4	11.2	11.0	10.5	10.9	10.1	11.8	11.3	11.1	10.8	13.3	11.6	11.8	12.2
pH	SU	9.08	8.91	8.78	8.79	8.76	8.76	8.73	8.67	8.62	8.48	8.53	8.01	8.50	8.14	8.25	8.38	8.23	8.14	8.26	8.18	8.42
Specific Conductance	µS/cm	1581	1668	1731	1708	1784	1794	1804	1833	1848	1856	1841	1816	1739	1756	1808	1716	1800	1830	1776	1795	1794
Oxygen Reduction Potential	mV	155.2	64.7	9.8	35.2	-29.6	-37.3	-111.5	-89.2	-112.5	-151.3	-145.7	-117.7	-130.0	-178.2	-202.3	-140.4	-154.7	-127.3	-76.8	-50.6	-131.2
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	5.43	8.71			7.07		4.20			6.01			5.88	6.06	6.39	5.35	4.93	5.65	3.31	4.70	<3.31
pH (Lab)	SU	8.83	8.59			8.63		8.51			8.47			8.48	8.31	8.47	8.35	8.3	8.44	8.08	8.33	8.02
Total Dissolved Solids (Lab)	mg/L	1160	1170			1180		1180			1220			1140	1120	1100	1130	1130	1140	1120	1110	1110
Calcium	mg/L	1.53	2.32			1.88		1.68			1.64			1.55	1.56	1.60	1.44	1.3	1.51	1.32	1.21	1.22
Magnesium	mg/L	0.392	0.707			0.579		<0.500			0.465			0.49	0.524	0.580	0.428	0.408	0.458	<0.500	0.406	<0.500
Sodium	mg/L	408	458			449		452			447			471	470	500	462	458	496	477	441	460
Potassium	mg/L	1.46	<2.00			1.73		<5.00			<2.00			1.39	<2.00	<2.00	1.43	1.77	2.03	<5.00	<2.00	<5.00
Alkalinity, Total	mg/L	965	915			1100		985			965			955	968	995	510	890	970	978	985	1030
Alkalinity, Bicarbonate	mg/L	775	825			880		885			875			865	896	885	420	650	880	886	895	935
Alkalinity, Carbonate	mg/L	190	90.0			220		100			90.0			90	72.0	110	90	240	90.0	92.0	90.0	90.0
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	2.18	7.50			8.78		9.11			8.74			7.99	5.68	5.38	5.98	5.98	5.83	5.47	5.37	5.11
Fluoride	mg/L	4.72	5.02			5.09		5.10			5.02			4.82	4.84	4.94	5.49	5.44	5.38	5.31	5.11	5.16
Sulfate as SO4	mg/L	17.4	64.7			76.6		77.5			68.6			54.4	48.3	47.6	38.7	34.4	31.9	28.2	24.6	21.9
Total Organic Carbon (TOC)	mg/L	2.64	6.49			8.58		9.53			9.54			9.25	8.94	8.48	8.37	8.25	7.81	6.42	6.63	6.55
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020		<0.020			<0.020			<0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.040	<0.020
Ammonia as N ^	mg/L																			0.240		
Ortho-Phosphate as P ^	mg/L																			0.280		
Aluminum	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.100	<0.100	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Arsenic	mg/L	0.0099	0.0220			0.0131		0.0122			0.0139			0.0153	0.014	0.0119	0.0164	0.0111	0.0116	0.0107	0.0127	0.0139
Cadmium	mg/L	<0.0001	<0.0001			<0.0005		<0.0005			<0.0001			<0.0001	<0.0001	<0.0002	<0.0001	<0.0001	<0.0001	<0.0002	<0.0002	<0.0001
Copper	mg/L	0.0059	0.0058			0.0071		0.0070			0.0079			0.0063	0.0071	0.0078	0.0087	0.0153	0.0051	0.0027	0.0028	0.0020
Iron	mg/L	<0.050	<0.100			<0.050		<0.250			<0.100			<0.05	<0.100	<0.100	<0.050	<0.050	<0.100	<0.250	<0.100	<0.250
Lead	mg/L	0.0010	<0.0005			<0.0025		<0.0025			<0.0005			<0.0005	<0.0005	<0.0010	<0.0005	<0.0005	<0.0005	<0.0010	<0.0010	<0.0005
Manganese	mg/L	0.0020	0.0066			0.0081		0.0124			0.0080			0.007	0.0068	0.0084	0.0091	0.0084	0.0084	0.0073	0.0085	0.0086
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0020	0.0160			0.0127		0.0134			0.0151			0.0119	0.0115	0.0129	0.0121	0.0119	0.0108	0.0101	0.0096	0.0091
Selenium	mg/L	<0.0010	0.0012			<0.0050		<0.0050			<0.0010			0.0022	0.0113	<0.0020	0.002	<0.001	<0.0010	<0.0020	<0.0020	<0.0010
Silica (Si02)	mg/L	7.27	8.01			8.80		<5.35			8.30			8.9	9.29	10.3	8.86	9.06	10.2	9.51	8.21	7.81
Silicon	mg/L	3.40	3.75			4.11		2.50			3.88			4.16	4.34	4.81	4.14	4.24	4.76	4.45	3.84	3.65
Uranium	mg/L	0.0043	0.0126			0.0184		0.0169			0.0183			0.0173	0.0151	0.0191	0.0269	0.0176	0.0168	0.0145	0.0163	0.0195
Zinc	mg/L	0.113	0.0697			<0.0100		<0.0100			<0.0020			<0.002	<0.002	<0.0040	<0.0020	<0.002	<0.0100	<0.0040	<0.0040	<0.0040

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
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1. *"<" values denote that the quantification of that analyte is below the reporting level for the analytical laboratory, acceptable by environmental water quality laboratory industry standards.*

