GCC Energy

"Safety as a Value"

Telephone: 970.385.4528
Facsimile: 970.385.4638

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

November 1, 2017

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

Attn: Rob Zuber

Re: Field Well Water Analysis; King I & King II
3rd Quarter 2017

Mr. Zuber:

Please find enclosed a copy of quarterly water analysis reports for the 3rd quarter of 2017 for the following water monitoring locations:

- Wiltse Well
- #1 Up-gradient Monitoring Well
- #2 Down-gradient Monitoring Well
- Hay Gulch Irrigation Ditch, Down-gradient
- Hay Gulch Irrigation Ditch, Up-gradient
- MW-1-A, MW-1-C
- MW-3-MI, MW-3-A, MW-3-C
- MW-4-MI, MW-4-A, MW-4-C
- MW-HGA-4

This quarter MW-99-MI was a blind duplicate for MW-3-MI.

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

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

Sincerely,

Tom Bird
Manager, Coal Services
GCC Energy, LLC

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

18 October 2017

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326

RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 09/28/17 17:00.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt
Reports Manager

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

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

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

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well #1 Upgradient	1709264-01	Water	09/28/17 14:50	09/28/17 17:00
MW-4-C	1709264-02	Water	09/28/17 10:50	09/28/17 17:00
MW-4-MI	1709264-03	Water	09/28/17 08:55	09/28/17 17:00
MW-4-A	1709264-04	Water	09/28/17 10:12	09/28/17 17:00
MW-3-C	1709264-05	Water	09/28/17 08:12	09/28/17 17:00
MW-3-MI	1709264-06	Water	09/28/17 07:15	09/28/17 17:00
MW-3-A	1709264-07	Water	09/28/17 07:55	09/28/17 17:00
Wiltse Well	1709264-08	Water	09/28/17 13:52	09/28/17 17:00
MW-99-MI	1709264-09	Water	09/28/17 07:25	09/28/17 17:00

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Well #1 Upgradient

1709264-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**670**	10.0		mg/L	5	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**670**	10.0		mg/L	5	10/09/17	2320 B		CMS
Chloride*	**6.21**	5.00	0.717	mg/L	5	10/11/17	EPA300.0		JDA
Fluoride*	<0.500	0.500	0.0798	mg/L	5	10/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	10/16/17	EPA353.2		LLG
pH*	**7.66**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**705**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**74.0**	5.00	0.782	mg/L	5	10/11/17	EPA300.0		JDA
Total Organic Carbon	**2.84**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**41.6**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**215**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	**0.101**	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**27.1**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**3.09**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**14.3**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**6.68**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**203**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	10/11/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/11/17	EPA200.8		JDA
Copper*	**0.0030**	0.0001	0.00003	mg/L	1	10/11/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/11/17	EPA200.8		JDA
Manganese*	**0.202**	0.0005	0.0003	mg/L	1	10/11/17	EPA200.8		JDA
Molybdenum*	<0.0005	0.0005	0.00006	mg/L	1	10/11/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/11/17	EPA200.8		JDA
Uranium	**0.0001**	0.0001	0.00001	mg/L	1	10/11/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Well #1 Upgradient

1709264-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-C

1709264-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**2780**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**2780**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**587**	20.0	2.87	mg/L	20	10/12/17	EPA300.0		JDA
Fluoride*	**2.17**	1.00	0.160	mg/L	10	10/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	10/16/17	EPA353.2	M5	LLG
pH*	**7.79**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**3750**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**70.2**	10.0	1.56	mg/L	10	10/11/17	EPA300.0		JDA
Total Organic Carbon	**5.08**	2.50	1.01	mg/L	5	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**9.15**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**38.9**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**3.90**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**6.07**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**12.9**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**6.02**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**1490**	10.0	0.870	mg/L	10	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0128**	0.0050	0.0008	mg/L	10	10/11/17	EPA200.8		JDA
Cadmium*	<0.0010	0.0010	0.0009	mg/L	10	10/11/17	EPA200.8		JDA
Copper*	**0.0221**	0.0010	0.0003	mg/L	10	10/11/17	EPA200.8		JDA
Lead*	<0.0050	0.0050	0.0002	mg/L	10	10/11/17	EPA200.8		JDA
Manganese*	**0.0554**	0.0050	0.0027	mg/L	10	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0138**	0.0050	0.0006	mg/L	10	10/11/17	EPA200.8		JDA
Selenium*	**0.0214**	0.0100	0.0015	mg/L	10	10/11/17	EPA200.8		JDA
Uranium	**0.0984**	0.0010	0.0001	mg/L	10	10/11/17	EPA200.8		JDA
Zinc*	<0.0200	0.0200	0.0090	mg/L	10	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-C

1709264-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-MI

1709264-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**880**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**220**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**1100**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**8.78**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	**5.09**	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**8.63**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1180**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**76.6**	5.00	0.782	mg/L	5	10/12/17	EPA300.0		JDA
Total Organic Carbon	**8.58**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**1.88**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**7.07**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**0.579**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**1.73**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**8.80**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**4.11**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**449**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0131**	0.0025	0.0004	mg/L	5	10/11/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	10/11/17	EPA200.8		JDA
Copper*	**0.0071**	0.0005	0.0002	mg/L	5	10/11/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	10/11/17	EPA200.8		JDA
Manganese*	**0.0081**	0.0025	0.0014	mg/L	5	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0127**	0.0025	0.0003	mg/L	5	10/11/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	10/11/17	EPA200.8		JDA
Uranium	**0.0184**	0.0005	0.00007	mg/L	5	10/11/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-MI

1709264-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-A

1709264-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**590**	10.0		mg/L	10	10/18/17	2320 B	H3	CMS
Alkalinity, Carbonate as CaCO3*	**40.0**	10.0		mg/L	10	10/18/17	2320 B	H3	CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/18/17	2320 B	H3	CMS
Alkalinity, Total as CaCO3*	**630**	10.0		mg/L	10	10/18/17	2320 B	H3	CMS
Chloride*	**10.3**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	<0.500	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**8.36**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1450**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**783**	25.0	3.91	mg/L	25	10/13/17	EPA300.0		JDA
Total Organic Carbon	**3.52**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**1.76**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**7.77**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**0.823**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**1.63**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**9.99**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**4.67**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**513**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	<0.0025	0.0025	0.0004	mg/L	5	10/11/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	10/11/17	EPA200.8		JDA
Copper*	**0.0076**	0.0005	0.0002	mg/L	5	10/11/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	10/11/17	EPA200.8		JDA
Manganese*	**0.0044**	0.0025	0.0014	mg/L	5	10/11/17	EPA200.8		JDA
Molybdenum*	<0.0025	0.0025	0.0003	mg/L	5	10/11/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	10/11/17	EPA200.8		JDA
Uranium	<0.0005	0.0005	0.00007	mg/L	5	10/11/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-4-A

1709264-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-C

1709264-05 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**1650**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**40.0**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**1690**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**477**	10.0	1.43	mg/L	10	10/12/17	EPA300.0		JDA
Fluoride*	**4.52**	1.00	0.160	mg/L	10	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	10/16/17	EPA353.2		LLG
pH*	**8.35**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**3070**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**46.4**	10.0	1.56	mg/L	10	10/12/17	EPA300.0		JDA
Total Organic Carbon	**219**	5.00	2.01	mg/L	10	10/13/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**3.50**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**15.1**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**1.55**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**4.01**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**9.16**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**4.28**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**1100**	10.0	0.870	mg/L	10	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0098**	0.0050	0.0008	mg/L	10	10/11/17	EPA200.8		JDA
Cadmium*	<0.0010	0.0010	0.0009	mg/L	10	10/11/17	EPA200.8		JDA
Copper*	**0.0174**	0.0010	0.0003	mg/L	10	10/11/17	EPA200.8		JDA
Lead*	<0.0050	0.0050	0.0002	mg/L	10	10/11/17	EPA200.8		JDA
Manganese*	**0.0178**	0.0050	0.0027	mg/L	10	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0241**	0.0050	0.0006	mg/L	10	10/11/17	EPA200.8		JDA
Selenium*	**0.0149**	0.0100	0.0015	mg/L	10	10/11/17	EPA200.8		JDA
Uranium	**0.0137**	0.0010	0.0001	mg/L	10	10/11/17	EPA200.8		JDA
Zinc*	<0.0200	0.0200	0.0090	mg/L	10	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-C

1709264-05 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-MI

1709264-06 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**600**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**100**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**700**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**10.7**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	**1.26**	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**8.72**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1140**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**247**	10.0	1.56	mg/L	10	10/13/17	EPA300.0		JDA
Total Organic Carbon	**10.9**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**2.34**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**9.02**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**0.775**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**1.93**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**9.05**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**4.23**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**440**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0131**	0.0025	0.0004	mg/L	5	10/11/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	10/11/17	EPA200.8		JDA
Copper*	**0.0065**	0.0005	0.0002	mg/L	5	10/11/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	10/11/17	EPA200.8		JDA
Manganese*	**0.0033**	0.0025	0.0014	mg/L	5	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0148**	0.0025	0.0003	mg/L	5	10/11/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	10/11/17	EPA200.8		JDA
Uranium	**0.0140**	0.0005	0.00007	mg/L	5	10/11/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-MI

1709264-06 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-A

1709264-07 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**440**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**60.0**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**500**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**18.5**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	**0.535**	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**8.53**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1630**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**840**	25.0	3.91	mg/L	25	10/13/17	EPA300.0		JDA
Total Organic Carbon	**7.26**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**3.63**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**12.6**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**0.859**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**2.04**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**11.6**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**5.41**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**589**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	<0.0025	0.0025	0.0004	mg/L	5	10/11/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	10/11/17	EPA200.8		JDA
Copper*	**0.0080**	0.0005	0.0002	mg/L	5	10/11/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	10/11/17	EPA200.8		JDA
Manganese*	**0.0194**	0.0025	0.0014	mg/L	5	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0091**	0.0025	0.0003	mg/L	5	10/11/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	10/11/17	EPA200.8		JDA
Uranium	**0.0051**	0.0005	0.00007	mg/L	5	10/11/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-3-A

1709264-07 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Wiltse Well

1709264-08 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**510**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**510**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**68.7**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	<0.500	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	**1.80**	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**7.30**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1680**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**779**	25.0	3.91	mg/L	25	10/13/17	EPA300.0		JDA
Total Organic Carbon	**3.34**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**219**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**1140**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**143**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**4.62**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**16.1**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**7.54**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**80.7**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0005**	0.0005	0.00008	mg/L	1	10/11/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/11/17	EPA200.8		JDA
Copper*	**0.0025**	0.0001	0.00003	mg/L	1	10/11/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/11/17	EPA200.8		JDA
Manganese*	**0.881**	0.0005	0.0003	mg/L	1	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0021**	0.0005	0.00006	mg/L	1	10/11/17	EPA200.8		JDA
Selenium*	**0.0016**	0.0010	0.0002	mg/L	1	10/11/17	EPA200.8		JDA
Uranium	**0.0021**	0.0001	0.00001	mg/L	1	10/11/17	EPA200.8		JDA
Zinc*	**0.0208**	0.0020	0.0009	mg/L	1	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Wiltse Well

1709264-08 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-99-MI

1709264-09 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**640**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**140**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**780**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**10.7**	5.00	0.717	mg/L	5	10/12/17	EPA300.0		JDA
Fluoride*	**1.27**	0.500	0.0798	mg/L	5	10/12/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	10/16/17	EPA353.2		LLG
pH*	**8.65**			pH Units	1	09/29/17	EPA150.1		CMS
Total Dissolved Solids*	**1140**	10.0		mg/L	1	10/03/17	EPA160.1		LLG
Sulfate*	**258**	10.0	1.56	mg/L	10	10/13/17	EPA300.0		JDA
Total Organic Carbon	**10.8**	0.500	0.201	mg/L	1	10/12/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/10/17	EPA200.7		JDA
Calcium*	**2.27**	0.100	0.036	mg/L	1	10/10/17	EPA200.7		JDA
Hardness as CaCO3	**8.79**	0.662	0.195	mg/L	1	10/10/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/10/17	EPA200.7		JDA
Magnesium*	**0.756**	0.100	0.026	mg/L	1	10/10/17	EPA200.7		JDA
Potassium*	**1.98**	1.00	0.094	mg/L	1	10/10/17	EPA200.7		JDA
Silica (Si02)	**8.73**	1.07	0.298	mg/L	1	10/10/17	Calculation		JDA
Silicon	**4.08**	0.500	0.139	mg/L	1	10/10/17	EPA200.7		JDA
Sodium*	**424**	1.00	0.087	mg/L	1	10/10/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0128**	0.0025	0.0004	mg/L	5	10/11/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	10/11/17	EPA200.8		JDA
Copper*	**0.0054**	0.0005	0.0002	mg/L	5	10/11/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	10/11/17	EPA200.8		JDA
Manganese*	**0.0033**	0.0025	0.0014	mg/L	5	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0143**	0.0025	0.0003	mg/L	5	10/11/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	10/11/17	EPA200.8		JDA
Uranium	**0.0113**	0.0005	0.00007	mg/L	5	10/11/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

MW-99-MI

1709264-09 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B709248 - General Prep - Wet Chem										
Duplicate (B709248-DUP1)		**Source: 1709264-01**		Prepared & Analyzed: 09/29/17						
pH	7.69		pH Units		7.66			0.391	20	
Reference (B709248-SRM1)				Prepared & Analyzed: 09/29/17						
pH	6.35		pH Units	6.39		99.4	96.9-103.1			
Batch B710017 - General Prep - Wet Chem										
Blank (B710017-BLK1)				Prepared & Analyzed: 10/03/17						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B710017-DUP1)		**Source: 1709248-01**		Prepared & Analyzed: 10/03/17						
Total Dissolved Solids	615	10.0	mg/L		640			3.98	20	
Reference (B710017-SRM1)				Prepared & Analyzed: 10/03/17						
Total Dissolved Solids	530	10.0	mg/L	550		96.4	85-115			
Batch B710076 - General Prep - Wet Chem										
Blank (B710076-BLK1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B710076-BS1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO3	108	10.0	mg/L	100		108	85-115			
LCS Dup (B710076-BSD1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO3	109	10.0	mg/L	100		109	85-115	0.922	20	
Batch B710086 - General Prep - Wet Chem										
Blank (B710086-BLK1)				Prepared: 10/10/17 Analyzed: 10/11/17						
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

