



"Safety as a Value"

Telephone: 970.385.4528
Facsimile: 970.385.4638

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

July 25, 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
2nd Quarter 2017

Mr. Zuber:

Please find enclosed a copy of quarterly water analysis reports for the 2nd 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-MI, 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

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

Sincerely,

A handwritten signature in black ink, appearing to read 'Tom Bird', with a large, stylized loop at the end.

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

19 July 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 06/28/17 16:34.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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

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



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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well #1 Upgradient	1706292-01	Water	06/28/17 13:40	06/28/17 16:34
Hay Gulch Ditch Downgradient	1706292-02	Water	06/28/17 11:45	06/28/17 16:34
Hay Gulch Ditch Upgradient	1706292-03	Water	06/28/17 14:05	06/28/17 16:34

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Debbie Zufelt, Reports Manager

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Page 2 of 16



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Oil and Grease (HEM) analysis via 1664 had low recoveries for LCS and LCS duplicate for this batch. Because the method is destructive to the sample, re-analysis is not possible. Typically initial QC is checked before any samples are processed to ensure sample is not analyzed until all QC criteria have been met. Due to a laboratory error, these samples were processed before verifying all QC checks and the data has the possibility of being low biased.

Several clients had routine projects in this batch and all sample results were typical based on historical data.

Green Analytical Laboratories

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

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/19/17 15:10

Well #1 Upgradient

1706292-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	585	10.0		mg/L	5	07/07/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	07/07/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	07/07/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	585	10.0		mg/L	5	07/07/17	2320 B		JLM
Chloride*	4.32	1.00	0.143	mg/L	1	07/11/17	EPA300.0		JDA
Fluoride*	0.362	0.100	0.0160	mg/L	1	07/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	07/12/17	EPA353.2		LLG
pH*	7.74			pH Units	1	06/29/17	EPA150.1		CMS
Total Dissolved Solids*	725	10.0		mg/L	1	07/03/17	EPA160.1		LLG
Sulfate*	97.4	5.00	0.782	mg/L	5	07/12/17	EPA300.0		JDA
Total Organic Carbon	5.82	0.500	0.201	mg/L	1	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	54.0	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	277	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	1.34	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	34.6	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	3.00	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	14.9	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	6.94	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	189	1.00	0.087	mg/L	1	07/07/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	07/14/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	07/14/17	EPA200.8		JDA
Copper*	0.0020	0.0001	0.00003	mg/L	1	07/14/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	07/14/17	EPA200.8		JDA
Manganese*	0.315	0.0005	0.0003	mg/L	1	07/14/17	EPA200.8		JDA
Molybdenum*	<0.0005	0.0005	0.00006	mg/L	1	07/14/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	07/14/17	EPA200.8		JDA
Uranium	0.0001	0.0001	0.00001	mg/L	1	07/14/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	07/14/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Well #1 Upgradient

1706292-01 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	07/17/17	EPA245.1		LLG
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Cation/Anion Balance	.17
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/19/17 15:10

Hay Gulch Ditch Downgradient

1706292-02 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	47.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	47.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Chloride*	<1.00	1.00	0.143	mg/L	1	07/11/17	EPA300.0		JDA
Fluoride*	0.290	0.100	0.0160	mg/L	1	07/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	07/12/17	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	07/18/17	EPA1664 A	BS2	CMS
pH*	7.98			pH Units	1	06/29/17	EPA150.1		CMS
SAR	0.08			No Unit	1	07/13/17	Calculation		JDA
Total Dissolved Solids*	65.0	10.0		mg/L	1	07/03/17	EPA160.1		LLG
Total Suspended Solids*	3.00	2.00		mg/L	1	07/03/17	EPA160.2		LLG
Sulfate*	11.3	1.00	0.156	mg/L	1	07/11/17	EPA300.0		JDA
Total Organic Carbon	2.16	0.500	0.201	mg/L	1	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	19.0	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	59.1	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	2.86	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	<1.00	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	6.80	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	3.18	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	1.49	1.00	0.087	mg/L	1	07/07/17	EPA200.7		JDA

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Hay Gulch Ditch Downgradient

1706292-02 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Dissolved Metals by ICPMS

Arsenic*	0.0005	0.0005	0.00008	mg/L	1	07/14/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	07/14/17	EPA200.8		JDA
Copper*	0.0020	0.0001	0.00003	mg/L	1	07/14/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	07/14/17	EPA200.8		JDA
Manganese*	0.0009	0.0005	0.0003	mg/L	1	07/14/17	EPA200.8		JDA
Molybdenum*	0.0009	0.0005	0.00006	mg/L	1	07/14/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	07/14/17	EPA200.8		JDA
Uranium	0.0001	0.0001	0.00001	mg/L	1	07/14/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	07/14/17	EPA200.8		JDA

Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00005	mg/L	1	07/17/17	EPA245.1		LLG
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Cation/Anion Balance 1.67

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Hay Gulch Ditch Upgradient

1706292-03 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	55.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	55.0	10.0		mg/L	1	07/07/17	2320 B		JLM
Chloride*	1.76	1.00	0.143	mg/L	1	07/11/17	EPA300.0		JDA
Fluoride*	0.195	0.100	0.0160	mg/L	1	07/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	07/12/17	EPA353.2		LLG
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	07/18/17	EPA1664 A	BS2	CMS
pH*	8.06			pH Units	1	06/29/17	EPA150.1		CMS
SAR	0.10			No Unit	1	07/13/17	Calculation		JDA
Total Dissolved Solids*	65.0	10.0		mg/L	1	07/03/17	EPA160.1		LLG
Total Suspended Solids*	63.5	2.00		mg/L	1	07/03/17	EPA160.2		LLG
Sulfate*	15.0	1.00	0.156	mg/L	1	07/11/17	EPA300.0		JDA
Total Organic Carbon	1.15	0.500	0.201	mg/L	1	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	20.8	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	69.2	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	4.21	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	<1.00	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	7.71	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	3.60	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	1.97	1.00	0.087	mg/L	1	07/07/17	EPA200.7		JDA

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Hay Gulch Ditch Upgradient

1706292-03 (Water)

Analyte	Result	RL	MDL	Units	Dilution	Analyzed	Method	Notes	Analyst
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Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	07/14/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	07/14/17	EPA200.8		JDA
Copper*	0.0013	0.0001	0.00003	mg/L	1	07/14/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	07/14/17	EPA200.8		JDA
Manganese*	0.0024	0.0005	0.0003	mg/L	1	07/14/17	EPA200.8		JDA
Molybdenum*	0.0009	0.0005	0.00006	mg/L	1	07/14/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	07/14/17	EPA200.8		JDA
Uranium	0.0001	0.0001	0.00001	mg/L	1	07/14/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	07/14/17	EPA200.8		JDA

Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00005	mg/L	1	07/17/17	EPA245.1		LLG
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Cation/Anion Balance .3

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706264 - General Prep - Wet Chem

Duplicate (B706264-DUP2)		Source: 1706298-02		Prepared & Analyzed: 06/29/17						
pH	7.74		pH Units		7.73			0.129	20	
Reference (B706264-SRM1)		Prepared & Analyzed: 06/29/17								
pH	9.02		pH Units		9.08		99.3	97.8-102.2		

Batch B707006 - General Prep - Wet Chem

Blank (B707006-BLK1)		Prepared & Analyzed: 07/03/17								
Total Suspended Solids	ND	2.00	mg/L							
Duplicate (B707006-DUP1)		Source: 1706241-01		Prepared & Analyzed: 07/03/17						
Total Suspended Solids	1.00	2.00	mg/L		0.500			66.7	20	R2
Reference (B707006-SRM1)		Prepared & Analyzed: 07/03/17								
Total Suspended Solids	94.0	2.00	mg/L		100		94.0	85-115		

Batch B707008 - General Prep - Wet Chem

Blank (B707008-BLK1)		Prepared & Analyzed: 07/03/17								
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (B707008-DUP1)		Source: 1706276-01		Prepared & Analyzed: 07/03/17						
Total Dissolved Solids	295	10.0	mg/L		320			8.13	20	
Reference (B707008-SRM1)		Prepared & Analyzed: 07/03/17								
Total Dissolved Solids	535	10.0	mg/L		550		97.3	85-115		

Batch B707018 - General Prep - Wet Chem

Blank (B707018-BLK1)		Prepared & Analyzed: 07/05/17								
Total Organic Carbon	ND	0.500	mg/L							
LCS (B707018-BS1)		Prepared & Analyzed: 07/05/17								
Total Organic Carbon	10.1	0.500	mg/L		10.0		101	85-115		
LCS Dup (B707018-BSD1)		Prepared & Analyzed: 07/05/17								
Total Organic Carbon	10.0	0.500	mg/L		10.0		100	85-115	0.995	20

Batch B707049 - General Prep - Wet Chem

Blank (B707049-BLK1)		Prepared & Analyzed: 07/07/17								
Alkalinity, Total as CaCO3	ND	10.0	mg/L							
LCS (B707049-BS1)		Prepared & Analyzed: 07/07/17								
Alkalinity, Total as CaCO3	103	10.0	mg/L		100		103	85-115		

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707049 - General Prep - Wet Chem (Continued)

LCS Dup (B707049-BSD1)

Prepared & Analyzed: 07/07/17

Alkalinity, Total as CaCO ₃	104	10.0	mg/L	100	104	85-115	0.966	20	
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Batch B707051 - General Prep - Wet Chem

Blank (B707051-BLK1)

Prepared: 07/07/17 Analyzed: 07/18/17

Oil & Grease (HEM)	ND	5.00	mg/L						
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LCS (B707051-BS1)

Prepared: 07/07/17 Analyzed: 07/18/17

Oil & Grease (HEM)	19.3	5.00	mg/L	40.0	48.3	85-115			BS2
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LCS Dup (B707051-BSD1)

Prepared: 07/07/17 Analyzed: 07/18/17

Oil & Grease (HEM)	29.3	5.00	mg/L	40.0	73.3	85-115	41.2	20	BS2
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Batch B707074 - General Prep - Wet Chem

Blank (B707074-BLK1)

Prepared: 07/10/17 Analyzed: 07/11/17

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

LCS (B707074-BS1)

Prepared: 07/10/17 Analyzed: 07/11/17

Chloride	23.7	1.00	mg/L	25.0	94.7	90-110			
Fluoride	2.47	0.100	mg/L	2.50	99.0	90-110			
Sulfate	23.5	1.00	mg/L	25.0	94.1	90-110			

LCS Dup (B707074-BSD1)

Prepared: 07/10/17 Analyzed: 07/11/17

Chloride	24.1	1.00	mg/L	25.0	96.3	90-110	1.65	20	
Fluoride	2.51	0.100	mg/L	2.50	101	90-110	1.60	20	
Sulfate	23.9	1.00	mg/L	25.0	95.7	90-110	1.69	20	

Batch B707091 - General Prep - Wet Chem

Blank (B707091-BLK1)

Prepared & Analyzed: 07/12/17

Nitrate/Nitrite as N	ND	0.020	mg/L						
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LCS (B707091-BS1)

Prepared & Analyzed: 07/12/17

Nitrate/Nitrite as N	0.980	0.020	mg/L	1.00	98.0	90-110			
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LCS Dup (B707091-BSD1)

Prepared & Analyzed: 07/12/17

Nitrate/Nitrite as N	0.982	0.020	mg/L	1.00	98.2	90-110	0.234	20	
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707011 - Diss. 200.7/200.8

Blank (B707011-BLK1)

Prepared: 07/03/17 Analyzed: 07/07/17

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 (B707011-BS1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115
Calcium	4.84	0.100	mg/L	5.00	96.9	85-115
Iron	4.86	0.050	mg/L	5.00	97.2	85-115
Magnesium	24.6	0.100	mg/L	25.0	98.5	85-115
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115
Silicon	4.62	0.500	mg/L	5.00	92.3	85-115
Sodium	7.88	1.00	mg/L	8.10	97.3	85-115

LCS Dup (B707011-BSD1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115	0.0932	20
Calcium	4.84	0.100	mg/L	5.00	96.7	85-115	0.146	20
Iron	4.86	0.050	mg/L	5.00	97.2	85-115	0.0387	20
Magnesium	24.6	0.100	mg/L	25.0	98.3	85-115	0.198	20
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115	0.0271	20
Silicon	4.60	0.500	mg/L	5.00	92.0	85-115	0.326	20
Sodium	7.85	1.00	mg/L	8.10	97.0	85-115	0.359	20

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707085 - Diss. 200.7/200.8

Blank (B707085-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

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 (B707085-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0544	0.0005	mg/L	0.0500	109	85-115				
Cadmium	0.0530	0.0001	mg/L	0.0500	106	85-115				
Copper	0.0504	0.0001	mg/L	0.0500	101	85-115				
Lead	0.0503	0.0005	mg/L	0.0500	101	85-115				
Manganese	0.0483	0.0005	mg/L	0.0500	96.6	85-115				
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115				
Selenium	0.262	0.0010	mg/L	0.250	105	85-115				
Uranium	0.0493	0.0001	mg/L	0.0500	98.7	85-115				
Zinc	0.0530	0.0020	mg/L	0.0500	106	85-115				