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

3. *Industry*

GCC Energy Hydrologic Monitoring Data

MW-4-C																							
Year		2017								2018							2019				2020	
Quarter		Q1	Q2	Q3			Q4			Q1			Q2		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Month		3	6	7	8	9	10	11	12	1	2	3	4	5	8	11	2	5	8	11	2	5
Sample Date		3/30	6/16	7/27	8/23	9/28	10/27	11/17	12/7	1/3	2/21	3/23	4/12	5/14	8/8	11/5	2/27	5/22	8/15	11/12	2/4	5/26
Lab Analysis (Y/N)		Y	Y	N	N	Y	N	Y	N	N	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Field Parameters:																						
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.1	NM	0.1	0.1	0.1	0.2	0.12	0.06	0.125	0.125	0.13	0.13
Total Purged	gal	7.0	1.5	NM	NM	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1	1.5	1	1.3	1.5	1.3	1.1	1.0	1.5	1.2
Depth to Water	ft bgs	328.33	314.05	309.87	306.86	303.96	303.8	302.47	304.8	282.35	281.3	303.3	304.05	NM	302.55	302.17	302.45	303.93	304.93	305.73	306.44	304.9
Temperature	deg C	13.3	17.4	12.7	12.0	13.9	11.8	11.2	11.0	11.7	10.8	12.5	11.4	12.4	12.9	11.5	11.3	11.2	12.5	11.7	11.2	12.7
pH	SU	8.33	7.62	7.68	7.70	7.69	7.75	7.72	7.79	7.80	7.88	7.94	7.75	7.79	7.76	7.79	7.87	7.86	7.81	7.85	7.87	7.97
Specific Conductance	µS/cm	3792	5944	5997	5885	5813	5721	5782	5604	5834	5903	5628	5792	5592	5583	5775	5710	5712	5930	5636	5729	5636
Oxygen Reduction Potential	mV	57.3	20.3	-101.5	-111.2	-103.7	-117.4	-109.0	-120.1	-123.8	-154.3	-131.3	-134.9	-129.3	-157.6	-209.0	-160.1	-180.1	-156.8	-148.7	-135.9	-147.7
Lab Analytical Results:																						
Hardness as CaCO3	mg/L	46.3	55.9			38.9		30.0			26.5			26.2	25.9	28.6	23.6	22.5	25.2	24.4	24.0	22.7
pH (Lab)	SU	7.61	7.77			7.79		7.98			7.84			7.97	7.96	8.27	7.9	7.92	7.95	7.85	7.95	7.76
Total Dissolved Solids (Lab)	mg/L	3230	4050			3750		3780			3730			3660	3650	3590	3580	3590	3610	3610	3580	3570
Calcium	mg/L	13.6	13.7			9.15		7.45			6.32			6.15	5.90	6.60	5.5	5.21	5.83	5.61	5.57	5.31
Magnesium	mg/L	2.99	5.26			3.90		2.76			2.61			2.62	2.72	2.94	2.39	2.3	2.57	2.53	2.44	2.30
Sodium	mg/L	908	1510			1490		1400			1410			1400	1410	1590	1410	1370	1440	1430	1440	1390
Potassium	mg/L	4.38	5.71			6.07		<10.0			<10.0			<5	<5	5.36	<5.00	<5.00	5.42	<10.0	<5.00	<10.0
Alkalinity, Total	mg/L	1250	2360			2780		2680			2600			2410	2480	2450	2470	2550	2500	2470	2480	2460
Alkalinity, Bicarbonate	mg/L	1250	2360			2780		2640			2600			2330	2480	2450	2470	2350	2390	2410	2420	2340
Alkalinity, Carbonate	mg/L	<10.0	<10.0			<10.0		40.0			<10.0			80	<10.0	<10.0	<10.0	200	110	60.0	60.0	120
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0		<10.0			<10.0			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Chloride	mg/L	181	550			587		608			592			573	533	590	575	554	580	525	528	555
Fluoride	mg/L	1.29	2.04			2.17		2.43			2.53			2.52	2.48	2.54	2.64	2.62	2.59	2.51	2.41	2.36
Sulfate as SO4	mg/L	534	487			70.2		26.0			34.5			27	18.7	11.2	5.07	<5.00	<5.00	<5.00	<5.00	<5.00
Total Organic Carbon (TOC)	mg/L	30	6.42			5.08		3.64			3.23			3.23	2.80	3.46	3.24	2.62	2.63	4.18	2.23	2.50
Nitrate/Nitrite as N	mg/L	<2.00	<0.500			<0.400		<0.100			<0.020			<0.02	<0.02	<0.020	0.061	<0.020	<0.020	<0.020	<0.020	<0.020
Ammonia as N ^	mg/L																			0.424		
Ortho-Phosphate as P ^	mg/L																			0.182		
Aluminum	mg/L	<0.050	<0.050			<0.050		<0.500			<0.500			<0.25	<0.25	<0.250	<0.250	<0.250	<0.250	<0.500	<0.250	<0.500
Arsenic	mg/L	0.0059	0.0119			0.0128		0.0152			0.0246			0.0195	0.0202	0.0164	0.0211	0.0171	0.0178	0.0179	0.0203	0.0195
Cadmium	mg/L	<0.0001	<0.0010			<0.0010		<0.0010			<0.0005			<0.0005	<0.0005	<0.0005	<0.0005	<0.0001	<0.0005	<0.0005	<0.0005	<0.0005
Copper	mg/L	0.0125	0.0243			0.0221		0.0208			0.0482			0.0389	0.0280	0.0230	0.0249	0.0382	0.0198	0.0107	0.0111	0.0069
Iron	mg/L	<0.050	<0.050			<0.050		<0.500			<0.500			0.373	0.397	0.474	0.279	0.391	0.522	0.619	0.591	0.551
Lead	mg/L	<0.0005	<0.0050			<0.0050		<0.0050			<0.0025			<0.0025	<0.0025	<0.0025	<0.0025	<0.0005	<0.0025	<0.0025	<0.0025	<0.0025
Manganese	mg/L	0.0269	0.0772			0.0554		0.0571			0.0647			0.0529	0.0381	0.0283	0.0268	0.0174	0.0162	0.0096	0.0209	0.0103
Mercury	mg/L	<0.0002	<0.0002			<0.0002		<0.0002			<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0050	<0.0002	<0.0002
Molybdenum	mg/L	0.0526	0.115			0.0138		0.0106			0.0086			0.0072	0.0071	0.0057	0.0074	0.007	0.0056	0.0047	0.0045	0.0044
Selenium	mg/L	0.0248	0.0231			0.0214		0.0269			0.0378			0.0317	0.0260	0.0211	0.0339	0.0195	0.0195	0.0156	0.0140	0.0129
Silica (Si02)	mg/L	9.85	12.6			12.9		<10.7			<10.7			11	11.2	12.8	10.1	10.5	11.3	11.0	9.88	<10.7
Silicon	mg/L	4.61	5.88			6.02		<5.00			<5.00			5.16	5.24	6.00	4.7	4.89	5.29	5.14	4.62	<5.00
Uranium	mg/L	0.0297	0.121			0.0984		0.0545			0.0311			0.0311	0.0277	0.0246	0.0215	0.0154	0.0086	0.0073	0.0063	0.0039
Zinc	mg/L	0.0156	0.0265			<0.0200		<0.0200			<0.0100			<0.01	<0.01	<0.0100	<0.0100	0.0038	<0.0100	<0.0100	<0.0100	<0.0100