General Chemistry - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710086 - General Prep - Wet Chem (Continued)										
LCS (B710086-BS1)				Prepared: 10/10/17 Analyzed: 10/11/17						
Chloride	23.7	1.00	mg/L	25.0		94.7	90-110			
Fluoride	2.39	0.100	mg/L	2.50		95.7	90-110			
Sulfate	23.5	1.00	mg/L	25.0		94.0	90-110			
LCS Dup (B710086-BSD1)				Prepared: 10/10/17 Analyzed: 10/11/17						
Chloride	23.8	1.00	mg/L	25.0		95.3	90-110	0.644	20	
Fluoride	2.41	0.100	mg/L	2.50		96.2	90-110	0.542	20	
Sulfate	23.6	1.00	mg/L	25.0		94.5	90-110	0.518	20	
Batch B710087 - General Prep - Wet Chem										
Blank (B710087-BLK1)				Prepared & Analyzed: 10/12/17						
Total Organic Carbon	ND	0.500	mg/L							
LCS (B710087-BS1)				Prepared & Analyzed: 10/12/17						
Total Organic Carbon	9.73	0.500	mg/L	10.0		97.3	85-115			
LCS Dup (B710087-BSD1)				Prepared & Analyzed: 10/12/17						
Total Organic Carbon	9.68	0.500	mg/L	10.0		96.8	85-115	0.494	20	
Batch B710110 - General Prep - Wet Chem										
Blank (B710110-BLK1)				Prepared & Analyzed: 10/12/17						
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B710110-BS1)				Prepared & Analyzed: 10/12/17						
Chloride	24.2	1.00	mg/L	25.0		97.0	90-110			
Fluoride	2.45	0.100	mg/L	2.50		98.0	90-110			
Sulfate	23.9	1.00	mg/L	25.0		95.6	90-110			
LCS Dup (B710110-BSD1)				Prepared & Analyzed: 10/12/17						
Chloride	24.4	1.00	mg/L	25.0		97.7	90-110	0.768	20	
Fluoride	2.44	0.100	mg/L	2.50		97.7	90-110	0.286	20	
Sulfate	23.8	1.00	mg/L	25.0		95.1	90-110	0.549	20	
Batch B710123 - General Prep - Wet Chem										
Blank (B710123-BLK1)				Prepared & Analyzed: 10/16/17						
Nitrate/Nitrite as N	ND	0.020	mg/L							
LCS (B710123-BS1)				Prepared & Analyzed: 10/16/17						

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

General Chemistry - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710123 - General Prep - Wet Chem (Continued)										
LCS (B710123-BS1) (Continued)			Prepared & Analyzed: 10/16/17							
Nitrate/Nitrite as N	0.958	0.020	mg/L	1.00		95.8	90-110			
LCS Dup (B710123-BSD1)			Prepared & Analyzed: 10/16/17							
Nitrate/Nitrite as N	0.960	0.020	mg/L	1.00		96.0	90-110	0.229	20	
Batch B710155 - General Prep - Wet Chem										
Blank (B710155-BLK1)			Prepared & Analyzed: 10/18/17							
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B710155-BS1)			Prepared & Analyzed: 10/18/17							
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO3	107	10.0	mg/L	100		107	85-115			
LCS Dup (B710155-BSD1)			Prepared & Analyzed: 10/18/17							
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO3	103	10.0	mg/L	100		103	85-115	3.81	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710083 - Diss. 200.7/200.8										
Blank (B710083-BLK1)			Prepared & Analyzed: 10/10/17							
Aluminum	ND	0.050	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Silicon	ND	0.500	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B710083-BS1)			Prepared & Analyzed: 10/10/17							
Aluminum	5.14	0.050	mg/L	5.00		103	85-115			
Calcium	4.99	0.100	mg/L	5.00		99.8	85-115			
Iron	5.13	0.050	mg/L	5.00		103	85-115			
Magnesium	26.1	0.100	mg/L	25.0		104	85-115			
Potassium	9.73	1.00	mg/L	10.0		97.3	85-115			
Silicon	4.95	0.500	mg/L	5.00		98.9	85-115			
Sodium	8.11	1.00	mg/L	8.10		100	85-115			
LCS Dup (B710083-BSD1)			Prepared & Analyzed: 10/10/17							
Aluminum	5.14	0.050	mg/L	5.00		103	85-115	0.0817	20	
Calcium	5.03	0.100	mg/L	5.00		101	85-115	0.704	20	
Iron	5.12	0.050	mg/L	5.00		102	85-115	0.143	20	
Magnesium	26.2	0.100	mg/L	25.0		105	85-115	0.510	20	
Potassium	9.80	1.00	mg/L	10.0		98.0	85-115	0.649	20	
Silicon	4.95	0.500	mg/L	5.00		99.0	85-115	0.119	20	
Sodium	8.15	1.00	mg/L	8.10		101	85-115	0.525	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710041 - Diss. 200.7/200.8										
Blank (B710041-BLK1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	ND	0.0005	mg/L							
Cadmium	ND	0.0001	mg/L							
Copper	ND	0.0001	mg/L							
Lead	ND	0.0005	mg/L							
Manganese	ND	0.0005	mg/L							
Molybdenum	ND	0.0005	mg/L							
Selenium	ND	0.0010	mg/L							
Uranium	ND	0.0001	mg/L							
Zinc	ND	0.0020	mg/L							
LCS (B710041-BS1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	0.0472	0.0005	mg/L	0.0500		94.4	85-115			
Cadmium	0.0477	0.0001	mg/L	0.0500		95.5	85-115			
Copper	0.0474	0.0001	mg/L	0.0500		94.9	85-115			
Lead	0.0480	0.0005	mg/L	0.0500		95.9	85-115			
Manganese	0.0465	0.0005	mg/L	0.0500		93.1	85-115			
Molybdenum	0.0506	0.0005	mg/L	0.0500		101	85-115			
Selenium	0.242	0.0010	mg/L	0.250		96.9	85-115			
Uranium	0.0490	0.0001	mg/L	0.0500		98.0	85-115			
Zinc	0.0504	0.0020	mg/L	0.0500		101	85-115			
LCS Dup (B710041-BSD1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	0.0491	0.0005	mg/L	0.0500		98.2	85-115	3.98	20	
Cadmium	0.0480	0.0001	mg/L	0.0500		96.0	85-115	0.566	20	
Copper	0.0491	0.0001	mg/L	0.0500		98.2	85-115	3.46	20	
Lead	0.0491	0.0005	mg/L	0.0500		98.3	85-115	2.45	20	
Manganese	0.0485	0.0005	mg/L	0.0500		97.1	85-115	4.19	20	
Molybdenum	0.0514	0.0005	mg/L	0.0500		103	85-115	1.50	20	
Selenium	0.246	0.0010	mg/L	0.250		98.5	85-115	1.61	20	
Uranium	0.0495	0.0001	mg/L	0.0500		99.0	85-115	1.02	20	
Zinc	0.0506	0.0020	mg/L	0.0500		101	85-115	0.319	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/18/17 15:00

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710008 - EPA 245.1/7470										
Blank (B710008-BLK1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	ND	0.0002	mg/L							
LCS (B710008-BS1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0021	0.0002	mg/L	0.00200		104	85-115			
LCS Dup (B710008-BSD1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115	1.14	20	

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GCC Energy, LLC	Project:	GCC GW Baseline	
6473 CR 120	Project Name / Number:	GCC Energy Hay Gulch/Cluster Sites	**Reported:**
Hesperus CO, 81326	Project Manager:	Tom Bird	10/18/17 15:00

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
H3	Initial analysis performed within hold-time but not reportable due to QC failure or other issue. Sample was subsequently re-analyzed past hold time specified by method.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
	*Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Company Name:	GCC Energy, LLC
Project Manager:	TOM Bird
Address:	6473 C.R. 120
City:	Hesperus State: CO Zip: 81326
Phone #:	(970) 385-4528 Email: TBird@gcc.com
Additional Report To:	LBeck@resourcetechnologies.com
Project Name:	GCC Energy Hay Gulch / Cluster Sites
Project Number:	
Sampler Name (Print):	Jessica Luna & Michael McFarland

Bill to (if different):

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax or Email:	

FOR LAB USE ONLY Lab I.D.	Sample Name or Location	Collected Date	Collected Time	Matrix (check one) GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	SOIL	OTHER:	# of containers No preservation (general)	HNO_3	HCl	H_2SO_4	Other:	Other:	Other:	ANALYSIS REQUEST GCC GW Baseline
1709-264-01	Well #1 upgradient	9/28/17	2:50pm	X						1	1		4				X
-02	MW-4-C	9/28/17	10:50am	X						1	1		4				X
-03	MW-4-MI	9/28/17	8:55am	X						1	1		4				X
-04	MW-4-A	9/28/17	10:12am	X						1	1		4				X
-05	MW-3-C	9/28/17	8:12am	X						1	1		4				X
-06	MW-3-MI	9/28/17	7:15am	X						1	1		4				X
-07	[redacted] MW-3-A	9/28/17	7:55am	X						1	1		4				X
-08	Water Well	9/28/17	1:52pm	X						1	1		4				X
-09	MW-99-MI	9-28-17	07:25	X						1	1		4				X

Add per Landon Beck 8-29-17 DJ

Relinquished By: Jessica Luna	Date: 9/28 Time: 3:30pm	Received By:	ADDITIONAL REMARKS: Report to State? (Circle) Yes No
Relinquished By:	Date: 9-28-17 Time: 1700	Received By:	~~RUSH~~ ~~TAT to 5-day TAT~~ LB 9/28/17
Relinquished By:	Date: Time:	Received By: #1 on ice	DO not test for Radium 226/228
Delivered By: (Circle One) Sampler - UPS - FedEx - Kangaroo - Other:	Temperature at reciept: 3.1/3.3 °C	CHECKED BY: JE	

† GAL cannot always accept verbal changes. Please fax or email written change requests.

* Chain of Custody must be signed in "Reliquished By:" as an acceptance of services and all applicable charges.

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10 October 2017

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326

RE: GCC GW & SW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 09/21/17 16:40.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt
Reports Manager

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

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

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

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well #2 Downgradient	1709215-01	Water	09/21/17 00:00	09/21/17 16:40
Hay Gulch Ditch Downgradient	1709215-02	Water	09/21/17 00:00	09/21/17 16:40
Hay Gulch Ditch Upgradient	1709215-03	Water	09/21/17 00:00	09/21/17 16:40
MW-HGA-4	1709215-04	Water	09/21/17 00:00	09/21/17 16:40

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Well #2 Downgradient

1709215-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**395**	10.0		mg/L	5	10/05/17	2320 B		LLG
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	10/05/17	2320 B		LLG
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	10/05/17	2320 B		LLG
Alkalinity, Total as CaCO3*	**395**	10.0		mg/L	5	10/05/17	2320 B		LLG
Chloride*	**19.0**	1.00	0.143	mg/L	1	09/30/17	EPA300.0		JDA
Fluoride*	**0.263**	0.100	0.0160	mg/L	1	09/30/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	09/27/17	EPA353.2		LLG
pH*	**7.51**			pH Units	1	09/25/17	EPA150.1	H4	CMS
Total Dissolved Solids*	**525**	10.0		mg/L	1	09/28/17	EPA160.1		LLG
Sulfate*	**98.4**	5.00	0.782	mg/L	5	09/30/17	EPA300.0		JDA
Total Organic Carbon	**2.61**	0.500	0.201	mg/L	1	09/27/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/03/17	EPA200.7		JDA
Calcium*	**64.8**	0.100	0.036	mg/L	1	10/03/17	EPA200.7		JDA
Hardness as CaCO3	**378**	0.662	0.195	mg/L	1	10/03/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/03/17	EPA200.7		JDA
Magnesium*	**52.6**	0.100	0.026	mg/L	1	10/03/17	EPA200.7		JDA
Potassium*	**1.64**	1.00	0.094	mg/L	1	10/03/17	EPA200.7		JDA
Silica (Si02)	**13.0**	1.07	0.298	mg/L	1	10/03/17	Calculation		JDA
Silicon	**6.08**	0.500	0.139	mg/L	1	10/03/17	EPA200.7		JDA
Sodium*	**17.0**	1.00	0.087	mg/L	1	10/03/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0006**	0.0005	0.00008	mg/L	1	10/06/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/06/17	EPA200.8		JDA
Copper*	**0.0004**	0.0001	0.00003	mg/L	1	10/06/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/06/17	EPA200.8		JDA
Manganese*	**0.307**	0.0005	0.0003	mg/L	1	10/06/17	EPA200.8		JDA
Molybdenum*	**0.0021**	0.0005	0.00006	mg/L	1	10/06/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/06/17	EPA200.8		JDA
Uranium	**0.0013**	0.0001	0.00001	mg/L	1	10/06/17	EPA200.8		JDA
Zinc*	<0.0040	0.0040	0.0009	mg/L	1	10/06/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Well #2 Downgradient

1709215-01 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Hay Gulch Ditch Downgradient

1709215-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**85.0**	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**85.0**	10.0		mg/L	1	10/02/17	2320 B		CMS
Chloride*	**1.54**	1.00	0.143	mg/L	1	09/30/17	EPA300.0		JDA
Fluoride*	**0.227**	0.100	0.0160	mg/L	1	09/30/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	09/27/17	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	09/29/17	EPA1664 A		CMS
pH*	**7.98**			pH Units	1	09/25/17	EPA150.1	H4	CMS
SAR	**0.11**			No Unit	1	10/10/17	Calculation		JDA
Total Dissolved Solids*	**80.0**	10.0		mg/L	1	09/28/17	EPA160.1		LLG
Total Suspended Solids*	<0.500	0.500		mg/L	0.25	09/28/17	EPA160.2		LLG
Sulfate*	**17.9**	1.00	0.156	mg/L	1	09/30/17	EPA300.0		JDA
Total Organic Carbon	**0.932**	0.500	0.201	mg/L	1	09/27/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/03/17	EPA200.7		JDA
Calcium*	**29.5**	0.100	0.036	mg/L	1	10/03/17	EPA200.7		JDA
Hardness as CaCO3	**91.4**	0.662	0.195	mg/L	1	10/03/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/03/17	EPA200.7		JDA
Magnesium*	**4.31**	0.100	0.026	mg/L	1	10/03/17	EPA200.7		JDA
Potassium*	<1.00	1.00	0.094	mg/L	1	10/03/17	EPA200.7		JDA
Silica (Si02)	**8.53**	1.07	0.298	mg/L	1	10/03/17	Calculation		JDA
Silicon	**3.99**	0.500	0.139	mg/L	1	10/03/17	EPA200.7		JDA
Sodium*	**2.37**	1.00	0.087	mg/L	1	10/03/17	EPA200.7		JDA