LCS Dup (B707085-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0524	0.0005	mg/L	0.0500	105	85-115	3.67	20		
Cadmium	0.0525	0.0001	mg/L	0.0500	105	85-115	0.964	20		
Copper	0.0519	0.0001	mg/L	0.0500	104	85-115	3.08	20		
Lead	0.0523	0.0005	mg/L	0.0500	105	85-115	3.89	20		
Manganese	0.0494	0.0005	mg/L	0.0500	98.8	85-115	2.28	20		
Molybdenum	0.0471	0.0005	mg/L	0.0500	94.2	85-115	4.05	20		
Selenium	0.256	0.0010	mg/L	0.250	102	85-115	2.44	20		
Uranium	0.0507	0.0001	mg/L	0.0500	101	85-115	2.76	20		
Zinc	0.0502	0.0020	mg/L	0.0500	100	85-115	5.51	20		

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Total Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707039 - EPA 245.1/7470

Blank (B707039-BLK1)

Prepared: 07/06/17 Analyzed: 07/17/17

Mercury	ND	0.0002	mg/L							
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LCS (B707039-BS1)

Prepared: 07/06/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200	103	85-115				
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LCS Dup (B707039-BSD1)

Prepared: 07/06/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200	103	85-115	0.291	20		
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Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707111 - EPA 245.1/7470

Blank (B707111-BLK1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	ND	0.0002	mg/L							
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LCS (B707111-BS1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200	107	85-115				
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LCS Dup (B707111-BSD1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200	106	85-115	0.329	20		
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/19/17 15:10

Notes and Definitions

R2	Duplicate sample RPD exceeded the method control limit. One or more of the duplicates was less than 5X reporting limit so RPD requirements do not apply.
BS2	Laboratory control sample below laboratory acceptance criteria. Results for analyte potentially biased low. Will re-analyze to confirm 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

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75 Suttle St Durango, CO 81303

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

[illegible]



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29 June 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 06/13/17 16:52.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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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
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well #2 Downgradient	1706126-01	Water	06/13/17 08:55	06/13/17 16:52
MW-HGA-4	1706126-02	Water	06/13/17 16:52	06/13/17 16:52
MW-HGA-99	1706126-03	Water	06/13/17 10:42	06/13/17 16:52
Wiltse Well	1706126-04	Water	06/13/17 14:15	06/13/17 16:52

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Page 2 of 17

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
06/29/17 11:13

Well #2 Downgradient

1706126-01 (Water)

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

Alkalinity, Bicarbonate as CaCO3*	285	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO3*	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO3*	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO3*	285	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	7.11	1.00	0.143	mg/L	1	06/21/17	EPA300.0		JDA
Fluoride*	0.313	0.100	0.0160	mg/L	1	06/21/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	06/27/17	EPA353.2		LLG
pH*	7.60			pH Units	1	06/14/17	EPA150.1		CMS
Total Dissolved Solids*	415	10.0		mg/L	1	06/19/17	EPA160.1		LLG
Sulfate*	75.2	5.00	0.782	mg/L	5	06/22/17	EPA300.0		JDA
Total Organic Carbon	3.56	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/20/17	EPA200.7		JDA
Calcium*	60.9	0.100	0.036	mg/L	1	06/20/17	EPA200.7		JDA
Hardness as CaCO3	352	0.662	0.195	mg/L	1	06/20/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	06/20/17	EPA200.7		JDA
Magnesium*	48.5	0.100	0.026	mg/L	1	06/20/17	EPA200.7		JDA
Potassium*	2.22	1.00	0.094	mg/L	1	06/20/17	EPA200.7		JDA
Silica (SiO2)	15.5	1.07	0.298	mg/L	1	06/20/17	Calculation		JDA
Silicon	7.23	0.500	0.139	mg/L	1	06/20/17	EPA200.7	M5	JDA
Sodium*	16.1	1.00	0.087	mg/L	1	06/20/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0017	0.0005	0.00008	mg/L	1	06/22/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/22/17	EPA200.8		JDA
Copper*	0.0002	0.0001	0.00003	mg/L	1	06/22/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/22/17	EPA200.8		JDA
Manganese*	0.259	0.0005	0.0003	mg/L	1	06/22/17	EPA200.8		JDA
Molybdenum*	0.0025	0.0005	0.00006	mg/L	1	06/22/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	06/22/17	EPA200.8		JDA
Uranium	0.0008	0.0001	0.00001	mg/L	1	06/22/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	06/22/17	EPA200.8		JDA

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Well #2 Downgradient

1706126-01 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/21/17	EPA245.1		LLG
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Cation/Anion Balance	2.01
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Green Analytical Laboratories

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
06/29/17 11:13

MW-HGA-4

1706126-02 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	415	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	415	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	7.95	1.00	0.143	mg/L	1	06/21/17	EPA300.0		JDA
Fluoride*	0.506	0.100	0.0160	mg/L	1	06/21/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	06/27/17	EPA353.2		LLG
pH*	7.31			pH Units	1	06/14/17	EPA150.1		CMS
Total Dissolved Solids*	715	10.0		mg/L	1	06/19/17	EPA160.1		LLG
Sulfate*	192	10.0	1.56	mg/L	10	06/22/17	EPA300.0		JDA
Total Organic Carbon	4.35	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/20/17	EPA200.7		JDA
Calcium*	121	0.100	0.036	mg/L	1	06/20/17	EPA200.7		JDA
Hardness as CaCO ₃	616	0.662	0.195	mg/L	1	06/20/17	2340 B		JDA
Iron*	7.32	0.050	0.014	mg/L	1	06/20/17	EPA200.7		JDA
Magnesium*	76.6	0.100	0.026	mg/L	1	06/20/17	EPA200.7		JDA
Potassium*	2.11	1.00	0.094	mg/L	1	06/20/17	EPA200.7		JDA
Silica (SiO ₂)	18.0	1.07	0.298	mg/L	1	06/20/17	Calculation		JDA
Silicon	8.41	0.500	0.139	mg/L	1	06/20/17	EPA200.7		JDA
Sodium*	28.6	1.00	0.087	mg/L	1	06/20/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0028	0.0005	0.00008	mg/L	1	06/22/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/22/17	EPA200.8		JDA
Copper*	0.0002	0.0001	0.00003	mg/L	1	06/22/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/22/17	EPA200.8		JDA
Manganese*	2.37	0.0005	0.0003	mg/L	1	06/22/17	EPA200.8		JDA
Molybdenum*	0.0027	0.0005	0.00006	mg/L	1	06/22/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	06/22/17	EPA200.8		JDA
Uranium	0.0004	0.0001	0.00001	mg/L	1	06/22/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	06/22/17	EPA200.8		JDA

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

MW-HGA-4

1706126-02 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/21/17	EPA245.1		LLG
Cation/Anion Balance	5.13								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