Notes & Definitions:

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gpm	gallons per minute
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SU	standard pH units
µS/cm	microsiemens per centimeter
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2. *Total alkalinity is measured by titration with hydrochloric acid to a set pH point, reporting this value as an equivalent amount of calcium carbonate. This value is then partitioned into bicarbonate, carbonate and hydroxide depending on the initial pH of the sample solution, each components reported as equivalent CaCO3.*

3. *Industry*

GCC Energy Hydrologic Monitoring Data

MW-6-A														
Year		2018	2019										2020	
Quarter		Q4	Q1			Q2			Q3			Q4	Q1	Q2
Month		12	1	2	3	4	5	6	7	8	9	11	2	5
Sample Date		12/28	1/31	2/21	3/21	4/23	5/20	6/19	7/23	8/15	9/24	11/7	2/5	5/14
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	Y	Y	Y
Field Parameters:														
Purge Flow Rate	*gpm*	NM	NM	0.10	2.00	0.03	0.03	0.03	0.06	0.03	0.02	0.01	0.05	0.13
Total Purged	*gal*	36.3	0.5	0.5	2.0	2.0	1.3	1.0	1.3	1.1	1.3	1.5	1.1	1.0
Depth to Water	*ft bgs*	304.33	306.41	307.40	309.60	311.05	312.50	314.20	315.75	316.43	NM	318.70	315.46	319.63
Temperature	*deg C*	7.4	10.7	8.1	7.5	9.6	7.3	12.5	12.3	11.9	10.4	10.4	7.8	9.8
pH	*SU*	7.32	6.64	6.66	6.74	6.65	6.73	6.76	6.75	6.76	6.80	6.79	6.89	6.95
Specific Conductance	*µS/cm*	6573	6053	6072	6107	6012	6057	5725	5598	5562	5451	5108	5043	4779
Oxygen Reduction Potential	*mV*	-22.8	19.4	24.6	12.6	11.8	34.8	86.6	25.8	6.5	29.2	20.5	36.7	51.7
Lab Analytical Results:														
Hardness as CaCO3	*mg/L*	4360		4190			3920			3540		3070	3200	2780
pH (Lab)	*SU*	7.10		6.85			6.77			6.85		6.87	6.9	6.93
Total Dissolved Solids (Lab)	*mg/L*	6520		6520			120*			6080		5210	4980	4670
Calcium	*mg/L*	615		559			553			492		431	467	400
Magnesium	*mg/L*	687		678			617			560		484	495	431
Sodium	*mg/L*	294		283			296			304		276	296	274
Potassium	*mg/L*	15.0		14.4			12.4			12.8		11.1	<20	10.6
Alkalinity, Total	*mg/L*	160		160			143			183		220	215	233
Alkalinity, Bicarbonate	*mg/L*	160		160			143			183		220	215	233
Alkalinity, Carbonate	*mg/L*	<10.0		<10.0			<10.0			<10.0		<10.0	<10	<10.0
Alkalinity, Hydroxide	*mg/L*	<10.0		<10.0			<10.0			<10.0		<10.0	<10	<10.0
Chloride	*mg/L*	97.4		28.6			27.3			29.9		29.6	28.4	29.0
Fluoride	*mg/L*	2.83		<0.500			<0.500			<0.500		<0.500	<0.5	<0.500
Sulfate as SO4	*mg/L*	205		4300			4280			4260		3460	3080	3020
Total Organic Carbon (TOC)	*mg/L*	3.45		3.08			2.91			3.57		3.10	3.16	3.39
Nitrate/Nitrite as N	*mg/L*	<0.020		<0.020			<0.020			<0.020		<0.020	0.049	0.154
Ammonia as N ^	*mg/L*											2.72		
Ortho-Phosphate as P ^	*mg/L*											<0.0500		
Aluminum	*mg/L*	<0.500		<0.250			<0.250			<0.250		<0.250	<1.00	<0.500
Arsenic	*mg/L*	<0.0025		<0.0025			0.0009			<0.0025		<0.0025	<0.0025	<0.0050
Cadmium	*mg/L*	<0.0005		<0.0005			0.0001			<0.0005		<0.0005	<0.0005	<0.0010
Copper	*mg/L*	0.0116		0.0081			0.0035			0.0039		0.0017	0.0028	<0.0050
Iron	*mg/L*	1.37		3.75			3.93			3.22		2.72	1.95	1.38
Lead	*mg/L*	<0.0025		<0.0025			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050
Manganese	*mg/L*	0.788		0.802			0.724			0.690		0.585	0.551	0.526
Mercury	*mg/L*	<0.0002		<0.0002			<0.0002			<0.0002		<0.0002	<0.0002	<0.0002
Molybdenum	*mg/L*	<0.0025		<0.0025			<0.0005			<0.0025		<0.0025	<0.0025	<0.0050
Selenium	*mg/L*	<0.0050		<0.0050			0.0028			<0.0050		<0.0050	<0.005	<0.0100
Silica (Si02)	*mg/L*	12.3		11.9			14.3			13.4		12.5	<21.4	11.0
Silicon	*mg/L*	5.77		5.57			6.69			6.28		5.83	<10	5.17
Uranium	*mg/L*	<0.0005		<0.0005			<0.0001			<0.0005		<0.0005	<0.0025	<0.0050
Zinc	*mg/L*	0.0689		<0.0100			0.0082			0.0108		0.0117	0.0107	<0.0200