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Hay Gulch Ditch Downgradient

1709215-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Metals by ICPMS									
Arsenic*	**0.0006**	0.0005	0.00008	mg/L	1	10/06/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/06/17	EPA200.8		JDA
Copper*	**0.0013**	0.0001	0.00003	mg/L	1	10/06/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/06/17	EPA200.8		JDA
Manganese*	**0.0010**	0.0005	0.0003	mg/L	1	10/06/17	EPA200.8		JDA
Molybdenum*	**0.0011**	0.0005	0.00006	mg/L	1	10/06/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/06/17	EPA200.8		JDA
Uranium	**0.0002**	0.0001	0.00001	mg/L	1	10/06/17	EPA200.8		JDA
Zinc*	<0.0040	0.0040	0.0009	mg/L	1	10/06/17	EPA200.8		JDA
Total Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00005	mg/L	1	09/26/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Hay Gulch Ditch Upgradient

1709215-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**161**	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	**16.0**	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	1	10/02/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**177**	10.0		mg/L	1	10/02/17	2320 B		CMS
Chloride*	**30.8**	1.00	0.143	mg/L	1	09/30/17	EPA300.0		JDA
Fluoride*	**0.265**	0.100	0.0160	mg/L	1	09/30/17	EPA300.0		JDA
Nitrate/Nitrite as N*	**0.045**	0.020	0.011	mg/L	1	09/27/17	EPA353.2	M5	LLG
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	09/29/17	EPA1664 A		CMS
pH*	**8.22**			pH Units	1	09/25/17	EPA150.1	H4	CMS
SAR	**0.34**			No Unit	1	10/10/17	Calculation		JDA
Total Dissolved Solids*	**390**	10.0		mg/L	1	09/28/17	EPA160.1		LLG
Total Suspended Solids*	**2.00**	1.00		mg/L	0.5	09/28/17	EPA160.2		LLG
Sulfate*	**99.0**	5.00	0.782	mg/L	5	09/30/17	EPA300.0		JDA
Total Organic Carbon	**1.90**	0.500	0.201	mg/L	1	09/27/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/03/17	EPA200.7		JDA
Calcium*	**64.9**	0.100	0.036	mg/L	1	10/03/17	EPA200.7		JDA
Hardness as CaCO3	**316**	0.662	0.195	mg/L	1	10/03/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/03/17	EPA200.7		JDA
Magnesium*	**37.5**	0.100	0.026	mg/L	1	10/03/17	EPA200.7		JDA
Potassium*	**2.15**	1.00	0.094	mg/L	1	10/03/17	EPA200.7		JDA
Silica (Si02)	**9.45**	1.07	0.298	mg/L	1	10/03/17	Calculation		JDA
Silicon	**4.42**	0.500	0.139	mg/L	1	10/03/17	EPA200.7		JDA
Sodium*	**13.8**	1.00	0.087	mg/L	1	10/03/17	EPA200.7		JDA

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Hay Gulch Ditch Upgradient

1709215-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Metals by ICPMS									
Arsenic*	**0.0009**	0.0005	0.00008	mg/L	1	10/06/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/06/17	EPA200.8		JDA
Copper*	**0.0006**	0.0001	0.00003	mg/L	1	10/06/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/06/17	EPA200.8		JDA
Manganese*	**0.0098**	0.0005	0.0003	mg/L	1	10/06/17	EPA200.8		JDA
Molybdenum*	**0.0012**	0.0005	0.00006	mg/L	1	10/06/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/06/17	EPA200.8		JDA
Uranium	**0.0006**	0.0001	0.00001	mg/L	1	10/06/17	EPA200.8		JDA
Zinc*	<0.0040	0.0040	0.0009	mg/L	1	10/06/17	EPA200.8		JDA
Total Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00005	mg/L	1	09/26/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

MW-HGA-4

1709215-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**465**	10.0		mg/L	5	10/02/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	10/02/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	10/02/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**465**	10.0		mg/L	5	10/02/17	2320 B		CMS
Chloride*	**8.96**	1.00	0.143	mg/L	1	09/30/17	EPA300.0		JDA
Fluoride*	**0.517**	0.100	0.0160	mg/L	1	09/30/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	09/27/17	EPA353.2		LLG
pH*	**7.25**			pH Units	1	09/25/17	EPA150.1	H4	CMS
Total Dissolved Solids*	**750**	10.0		mg/L	1	09/28/17	EPA160.1		LLG
Sulfate*	**205**	10.0	1.56	mg/L	10	09/30/17	EPA300.0		JDA
Total Organic Carbon	**4.69**	0.500	0.201	mg/L	1	09/27/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/03/17	EPA200.7		JDA
Calcium*	**102**	0.100	0.036	mg/L	1	10/03/17	EPA200.7		JDA
Hardness as CaCO3	**522**	0.662	0.195	mg/L	1	10/03/17	2340 B		JDA
Iron*	**0.378**	0.050	0.014	mg/L	1	10/03/17	EPA200.7		JDA
Magnesium*	**64.9**	0.100	0.026	mg/L	1	10/03/17	EPA200.7		JDA
Potassium*	**1.75**	1.00	0.094	mg/L	1	10/03/17	EPA200.7		JDA
Silica (Si02)	**16.5**	1.07	0.298	mg/L	1	10/03/17	Calculation		JDA
Silicon	**7.72**	0.500	0.139	mg/L	1	10/03/17	EPA200.7		JDA
Sodium*	**24.9**	1.00	0.087	mg/L	1	10/03/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	10/06/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/06/17	EPA200.8		JDA
Copper*	**0.0004**	0.0001	0.00003	mg/L	1	10/06/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/06/17	EPA200.8		JDA
Manganese*	**2.03**	0.0005	0.0003	mg/L	1	10/06/17	EPA200.8		JDA
Molybdenum*	**0.0028**	0.0005	0.00006	mg/L	1	10/06/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/06/17	EPA200.8		JDA
Uranium	**0.0004**	0.0001	0.00001	mg/L	1	10/06/17	EPA200.8		JDA
Zinc*	<0.0040	0.0040	0.0009	mg/L	1	10/06/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

MW-HGA-4

1709215-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B709131 - * DEFAULT PREP *** **										
Blank (B709131-BLK1)			Prepared & Analyzed: 09/18/17							
Oil & Grease (HEM)	ND	5.00	mg/L							
LCS (B709131-BS1)			Prepared & Analyzed: 09/18/17							
Oil & Grease (HEM)	37.7	5.00	mg/L	40.0		94.3	85-115			
LCS Dup (B709131-BSD1)			Prepared & Analyzed: 09/18/17							
Oil & Grease (HEM)	38.4	5.00	mg/L	40.0		96.0	85-115	1.84	20	
Batch B709191 - General Prep - Wet Chem										
Duplicate (B709191-DUP2)			**Source: 1709215-02** Prepared & Analyzed: 09/25/17							
pH	7.98		pH Units		7.98			0.00	20	
Reference (B709191-SRM1)			Prepared & Analyzed: 09/25/17							
pH	8.92		pH Units	9.08		98.2	97.8-102.2			
Batch B709198 - General Prep - Wet Chem										
Blank (B709198-BLK1)			Prepared & Analyzed: 09/26/17							
Total Organic Carbon	ND	0.500	mg/L							
LCS (B709198-BS1)			Prepared & Analyzed: 09/26/17							
Total Organic Carbon	9.74	0.500	mg/L	10.0		97.4	85-115			
LCS Dup (B709198-BSD1)			Prepared & Analyzed: 09/26/17							
Total Organic Carbon	9.91	0.500	mg/L	10.0		99.1	85-115	1.65	20	
Batch B709211 - General Prep - Wet Chem										
Blank (B709211-BLK1)			Prepared & Analyzed: 09/27/17							
Nitrate/Nitrite as N	ND	0.020	mg/L							
LCS (B709211-BS1)			Prepared & Analyzed: 09/27/17							
Nitrate/Nitrite as N	0.904	0.020	mg/L	1.00		90.4	90-110			
LCS Dup (B709211-BSD1)			Prepared & Analyzed: 09/27/17							
Nitrate/Nitrite as N	0.900	0.020	mg/L	1.00		90.0	90-110	0.477	20	
Batch B709225 - General Prep - Wet Chem										
Blank (B709225-BLK1)			Prepared: 09/28/17 Analyzed: 09/29/17							
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

General Chemistry - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B709225 - General Prep - Wet Chem (Continued)										
LCS (B709225-BS1)			Prepared: 09/28/17 Analyzed: 09/29/17							
Chloride	24.3	1.00	mg/L	25.0		97.3	90-110			
Fluoride	2.60	0.100	mg/L	2.50		104	90-110			
Sulfate	25.7	1.00	mg/L	25.0		103	90-110			
LCS Dup (B709225-BSD1)			Prepared: 09/28/17 Analyzed: 09/29/17							
Chloride	24.4	1.00	mg/L	25.0		97.6	90-110	0.312	20	
Fluoride	2.62	0.100	mg/L	2.50		105	90-110	0.805	20	
Sulfate	25.9	1.00	mg/L	25.0		103	90-110	0.450	20	
Batch B709228 - General Prep - Wet Chem										
Blank (B709228-BLK1)			Prepared & Analyzed: 09/28/17							
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B709228-DUP1)		**Source: 1709173-01**	Prepared & Analyzed: 09/28/17							
Total Dissolved Solids	260	10.0	mg/L		275			5.63	20	
Reference (B709228-SRM1)			Prepared & Analyzed: 09/28/17							
Total Dissolved Solids	535	10.0	mg/L	550		97.3	85-115			
Batch B709229 - General Prep - Wet Chem										
Blank (B709229-BLK1)			Prepared & Analyzed: 09/28/17							
Total Suspended Solids	ND	2.00	mg/L							
Duplicate (B709229-DUP1)		**Source: 1709204-01**	Prepared & Analyzed: 09/28/17							
Total Suspended Solids	38.0	1.00	mg/L		39.5			3.86	20	
Reference (B709229-SRM1)			Prepared & Analyzed: 09/28/17							
Total Suspended Solids	94.0	2.00	mg/L	100		94.0	85-115			
Batch B710014 - General Prep - Wet Chem										
Blank (B710014-BLK1)			Prepared & Analyzed: 10/02/17							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B710014-BS1)			Prepared & Analyzed: 10/02/17							
Alkalinity, Total as CaCO3	105	10.0	mg/L	100		105	85-115			
LCS Dup (B710014-BSD1)			Prepared & Analyzed: 10/02/17							
Alkalinity, Total as CaCO3	98.0	10.0	mg/L	100		98.0	85-115	6.90	20	
Batch B710050 - General Prep - Wet Chem										

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

General Chemistry - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710050 - General Prep - Wet Chem (Continued)										
Blank (B710050-BLK1)			Prepared: 10/05/17 Analyzed: 10/06/17							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B710050-BS1)			Prepared: 10/05/17 Analyzed: 10/06/17							
Alkalinity, Total as CaCO3	106	10.0	mg/L	100		106	85-115			
LCS Dup (B710050-BSD1)			Prepared: 10/05/17 Analyzed: 10/06/17							
Alkalinity, Total as CaCO3	103	10.0	mg/L	100		103	85-115	2.87	20	

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710020 - Diss. 200.7/200.8										
Blank (B710020-BLK1)			Prepared & Analyzed: 10/03/17							
Aluminum	ND	0.050	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Silicon	ND	0.500	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B710020-BS1)			Prepared & Analyzed: 10/03/17							
Aluminum	4.88	0.050	mg/L	5.00		97.6	85-115			
Calcium	4.91	0.100	mg/L	5.00		98.3	85-115			
Iron	4.85	0.050	mg/L	5.00		97.1	85-115			
Magnesium	24.6	0.100	mg/L	25.0		98.5	85-115			
Potassium	9.73	1.00	mg/L	10.0		97.3	85-115			
Silicon	4.84	0.500	mg/L	5.00		96.8	85-115			
Sodium	8.02	1.00	mg/L	8.10		99.0	85-115			
LCS Dup (B710020-BSD1)			Prepared & Analyzed: 10/03/17							
Aluminum	4.89	0.050	mg/L	5.00		97.8	85-115	0.172	20	
Calcium	4.91	0.100	mg/L	5.00		98.2	85-115	0.110	20	
Iron	4.86	0.050	mg/L	5.00		97.3	85-115	0.198	20	
Magnesium	24.7	0.100	mg/L	25.0		98.8	85-115	0.347	20	
Potassium	9.77	1.00	mg/L	10.0		97.7	85-115	0.459	20	
Silicon	4.87	0.500	mg/L	5.00		97.4	85-115	0.605	20	
Sodium	8.00	1.00	mg/L	8.10		98.7	85-115	0.247	20	
Batch B710021 - Diss. 200.7/200.8										
Blank (B710021-BLK1)			Prepared & Analyzed: 10/03/17							
Aluminum	ND	0.050	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Silicon	ND	0.500	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B710021-BS1)			Prepared & Analyzed: 10/03/17							
Aluminum	4.81	0.050	mg/L	5.00		96.3	85-115			
Calcium	4.84	0.100	mg/L	5.00		96.9	85-115			
Iron	4.77	0.050	mg/L	5.00		95.4	85-115			