MW-HGA-99

1706126-03 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	445	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	445	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	8.45	1.00	0.143	mg/L	1	06/21/17	EPA300.0		JDA
Fluoride*	0.523	0.100	0.0160	mg/L	1	06/21/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	06/27/17	EPA353.2		LLG
pH*	7.38			pH Units	1	06/14/17	EPA150.1		CMS
Total Dissolved Solids*	725	10.0		mg/L	1	06/19/17	EPA160.1		LLG
Sulfate*	196	10.0	1.56	mg/L	10	06/22/17	EPA300.0		JDA
Total Organic Carbon	4.28	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/20/17	EPA200.7		JDA
Calcium*	121	0.100	0.036	mg/L	1	06/20/17	EPA200.7		JDA
Hardness as CaCO ₃	616	0.662	0.195	mg/L	1	06/20/17	2340 B		JDA
Iron*	7.21	0.050	0.014	mg/L	1	06/20/17	EPA200.7		JDA
Magnesium*	76.5	0.100	0.026	mg/L	1	06/20/17	EPA200.7		JDA
Potassium*	2.14	1.00	0.094	mg/L	1	06/20/17	EPA200.7		JDA
Silica (SiO ₂)	18.0	1.07	0.298	mg/L	1	06/20/17	Calculation		JDA
Silicon	8.42	0.500	0.139	mg/L	1	06/20/17	EPA200.7		JDA
Sodium*	28.2	1.00	0.087	mg/L	1	06/20/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0028	0.0005	0.00008	mg/L	1	06/22/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/22/17	EPA200.8		JDA
Copper*	0.0002	0.0001	0.00003	mg/L	1	06/22/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/22/17	EPA200.8		JDA
Manganese*	2.54	0.0005	0.0003	mg/L	1	06/22/17	EPA200.8		JDA
Molybdenum*	0.0027	0.0005	0.00006	mg/L	1	06/22/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	06/22/17	EPA200.8		JDA
Uranium	0.0004	0.0001	0.00001	mg/L	1	06/22/17	EPA200.8		JDA
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	06/22/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

MW-HGA-99

1706126-03 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/21/17	EPA245.1		LLG
Cation/Anion Balance	2.32								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Wiltse Well

1706126-04 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	445	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	445	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	72.5	2.00	0.287	mg/L	2	06/21/17	EPA300.0		JDA
Fluoride*	0.332	0.200	0.0319	mg/L	2	06/21/17	EPA300.0		JDA
Nitrate/Nitrite as N*	1.07	0.020	0.011	mg/L	1	06/27/17	EPA353.2		LLG
pH*	7.46			pH Units	1	06/14/17	EPA150.1		CMS
Total Dissolved Solids*	1510	10.0		mg/L	1	06/19/17	EPA160.1		LLG
Sulfate*	702	20.0	3.13	mg/L	20	06/22/17	EPA300.0		JDA
Total Organic Carbon	3.54	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.040	mg/L	2	06/20/17	EPA200.7		JDA
Calcium*	211	0.200	0.072	mg/L	2	06/20/17	EPA200.7		JDA
Hardness as CaCO ₃	1060	1.32	0.390	mg/L	2	06/20/17	2340 B		JDA
Iron*	0.161	0.100	0.028	mg/L	2	06/20/17	EPA200.7		JDA
Magnesium*	129	0.200	0.051	mg/L	2	06/20/17	EPA200.7		JDA
Potassium*	4.79	2.00	0.189	mg/L	2	06/20/17	EPA200.7		JDA
Silica (SiO ₂)	15.5	2.14	0.596	mg/L	2	06/20/17	Calculation		JDA
Silicon	7.22	1.00	0.279	mg/L	2	06/20/17	EPA200.7		JDA
Sodium*	87.5	2.00	0.174	mg/L	2	06/20/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0006	0.0005	0.00008	mg/L	1	06/22/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/22/17	EPA200.8		JDA
Copper*	0.0019	0.0001	0.00003	mg/L	1	06/22/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/22/17	EPA200.8		JDA
Manganese*	0.797	0.0005	0.0003	mg/L	1	06/22/17	EPA200.8		JDA
Molybdenum*	0.0021	0.0005	0.00006	mg/L	1	06/22/17	EPA200.8		JDA
Selenium*	0.0019	0.0010	0.0002	mg/L	1	06/22/17	EPA200.8		JDA
Uranium	0.0021	0.0001	0.00001	mg/L	1	06/22/17	EPA200.8		JDA
Zinc*	0.0260	0.0020	0.0009	mg/L	1	06/22/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Wiltse Well

1706126-04 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/21/17	EPA245.1		LLG
Cation/Anion Balance	-1.02								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706108 - General Prep - Wet Chem

Blank (B706108-BLK1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	ND	0.500	mg/L
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LCS (B706108-BS1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	10.0	0.500	mg/L	10.0	100	85-115
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LCS Dup (B706108-BSD1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	9.86	0.500	mg/L	10.0	98.6	85-115	1.41	20
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Batch B706117 - General Prep - Wet Chem

Duplicate (B706117-DUP1)

Source: 1706114-01

Prepared & Analyzed: 06/14/17

pH	8.32		pH Units	8.29			0.361	20
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Reference (B706117-SRM1)

Prepared & Analyzed: 06/14/17

pH	9.02		pH Units	9.08	99.3	97.8-102.2
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Batch B706142 - General Prep - Wet Chem

Blank (B706142-BLK1)

Prepared & Analyzed: 06/19/17

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B706142-DUP1)

Source: 1706114-01

Prepared & Analyzed: 06/19/17

Total Dissolved Solids	4770	10.0	mg/L	6410			29.3	20	R1
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Reference (B706142-SRM1)

Prepared & Analyzed: 06/19/17

Total Dissolved Solids	380	10.0	mg/L	390	97.4	85-115
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Batch B706159 - General Prep - Wet Chem

Blank (B706159-BLK1)

Prepared: 06/20/17 Analyzed: 06/21/17

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

LCS (B706159-BS1)

Prepared: 06/20/17 Analyzed: 06/21/17

Chloride	24.1	1.00	mg/L	25.0	96.3	90-110
Fluoride	2.51	0.100	mg/L	2.50	100	90-110
Sulfate	23.7	1.00	mg/L	25.0	95.0	90-110

LCS Dup (B706159-BSD1)

Prepared: 06/20/17 Analyzed: 06/21/17

Chloride	24.4	1.00	mg/L	25.0	97.7	90-110	1.42	20
Fluoride	2.53	0.100	mg/L	2.50	101	90-110	0.676	20
Sulfate	24.2	1.00	mg/L	25.0	96.8	90-110	1.87	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706166 - General Prep - Wet Chem