Notes & Definitions:

*	**Anomalous value under review**
^	**one-time analysis**
Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
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
Month		12	1	2	3	4	5	6	7	8	9	11	2	5
Sample Date		12/24	1/30	2/21	3/21	4/23	5/20	6/19	7/23	8/15	9/24	11/7	2/5	5/12
Lab Analysis (Y/N)		N	N	N	N	N	N	N	N	N	N	N	N	N
Field Parameters:														
Purge Flow Rate	*gpm*	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
Total Purged	*gal*													
Depth to Water	*ft bgs*													
Temperature	*deg C*													
pH	*SU*													
Specific Conductance	*µS/cm*													
Oxygen Reduction Potential	*mV*													
Lab Analytical Results:														
Hardness as CaCO3	*mg/L*													
pH (Lab)	*SU*													
Total Dissolved Solids (Lab)	*mg/L*													
Calcium	*mg/L*													
Magnesium	*mg/L*													
Sodium	*mg/L*													
Potassium	*mg/L*													
Alkalinity, Total	*mg/L*													
Alkalinity, Bicarbonate	*mg/L*													
Alkalinity, Carbonate	*mg/L*													
Alkalinity, Hydroxide	*mg/L*													
Chloride	*mg/L*													
Fluoride	*mg/L*													
Sulfate as SO4	*mg/L*													
Total Organic Carbon (TOC)	*mg/L*													
Nitrate/Nitrite as N	*mg/L*													
Aluminum	*mg/L*													
Arsenic	*mg/L*													
Cadmium	*mg/L*													
Copper	*mg/L*													
Iron	*mg/L*													
Lead	*mg/L*													
Manganese	*mg/L*													
Mercury	*mg/L*													
Molybdenum	*mg/L*													
Selenium	*mg/L*													
Silica (Si02)	*mg/L*													
Silicon	*mg/L*													
Uranium	*mg/L*													
Zinc	*mg/L*													

Notes & Definitions:

Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
pCi/L	**picocuries per liter**
NM	**not measured (field)**
NA	**not analyzed (lab)**

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-6-MI															
Year		2018	2019										2020		
Quarter		Q4	Q1			Q2				Q3			Q4	Q1	Q2
Month		12	1	2	3	4	5	5	6	7	8	9	11	2	5
Sample Date		12/29	1/31	2/25	3/21	4/19	5/20	5/30	6/19	7/23	8/15	9/24	11/7	2/5	5/14
Lab Analysis (Y/N)		Y	N	Y	N	N	N#	N	N	N	N	N	N	N	N
Field Parameters:															
Purge Flow Rate	gpm	NM	NM	NM	0.5	0.1	0.015	dry	dry	dry	dry	dry	dry	dry	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 (Si02)	mg/L	9.93		9.05											
Silicon	mg/L	4.64		4.23											
Uranium	mg/L	0.0200		0.0118											
Zinc	mg/L	0.0092		0.0143											

Notes & Definitions:

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

Y/N **yes or no**
gpm **gallons per minute**
deg C **degrees Celsius**
SU **standard pH units**
µS/cm **microsiemens per centimeter**
mV **millivolts**
mg/L **milligram per liter**
pCi/L **picocuries per liter**
NM **not measured (field)**
NA **not analyzed (lab)**