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Dissolved Metals by ICP - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710021 - Diss. 200.7/200.8 (Continued)										
LCS (B710021-BS1) (Continued)			Prepared & Analyzed: 10/03/17							
Magnesium	24.2	0.100	mg/L	25.0		96.8	85-115			
Potassium	9.47	1.00	mg/L	10.0		94.7	85-115			
Silicon	4.73	0.500	mg/L	5.00		94.6	85-115			
Sodium	7.97	1.00	mg/L	8.10		98.4	85-115			
LCS Dup (B710021-BSD1)			Prepared & Analyzed: 10/03/17							
Aluminum	4.86	0.050	mg/L	5.00		97.1	85-115	0.854	20	
Calcium	4.88	0.100	mg/L	5.00		97.6	85-115	0.700	20	
Iron	4.79	0.050	mg/L	5.00		95.9	85-115	0.512	20	
Magnesium	24.5	0.100	mg/L	25.0		97.9	85-115	1.10	20	
Potassium	9.65	1.00	mg/L	10.0		96.5	85-115	1.90	20	
Silicon	4.78	0.500	mg/L	5.00		95.5	85-115	0.946	20	
Sodium	8.01	1.00	mg/L	8.10		98.9	85-115	0.516	20	

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710033 - Diss. 200.7/200.8										
Blank (B710033-BLK1)				Prepared: 10/04/17 Analyzed: 10/06/17						
Arsenic	ND	0.0005	mg/L							
Cadmium	ND	0.0001	mg/L							
Copper	ND	0.0001	mg/L							
Lead	ND	0.0005	mg/L							
Manganese	ND	0.0005	mg/L							
Molybdenum	ND	0.0005	mg/L							
Selenium	ND	0.0010	mg/L							
Uranium	ND	0.0001	mg/L							
Zinc	0.0037	0.0020	mg/L							B3
LCS (B710033-BS1)				Prepared: 10/04/17 Analyzed: 10/06/17						
Arsenic	0.0499	0.0005	mg/L	0.0500		99.9	85-115			
Cadmium	0.0482	0.0001	mg/L	0.0500		96.4	85-115			
Copper	0.0502	0.0001	mg/L	0.0500		100	85-115			
Lead	0.0476	0.0005	mg/L	0.0500		95.2	85-115			
Manganese	0.0493	0.0005	mg/L	0.0500		98.6	85-115			
Molybdenum	0.0498	0.0005	mg/L	0.0500		99.6	85-115			
Selenium	0.247	0.0010	mg/L	0.250		98.8	85-115			
Uranium	0.0480	0.0001	mg/L	0.0500		96.0	85-115			
Zinc	0.0495	0.0020	mg/L	0.0500		99.0	85-115			
LCS Dup (B710033-BSD1)				Prepared: 10/04/17 Analyzed: 10/06/17						
Arsenic	0.0500	0.0005	mg/L	0.0500		99.9	85-115	0.0670	20	
Cadmium	0.0489	0.0001	mg/L	0.0500		97.7	85-115	1.34	20	
Copper	0.0506	0.0001	mg/L	0.0500		101	85-115	0.773	20	
Lead	0.0490	0.0005	mg/L	0.0500		97.9	85-115	2.79	20	
Manganese	0.0493	0.0005	mg/L	0.0500		98.5	85-115	0.0791	20	
Molybdenum	0.0491	0.0005	mg/L	0.0500		98.1	85-115	1.51	20	
Selenium	0.246	0.0010	mg/L	0.250		98.5	85-115	0.253	20	
Uranium	0.0496	0.0001	mg/L	0.0500		99.3	85-115	3.33	20	
Zinc	0.0495	0.0020	mg/L	0.0500		98.9	85-115	0.0834	20	

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B709179 - EPA 245.1/7470										
Blank (B709179-BLK1)				Prepared: 09/25/17 Analyzed: 09/26/17						
Mercury	ND	0.0002	mg/L							
LCS (B709179-BS1)				Prepared: 09/25/17 Analyzed: 09/26/17						
Mercury	0.0020	0.0002	mg/L	0.00200		99.6	85-115			
LCS Dup (B709179-BSD1)				Prepared: 09/25/17 Analyzed: 09/26/17						
Mercury	0.0020	0.0002	mg/L	0.00200		102	85-115	2.68	20	

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710005 - EPA 245.1/7470										
Blank (B710005-BLK1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	ND	0.0002	mg/L							
LCS (B710005-BS1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0021	0.0002	mg/L	0.00200		107	85-115			
LCS Dup (B710005-BSD1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0022	0.0002	mg/L	0.00200		108	85-115	0.557	20	

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GCC Energy, LLC	Project: GCC GW & SW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/10/17 10:26

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
H4	pH analysis perfomed more than 48 hours after sampling.
B3	Target analyte detected in method blank or continuing calibration blank. Reporting limit elevated to account for blank result.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
	*Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

GAL Analytical Laboratories
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75 Suttle St Durango, CO 81303

Company Name:	GCC Energy, LLC
Project Manager:	Tom Bird
Address:	6473 C.R. 120
City:	Hesperus State: CO Zip: 81326
Phone #:	(970) 385-4528 Email: TBird@gcc.com
Additional Report To:	LBeck@hydrologic.com
Project Name:	
Project Number:	
Sampler Name (Print):	Jessica Luna / Michael McFarland

Bill to (if different):	
P.O. #:	
Company:	
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax or Email:	

FOR LAB USE ONLY Lab I.D.	Sample Name or Location	Collected Date	Collected Time	Matrix (check one): GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	SOIL	OTHER :	# of containers: No preservation (general)	HNO_3	HCl	H_2SO_4	Other:	Other:	Other:	ANALYSIS REQUEST: GCC GW Baseline	GCC SW Baseline
1709-215-01	Well #2 downgradient	9/21		X						1	1		4				X	
-02	Hay Gulch Ditch downgradient	9/21			X					2	1	1	4					X
-03	Hay Gulch Ditch upgradient	9/21			X					2	1	1	4					X
-04	MW-HGA-4	9/21		X						1	1		4				X	

PLEASE NOTE: GAL's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by GAL within 30 days after completion. In no event shall GAL be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by GAL, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Jessica Luna	Date: 9/21/17 Time: 3:00pm	Received By: Debbie Zufelt DZ	ADDITIONAL REMARKS: RUSH TOC to 5-day TAT. Do not test for (Radium 224/228)
Relinquished By:	Date: Time:	Received By: Michael McFarland	Report to State? (Circle) Yes No
Relinquished By: Michael McFarland	Date: 9-21-17 Time: 1640	Received By: MICHAEL G. MCFARLAND Debbie Zufelt #1 on 1.0	
Delivered By: (Circle One) Sampler - UPS - FedEx - Kangaroo - Other:		Temperature at reciept: 4.2/4.4 °C	CHECKED BY: DZ

† GAL cannot always accept verbal changes. Please fax or email written change requests.
* Chain of Custody must be signed in "Reliquished By:" as an acceptance of services and all applicable charges.

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24 October 2017

Tom Bird
GCC Energy, LLC
6473 CR 120
Hesperus, CO 81326

RE: GCC GW Baseline

Enclosed are the results of analyses for samples received by the laboratory on 09/27/17 12:15.
If you need any further assistance, please feel free to contact me.

Sincerely,

Debbie Zufelt
Reports Manager

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

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

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

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-A	1709259-03	Water	09/26/17 13:20	09/27/17 12:15
MW-1-C	1709259-04	Water	09/26/17 14:00	09/27/17 12:15

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

MW-1-A

1709259-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**450**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**450**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**2.16**	1.00	0.143	mg/L	1	10/11/17	EPA300.0		JDA
Fluoride*	**0.245**	0.100	0.0160	mg/L	1	10/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	10/16/17	EPA353.2		LLG
pH*	**7.35**			pH Units	1	09/28/17	EPA150.1		CMS
Total Dissolved Solids*	**1080**	10.0		mg/L	1	10/02/17	EPA160.1		LLG
Sulfate*	**432**	25.0	3.91	mg/L	25	10/13/17	EPA300.0		JDA
Total Organic Carbon	**1.36**	0.500	0.201	mg/L	1	10/10/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/06/17	EPA200.7		JDA
Calcium*	**25.8**	0.100	0.036	mg/L	1	10/06/17	EPA200.7		JDA
Hardness as CaCO3	**133**	0.662	0.195	mg/L	1	10/06/17	2340 B		JDA
Iron*	**0.367**	0.050	0.014	mg/L	1	10/06/17	EPA200.7		JDA
Magnesium*	**16.7**	0.100	0.026	mg/L	1	10/06/17	EPA200.7		JDA
Potassium*	**2.02**	1.00	0.094	mg/L	1	10/06/17	EPA200.7		JDA
Silica (Si02)	**11.9**	1.07	0.298	mg/L	1	10/06/17	Calculation		JDA
Silicon	**5.56**	0.500	0.139	mg/L	1	10/06/17	EPA200.7		JDA
Sodium*	**329**	1.00	0.087	mg/L	1	10/06/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	10/11/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/11/17	EPA200.8		JDA
Copper*	**0.0057**	0.0001	0.00003	mg/L	1	10/11/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/11/17	EPA200.8		JDA
Manganese*	**0.0218**	0.0005	0.0003	mg/L	1	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0010**	0.0005	0.00006	mg/L	1	10/11/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	10/11/17	EPA200.8		JDA
Uranium	**0.0002**	0.0001	0.00001	mg/L	1	10/11/17	EPA200.8		JDA
Zinc*	**0.0088**	0.0020	0.0009	mg/L	1	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

MW-1-A

1709259-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

MW-1-C

1709259-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
General Chemistry									
Alkalinity, Bicarbonate as CaCO3*	**700**	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	10	10/09/17	2320 B		CMS
Alkalinity, Total as CaCO3*	**700**	10.0		mg/L	10	10/09/17	2320 B		CMS
Chloride*	**6.97**	1.00	0.143	mg/L	1	10/11/17	EPA300.0		JDA
Fluoride*	**0.864**	0.100	0.0160	mg/L	1	10/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	10/16/17	EPA353.2		LLG
pH*	**7.36**			pH Units	1	09/28/17	EPA150.1		CMS
Total Dissolved Solids*	**2440**	10.0		mg/L	1	10/02/17	EPA160.1		LLG
Sulfate*	**1350**	50.0	7.82	mg/L	50	10/12/17	EPA300.0		JDA
Total Organic Carbon	**2.84**	0.500	0.201	mg/L	1	10/10/17	5310C		JDA
Dissolved Metals by ICP									
Aluminum*	<0.050	0.050	0.020	mg/L	1	10/06/17	EPA200.7		JDA
Calcium*	**234**	0.100	0.036	mg/L	1	10/06/17	EPA200.7		JDA
Hardness as CaCO3	**1290**	0.662	0.195	mg/L	1	10/06/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	10/06/17	EPA200.7		JDA
Magnesium*	**172**	0.100	0.026	mg/L	1	10/06/17	EPA200.7		JDA
Potassium*	**3.81**	1.00	0.094	mg/L	1	10/06/17	EPA200.7		JDA
Silica (Si02)	**16.6**	1.07	0.298	mg/L	1	10/06/17	Calculation		JDA
Silicon	**7.77**	0.500	0.139	mg/L	1	10/06/17	EPA200.7		JDA
Sodium*	**242**	1.00	0.087	mg/L	1	10/06/17	EPA200.7		JDA
Dissolved Metals by ICPMS									
Arsenic*	**0.0016**	0.0005	0.00008	mg/L	1	10/11/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	10/11/17	EPA200.8		JDA
Copper*	**0.0085**	0.0001	0.00003	mg/L	1	10/11/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	10/11/17	EPA200.8		JDA
Manganese*	**0.0853**	0.0005	0.0003	mg/L	1	10/11/17	EPA200.8		JDA
Molybdenum*	**0.0049**	0.0005	0.00006	mg/L	1	10/11/17	EPA200.8		JDA
Selenium*	**0.0012**	0.0010	0.0002	mg/L	1	10/11/17	EPA200.8		JDA
Uranium	**0.0044**	0.0001	0.00001	mg/L	1	10/11/17	EPA200.8		JDA
Zinc*	**0.0294**	0.0020	0.0009	mg/L	1	10/11/17	EPA200.8		JDA

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

MW-1-C

1709259-04 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
Dissolved Mercury by CVAA									
Mercury*	<0.0002	0.0002	0.00009	mg/L	1	10/05/17	EPA245.1		LLG

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B709238 - General Prep - Wet Chem										
Duplicate (B709238-DUP2)		**Source: 1709252-02**		Prepared & Analyzed: 09/28/17						
pH	7.59		pH Units		7.70			1.44	20	
Reference (B709238-SRM1)				Prepared & Analyzed: 09/28/17						
pH	6.39		pH Units	6.39		100	96.9-103.1			
Batch B710003 - General Prep - Wet Chem										
Blank (B710003-BLK1)				Prepared & Analyzed: 10/02/17						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B710003-DUP1)		**Source: 1709234-01**		Prepared & Analyzed: 10/02/17						
Total Dissolved Solids	455	10.0	mg/L		460			1.08	20	
Reference (B710003-SRM1)				Prepared & Analyzed: 10/02/17						
Total Dissolved Solids	535	10.0	mg/L	550		97.3	85-115			
Batch B710046 - General Prep - Wet Chem										
Blank (B710046-BLK1)				Prepared & Analyzed: 10/09/17						
Total Organic Carbon	ND	0.500	mg/L							
LCS (B710046-BS1)				Prepared & Analyzed: 10/09/17						
Total Organic Carbon	9.95	0.500	mg/L	10.0		99.5	85-115			
LCS Dup (B710046-BSD1)				Prepared & Analyzed: 10/09/17						
Total Organic Carbon	9.92	0.500	mg/L	10.0		99.2	85-115	0.262	20	
Batch B710076 - General Prep - Wet Chem										
Blank (B710076-BLK1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L							
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L							
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B710076-BS1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115			
Alkalinity, Total as CaCO3	108	10.0	mg/L	100		108	85-115			
LCS Dup (B710076-BSD1)				Prepared & Analyzed: 10/09/17						
Alkalinity, Bicarbonate as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Carbonate as CaCO3	ND	10.0	mg/L				85-115		20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