Blank (B706166-BLK1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L
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LCS (B706166-BS1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100	105	85-115
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LCS Dup (B706166-BSD1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	110	10.0	mg/L	100	110	85-115	4.65	20
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Batch B706177 - General Prep - Wet Chem

Blank (B706177-BLK1)

Prepared: 06/22/17 Analyzed: 06/27/17

Nitrate/Nitrite as N	ND	0.020	mg/L
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LCS (B706177-BS1)

Prepared: 06/22/17 Analyzed: 06/27/17

Nitrate/Nitrite as N	1.04	0.020	mg/L	1.00	104	90-110
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LCS Dup (B706177-BSD1)

Prepared: 06/22/17 Analyzed: 06/27/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00	103	90-110	0.155	20
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706153 - Diss. 200.7/200.8

Blank (B706153-BLK1)

Prepared & Analyzed: 06/20/17

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 (B706153-BS1)

Prepared & Analyzed: 06/20/17

Aluminum	5.06	0.050	mg/L	5.00	101	85-115
Calcium	5.13	0.100	mg/L	5.00	103	85-115
Iron	5.12	0.050	mg/L	5.00	102	85-115
Magnesium	26.0	0.100	mg/L	25.0	104	85-115
Potassium	10.2	1.00	mg/L	10.0	102	85-115
Silicon	4.91	0.500	mg/L	5.00	98.3	85-115
Sodium	8.36	1.00	mg/L	8.10	103	85-115

LCS Dup (B706153-BSD1)

Prepared & Analyzed: 06/20/17

Aluminum	5.09	0.050	mg/L	5.00	102	85-115	0.668	20
Calcium	5.16	0.100	mg/L	5.00	103	85-115	0.475	20
Iron	5.16	0.050	mg/L	5.00	103	85-115	0.671	20
Magnesium	26.0	0.100	mg/L	25.0	104	85-115	0.0458	20
Potassium	10.1	1.00	mg/L	10.0	101	85-115	1.08	20
Silicon	4.94	0.500	mg/L	5.00	98.8	85-115	0.462	20
Sodium	8.37	1.00	mg/L	8.10	103	85-115	0.109	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706154 - Diss. 200.7/200.8

Blank (B706154-BLK1)

Prepared: 06/20/17 Analyzed: 06/22/17

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 (B706154-BS1)

Prepared: 06/20/17 Analyzed: 06/22/17

Arsenic	0.0537	0.0005	mg/L	0.0500	107	85-115
Cadmium	0.0530	0.0001	mg/L	0.0500	106	85-115
Copper	0.0516	0.0001	mg/L	0.0500	103	85-115
Lead	0.0498	0.0005	mg/L	0.0500	99.6	85-115
Manganese	0.0523	0.0005	mg/L	0.0500	105	85-115
Molybdenum	0.0512	0.0005	mg/L	0.0500	102	85-115
Selenium	0.276	0.0010	mg/L	0.250	110	85-115
Uranium	0.0493	0.0001	mg/L	0.0500	98.7	85-115
Zinc	0.0545	0.0020	mg/L	0.0500	109	85-115

LCS Dup (B706154-BSD1)

Prepared: 06/20/17 Analyzed: 06/22/17

Arsenic	0.0534	0.0005	mg/L	0.0500	107	85-115	0.696	20
Cadmium	0.0498	0.0001	mg/L	0.0500	99.6	85-115	6.28	20
Copper	0.0496	0.0001	mg/L	0.0500	99.2	85-115	4.03	20
Lead	0.0508	0.0005	mg/L	0.0500	102	85-115	2.00	20
Manganese	0.0494	0.0005	mg/L	0.0500	98.9	85-115	5.70	20
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115	4.22	20
Selenium	0.269	0.0010	mg/L	0.250	107	85-115	2.78	20
Uranium	0.0495	0.0001	mg/L	0.0500	99.0	85-115	0.367	20
Zinc	0.0530	0.0020	mg/L	0.0500	106	85-115	2.72	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706156 - EPA 245.1/7470

Blank (B706156-BLK1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	ND	0.0002	mg/L							
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LCS (B706156-BS1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115			
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LCS Dup (B706156-BSD1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	0.0021	0.0002	mg/L	0.00200		107	85-115	1.36	20	
---------	--------	--------	------	---------	--	-----	--------	------	----	--

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Page 15 of 17



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 11:13

Notes and Definitions

R1	Duplicate sample RPD exceeded laboratory acceptance criteria. Sample(s) may be difficult to homogenize.
M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis *Results reported on as received basis unless designated as dry.
RPD	Relative Percent Difference
LCS	Laboratory Control Sample (Blank Spike)
RL	Report Limit
MDL	Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Page 17 of 17



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20 July 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 06/07/17 15:23.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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

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



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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1-MI	1706069-01	Water	06/07/17 08:02	06/07/17 15:23
MW-1-A	1706069-02	Water	06/07/17 08:48	06/07/17 15:23
MW-1-C	1706069-03	Water	06/07/17 09:33	06/07/17 15:23

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
07/20/17 16:47

MW-1-MI

1706069-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	600	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	600	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	7.69	5.00	0.717	mg/L	5	06/16/17	EPA300.0		JDA
Fluoride*	1.14	0.500	0.0798	mg/L	5	06/16/17	EPA300.0		JDA
Nitrate/Nitrite as N*	0.103	0.020	0.011	mg/L	1	06/20/17	EPA353.2		LLG
pH*	8.14			pH Units	1	06/12/17	EPA150.1	H4	BDV
Total Dissolved Solids*	1520	10.0		mg/L	1	06/12/17	EPA160.1		LLG
Sulfate*	739	20.0	3.13	mg/L	20	06/19/17	EPA300.0		JDA
Total Organic Carbon	5.14	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/15/17	EPA200.7		JDA
Calcium*	46.7	0.100	0.036	mg/L	1	06/15/17	EPA200.7		JDA
Hardness as CaCO ₃	231	0.662	0.195	mg/L	1	06/15/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	06/15/17	EPA200.7		JDA
Magnesium*	27.9	0.100	0.026	mg/L	1	06/15/17	EPA200.7		JDA
Potassium*	2.55	1.00	0.094	mg/L	1	06/15/17	EPA200.7		JDA
Silica (SiO ₂)	11.6	1.07	0.298	mg/L	1	06/15/17	Calculation		JDA
Silicon	5.44	0.500	0.139	mg/L	1	06/15/17	EPA200.7		JDA
Sodium*	470	1.00	0.087	mg/L	1	06/15/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0029	0.0005	0.00008	mg/L	1	06/15/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/15/17	EPA200.8		JDA
Copper*	0.0067	0.0001	0.00003	mg/L	1	06/15/17	EPA200.8		JDA
Lead*	0.0010	0.0005	0.00002	mg/L	1	06/15/17	EPA200.8		JDA
Manganese*	0.0445	0.0005	0.0003	mg/L	1	06/15/17	EPA200.8		JDA
Molybdenum*	0.0796	0.0005	0.00006	mg/L	1	06/15/17	EPA200.8		JDA
Selenium*	0.0028	0.0010	0.0002	mg/L	1	06/15/17	EPA200.8		JDA
Uranium	0.0505	0.0001	0.00001	mg/L	1	06/15/17	EPA200.8		JDA
Zinc*	1.52	0.0020	0.0009	mg/L	1	06/15/17	EPA200.8		JDA