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-6-LM															
Year		2018	2019										2020		
Quarter		Q4	Q1			Q2			Q3			Q4	Q1		
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/30	1/31	2/25	3/21	4/23	5/20	6/19	7/23	8/15	9/24	10/28	11/7	2/5	5/14
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	gpm	NM	NM	0.06	2.00	0.03	0.03	0.10	0.06	0.03	0.02	0.012	0.03	0.01	0.13
Total Purged	gal	0.5	0.5	1.5	2.0	2.0	2.3	1.3	1.3	1.8	2.0	1.5	2.0	2.0	2.0
Depth to Water	ft bgs	535.72	538.73	539.34	540.64	539.98	537.58	540.00	540.35	540.24	540.17	539.8	540.18	539.70	539.45
Temperature	deg C	7.9	14.3	7.8	8.1	9.1	9.3	11.7	14.0	13.4	11.6	10.12	12.4	10.5	11.3
pH	SU	7.64	7.38	7.51	7.54	7.49	7.54	7.67	7.80	7.65	7.43	7.45	7.37	7.39	7.54
Specific Conductance	µS/cm	6011	3784	3503	1461	1164	1296	1400	1272	1532	2104	2267	2113	2283	2287
Oxygen Reduction Potential	mV	185.3	10.7	40.9	-32.8	-35.8	-111.0	-194.5	-163.6	-67.2	6.4	-47.98	19.9	-128.9	-222.9
Lab Analytical Results:															
Hardness as CaCO3	mg/L	2260		1270			431			621			843	1060	965
pH (Lab)	SU	7.60		7.52			7.47			7.59			7.32	7.43	7.18
Total Dissolved Solids (Lab)	mg/L	5100		2840			875			1150			1630	1840	1840
Calcium	mg/L	367		216			75.9			103			136	173	150
Magnesium	mg/L	325		177			58.7			88.3			122	153	143
Sodium	mg/L	459		248			129			153			172	203	188
Potassium	mg/L	173		64.5			14.0			13.7			11.3	11	7.82
Alkalinity, Total	mg/L	205		315			371			381			355	320	353
Alkalinity, Bicarbonate	mg/L	205		315			371			381			355	320	353
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	mg/L	256		43.7			5.73			8.70			11.4	11	11.7
Fluoride	mg/L	0.530		<0.500			0.324			<0.500			<0.500	0.352	<0.500
Sulfate as SO4	mg/L	3050		1790			338			492			830	951	904
Total Organic Carbon (TOC)	mg/L	3.46		2.61			1.57			1.78			1.85	1.76	1.84
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	mg/L												1.99		
Ortho-Phosphate as P ^	mg/L												<0.0500		
Aluminum	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.25	<0.250
Arsenic	mg/L	0.0039		0.0049			0.0036			0.0038			0.0035	0.0044	0.0034
Cadmium	mg/L	<0.0005		<0.0005			<0.0001			<0.0001			<0.0002	<0.0002	<0.0005
Copper	mg/L	0.0135		0.0064			0.0017			0.0018			0.0069	0.0014	<0.0025
Iron	mg/L	<0.250		<0.250			<0.050			<0.050			<0.100	<0.25	<0.250
Lead	mg/L	<0.0025		<0.0025			<0.0005			<0.0005			<0.0010	<0.001	<0.0025
Manganese	mg/L	0.383		0.223			0.0692			0.148			0.166	0.184	0.171
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0490		0.0169			0.0037			0.0025			0.0022	0.002	<0.0025
Selenium	mg/L	0.0080		<0.0050			<0.0010			<0.0010			<0.0020	<0.002	<0.0050
Silica (Si02)	mg/L	10.5		13.5			17.0			17.4			15.9	17.1	15.1
Silicon	mg/L	4.91		6.29			7.96			8.12			7.43	7.97	7.07
Uranium	mg/L	0.0230		0.0075			0.0039			0.0054			0.0047	0.0055	0.0043
Zinc	mg/L	0.0323		<0.0100			<0.0020			<0.0040			<0.0040	<0.004	<0.0100

Notes & Definitions:

^ one-time analysis
Y/N yes or no
gpm gallons per minute
deg C degrees Celsius
SU standard pH units
µS/cm microsiemens per centimeter
mV millivolts
mg/L milligram per liter
pCi/L picocuries per liter
NM not measured (field)
NA not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-7-EAA															
Year		2018	2019											2020	
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11	5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	gpm	1.10	1.10	1.00	3.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.25
Total Purged	gal	15.0	18.0	15.0	3.0	15.0	16.0	15.3	15.3	17.0	15.0	15.0	15.0	36.5	15.0
Depth to Water	ft bgs	36.13	36.27	36.45	36.52	36.70	36.25	36.22	36.48	36.49	36.88	36.85	36.85	36.72	35.40
Temperature	deg C	10.0	10.0	10.0	9.9	10.1	10.4	10.4	10.6	10.5	10.3	10.4	10.6	10.4	10.4
pH	SU	6.99	7.01	7.04	6.93	7.00	7.06	7.07	6.28	6.95	7.06	7.03	7.06	6.91	7.04
Specific Conductance	µS/cm	2001	1910	1910	1926	1912	1767	1836	1885	1890	1913	1936	1922	1993	1890
Oxygen Reduction Potential	mV	-68.0	-36.7	-41.4	-38.1	-48.8	14.1	-13.8	-33.9	-37.8	-29.5	-25.6	-21.3	0.9	-62.7
Lab Analytical Results:															
Hardness as CaCO3	mg/L	936		1030			982			997			1020	963	1020
pH (Lab)	SU	7.2		7.37			7.17			7.09			6.99	6.92	6.89
Total Dissolved Solids (Lab)	mg/L	1460		1480			1490			1480			1530	1520	1430
Calcium	mg/L	170		179			171			173			162	165	175
Magnesium	mg/L	124		142			135			137			144	134	142
Sodium	mg/L	75.3		81.3			75.0			75.2			74.9	73.7	76.0
Potassium	mg/L	3.87		3.9			<5.00			3.74			3.74	3.82	<5.00
Alkalinity, Total	mg/L	380		367			405			392			350	357	355
Alkalinity, Bicarbonate	mg/L	380		367			405			392			425	357	355
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	mg/L	11.9		10.7			10.8			10.9			11.6	10.3	10.7
Fluoride	mg/L	<0.500		0.332			0.322			0.322			<0.500	0.354	0.330
Sulfate as SO4	mg/L	732		736			733			844			746	774	803
Total Organic Carbon (TOC)	mg/L	3.72		3.57			3.73			3.70			3.45	3.42	3.63
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	mg/L												0.178		
Ortho-Phosphate as P ^	mg/L												<0.0500		
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.1	<0.250
Arsenic	mg/L	0.0014		0.0015			0.0013			0.0016			0.0013	0.0013	0.0011
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0002	<0.0002	<0.0002
Copper	mg/L	0.0003		0.0018			0.0011			0.0008			0.0006	<0.001	<0.0010
Iron	mg/L	1.82		1.95			1.81			2.12			2.00	1.84	1.71
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.001	<0.0010
Manganese	mg/L	3.72		4.49			4.01			4.22			4.76	4.86	3.63
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0008		0.0011			0.0007			0.0009			<0.0010	0.001	<0.0010
Selenium	mg/L	<0.0020		<0.0020			<0.0010			0.0011			<0.0020	<0.002	<0.0020
Silica (Si02)	mg/L	16.6		16.1			16.1			16.9			16.8	16.4	15.8
Silicon	mg/L	7.75		7.52			7.55			7.90			7.83	7.67	7.37
Uranium	mg/L	0.0021		0.0018			0.0017			0.0018			0.0020	0.0019	0.0016
Zinc	mg/L	<0.0050		<0.0040			0.0021			0.0020			<0.0040	<0.004	<0.0040