General Chemistry - Quality Control (Continued)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710076 - General Prep - Wet Chem (Continued)										
LCS Dup (B710076-BSD1) (Continued)			Prepared & Analyzed: 10/09/17							
Alkalinity, Hydroxide as CaCO3	ND	10.0	mg/L				85-115		20	
Alkalinity, Total as CaCO3	109	10.0	mg/L	100		109	85-115	0.922	20	
Batch B710086 - General Prep - Wet Chem										
Blank (B710086-BLK1)			Prepared: 10/10/17 Analyzed: 10/11/17							
Chloride	ND	1.00	mg/L							
Fluoride	ND	0.100	mg/L							
Sulfate	ND	1.00	mg/L							
LCS (B710086-BS1)			Prepared: 10/10/17 Analyzed: 10/11/17							
Chloride	23.7	1.00	mg/L	25.0		94.7	90-110			
Fluoride	2.39	0.100	mg/L	2.50		95.7	90-110			
Sulfate	23.5	1.00	mg/L	25.0		94.0	90-110			
LCS Dup (B710086-BSD1)			Prepared: 10/10/17 Analyzed: 10/11/17							
Chloride	23.8	1.00	mg/L	25.0		95.3	90-110	0.644	20	
Fluoride	2.41	0.100	mg/L	2.50		96.2	90-110	0.542	20	
Sulfate	23.6	1.00	mg/L	25.0		94.5	90-110	0.518	20	
Batch B710123 - General Prep - Wet Chem										
Blank (B710123-BLK1)			Prepared & Analyzed: 10/16/17							
Nitrate/Nitrite as N	ND	0.020	mg/L							
LCS (B710123-BS1)			Prepared & Analyzed: 10/16/17							
Nitrate/Nitrite as N	0.958	0.020	mg/L	1.00		95.8	90-110			
LCS Dup (B710123-BSD1)			Prepared & Analyzed: 10/16/17							
Nitrate/Nitrite as N	0.960	0.020	mg/L	1.00		96.0	90-110	0.229	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710040 - Diss. 200.7/200.8										
Blank (B710040-BLK1)				Prepared: 10/05/17 Analyzed: 10/06/17						
Aluminum	ND	0.050	mg/L							
Calcium	ND	0.100	mg/L							
Iron	ND	0.050	mg/L							
Magnesium	ND	0.100	mg/L							
Potassium	ND	1.00	mg/L							
Silicon	ND	0.500	mg/L							
Sodium	ND	1.00	mg/L							
LCS (B710040-BS1)				Prepared: 10/05/17 Analyzed: 10/06/17						
Aluminum	5.03	0.050	mg/L	5.00		101	85-115			
Calcium	4.99	0.100	mg/L	5.00		99.8	85-115			
Iron	5.00	0.050	mg/L	5.00		100	85-115			
Magnesium	25.7	0.100	mg/L	25.0		103	85-115			
Potassium	10.1	1.00	mg/L	10.0		101	85-115			
Silicon	4.77	0.500	mg/L	5.00		95.5	85-115			
Sodium	8.21	1.00	mg/L	8.10		101	85-115			
LCS Dup (B710040-BSD1)				Prepared: 10/05/17 Analyzed: 10/06/17						
Aluminum	5.10	0.050	mg/L	5.00		102	85-115	1.26	20	
Calcium	5.08	0.100	mg/L	5.00		102	85-115	1.75	20	
Iron	5.07	0.050	mg/L	5.00		101	85-115	1.40	20	
Magnesium	26.1	0.100	mg/L	25.0		105	85-115	1.55	20	
Potassium	10.2	1.00	mg/L	10.0		102	85-115	0.361	20	
Silicon	4.84	0.500	mg/L	5.00		96.9	85-115	1.42	20	
Sodium	8.29	1.00	mg/L	8.10		102	85-115	0.964	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710041 - Diss. 200.7/200.8										
Blank (B710041-BLK1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	ND	0.0005	mg/L							
Cadmium	ND	0.0001	mg/L							
Copper	ND	0.0001	mg/L							
Lead	ND	0.0005	mg/L							
Manganese	ND	0.0005	mg/L							
Molybdenum	ND	0.0005	mg/L							
Selenium	ND	0.0010	mg/L							
Uranium	ND	0.0001	mg/L							
Zinc	ND	0.0020	mg/L							
LCS (B710041-BS1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	0.0472	0.0005	mg/L	0.0500		94.4	85-115			
Cadmium	0.0477	0.0001	mg/L	0.0500		95.5	85-115			
Copper	0.0474	0.0001	mg/L	0.0500		94.9	85-115			
Lead	0.0480	0.0005	mg/L	0.0500		95.9	85-115			
Manganese	0.0465	0.0005	mg/L	0.0500		93.1	85-115			
Molybdenum	0.0506	0.0005	mg/L	0.0500		101	85-115			
Selenium	0.242	0.0010	mg/L	0.250		96.9	85-115			
Uranium	0.0490	0.0001	mg/L	0.0500		98.0	85-115			
Zinc	0.0504	0.0020	mg/L	0.0500		101	85-115			
LCS Dup (B710041-BSD1)				Prepared: 10/05/17 Analyzed: 10/11/17						
Arsenic	0.0491	0.0005	mg/L	0.0500		98.2	85-115	3.98	20	
Cadmium	0.0480	0.0001	mg/L	0.0500		96.0	85-115	0.566	20	
Copper	0.0491	0.0001	mg/L	0.0500		98.2	85-115	3.46	20	
Lead	0.0491	0.0005	mg/L	0.0500		98.3	85-115	2.45	20	
Manganese	0.0485	0.0005	mg/L	0.0500		97.1	85-115	4.19	20	
Molybdenum	0.0514	0.0005	mg/L	0.0500		103	85-115	1.50	20	
Selenium	0.246	0.0010	mg/L	0.250		98.5	85-115	1.61	20	
Uranium	0.0495	0.0001	mg/L	0.0500		99.0	85-115	1.02	20	
Zinc	0.0506	0.0020	mg/L	0.0500		101	85-115	0.319	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B710008 - EPA 245.1/7470										
Blank (B710008-BLK1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	ND	0.0002	mg/L							
LCS (B710008-BS1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0021	0.0002	mg/L	0.00200		104	85-115			
LCS Dup (B710008-BSD1)				Prepared: 10/02/17 Analyzed: 10/05/17						
Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115	1.14	20	

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GCC Energy, LLC	Project: GCC GW Baseline	
6473 CR 120	Project Name / Number: [none]	**Reported:**
Hesperus CO, 81326	Project Manager: Tom Bird	10/24/17 16:33

Notes and Definitions

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

Green Analytical Laboratories

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

FORM-006
COC - Revision 5.0

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Company or Client:	GCC Energy
Address:	6473 CR120
City:	Hesperus **State:** CO **Zip:** 81326
Phone #:	970 385 4528
Contact Person:	Tom Bird
Email Report to:	TBIRD@GCC.com, LBECK@resourcehydrogeologic.c
Project Name(optional):	
Sampler Name (Print):	Landon Beck / Jessica Lung

Bill to (if different):
P.O. #:
Company:
Attn:
Address:
City:
State: Zip:
Phone #:
Email:

ANALYSIS REQUEST

GCC GW Baseline

For Lab Use	Sample Name or Location	Collected Date	Collected Time	Matrix (check one)							# of containers						
				GROUNDWATER	SURFACEWATER	WASTEWATER	PRODUCEDWATER	SOIL	DRINKING WATER	OTHER :	No preservation (general)	HNO_3	HCl	H_2SO_4	Other:	Other:	
1709-259-01	MW-5-MI	9/26/17	1020	X							2			4			X
-02	MW-5-C	9/26/17	1230	X							2			4			X
-03	MW-1-A	9/26/17	1320	X							2			4			X
-04	MW-1-C	9/26/17	1400	X							2			4			X

Relinquished By:	**Date:** 9/27/17 **Time:** 1215	Received By:
Relinquished By:	Date: Time:	Received By:
Relinquished By:	Date: Time:	Received By:
Relinquished By:	Date: Time:	Received By:

ADDITIONAL REMARKS:
Standard TAT

Report to State? (Circle)
Yes (No)

#1 on ice
1.9/2.1C
Temperature at receipt:
CHECKED BY

† GAL cannot always accept verbal changes. Please fax or email written change requests.
* Chain of Custody must be signed in "Reliquished By:" as an acceptance of services and all applicable charges.

GCC Energy Hydrologic Monitoring Data

Hay Gulch Ditch Upgradient

Year		**2016**										**2017**				
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9
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
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	Y	Y	N	N	N	Y	Y	Y
Field Parameters:																
Flow Rate	***cfs***	0.70	0.99	1.22	1.56	0.99	0.99	1.07	0.95	NM	1.02	NM	0.82	0.28	2.69	NM
Temperature	***deg C***	9.8	20.9	11.3	21.1	20.8	16.8	14.93	16.39	5.86	6.97	1.52	4.73	10.69	20.21	19.72
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
Specific Conductance	***µS/cm***	247	323	197	141	189	207	233.2	210.2	257.9	233.7	686.6	455	453.5	106.2	549.4
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
Dissolved Oxygen	***mg/L***	8.12	6.35	8.03	5.96	6.48	6.86	7.2	4.73	6.71	6.1	10.59	8.96	6.89	4.79	6.73
Lab Analytical Results:																
Hardness as CaCO3	***mg/L***	128			80.9			119		152				257	69.2	316
pH (Lab)	***SU***	8.17			8.04			8.16		8.19				8.06	8.06	8.22
Total Dissolved Solids (Lab)	***mg/L***	170			75			165		180				285	65.0	390
Total Suspended Solids	***mg/L***	30.0			117			17.0		4.8				2.50	63.5	2.00
Calcium	***mg/L***	33.5			24			33.0		38.4				53.6	20.8	64.9
Magnesium	***mg/L***	10.9			5.08			9.01		13.7				29.8	4.21	37.5
Sodium	***mg/L***	4.46			2.19			3.90		6				10.9	1.97	13.8
Potassium	***mg/L***	<1			<1			1.35		<1.00				<1.00	1.75	2.15
Alkalinity, Total	***mg/L***	160			65			98.0		118				185	55.0	177
Alkalinity, Bicarbonate	***mg/L***	160			65			94.0		118				185	55.0	161
Alkalinity, Carbonate	***mg/L***	<10			<10			<10		<10.0				<10.0	<10.0	16.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10.0	<10.0
Chloride	***mg/L***	5.77			2.07			4.32		7.92				22.7	1.76	30.8
Fluoride	***mg/L***	0.213			0.208			0.223		0.208				0.215	0.195	0.265
Sulfate as SO4	***mg/L***	42.1			17.7			29.0		45.3				87.7	15.0	99.0
Total Organic Carbon (TOC)	***mg/L***	1.41			1.6			2.21		1.14				2.49	1.15	1.90
Oil & Grease	***mg/L***	<5			<5			<5		<5.00				<5.00	<5.00	<5.00
Nitrate/Nitrite as N	***mg/L***	<0.02			0.028			<0.020		<0.020				0.053	<0.020	0.045
Sodium Adsorption Ratio (SAR)	***no unit***	0.17			0.1			0.16		0.21				0.30	0.10	0.34
Aluminum	***mg/L***	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050
Arsenic	***mg/L***	<0.0005			<0.0005			<0.0005		<0.0005				0.0005	<0.0005	0.0009
Cadmium	***mg/L***	<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
Iron	***mg/L***	<0.05			<0.05			<0.05		<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
Manganese	***mg/L***	0.0059			0.0035			0.0043		0.0047				0.0070	0.0024	0.0098
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
Molybdenum	***mg/L***	<0.0005			0.0009			0.0007		0.0008				0.0006	0.0009	0.0012
Selenium	***mg/L***	<0.001			<0.001			<0.001		<0.0010				0.0023	<0.0010	<0.0010
Silica (Si02)	***mg/L***	7.78			8.23			10.5		9.71				9.04	7.71	9.45
Silicon	***mg/L***	3.64			3.85			4.89		4.54				4.23	3.60	4.42
Uranium	***mg/L***	0.0002			0.0001			0.0002		0.0003				0.0003	0.0001	0.0006
Zinc	***mg/L***	<0.001			<0.001			<0.001		<0.0010				0.0022	<0.0020	<0.0040
Radium 226	***pCi/L***	<0.4			NA			NA		NA				NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA

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

Hay Gulch Ditch Downgradient																
Year		**2016**										**2017**				
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9
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
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y
Field Parameters:																
Flow Rate	***cfs***	1.05	1.16	1.13	NM	1.06	1.14	NM	0.76	NM	NM	NM	0.79	0.25	0.341	NM
Temperature	***deg C***	11.8	17.6	10.9	21.9	21.3	18.8	16.11	11.79	7.02	6.59	7.17	5.01	12.7	17.63	18.72
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
Specific Conductance	***µS/cm***	429	530	297	116	308	257	1182.9	420.1	421.4	727.7	677.9	987.4	16.9	114.3	163.5
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
Dissolved Oxygen	***mg/L***	7.85	7.65	8.71	5.99	6.73	5.56	6.81	7.09	6.54	7.21	7.62	9.82	5.58	6.44	7.13
Lab Analytical Results:																
Hardness as CaCO3	***mg/L***	226			67.8			480		267				503	59.1	91.4
pH (Lab)	***SU***	8.42			8.13			8.25		8.24				8.15	7.98	7.98
Total Dissolved Solids (Lab)	***mg/L***	270			55			630		320				615	65.0	80.0
Total Suspended Solids	***mg/L***	27.3			18			4.20		12.4				12.7	3.00	<0.500
Calcium	***mg/L***	55.5			21.9			94.7		65.5				112	19.0	29.5
Magnesium	***mg/L***	21.1			3.15			59.1		25.2				54.6	2.86	4.31
Sodium	***mg/L***	8.69			1.57			16.8		10.7				22.5	1.49	2.37
Potassium	***mg/L***	1.49			<1			4.48		1.46				2.33	<1.00	<1.00
Alkalinity, Total	***mg/L***	220			59			220		225				320	47.0	85.0
Alkalinity, Bicarbonate	***mg/L***	220			59			140		155				320	47.0	85.0
Alkalinity, Carbonate	***mg/L***	<10			<10			80.0		70				<10.0	<10.0	<10.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10.0	<10.0
Chloride	***mg/L***	9.40			1.26			97.9		12				31.9	<1.00	1.54
Fluoride	***mg/L***	0.244			0.195			0.244		0.227				0.224	0.290	0.227
Sulfate as SO4	***mg/L***	68.1			13.5			144		89.5				204	11.3	17.9
Total Organic Carbon (TOC)	***mg/L***	1.53			1.4			3.48		1.65				2.31	2.16	0.932
Oil & Grease	***mg/L***	<5			<5			<5		<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
Sodium Adsorption Ratio (SAR)	***no unit***	0.25			0.03			0.33		0.28				0.44	0.08	0.11
Aluminum	***mg/L***	<0.05			<0.05			<0.05		<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
Cadmium	***mg/L***	<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
Iron	***mg/L***	<0.05			<0.05			<0.05		<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
Manganese	***mg/L***	0.0039			0.0044			0.0059		0.0063				0.0112	0.0009	0.0010
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
Molybdenum	***mg/L***	<0.0005			0.0008			0.0013		0.0007				<0.0005	0.0009	0.0011
Selenium	***mg/L***	<0.001			<0.001			0.0026		<0.0010				0.0022	<0.0010	<0.0010
Silica (Si02)	***mg/L***	8.96			7.48			11.8		10.9				12.2	6.80	8.53
Silicon	***mg/L***	4.19			3.5			5.51		5.11				5.70	3.18	3.99
Uranium	***mg/L***	0.0004			0.0001			0.0006		0.0006				0.0009	0.0001	0.0002
Zinc	***mg/L***	<0.001			0.0021			0.0013		0.0012				<0.0020	<0.0020	<0.0040
Radium 226	***pCi/L***	<0.4			NA			NA		NA				NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA

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

Well #1 Upgradient

Year		2016										2017				
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9
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
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y
Field Parameters:																
Purge Flow Rate	gpm	1.5	7.9	7.1	5.8	7.1	7.4	6.83	7.47	9.26	7.52	7.7	7.54	8.16	6.95	7.08
Total Purged	gal	306	522	870	297	280	284	288	300	280	295	298	297	291	286	258.83
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	4.3	3.8	3.82	4.5	5.51
Temperature	deg C	8.8	13.1	11.9	14.2	14.1	12.7	12.54	12.58	10.64	11.27	10.9	10.41	11.24	11.85	11.84
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
Specific Conductance	µS/cm	1224	1199	1284	1246	1226	1143	1175.5	1223.4	1279.6	1304.9	1391.5	1415.3	1351.2	1158.6	1162.3
Oxygen Reduction Potential	mV	-123.1	-162.2	-142.5	-185.4	-156.6	-196.8	-140.6	-148.9	-152.9	-141	-143.6	-125.6	-132.2	-201	-176.9
Lab Analytical Results:																
Hardness as CaCO3	mg/L	230			306			216		271				391	277	215
pH (Lab)	SU	7.73			7.57			7.58		7.59				7.46	7.74	7.66
Total Dissolved Solids (Lab)	mg/L	760			745			735		725				775	725	705
Calcium	mg/L	44.0			59.7			42.4		51.7				75.7	54.0	41.6
Magnesium	mg/L	29.1			38.2			26.7		34.5				49.1	34.6	27.1
Sodium	mg/L	199			196			210		189				167	189	203
Potassium	mg/L	3.00			3.15			3.01		3.01				3.30	3.00	3.09
Alkalinity, Total	mg/L	610			660			620		615				640	585	670
Alkalinity, Bicarbonate	mg/L	570			660			620		615				640	585	670
Alkalinity, Carbonate	mg/L	40.0			<10			<10		<10.0				<10.0	<10.0	<10.0
Alkalinity, Hydroxide	mg/L	<10			<10			<10		<10.0				<10.0	<10.0	<10.0
Chloride	mg/L	4.33			6.12			4.30		4.44				4.53	4.32	6.21
Fluoride	mg/L	0.347			<0.5			0.353		0.337				0.337	0.362	<0.500
Sulfate as SO4	mg/L	90.1			108			83.8		117				156	97.4	74.0
Total Organic Carbon (TOC)	mg/L	2.54			3.3			2.8		3.18				3.84	5.82	2.84
Nitrate/Nitrite as N	mg/L	<0.02			<0.02			<0.02		<0.200				<0.020	<0.400	<0.400
Aluminum	mg/L	<0.05			<0.05			<0.05		<0.050				<0.050	<0.050	<0.050
Arsenic	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				0.0009	<0.0005	<0.0005
Cadmium	mg/L	<0.0001			<0.0001			<0.0001		<0.0001				<0.0001	<0.0001	<0.0001
Copper	mg/L	0.0035			0.003			0.0021		0.0041				0.0020	0.0020	0.0030
Iron	mg/L	1.20			1.51			0.946		1.64				2.01	1.34	0.101
Lead	mg/L	<0.0005			<0.0005			<0.0005		<0.0005				<0.0005	<0.0005	<0.0005
Manganese	mg/L	0.267			0.344			0.221		0.312				0.491	0.315	0.202
Mercury	mg/L	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
Molybdenum	mg/L	<0.0005			<0.0005			<0.0005		0.0005				<0.0005	<0.0005	<0.0005
Selenium	mg/L	<0.001			<0.001			<0.001		<0.0010				0.0245	<0.0010	<0.0010
Silica (Si02)	mg/L	13.8			15.2			14.8		12.9				14.2	14.9	14.3
Silicon	mg/L	6.45			7.12			6.94		6.05				6.64	6.94	6.68
Uranium	mg/L	<0.0001			0.0021			<0.0001		0.0002				0.0002	0.0001	0.0001
Zinc	mg/L	<0.001			<0.001			0.0023		0.0301				<0.0020	<0.0020	<0.0020
Radium 226	pCi/L	<0.4			NA			NA		NA				NA	NA	NA
Radium 228	pCi/L	<0.8			NA			NA		NA				NA	NA	NA

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

Well #2 Downgradient																
Year		2016										2017				
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9
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
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	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
Total Purged	***gal***	7	6	7	7	6	6	6	6	6	6	8	8	6	8	8
Depth to Water	***ft bgs***	3.69	3.17	4.25	1.42	4.17	4.17	5.5	6.4	4.7	5	3.95	2.74	6.35	0.95	4.85
Temperature	***deg C***	6.3	10.1	13.5	18.4	19.8	14	14.13	13.29	10.36	12.4	6.98	4.44	8.43	17.05	12.13
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
Specific Conductance	***µS/cm***	899	867	804	600	369	815	876.5	881.1	903.8	871.9	907.5	1193.3	920.5	633.4	851.8
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
Lab Analytical Results:																
Hardness as CaCO3	***mg/L***	444			314			452		432				485	352	378
pH (Lab)	***SU***	7.63			7.66			7.48		7.55				7.72	7.6	7.51
Total Dissolved Solids (Lab)	***mg/L***	685			470			525		495				635	415	525
Calcium	***mg/L***	72.2			54.9			75.9		72.7				81.0	60.9	64.8
Magnesium	***mg/L***	63.9			43.1			63.8		60.8				68.7	48.5	52.6
Sodium	***mg/L***	22.2			16.5			19.8		20.7				21.8	16.1	17.0
Potassium	***mg/L***	2.04			2.1			2.16		2.05				1.94	2.22	1.64
Alkalinity, Total	***mg/L***	342			280			380		380				375	285	395
Alkalinity, Bicarbonate	***mg/L***	338			280			380		380				375	285	395
Alkalinity, Carbonate	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0
Chloride	***mg/L***	35.8			6.8			27.4		26.2				23.3	7.11	19.0
Fluoride	***mg/L***	0.230			0.298			0.272		0.256				0.228	0.313	0.263
Sulfate as SO4	***mg/L***	129			70			114		117				153	75.2	98.4
Total Organic Carbon (TOC)	***mg/L***	3.34			14			2.64		3.4				3.52	3.56	2.61
Nitrate/Nitrite as N	***mg/L***	0.042			<0.02			<0.02		0.089				<0.020	<0.02	<0.020
Aluminum	***mg/L***	0.156			<0.05			<0.05		<0.050				<0.050	<0.05	<0.050
Arsenic	***mg/L***	0.0008			0.0015			0.0010		0.0013				0.0009	0.0017	0.0006
Cadmium	***mg/L***	<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
Iron	***mg/L***	0.081			0.085			0.118		<0.050				0.213	<0.05	<0.050
Lead	***mg/L***	<0.0005			<0.0005			<0.0005		0.0078				<0.0005	<0.0005	<0.0005
Manganese	***mg/L***	0.497			0.54			0.354		0.359				0.384	0.259	0.307
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
Molybdenum	***mg/L***	0.0014			0.0022			0.0024		0.0025				0.0021	0.0025	0.0021
Selenium	***mg/L***	<0.001			<0.001			<0.001		0.0011				0.0045	<0.001	<0.0010
Silica (Si02)	***mg/L***	11.6			14.7			12.8		11.9				10.9	15.5	13.0
Silicon	***mg/L***	5.42			6.89			5.97		5.55				5.12	7.23	6.08
Uranium	***mg/L***	0.0013			0.0007			0.0015		0.0016				0.0014	0.0008	0.0013
Zinc	***mg/L***	0.0034			<0.001			0.0010		0.0311				<0.0020	<0.002	<0.0040
Radium 226	***pCi/L***	<0.4			NA			NA		NA				NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA

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)**

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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

Wiltse Well																
Year		**2016**										**2017**				
Quarter		Q1	Q2			Q3			Q4			Q1			Q2	Q3
Month		3	4	5	6	7	8	9	10	11	12	1	2	3	6	9
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
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	Y	N	N	N	Y	Y	Y
Field Parameters:																
Purge Flow Rate	***gpm***	150	38.5	23.4	18.6	19.9	17.3	15.8	16.95	10.64	18.05	39.53	39.59	39.59	NM	18.32
Total Purged	***gal***	5850	4228	4229	3686	2844	2979	2637	2724	2992	2916	3595	3580	3560	2980	2712.36
Depth to Water	***ft bgs***	0.35	0.00	0.85	2.15	2.99	2.6	3.32	6.85	1.9	1.95	0.3	0	0	2.05	3.4
Temperature	***deg C***	6.7	8.8	10.4	10.7	11.5	12.1	11.47	10.95	9.11	8.79	7.56	7.2	7.53	10.34	11.29
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
Specific Conductance	***µS/cm***	2043	1633	1805	1768	1478	1602	1941.1	1937.3	2013.6	2035.6	2261.5	2276.3	2085.2	1869	2074.2
Oxygen Reduction Potential	***mV***	105.6	17.9	20.1	38.5	26.9	20	28.6	21.6	13.7	20.9	3.2	18.3	6	13.3	19.5
Lab Analytical Results:																
Hardness as CaCO3	***mg/L***	990			1050			1030		963				1040	1060	1140
pH (Lab)	***SU***	7.22			7.34			7.29		7.36				7.22	7.46	7.30
Total Dissolved Solids (Lab)	***mg/L***	1580			1480			1520		1520				1480	1510	1680
Calcium	***mg/L***	197			208			206		186				205	211	219
Magnesium	***mg/L***	121			128			126		121				128	129	143
Sodium	***mg/L***	95.9			75.2			80.7		82.4				110	87.5	80.7
Potassium	***mg/L***	4.64			4.56			4.90		4.42				4.61	4.79	4.62
Alkalinity, Total	***mg/L***	460			500			470		450				410	445	510
Alkalinity, Bicarbonate	***mg/L***	440			500			470		450				410	445	510
Alkalinity, Carbonate	***mg/L***	20.0			<10			<10		<10.0				<10.0	<10	<10.0
Alkalinity, Hydroxide	***mg/L***	<10			<10			<10		<10.0				<10.0	<10	<10.0
Chloride	***mg/L***	81.0			76.3			62.3		70.1				72.5	72.5	68.7
Fluoride	***mg/L***	0.285			<0.5			<0.5		0.3				<0.500	0.332	<0.500
Sulfate as SO4	***mg/L***	671			595			656		676				731	702	779
Total Organic Carbon (TOC)	***mg/L***	3.54			4.1			3.15		3.02				3.40	3.54	3.34
Nitrate/Nitrite as N	***mg/L***	0.456			0.891			1.08		0.965				0.492	1.07	1.80
Aluminum	***mg/L***	<0.05			<0.05			<0.05		<0.050				<0.050	<0.1	<0.050
Arsenic	***mg/L***	<0.0025			<0.0025			0.0005		0.0008				0.0009	0.0006	0.0005
Cadmium	***mg/L***	<0.0005			<0.0005			<0.0005		<0.0001				<0.0001	<0.0001	<0.0001
Copper	***mg/L***	0.0018			0.0024			0.0020		0.0038				0.0023	0.0019	0.0025
Iron	***mg/L***	0.100			<0.05			0.060		0.136				0.286	0.161	<0.050
Lead	***mg/L***	<0.0025			<0.0025			<0.0025		<0.0005				<0.0005	<0.0005	<0.0005
Manganese	***mg/L***	0.673			0.857			0.756		0.608				0.440	0.797	0.881
Mercury	***mg/L***	<0.0002			<0.0002			<0.0002		<0.0002				<0.0002	<0.0002	<0.0002
Molybdenum	***mg/L***	<0.0025			<0.0025			0.0017		0.0016				0.0016	0.0021	0.0021
Selenium	***mg/L***	<0.005			<0.005			0.0013		0.0023				0.0027	0.0019	0.0016
Silica (Si02)	***mg/L***	13.9			16.1			16.4		14.3				14.7	15.5	16.1
Silicon	***mg/L***	6.51			7.53			7.67		6.69				6.85	7.22	7.54
Uranium	***mg/L***	0.0029			0.0021			0.0023		0.0026				0.0024	0.0021	0.0021
Zinc	***mg/L***	0.0156			0.0364			0.0301		0.0269				0.0194	0.026	0.0208
Radium 226	***pCi/L***	0.7 +/- 0.1			NA			NA		NA				NA	NA	NA
Radium 228	***pCi/L***	<0.8			NA			NA		NA				NA	NA	NA