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

MW-1-MI

1706069-01 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/16/17	EPA245.1		BDV
Cation/Anion Balance	-4.79								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
07/20/17 16:47

MW-1-A

1706069-02 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	375	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	375	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	2.75	2.00	0.287	mg/L	2	06/16/17	EPA300.0		JDA
Fluoride*	0.268	0.200	0.0319	mg/L	2	06/16/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.200	0.200	0.109	mg/L	10	06/20/17	EPA353.2		LLG
pH*	7.74			pH Units	1	06/12/17	EPA150.1	H4	BDV
Total Dissolved Solids*	975	10.0		mg/L	1	06/12/17	EPA160.1		LLG
Sulfate*	427	20.0	3.13	mg/L	20	06/19/17	EPA300.0		JDA
Total Organic Carbon	5.03	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/15/17	EPA200.7		JDA
Calcium*	24.7	0.100	0.036	mg/L	1	06/15/17	EPA200.7		JDA
Hardness as CaCO ₃	124	0.662	0.195	mg/L	1	06/15/17	2340 B		JDA
Iron*	0.128	0.050	0.014	mg/L	1	06/15/17	EPA200.7		JDA
Magnesium*	15.1	0.100	0.026	mg/L	1	06/15/17	EPA200.7		JDA
Potassium*	1.98	1.00	0.094	mg/L	1	06/15/17	EPA200.7		JDA
Silica (SiO ₂)	12.3	1.07	0.298	mg/L	1	06/15/17	Calculation		JDA
Silicon	5.74	0.500	0.139	mg/L	1	06/15/17	EPA200.7		JDA
Sodium*	324	1.00	0.087	mg/L	1	06/15/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	<0.0005	0.0005	0.00008	mg/L	1	06/15/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/15/17	EPA200.8		JDA
Copper*	0.0043	0.0001	0.00003	mg/L	1	06/15/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/15/17	EPA200.8		JDA
Manganese*	0.0260	0.0005	0.0003	mg/L	1	06/15/17	EPA200.8		JDA
Molybdenum*	0.0007	0.0005	0.00006	mg/L	1	06/15/17	EPA200.8		JDA
Selenium*	<0.0010	0.0010	0.0002	mg/L	1	06/15/17	EPA200.8		JDA
Uranium	0.0004	0.0001	0.00001	mg/L	1	06/15/17	EPA200.8		JDA
Zinc*	0.0270	0.0020	0.0009	mg/L	1	06/15/17	EPA200.8		JDA

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

MW-1-A

1706069-02 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/16/17	EPA245.1		BDV
Cation/Anion Balance	.46								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
07/20/17 16:47

MW-1-C

1706069-03 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	530	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/20/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	530	10.0		mg/L	5	06/20/17	2320 B		JLM
Chloride*	24.2	5.00	0.717	mg/L	5	06/16/17	EPA300.0		JDA
Fluoride*	1.59	0.500	0.0798	mg/L	5	06/16/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<2.00	2.00	1.09	mg/L	100	06/20/17	EPA353.2		LLG
pH*	8.35			pH Units	1	06/12/17	EPA150.1	H4	BDV
Total Dissolved Solids*	2020	10.0		mg/L	1	06/12/17	EPA160.1		LLG
Sulfate*	1090	50.0	7.82	mg/L	50	06/19/17	EPA300.0		JDA
Total Organic Carbon	4.56	0.500	0.201	mg/L	1	06/19/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	06/15/17	EPA200.7		JDA
Calcium*	96.0	0.100	0.036	mg/L	1	06/15/17	EPA200.7		JDA
Hardness as CaCO ₃	498	0.662	0.195	mg/L	1	06/15/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	06/15/17	EPA200.7		JDA
Magnesium*	62.8	0.100	0.026	mg/L	1	06/15/17	EPA200.7		JDA
Potassium*	11.4	1.00	0.094	mg/L	1	06/15/17	EPA200.7		JDA
Silica (SiO ₂)	10.6	1.07	0.298	mg/L	1	06/15/17	Calculation		JDA
Silicon	4.94	0.500	0.139	mg/L	1	06/15/17	EPA200.7		JDA
Sodium*	506	1.00	0.087	mg/L	1	06/15/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0029	0.0005	0.00008	mg/L	1	06/15/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/15/17	EPA200.8		JDA
Copper*	0.0088	0.0001	0.00003	mg/L	1	06/15/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/15/17	EPA200.8		JDA
Manganese*	0.0744	0.0005	0.0003	mg/L	1	06/15/17	EPA200.8		JDA
Molybdenum*	0.0164	0.0005	0.00006	mg/L	1	06/15/17	EPA200.8		JDA
Selenium*	0.0136	0.0010	0.0002	mg/L	1	06/15/17	EPA200.8		JDA
Uranium	0.0500	0.0001	0.00001	mg/L	1	06/15/17	EPA200.8		JDA
Zinc*	0.0293	0.0020	0.0009	mg/L	1	06/15/17	EPA200.8		JDA

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

MW-1-C

1706069-03 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	06/16/17	EPA245.1		BDV
Cation/Anion Balance	-2.65								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706077 - General Prep - Wet Chem

Blank (B706077-BLK1)

Prepared & Analyzed: 06/12/17

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B706077-DUP1)

Source: 1706067-01

Prepared & Analyzed: 06/12/17

Total Dissolved Solids	1210	10.0	mg/L	1230	1.65	20
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Reference (B706077-SRM1)

Prepared & Analyzed: 06/12/17

Total Dissolved Solids	355	10.0	mg/L	390	91.0	85-115
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Batch B706088 - General Prep - Wet Chem

Duplicate (B706088-DUP2)

Source: 1706071-01

Prepared & Analyzed: 06/12/17

pH	8.35	pH Units	8.33	0.240	20
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Reference (B706088-SRM1)

Prepared & Analyzed: 06/12/17

pH	9.11	pH Units	9.08	100	97.8-102.2
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Batch B706108 - General Prep - Wet Chem

Blank (B706108-BLK1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	ND	0.500	mg/L
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LCS (B706108-BS1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	10.0	0.500	mg/L	10.0	100	85-115
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LCS Dup (B706108-BSD1)