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-8-EAA															
Year		2018	2019										2020		
Quarter		Q4	Q1			Q2			Q3			Q4	Q1		Q2
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11	5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	*gpm*	0.85	1.10	0.50	3.00	0.50	0.75	1.00	1.00	0.75	0.50	1.00	0.25	1.00	0.25
Total Purged	*gal*	18.0	14.0	15.0	3.0	15.0	17.0	15.3	15.3	18.0	15.3	15.5	15.0	15.2	15.0
Depth to Water	*ft bgs*	40.00	39.95	40.10	43.45	40.44	40.05	39.94	40.10	40.08	40.25	40.31	40.22	40.40	40.45
Temperature	*deg C*	10.3	10.2	10.0	9.9	10.3	10.5	10.6	10.5	10.6	10.3	10.2	11.2	10.5	11.0
pH	*SU*	7.12	7.09	7.13	7.17	7.09	7.02	7.17	7.09	7.05	7.03	6.99	6.99	6.99	7.14
Specific Conductance	*µS/cm*	1781	1696	1720	1725	1729	1628	1676	1699	172	1739	1774	1739	1758	1760
Oxygen Reduction Potential	*mV*	-65	-52.8	-51.8	-53.0	-59.7	11.0	-29.5	-46.6	-44.8	-33.5	-38.8	-39.2	-18.2	-72.4
Lab Analytical Results:															
Hardness as CaCO3	*mg/L*	870		861			864			883			867	861	907
pH (Lab)	*SU*	7.28		7.36			7.13			7.05			7.01	7.11	6.96
Total Dissolved Solids (Lab)	*mg/L*	1220		1290			1240			1280			1380	1290	1260
Calcium	*mg/L*	152		151			148			154			143	149	153
Magnesium	*mg/L*	119		118			120			121			124	119	127
Sodium	*mg/L*	81.7		82.6			77.2			78.6			77.1	77.2	77.7
Potassium	*mg/L*	3.80		3.27			3.55			3.18			3.52	3.8	<5.00
Alkalinity, Total	*mg/L*	400		435			450			431			445	404	385
Alkalinity, Bicarbonate	*mg/L*	400		435			450			431			445	404	385
Alkalinity, Carbonate	*mg/L*	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Alkalinity, Hydroxide	*mg/L*	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	*mg/L*	9.83		10.5			10.3			11.1			11.0	10.2	10.3
Fluoride	*mg/L*	0.380		0.370			0.338			0.342			<0.500	0.33	0.346
Sulfate as SO4	*mg/L*	533		559			606			643			577	602	625
Total Organic Carbon (TOC)	*mg/L*	3.77		3.59			3.77			3.68			3.52	3.49	3.56
Nitrate/Nitrite as N	*mg/L*	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	*mg/L*												0.216		
Ortho-Phosphate as P ^	*mg/L*												<0.0500		
Aluminum	*mg/L*	<0.100		<0.100			<0.050			<0.100			<0.050	<0.1	<0.250
Arsenic	*mg/L*	0.0020		0.0018			0.0018			0.0021			0.0018	0.0017	0.0017
Cadmium	*mg/L*	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002
Copper	*mg/L*	0.0004		0.0024			0.0023			0.0008			0.0010	0.001	<0.0010
Iron	*mg/L*	2.12		2.13			2.42			2.46			2.30	2.28	2.29
Lead	*mg/L*	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0010
Manganese	*mg/L*	3.17		3.52			3.06			3.37			3.39	3.7	3.36
Mercury	*mg/L*	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	*mg/L*	0.0009		0.0011			0.0008			0.0011			0.0008	<0.001	<0.0010
Selenium	*mg/L*	<0.0020		<0.0020			0.0010			0.0013			<0.0010	<0.002	<0.0020
Silica (Si02)	*mg/L*	16.3		15.3			15.7			16.1			15.9	15.7	15.0
Silicon	*mg/L*	7.63		7.15			7.32			7.52			7.42	7.32	7.02
Uranium	*mg/L*	0.0021		0.0017			0.0016			0.0018			0.0019	0.0019	0.0017
Zinc	*mg/L*	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.004	<0.0040

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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

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

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

GCC Energy Hydrologic Monitoring Data

MW-8-MI															
Year		2018	2019										2020		
Quarter		Q4	Q1			Q2			Q3			Q4		Q1	Q2
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/23	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11	5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	gpm	1.10	1.00	0.50	3.00	0.50	0.50	0.25	0.50	0.75	0.50	1.00	0.25	0.25	0.13
Total Purged	gal	27.5	18.0	1.0	3.0	1.5	2.5	2.5	2.3	3.0	2.0	2.5	1.0	1.0	1.0
Depth to Water	ft bgs	45.75	43.48	43.50	44.30	44.47	44.10	44.24	44.45	44.59	44.90	45.12	45.10	45.20	45.42
Temperature	deg C	10.8	10.8	10.6	11.2	10.4	11.1	11.4	11.0	11.4	10.9	10.3	11.4	10.2	11.3
pH	SU	7.57	7.50	7.48	7.47	7.34	7.31	7.48	7.42	7.38	7.30	7.23	7.15	7.08	7.44
Specific Conductance	µS/cm	1786	1667	1651	1658	1643	1595	1639	1645	1658	1637	1689	1642	1651	1659
Oxygen Reduction Potential	mV	-84.4	-177.1	-122.1	-113.3	-87.2	-54.4	-97.1	-116.4	-119.4	-88.4	-82.0	-59.3	-136.6	-184.9
Lab Analytical Results:															
Hardness as CaCO3	mg/L	167		249			273			253			267	254	309
pH (Lab)	SU	7.73		7.54			7.24			7.46			7.44	7.53	7.25
Total Dissolved Solids (Lab)	mg/L	1050		1030			1100			1110			1050	1060	1040
Calcium	mg/L	34.0		48.5			52.4			49.7			51.3	48.7	58.5
Magnesium	mg/L	19.9		31.0			34.5			31.4			33.8	32.1	39.6
Sodium	mg/L	344		312			289			289			275	269	272
Potassium	mg/L	4.47		5.25			<5.00			4.55			5.07	4.71	5.00
Alkalinity, Total	mg/L	500		565			560			573			585	543	545
Alkalinity, Bicarbonate	mg/L	500		565			560			573			585	543	545
Alkalinity, Carbonate	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	mg/L	12.7		10.0			9.33			9.06			9.66	8.19	8.23
Fluoride	mg/L	<0.500		<0.200			<0.200			<0.200			<0.500	<0.2	<0.200
Sulfate as SO4	mg/L	347		353			343			366			317	314	316
Total Organic Carbon (TOC)	mg/L	2.73		2.83			2.81			2.74			2.65	2.6	2.94
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	mg/L												1.31		
Ortho-Phosphate as P ^	mg/L												<0.0500		
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.100			<0.050	<0.1	<0.250
Arsenic	mg/L	0.0008		<0.0010			0.0006			0.0005			0.0005	<0.001	<0.0010
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0002
Copper	mg/L	0.0031		0.0066			0.0036			0.0035			0.0037	0.0027	<0.0010
Iron	mg/L	0.137		0.162			<0.250			0.129			0.130	0.108	<0.250
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0025
Manganese	mg/L	0.0495		0.0383			0.0327			0.0351			0.0377	0.0391	0.0393
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.001	<0.0010
Selenium	mg/L	<0.0020		<0.0020			0.0010			0.0010			<0.0010	<0.002	0.0020
Silica (Si02)	mg/L	12.1		12.4			12.8			12.5			12.6	12.2	11.9
Silicon	mg/L	5.65		5.78			5.99			5.83			5.88	5.71	5.55
Uranium	mg/L	0.0002		0.0002			0.0002			0.0001			0.0001	<0.001	<0.0025
Zinc	mg/L	<0.0050		<0.0040			<0.0020			<0.0020			<0.0020	<0.004	<0.0040