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-HGA-4

Year		**2016**	**2017**								
Quarter		Q4	Q1			Q2			Q3		
Month		12	1	2	3	4	5	6	7	8	9
Sample Date		12/12	1/26	2/28	3/22	4/27	5/31	6/13	7/27	8/16	9/21
Lab Analysis (Y/N)		Y	N	N	Y	N	N	Y	N	N	Y
Field Parameters:											
Purge Flow Rate	***gpm***	0.5	NM	NM	NM	NM	NM	NM	NM	NM	NM
Total Purged	***gal***	21	3	3	21	21	21	19.5	20	20	21
Depth to Water	***ft bgs***	0.73	0.57	0.6	0.83	0.94	2.06	2.53	3.25	2.65	3.31
Temperature	***deg C***	7.31	4.76	6.44	8.14	7.21	9.86	8.37	8.61	8.81	9
pH	***SU***	7.29	7.36	7.4	7.41	7.33	7.36	7.4	7.36	7.35	7.33
Specific Conductance	***µS/cm***	1284.3	1256.5	1201	1155.3	1152.7	1112.6	1055.1	1098.7	1049.7	1124.1
Oxygen Reduction Potential	***mV***	-72.1	-86.6	-105.1	-104.4	-74.5	-91.3	-134.7	-137.6	-131	-139.5
Lab Analytical Results:											
Hardness as CaCO3	***mg/L***	724			611			616			522
pH (Lab)	***SU***	7.30			7.17			7.31			7.25
Total Dissolved Solids (Lab)	***mg/L***	855			710			715			750
Calcium	***mg/L***	147			118			121			102
Magnesium	***mg/L***	86.7			76.7			76.6			64.9
Sodium	***mg/L***	19.5			27.4			28.6			24.9
Potassium	***mg/L***	2.02			2.13			2.11			1.75
Alkalinity, Total	***mg/L***	545			465			415			465
Alkalinity, Bicarbonate	***mg/L***	545			465			415			465
Alkalinity, Carbonate	***mg/L***	ND			<10.0			<10			<10.0
Alkalinity, Hydroxide	***mg/L***	ND			<10.0			<10			<10.0
Chloride	***mg/L***	10.9			8.75			7.95			8.96
Fluoride	***mg/L***	0.577			0.485			0.506			0.517
Sulfate as SO4	***mg/L***	240			229			192			205
Total Organic Carbon (TOC)	***mg/L***				4.54			4.35			4.69
Nitrate/Nitrite as N	***mg/L***	ND			<0.020			<0.02			<0.020
Aluminum	***mg/L***	0.423			<0.050			<0.05			<0.050
Arsenic	***mg/L***	0.0030			0.0029			0.0028			<0.0005
Cadmium	***mg/L***	ND			<0.0001			<0.0001			<0.0001
Copper	***mg/L***	0.0006			0.0008			0.0002			0.0004
Iron	***mg/L***	3.71			7.29			7.32			0.378
Lead	***mg/L***	ND			<0.0005			<0.0005			<0.0005
Manganese	***mg/L***	4.07			2.78			2.37			2.03
Mercury	***mg/L***	ND			<0.0002			<0.0002			<0.0002
Molybdenum	***mg/L***	0.0013			0.0024			0.0027			0.0028
Selenium	***mg/L***	ND			0.0030			<0.001			<0.0010
Silica (Si02)	***mg/L***	22.3			16.8			18			16.5
Silicon	***mg/L***	10.4			7.86			8.41			7.72
Uranium	***mg/L***	0.0010			0.0004			0.0004			0.0004
Zinc	***mg/L***	0.0039			0.0046			<0.002			<0.0040
Radium 226	***pCi/L***	NA			NA			NA			NA
Radium 228	***pCi/L***	NA			NA			NA			NA

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-1-A						
Year		**2017**				
Quarter		Q2	Q3			
Month		6	7	8	9	9
Sample Date		6/7	7/18	8/23	9/7	9/26
Lab Analysis (Y/N)		Y	N	N	N	Y
Field Parameters:						
Purge Flow Rate	***gpm***	NM	NM - wait on new pump	NM - wait on new pump	NM	NM
Total Purged	***gal***	13			NM	NM
Depth to Water	***ft bgs***	215.42			215.54	216.33
Temperature	***deg C***	17.72			10.74	9.73
pH	***SU***	7.78			7.35	7.38
Specific Conductance	***µS/cm***	1362.4			1554.6	1563.2
Oxygen Reduction Potential	***mV***	-34.6			-54.7	-46.5
Dissolved Oxygen	***mg/L***	NM			NM	NM
Lab Analytical Results:						
Hardness as CaCO3	***mg/L***	124				133
pH (Lab)	***SU***	7.74				7.35
Total Dissolved Solids (Lab)	***mg/L***	975				1080
Calcium	***mg/L***	24.7				25.8
Magnesium	***mg/L***	15.1				16.7
Sodium	***mg/L***	324				329
Potassium	***mg/L***	1.98				2.02
Alkalinity, Total	***mg/L***	375				450
Alkalinity, Bicarbonate	***mg/L***	375				450
Alkalinity, Carbonate	***mg/L***	<10.0				<10.0
Alkalinity, Hydroxide	***mg/L***	<10.0				<10.0
Chloride	***mg/L***	2.75				2.16
Fluoride	***mg/L***	0.268				0.245
Sulfate as SO4	***mg/L***	427				432
Total Organic Carbon (TOC)	***mg/L***	5.03				1.36
Nitrate/Nitrite as N	***mg/L***	<0.200				<0.400
Aluminum	***mg/L***	<0.050				<0.050
Arsenic	***mg/L***	<0.0005				<0.0005
Cadmium	***mg/L***	<0.0001				<0.0001
Copper	***mg/L***	0.0043				0.0057
Iron	***mg/L***	0.128				0.367
Lead	***mg/L***	<0.0005				<0.0005
Manganese	***mg/L***	0.0260				0.0218
Mercury	***mg/L***	<0.0002				<0.0002
Molybdenum	***mg/L***	0.0007				0.0010
Selenium	***mg/L***	<0.0010				<0.0010
Silica (Si02)	***mg/L***	12.3				11.9
Silicon	***mg/L***	5.74				5.56
Uranium	***mg/L***	0.0004				0.0002
Zinc	***mg/L***	0.0270				0.0088
Radium 226	***pCi/L***	NA				NA
Radium 228	***pCi/L***	NA				NA

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-1-MI

Year		**2017**			
Quarter		Q2	Q3		
Month		6	7	8	9
Sample Date		6/7	7/18	8/23	9/26
Lab Analysis (Y/N)		Y	N	N	N
Field Parameters:					
Purge Flow Rate	***gpm***	NM	NM - wait on new pump	NM	NM
Total Purged	***gal***	20		NM	NM
Depth to Water	***ft bgs***	259.99		258.29	258.34
Temperature	***deg C***	15.8		11.83	21.73
pH	***SU***	8		7.94	7.86
Specific Conductance	***µS/cm***	2031.5		2137.1	2119.4
Oxygen Reduction Potential	***mV***	160.5		65.7	61.4
Dissolved Oxygen	***mg/L***	NM		NM	NM
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			
Radium 226	***pCi/L***	NA			
Radium 228	***pCi/L***	NA			

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-1-C

Year		**2017**				
Quarter		Q2	Q3			
Month		6	7	8	9	9
Sample Date		6/7	7/18	8/23	9/7	9/26
Lab Analysis (Y/N)		Y	N	N	N	Y
Field Parameters:						
Purge Flow Rate	***gpm***	NM	NM - wait on new pump	NM - wait on new pump	NM	NM
Total Purged	***gal***	5			NM	NM
Depth to Water	***ft bgs***	216.5			216.95	216.59
Temperature	***deg C***	15.96			37.22	12.86
pH	***SU***	7.52			7.77	7.17
Specific Conductance	***µS/cm***	2446.3			0	2724.9
Oxygen Reduction Potential	***mV***	74.3			61.4	77.4
Dissolved Oxygen	***mg/L***	NM			NM	NM
Lab Analytical Results:						
Hardness as CaCO3	***mg/L***	498				1290
pH (Lab)	***SU***	8.35				7.36
Total Dissolved Solids (Lab)	***mg/L***	2020				2440
Calcium	***mg/L***	96.0				234
Magnesium	***mg/L***	62.8				172
Sodium	***mg/L***	506				242
Potassium	***mg/L***	11.4				3.81
Alkalinity, Total	***mg/L***	530				700
Alkalinity, Bicarbonate	***mg/L***	530				700
Alkalinity, Carbonate	***mg/L***	<10.0				<10.0
Alkalinity, Hydroxide	***mg/L***	<10.0				<10.0
Chloride	***mg/L***	24.2				6.97
Fluoride	***mg/L***	1.59				0.864
Sulfate as SO4	***mg/L***	1090				1350
Total Organic Carbon (TOC)	***mg/L***	4.56				2.84
Nitrate/Nitrite as N	***mg/L***	<2.00				<0.400
Aluminum	***mg/L***	<0.050				<0.050
Arsenic	***mg/L***	0.0029				0.0016
Cadmium	***mg/L***	<0.0001				<0.0001
Copper	***mg/L***	0.0088				0.0085
Iron	***mg/L***	<0.050				<0.050
Lead	***mg/L***	<0.0005				<0.0005
Manganese	***mg/L***	0.0744				0.0853
Mercury	***mg/L***	<0.0002				<0.0002
Molybdenum	***mg/L***	0.0164				0.0049
Selenium	***mg/L***	0.0136				0.0012
Silica (Si02)	***mg/L***	10.6				16.6
Silicon	***mg/L***	4.94				7.77
Uranium	***mg/L***	0.0500				0.0044
Zinc	***mg/L***	0.0293				0.0294
Radium 226	***pCi/L***	NA				NA
Radium 228	***pCi/L***	NA				NA

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.*

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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-2-A

Year		**2017**			
Quarter		Q1	Q2	Q3	
Month		3	6	7	8
Sample Date		3/30	6/7	7/18	8/23
Lab Analysis (Y/N)		N	N	N	N
Field Parameters:					
Purge Flow Rate	***gpm***	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***				
Dissolved Oxygen	***mg/L***				
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***				
Radium 226	***pCi/L***				
Radium 228	***pCi/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)**

"<" 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.

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.

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

GCC Energy Hydrologic Monitoring Data

MW-2-MI						
Year		2017				
Quarter		Q1	Q2	Q3		
Month		3	6	7	8	
Sample Date		3/30	6/7	7/18	8/23	
Lab Analysis (Y/N)		N	N	N	N	
Field Parameters:						
Purge Flow Rate	gpm	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					
Dissolved Oxygen	mg/L					
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					
Radium 226	pCi/L					
Radium 228	pCi/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)

"<" 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.

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.

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

GCC Energy Hydrologic Monitoring Data

MW-2-C

Year		**2017**			
Quarter		Q1	Q2	Q3	
Month		3	6	7	8
Sample Date		3/30	6/7	7/18	8/23
Lab Analysis (Y/N)		N	N	N	N
Field Parameters:					
Purge Flow Rate	***gpm***	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***				
Dissolved Oxygen	***mg/L***				
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***				
Radium 226	***pCi/L***				
Radium 228	***pCi/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)**

"<" 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.

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.

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-A						
Year		2017				
Quarter		Q1	Q2	Q3		
Month		3	6	7	8	9
Sample Date		3/27	6/30	7/18	8/24	9/28
Lab Analysis (Y/N)		Y	Y	N	N	Y
Field Parameters:						
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM
Total Purged	gal	30	2	NM	NM	NM
Depth to Water	ft bgs	297.35	298.24	297.45	298.24	298.11
Temperature	deg C	11.72	13.17	19.46	12.57	12.32
pH	SU	8.82	8.75	8.56	8.67	8.72
Specific Conductance	µS/cm	2535	2446	2115.4	2523.8	2469.5
Oxygen Reduction Potential	mV	-269	-101.5	-55.3	-87.4	-142.3
Dissolved Oxygen	mg/L	2.49	NM	NM	NM	NM
Lab Analytical Results:						
Hardness as CaCO3	mg/L	7.53	12.6			12.6
pH (Lab)	SU	8.63	8.69			8.53
Total Dissolved Solids (Lab)	mg/L	1630	1670			1630
Calcium	mg/L	2.00	3.67			3.63
Magnesium	mg/L	0.616	0.823			0.859
Sodium	mg/L	566	585			589
Potassium	mg/L	1.72	2.02			2.04
Alkalinity, Total	mg/L	530	470			500
Alkalinity, Bicarbonate	mg/L	380	470			440
Alkalinity, Carbonate	mg/L	150	<10.0			60.0
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0
Chloride	mg/L	16.1	17.4			18.5
Fluoride	mg/L	0.464	0.488			0.535
Sulfate as SO4	mg/L	729	802			840
Total Organic Carbon (TOC)	mg/L	3.52	10.0			7.26
Nitrate/Nitrite as N	mg/L	<0.100	<0.100			<0.020
Aluminum	mg/L	<0.050	<0.050			<0.050
Arsenic	mg/L	0.0025	<0.0025			<0.0025
Cadmium	mg/L	<0.0001	<0.0005			<0.0005
Copper	mg/L	0.0061	0.0081			0.0080
Iron	mg/L	<0.050	<0.050			<0.050
Lead	mg/L	<0.0005	<0.0025			<0.0025
Manganese	mg/L	0.0042	0.0251			0.0194
Mercury	mg/L	<0.0002	<0.0002			<0.0002
Molybdenum	mg/L	0.0005	0.0274			0.0091
Selenium	mg/L	0.0577	<0.0050			<0.0050
Silica (Si02)	mg/L	10.1	10.9			11.6
Silicon	mg/L	4.70	5.10			5.41
Uranium	mg/L	0.0002	0.0040			0.0051
Zinc	mg/L	0.0031	<0.0100			<0.0100
Radium 226	pCi/L	NA	NA			NA
Radium 228	pCi/L	NA	NA			NA

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)

"<" 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.

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.