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
mg/L	milligram per liter
pCi/L	picocuries per liter
NM	not measured (field)
NA	not analyzed (lab)

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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		
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/28	1/29	2/19	3/21	4/16	5/29	6/18	7/24	8/13	9/27	10/24	11/6	2/11	5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	gpm	NM	1.00	0.25	1.00	0.50	0.10	0.25	0.25	0.50	0.25	0.12	0.25	0.25	0.25
Total Purged	gal	30	4.0	1.5	1.0	2.0	1.3	6.8	2.0	2.0	1.0	1.0	1.5	1.0	1.0
Depth to Water	ft bgs	136.39	130.52	134.30	144.03	140.03	137.48	142.23	144.15	138.06	137.50	137.60	137.34	139.15	129.70
Temperature	deg C	4.1	13.9	13.2	8.7	13.6	13.9	12.8	13.7	13.4	13.0	11.7	13.3	11.4	13.4
pH	SU	8.37	8.70	8.71	8.41	8.70	8.50	8.66	8.64	8.58	8.44	8.44	8.47	7.98	8.76
Specific Conductance	µS/cm	2306	1274	1265	1310	1262	1234	1264	1226	1269	1252	1299	1255	1294	1282
Oxygen Reduction Potential	mV	37.5	-114.3	112.8	77.0	-36.2	33.2	-63.9	-93.5	-103.0	-115.9	-94.4	-47.4	-106.6	-204.5
Lab Analytical Results:															
Hardness as CaCO3	mg/L	45.0		7.29			16.9			6.67			6.38	6.79	7.76
pH (Lab)	SU	8.57		8.63			8.02			8.56			8.52	8.55	8.41
Total Dissolved Solids (Lab)	mg/L	1420		770			780			785			780	840	730
Calcium	mg/L	10.8		1.93			3.84			1.78			1.68	1.77	2.09
Magnesium	mg/L	4.39		0.600			1.77			0.541			0.528	0.574	0.620
Sodium	mg/L	382		341			317			306			305	309	315
Potassium	mg/L	45.7		3.49			<5.00			2.27			2.18	2.06	<5.00
Alkalinity, Total	mg/L	615		720			745			731			745	685	630
Alkalinity, Bicarbonate	mg/L	535		610			645			645			685	595	530
Alkalinity, Carbonate	mg/L	80.0		110			100			86.0			60.0	90	100
Alkalinity, Hydroxide	mg/L	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	mg/L	175		5.11			6.80			2.63			2.48	3.04	3.01
Fluoride	mg/L	2.06		3.91			3.95			3.97			3.88	3.61	3.63
Sulfate as SO4	mg/L	190		3.79			9.58			1.02			<1.00	<2	<2.00
Total Organic Carbon (TOC)	mg/L	2.80		1.80			3.33			1.94			1.69	1.69	1.92
Nitrate/Nitrite as N	mg/L	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	mg/L												0.282		
Ortho-Phosphate as P ^	mg/L												<0.0500		
Aluminum	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.1	<0.250
Arsenic	mg/L	0.0106		<0.0010			0.0006			0.0007			0.0006	<0.0005	<0.0010
Cadmium	mg/L	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0001	<0.0002
Copper	mg/L	0.0337		0.0077			0.0047			0.0041			0.0051	0.0033	0.0012
Iron	mg/L	<0.050		<0.100			<0.250			<0.050			<0.050	<0.1	<0.250
Lead	mg/L	<0.0005		<0.0010			<0.0005			<0.0005			<0.0010	<0.0005	<0.0010
Manganese	mg/L	0.0258		0.0038			0.0150			0.0020			0.0026	0.0025	0.0029
Mercury	mg/L	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	0.0142		<0.0010			0.0009			<0.0005			<0.0005	<0.0005	<0.0010
Selenium	mg/L	0.0020		<0.0020			<0.0010			<0.0010			<0.0010	<0.001	<0.0020
Silica (Si02)	mg/L	9.09		8.45			8.68			8.28			7.77	7.62	7.40
Silicon	mg/L	4.25		3.95			4.06			3.87			3.63	3.56	3.46
Uranium	mg/L	0.0044		<0.0002			0.0001			0.0001			<0.0002	<0.0005	<0.0010
Zinc	mg/L	0.0080		<0.0040			0.0023			<0.0020			<0.0020	<0.002	<0.0040