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

GCC Energy Hydrologic Monitoring Data

MW-3-MI						
Year		2017				
Quarter		Q1	Q2	Q3		
Month		3	6	7	8	9
Sample Date		3/27	6/30	7/18	8/16	9/28
Lab Analysis (Y/N)		Y	Y	N	N	Y
Field Parameters:						
Purge Flow Rate	gpm	0.5	NM	NM	NM	NM
Total Purged	gal	19	2	NM	NM	NM
Depth to Water	ft bgs	304.49	241.15	240.46	240.53	240.46
Temperature	deg C	10.03	12.55	22.02	12.88	11.04
pH	SU	9.34	8.94	8.46	8.9	8.74
Specific Conductance	µS/cm	1907	1698.6	1402.3	1598	1736.6
Oxygen Reduction Potential	mV	-87	-54.5	-26.4	-108.2	-107.3
Dissolved Oxygen	mg/L	7.68	NM	NM	NM	NM
Lab Analytical Results:						
Hardness as CaCO3	mg/L	4.85	8.73			9.02
pH (Lab)	SU	8.95	8.75			8.72
Total Dissolved Solids (Lab)	mg/L	1550	1120			1140
Calcium	mg/L	1.32	2.32			2.34
Magnesium	mg/L	0.374	0.714			0.775
Sodium	mg/L	420	430			440
Potassium	mg/L	2.15	2.21			1.93
Alkalinity, Total	mg/L	740	675			700
Alkalinity, Bicarbonate	mg/L	510	555			600
Alkalinity, Carbonate	mg/L	230	120			100
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0
Chloride	mg/L	8.66	10.1			10.7
Fluoride	mg/L	0.952	1.34			1.26
Sulfate as SO4	mg/L	165	241			247
Total Organic Carbon (TOC)	mg/L	8.34	14.8			10.9
Nitrate/Nitrite as N	mg/L	<0.020	<0.020			<0.020
Aluminum	mg/L	<0.050	0.102			<0.050
Arsenic	mg/L	0.0134	0.0167			0.0131
Cadmium	mg/L	<0.0001	<0.0005			<0.0005
Copper	mg/L	0.0055	0.0058			0.0065
Iron	mg/L	<0.050	<0.100			<0.050
Lead	mg/L	0.0024	<0.0025			<0.0025
Manganese	mg/L	0.0022	0.0058			0.0033
Mercury	mg/L	<0.0002	<0.0002			<0.0002
Molybdenum	mg/L	0.0061	0.0211			0.0148
Selenium	mg/L	0.0013	<0.0050			<0.0050
Silica (Si02)	mg/L	7.97	8.18			9.05
Silicon	mg/L	3.73	3.82			4.23
Uranium	mg/L	0.0049	0.0084			0.0140
Zinc	mg/L	0.0405	<0.0100			<0.0100
Radium 226	pCi/L	NA	NA			NA
Radium 228	pCi/L	NA	NA			NA

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)

"<" 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.

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.

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					
Quarter		Q1	Q2	Q3			
Month		3	6	7	8	9	
Sample Date		3/27	6/30	7/27	8/24	9/28	
Lab Analysis (Y/N)		Y	Y	N	N	Y	
Field Parameters:							
Purge Flow Rate	*gpm*	0.5	NM	NM	NM	NM	
Total Purged	*gal*	20	2	NM	NM	NM	
Depth to Water	*ft bgs*	304.21	296.3	296.93	296.87	297.43	
Temperature	*deg C*	10.45	12.85	13.13	12.51	11.8	
pH	*SU*	8.61	8.57	8.51	8.46	8.44	
Specific Conductance	*µS/cm*	3549	3587.5	3814.8	4112.2	4350.8	
Oxygen Reduction Potential	*mV*	-129	-87.2	-137.5	-128.8	-149.9	
Dissolved Oxygen	*mg/L*	2.54	NM	NM	NM	NM	
Lab Analytical Results:							
Hardness as CaCO3	*mg/L*	14.4	11.8			15.1	
pH (Lab)	*SU*	8.5	8.48			8.35	
Total Dissolved Solids (Lab)	*mg/L*	2130	2360			3070	
Calcium	*mg/L*	3.60	2.87			3.50	
Magnesium	*mg/L*	1.31	1.12			1.55	
Sodium	*mg/L*	796	890			1100	
Potassium	*mg/L*	3.47	3.24			4.01	
Alkalinity, Total	*mg/L*	1490	1570			1690	
Alkalinity, Bicarbonate	*mg/L*	1360	1480			1650	
Alkalinity, Carbonate	*mg/L*	130	90.0			40.0	
Alkalinity, Hydroxide	*mg/L*	<10.0	<10.0			<10.0	
Chloride	*mg/L*	182	330			477	
Fluoride	*mg/L*	4.89	4.94			4.52	
Sulfate as SO4	*mg/L*	73.4	73.5			46.4	
Total Organic Carbon (TOC)	*mg/L*	10.6	58.5			219	
Nitrate/Nitrite as N	*mg/L*	<0.020	<0.400			<0.400	
Aluminum	*mg/L*	<0.050	<0.100			<0.050	
Arsenic	*mg/L*	0.0115	0.0088			0.0098	
Cadmium	*mg/L*	<0.0001	<0.0010			<0.0010	
Copper	*mg/L*	0.0109	0.0147			0.0174	
Iron	*mg/L*	<0.050	<0.050			<0.050	
Lead	*mg/L*	0.0085	<0.0050			<0.0050	
Manganese	*mg/L*	0.0091	0.0188			0.0178	
Mercury	*mg/L*	<0.0002	<0.0002			<0.0002	
Molybdenum	*mg/L*	0.0143	0.0291			0.0241	
Selenium	*mg/L*	0.0233	0.0121			0.0149	
Silica (Si02)	*mg/L*	7.82	8.86			9.16	
Silicon	*mg/L*	3.66	4.14			4.28	
Uranium	*mg/L*	0.0091	0.0102			0.0137	
Zinc	*mg/L*	0.375	<0.0200			<0.0200	
Radium 226	*pCi/L*	NA	NA			NA	
Radium 228	*pCi/L*	NA	NA			NA	

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)**

"<" 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.

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.

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					
Quarter		Q1	Q2	Q3			
Month		3	6	7	8	9	
Sample Date		3/29	6/30	7/19	8/23	9/28	
Lab Analysis (Y/N)		Y	Y	N	N	Y	
Field Parameters:							
Purge Flow Rate	gpm	NM	NM	NM	NM	NM	
Total Purged	gal	19	2	1.5	n/a	>1	
Depth to Water	ft bgs	338.6	334.96	335.59	334.79	334.81	
Temperature	deg C	15.61	16.83	25.5	17.63	11.91	
pH	SU	8.61	8.29	8.55	7.98	8.41	
Specific Conductance	µS/cm	2162.6	2052.9	1876.3	2095.6	2180.1	
Oxygen Reduction Potential	mV	28.6	54	60.2	61.7	-8.6	
Dissolved Oxygen	mg/L	NM	NM	NM	NM	NM	
Lab Analytical Results:							
Hardness as CaCO3	mg/L	9.16	9.85			7.77	
pH (Lab)	SU	8.2	8.40			8.36	
Total Dissolved Solids (Lab)	mg/L	1470	1470			1450	
Calcium	mg/L	2.23	2.43			1.76	
Magnesium	mg/L	0.871	0.916			0.823	
Sodium	mg/L	515	537			513	
Potassium	mg/L	1.57	1.75			1.63	
Alkalinity, Total	mg/L	635	560			630	
Alkalinity, Bicarbonate	mg/L	635	560			590	
Alkalinity, Carbonate	mg/L	<10.0	<10.0			40.0	
Alkalinity, Hydroxide	mg/L	<10.0	<10.0			<10.0	
Chloride	mg/L	9.56	9.66			10.3	
Fluoride	mg/L	<0.400	<0.400			<0.500	
Sulfate as SO4	mg/L	594	588			783	
Total Organic Carbon (TOC)	mg/L	6.63	11.7			3.52	
Nitrate/Nitrite as N	mg/L	0.035	<0.020			<0.020	
Aluminum	mg/L	<0.050	<0.050			<0.050	
Arsenic	mg/L	0.0016	<0.0025			<0.0025	
Cadmium	mg/L	<0.0001	<0.0005			<0.0005	
Copper	mg/L	0.0053	0.0093			0.0076	
Iron	mg/L	<0.050	<0.050			<0.050	
Lead	mg/L	0.0014	<0.0025			<0.0025	
Manganese	mg/L	0.0044	0.0063			0.0044	
Mercury	mg/L	<0.0002	<0.0002			<0.0002	
Molybdenum	mg/L	0.0009	0.0275			<0.0025	
Selenium	mg/L	0.0016	<0.0050			<0.0050	
Silica (Si02)	mg/L	10.2	10.6			9.99	
Silicon	mg/L	4.75	4.97			4.67	
Uranium	mg/L	0.0016	<0.0005			<0.0005	
Zinc	mg/L	0.269	0.0319			<0.0100	
Radium 226	pCi/L	NA	NA			NA	
Radium 228	pCi/L	NA	NA			NA	

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)

"<" 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.

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.

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					
Quarter		Q1	Q2	Q3			
Month		3	6	7	8	9	
Sample Date		3/30	6/16	7/27	8/23	9/28	
Lab Analysis (Y/N)		Y	Y	N	N	Y	
Field Parameters:							
Purge Flow Rate	*gpm*	NM	NM	NM	NM	NM	
Total Purged	*gal*	1	6.5	NM	NM	>1	
Depth to Water	*ft bgs*	378.2	330.15	330.94	330.85	330.81	
Temperature	*deg C*	14.97	14.64	12.86	12.5	11.37	
pH	*SU*	9.08	8.91	8.78	8.79	8.76	
Specific Conductance	*µS/cm*	1581.2	1667.9	1731.3	1708.4	1784.2	
Oxygen Reduction Potential	*mV*	155.2	64.7	9.8	35.2	-29.6	
Dissolved Oxygen	*mg/L*	NM	NM	NM	NM	NM	
Lab Analytical Results:							
Hardness as CaCO3	*mg/L*	5.43	8.71			7.07	
pH (Lab)	*SU*	8.83	8.59			8.63	
Total Dissolved Solids (Lab)	*mg/L*	1160	1170			1180	
Calcium	*mg/L*	1.53	2.32			1.88	
Magnesium	*mg/L*	0.392	0.707			0.579	
Sodium	*mg/L*	408	458			449	
Potassium	*mg/L*	1.46	<2.00			1.73	
Alkalinity, Total	*mg/L*	965	915			1100	
Alkalinity, Bicarbonate	*mg/L*	775	825			880	
Alkalinity, Carbonate	*mg/L*	190	90.0			220	
Alkalinity, Hydroxide	*mg/L*	<10.0	<10.0			<10.0	
Chloride	*mg/L*	2.18	7.50			8.78	
Fluoride	*mg/L*	4.72	5.02			5.09	
Sulfate as SO4	*mg/L*	17.4	64.7			76.6	
Total Organic Carbon (TOC)	*mg/L*	2.64	6.49			8.58	
Nitrate/Nitrite as N	*mg/L*	<0.020	<0.020			<0.020	
Aluminum	*mg/L*	<0.050	<0.100			<0.050	
Arsenic	*mg/L*	0.0099	0.0220			0.0131	
Cadmium	*mg/L*	<0.0001	<0.0001			<0.0005	
Copper	*mg/L*	0.0059	0.0058			0.0071	
Iron	*mg/L*	<0.050	<0.100			<0.050	
Lead	*mg/L*	0.0010	<0.0005			<0.0025	
Manganese	*mg/L*	0.0020	0.0066			0.0081	
Mercury	*mg/L*	<0.0002	<0.0002			<0.0002	
Molybdenum	*mg/L*	0.0020	0.0160			0.0127	
Selenium	*mg/L*	<0.0010	0.0012			<0.0050	
Silica (Si02)	*mg/L*	7.27	8.01			8.80	
Silicon	*mg/L*	3.40	3.75			4.11	
Uranium	*mg/L*	0.0043	0.0126			0.0184	
Zinc	*mg/L*	0.113	0.0697			<0.0100	
Radium 226	*pCi/L*	NA	NA			NA	
Radium 228	*pCi/L*	NA	NA			NA	

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)**

"<" 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.

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.

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-C

Year		**2017**				
Quarter		Q1	Q2	Q3		
Month		3	6	7	8	9
Sample Date		3/30	6/16	7/27	8/23	9/28
Lab Analysis (Y/N)		Y	Y	N	N	Y
Field Parameters:						
Purge Flow Rate	***gpm***	NM	NM	NM	NM	NM
Total Purged	***gal***	7	1.5	NM	NM	NM
Depth to Water	***ft bgs***	328.33	314.05	309.87	306.86	303.96
Temperature	***deg C***	13.31	17.4	12.67	12.03	13.86
pH	***SU***	8.33	7.62	7.68	7.7	7.69
Specific Conductance	***µS/cm***	3791.7	5943.5	5996.7	5884.6	5813.3
Oxygen Reduction Potential	***mV***	57.3	20.3	-101.5	-111.2	-103.7
Dissolved Oxygen	***mg/L***	NM	NM	NM	NM	NM
Lab Analytical Results:						
Hardness as CaCO3	***mg/L***	46.3	55.9			38.9
pH (Lab)	***SU***	7.61	7.77			7.79
Total Dissolved Solids (Lab)	***mg/L***	3230	4050			3750
Calcium	***mg/L***	13.6	13.7			9.15
Magnesium	***mg/L***	2.99	5.26			3.90
Sodium	***mg/L***	908	1510			1490
Potassium	***mg/L***	4.38	5.71			6.07
Alkalinity, Total	***mg/L***	1250	2360			2780
Alkalinity, Bicarbonate	***mg/L***	1250	2360			2780
Alkalinity, Carbonate	***mg/L***	<10.0	<10.0			<10.0
Alkalinity, Hydroxide	***mg/L***	<10.0	<10.0			<10.0
Chloride	***mg/L***	181	550			587
Fluoride	***mg/L***	1.29	2.04			2.17
Sulfate as SO4	***mg/L***	534	487			70.2
Total Organic Carbon (TOC)	***mg/L***	30	6.42			5.08
Nitrate/Nitrite as N	***mg/L***	<2.00	<0.500			<0.400
Aluminum	***mg/L***	<0.050	<0.050			<0.050
Arsenic	***mg/L***	0.0059	0.0119			0.0128
Cadmium	***mg/L***	<0.0001	<0.0010			<0.0010
Copper	***mg/L***	0.0125	0.0243			0.0221
Iron	***mg/L***	<0.050	<0.050			<0.050
Lead	***mg/L***	<0.0005	<0.0050			<0.0050
Manganese	***mg/L***	0.0269	0.0772			0.0554
Mercury	***mg/L***	<0.0002	<0.0002			<0.0002
Molybdenum	***mg/L***	0.0526	0.115			0.0138
Selenium	***mg/L***	0.0248	0.0231			0.0214
Silica (Si02)	***mg/L***	9.85	12.6			12.9
Silicon	***mg/L***	4.61	5.88			6.02
Uranium	***mg/L***	0.0297	0.121			0.0984
Zinc	***mg/L***	0.0156	0.0265			<0.0200
Radium 226	***pCi/L***	NA	NA			NA
Radium 228	***pCi/L***	NA	NA			NA

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)**

***"<"** 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.*

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.

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.