Notes & Definitions:

^	one-time analysis
Y/N	yes or no
gpm	gallons per minute
deg C	degrees Celsius
SU	standard pH units
µS/cm	microsiemens per centimeter
mV	millivolts
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GCC Energy Hydrologic Monitoring Data

MW-8-PL															
Year		**2018**	**2019**										**2020**		
Quarter		Q4	Q1			Q2			Q3			Q4	Q1	Q2	
Month		12	1	2	3	4	5	6	7	8	9	10	11	2	5
Sample Date		12/27	1/29	2/19	3/20	4/16	5/29	6/20	7/24	8/13	9/27	10/24	11/6	2/11	5/27
Lab Analysis (Y/N)		Y	N	Y	N	N	Y	N	N	Y	N	N	Y	Y	Y
Field Parameters:															
Purge Flow Rate	*gpm*	0.25	1.00	0.50	3.00	0.50	0.25	0.50	1.00	0.50	0.50	0.75	0.25	0.25	0.25
Total Purged	*gal*	20.0	5.0	2.0	3.0	2.0	3.0	2.5	2.3	2.5	2.0	2.5	1.3	2.0	2.0
Depth to Water	*ft bgs*	125.97	126.29	126.40	127.10	126.98	126.70	126.82	127.25	127.38	127.42	127.48	127.59	127.32	127.34
Temperature	*deg C*	10.3	14.2	13.4	12.9	13.2	14.2	14.8	14.7	14.9	14.0	13.2	14.9	13.8	14.8
pH	*SU*	7.50	7.30	7.49	7.30	7.29	7.31	7.57	7.56	7.52	7.45	7.47	7.52	7.55	7.47
Specific Conductance	*µS/cm*	1690	1531	1571	1558	1554	1411	1326	1165	1083	947	940	900	862	844
Oxygen Reduction Potential	*mV*	30.2	-116.5	97.9	-108.7	-110.6	34.2	-57.6	-74.0	-79.5	-51.3	-52.5	-30.8	-59.9	-101.9
Lab Analytical Results:															
Hardness as CaCO3	*mg/L*	617		644			596			411			294	278	298
pH (Lab)	*SU*	7.28		7.40			7.26			7.22			7.39	7.47	7.19
Total Dissolved Solids (Lab)	*mg/L*	1150		1090			995			705			620	500	490
Calcium	*mg/L*	112		120			105			73.1			52.1	49.3	53.8
Magnesium	*mg/L*	82.1		83.8			81.4			55.4			39.7	37.6	39.7
Sodium	*mg/L*	106		124			102			91.7			83.3	78.5	80.4
Potassium	*mg/L*	5.14		5.62			<5.00			2.80			2.35	2.32	2.11
Alkalinity, Total	*mg/L*	370		415			435			393			390	339	340
Alkalinity, Bicarbonate	*mg/L*	370		415			435			393			390	339	340
Alkalinity, Carbonate	*mg/L*	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Alkalinity, Hydroxide	*mg/L*	<10.0		<10.0			<10.0			<10.0			<10.0	<10	<10.0
Chloride	*mg/L*	18.8		18.5			9.03			5.61			5.66	3.51	3.38
Fluoride	*mg/L*	0.505		0.474			0.290			0.291			<0.500	0.258	0.240
Sulfate as SO4	*mg/L*	478		471			390			232			127	109	103
Total Organic Carbon (TOC)	*mg/L*	4.17		4.02			2.92			2.21			1.75	1.63	1.63
Nitrate/Nitrite as N	*mg/L*	<0.020		<0.020			<0.020			<0.020			<0.020	<0.02	<0.020
Ammonia as N ^	*mg/L*												0.199		
Ortho-Phosphate as P ^	*mg/L*												<0.0500		
Aluminum	*mg/L*	<0.050		<0.100			<0.250			<0.050			<0.050	<0.05	<0.100
Arsenic	*mg/L*	0.0074		0.0124			0.0190			0.0156			0.0104	0.0073	0.0075
Cadmium	*mg/L*	<0.0001		<0.0002			<0.0001			<0.0001			<0.0001	<0.0002	<0.0001
Copper	*mg/L*	0.0016		0.0025			0.0017			0.0011			0.0004	0.001	<0.0025
Iron	*mg/L*	<0.050		0.352			<0.250			0.129			0.075	0.054	<0.100
Lead	*mg/L*	<0.0005		<0.0010			<0.0005			<0.0005			<0.0005	<0.0005	<0.0005
Manganese	*mg/L*	1.31		1.22			0.697			0.505			0.313	0.303	0.307
Mercury	*mg/L*	<0.0002		<0.0002			<0.0002			<0.0002			<0.0002	<0.0002	<0.0002
Molybdenum	*mg/L*	0.0090		0.0068			0.0020			0.0021			0.0017	0.0008	<0.0005
Selenium	*mg/L*	0.0012		<0.0020			<0.0010			<0.0010			<0.0010	<0.001	<0.0010
Silica (Si02)	*mg/L*	14.1		16.3			17.7			18.5			18.0	18.9	18.7
Silicon	*mg/L*	6.58		7.64			8.28			8.67			8.42	8.82	8.75
Uranium	*mg/L*	0.0052		0.0040			0.0010			0.0009			0.0004	<0.0005	<0.0005
Zinc	*mg/L*	0.0344		<0.0040			<0.0020			<0.0080			<0.0020	<0.002	<0.0100

Notes & Definitions:

^	**one-time analysis**
Y/N	**yes or no**
gpm	**gallons per minute**
deg C	**degrees Celsius**
SU	**standard pH units**
µS/cm	**microsiemens per centimeter**
mV	**millivolts**
mg/L	**milligram per liter**
pCi/L	**picocuries per liter**
NM	**not measured (field)**
NA	**not analyzed (lab)**

1. *"<" 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.*