Prepared & Analyzed: 06/19/17

Total Organic Carbon	9.86	0.500	mg/L	10.0	98.6	85-115	1.41	20
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Batch B706121 - General Prep - Wet Chem

Blank (B706121-BLK1)

Prepared: 06/15/17 Analyzed: 06/16/17

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

LCS (B706121-BS1)

Prepared: 06/15/17 Analyzed: 06/16/17

Chloride	24.4	1.00	mg/L	25.0	97.6	90-110
Fluoride	2.52	0.100	mg/L	2.50	101	90-110
Sulfate	24.2	1.00	mg/L	25.0	96.9	90-110

LCS Dup (B706121-BSD1)

Prepared: 06/15/17 Analyzed: 06/16/17

Chloride	23.8	1.00	mg/L	25.0	95.3	90-110	2.39	20
Fluoride	2.48	0.100	mg/L	2.50	99.2	90-110	1.44	20
Sulfate	23.7	1.00	mg/L	25.0	94.8	90-110	2.16	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706150 - General Prep - Wet Chem

Blank (B706150-BLK1)

Prepared & Analyzed: 06/20/17

Nitrate/Nitrite as N	ND	0.020	mg/L							
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LCS (B706150-BS1)

Prepared & Analyzed: 06/20/17

Nitrate/Nitrite as N	0.995	0.020	mg/L	1.00		99.5	90-110			
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LCS Dup (B706150-BSD1)

Prepared & Analyzed: 06/20/17

Nitrate/Nitrite as N	0.996	0.020	mg/L	1.00		99.6	90-110	0.181	20	
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Batch B706165 - General Prep - Wet Chem

Blank (B706165-BLK1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							
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LCS (B706165-BS1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	110	10.0	mg/L	100		110	85-115			
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LCS Dup (B706165-BSD1)

Prepared & Analyzed: 06/20/17

Alkalinity, Total as CaCO ₃	107	10.0	mg/L	100		107	85-115	2.76	20	
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706102 - Diss. 200.7/200.8

Blank (B706102-BLK1)

Prepared: 06/14/17 Analyzed: 06/15/17

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 (B706102-BS1)

Prepared: 06/14/17 Analyzed: 06/15/17

Aluminum	5.14	0.050	mg/L	5.00	103	85-115
Calcium	5.12	0.100	mg/L	5.00	102	85-115
Iron	5.20	0.050	mg/L	5.00	104	85-115
Magnesium	26.2	0.100	mg/L	25.0	105	85-115
Potassium	9.95	1.00	mg/L	10.0	99.5	85-115
Silicon	4.88	0.500	mg/L	5.00	97.6	85-115
Sodium	8.53	1.00	mg/L	8.10	105	85-115

LCS Dup (B706102-BSD1)

Prepared: 06/14/17 Analyzed: 06/15/17

Aluminum	5.14	0.050	mg/L	5.00	103	85-115	0.0178	20
Calcium	5.19	0.100	mg/L	5.00	104	85-115	1.39	20
Iron	5.21	0.050	mg/L	5.00	104	85-115	0.108	20
Magnesium	26.3	0.100	mg/L	25.0	105	85-115	0.513	20
Potassium	10.0	1.00	mg/L	10.0	100	85-115	0.810	20
Silicon	4.90	0.500	mg/L	5.00	98.1	85-115	0.502	20
Sodium	8.58	1.00	mg/L	8.10	106	85-115	0.548	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706103 - Diss. 200.7/200.8

Blank (B706103-BLK1)

Prepared: 06/14/17 Analyzed: 06/15/17

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 (B706103-BS1)

Prepared: 06/14/17 Analyzed: 06/15/17

Arsenic	0.0526	0.0005	mg/L	0.0500	105	85-115				
Cadmium	0.0531	0.0001	mg/L	0.0500	106	85-115				
Copper	0.0546	0.0001	mg/L	0.0500	109	85-115				
Lead	0.0490	0.0005	mg/L	0.0500	98.1	85-115				
Manganese	0.0529	0.0005	mg/L	0.0500	106	85-115				
Molybdenum	0.0503	0.0005	mg/L	0.0500	101	85-115				
Selenium	0.266	0.0010	mg/L	0.250	106	85-115				
Uranium	0.0479	0.0001	mg/L	0.0500	95.8	85-115				
Zinc	0.0536	0.0020	mg/L	0.0500	107	85-115				

LCS Dup (B706103-BSD1)

Prepared: 06/14/17 Analyzed: 06/15/17

Arsenic	0.0515	0.0005	mg/L	0.0500	103	85-115	2.06	20		
Cadmium	0.0512	0.0001	mg/L	0.0500	102	85-115	3.55	20		
Copper	0.0538	0.0001	mg/L	0.0500	108	85-115	1.38	20		
Lead	0.0487	0.0005	mg/L	0.0500	97.3	85-115	0.734	20		
Manganese	0.0530	0.0005	mg/L	0.0500	106	85-115	0.143	20		
Molybdenum	0.0501	0.0005	mg/L	0.0500	100	85-115	0.467	20		
Selenium	0.263	0.0010	mg/L	0.250	105	85-115	0.995	20		
Uranium	0.0473	0.0001	mg/L	0.0500	94.7	85-115	1.19	20		
Zinc	0.0525	0.0020	mg/L	0.0500	105	85-115	2.01	20		

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706124 - EPA 245.1/7470

Blank (B706124-BLK1)

Prepared: 06/15/17 Analyzed: 06/16/17

Mercury	ND	0.0002	mg/L							
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LCS (B706124-BS1)

Prepared: 06/15/17 Analyzed: 06/16/17

Mercury	0.0019	0.0002	mg/L	0.00200		95.3	85-115			
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LCS Dup (B706124-BSD1)

Prepared: 06/15/17 Analyzed: 06/16/17

Mercury	0.0019	0.0002	mg/L	0.00200		95.2	85-115	0.158	20	
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:47

Notes and Definitions

H4 pH analysis performed more than 48 hours after sampling.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

RL Report Limit

MDL Method Detection Limit

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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

Company Name (if Applicable): GCC Energy

Bill to (if different):

ANALYSIS REQUEST

Contact Person: Tam Bird

P.O. #:

Address: 6473 CR 120

Company:

City: Hesperus

Attn:

Phone #: 970 385 4528

Address:

State: CO Zip: 81326

City:

Email: TBIRD@GCC-CON ; LBEC@resourcehydrogeologic-

State:

Project Name (optional):

Zip:

Project Number (optional):

Phone #:

Sampler Name (Print): Landon Beck

Email:

For Lab Use

Sample Name or Location

Collected

Matrix (check one)

of containers

GROUNDWATER
SURFACEWATER
WASTEWATER
PRODUCEDWATER
SOIL
DRINKING WATER
OTHER:
No preservation (general)
HNO₃
HCl
H₂SO₄
Other:
Other:

PHB 069-01

Date: 6/7/17 Time: 0802

X

1

02

Date: 6/7/17 Time: 0848

X

1

03

Date: 6/7/17 Time: 0933

X

1

04

Date: 6/7/17 Time: 1102

X

1

GCC BW Baseline

XXXX

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

Relinquished By:

Date: 6/7/17 Received By:

ADDITIONAL REMARKS:

Report to State? (Circle)

Relinquished By: [Signature]

Date: 6/7/17

Received By: [Signature]

Standard TAT

Yes

No

Relinquished By:

Date:

Received By:

-04 TOC Arrived in glass 250ml H₂SO₄
preserved bottles, poured into unpres.
amber vials. -JE

Delivered By: (Circle One)

Date:

Received By:

Sampler - UPS - FedEx - Kangaroo - Other:

Date:

Received By:

Temperature at Receipt:

CHECKED BY:

82/84°C

[Signature]

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



75 Suttle Street
Durango, CO 81303
970.247.4220 Phone
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20 July 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 06/30/17 14:25.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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

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



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4-A	1706322-01	Water	06/30/17 13:00	06/30/17 14:25
MW-3-A	1706322-02	Water	06/30/17 08:17	06/30/17 14:25
MW-3-C	1706322-03	Water	06/30/17 09:05	06/30/17 14:25
MW-3-M1	1706322-04	Water	06/30/17 07:50	06/30/17 14:25

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

Changes were made to the COC per Landon Beck 07/20/17. Sample 1706-322-04 was listed on the COC as MW-3-. The sample ID should be MW-3-M1. The attached report reflects these changes.

Green Analytical Laboratories

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

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-4-A

1706322-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	560	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	560	10.0		mg/L	5	07/12/17	2320 B		JLM
Chloride*	9.66	4.00	0.573	mg/L	4	07/13/17	EPA300.0		JDA
Fluoride*	<0.400	0.400	0.0638	mg/L	4	07/13/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	07/13/17	EPA353.2		LLG
pH*	8.40			pH Units	1	07/06/17	EPA150.1	H4	CMS
Total Dissolved Solids*	1470	10.0		mg/L	1	07/06/17	EPA160.1		LLG
Sulfate*	588	20.0	3.13	mg/L	20	07/14/17	EPA300.0		JDA
Total Organic Carbon	11.7	5.00	2.01	mg/L	10	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	2.43	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	9.85	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	0.916	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	1.75	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	10.6	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	4.97	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	537	5.00	0.435	mg/L	5	07/07/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0004	mg/L	5	07/14/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	07/14/17	EPA200.8		JDA
Copper*	0.0093	0.0005	0.0002	mg/L	5	07/14/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	07/14/17	EPA200.8		JDA
Manganese*	0.0063	0.0025	0.0014	mg/L	5	07/14/17	EPA200.8		JDA
Molybdenum*	0.0275	0.0025	0.0003	mg/L	5	07/14/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	07/14/17	EPA200.8		JDA
Uranium	<0.0005	0.0005	0.00007	mg/L	5	07/14/17	EPA200.8		JDA
Zinc*	0.0319	0.0100	0.0045	mg/L	5	07/14/17	EPA200.8		JDA

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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Page 4 of 20



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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-4-A

1706322-01 (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	07/17/17	EPA245.1		LLG
Cation/Anion Balance	-.26								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-3-A

1706322-02 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	470	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	470	10.0		mg/L	5	07/12/17	2320 B		JLM
Chloride*	17.4	4.00	0.573	mg/L	4	07/13/17	EPA300.0		JDA
Fluoride*	0.488	0.400	0.0638	mg/L	4	07/13/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.100	0.100	0.055	mg/L	5	07/13/17	EPA353.2		LLG
pH*	8.69			pH Units	1	07/06/17	EPA150.1	H4	CMS
Total Dissolved Solids*	1670	10.0		mg/L	1	07/06/17	EPA160.1		LLG
Sulfate*	802	25.0	3.91	mg/L	25	07/14/17	EPA300.0		JDA
Total Organic Carbon	10.0	5.00	2.01	mg/L	10	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	3.67	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	12.6	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	0.823	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	2.02	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	10.9	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	5.10	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	585	5.00	0.435	mg/L	5	07/07/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	<0.0025	0.0025	0.0004	mg/L	5	07/14/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	07/14/17	EPA200.8		JDA
Copper*	0.0081	0.0005	0.0002	mg/L	5	07/14/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	07/14/17	EPA200.8		JDA
Manganese*	0.0251	0.0025	0.0014	mg/L	5	07/14/17	EPA200.8		JDA
Molybdenum*	0.0274	0.0025	0.0003	mg/L	5	07/14/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	07/14/17	EPA200.8		JDA
Uranium	0.0040	0.0005	0.00007	mg/L	5	07/14/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	07/14/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-3-A

1706322-02 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	07/17/17	EPA245.1		LLG
Cation/Anion Balance	-1.64								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/20/17 16:05

MW-3-C

1706322-03 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	1480	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	90.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	1570	10.0		mg/L	5	07/12/17	2320 B		JLM
Chloride*	330	10.0	1.43	mg/L	10	07/14/17	EPA300.0		JDA
Fluoride*	4.94	0.500	0.0798	mg/L	5	07/13/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.400	0.400	0.219	mg/L	20	07/13/17	EPA353.2		LLG
pH*	8.48			pH Units	1	07/06/17	EPA150.1	H4	CMS
Total Dissolved Solids*	2360	10.0		mg/L	1	07/06/17	EPA160.1		LLG
Sulfate*	73.5	5.00	0.782	mg/L	5	07/13/17	EPA300.0		JDA
Total Organic Carbon	58.5	5.00	2.01	mg/L	10	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.040	mg/L	2	07/12/17	EPA200.7		JDA
Calcium*	2.87	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	11.8	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	1.12	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	3.24	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	8.86	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	4.14	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	890	10.0	0.870	mg/L	10	07/07/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0088	0.0050	0.0008	mg/L	10	07/14/17	EPA200.8		JDA
Cadmium*	<0.0010	0.0010	0.0009	mg/L	10	07/14/17	EPA200.8		JDA
Copper*	0.0147	0.0010	0.0003	mg/L	10	07/14/17	EPA200.8		JDA
Lead*	<0.0050	0.0050	0.0002	mg/L	10	07/14/17	EPA200.8		JDA
Manganese*	0.0188	0.0050	0.0027	mg/L	10	07/14/17	EPA200.8		JDA
Molybdenum*	0.0291	0.0050	0.0006	mg/L	10	07/14/17	EPA200.8		JDA
Selenium*	0.0121	0.0100	0.0015	mg/L	10	07/14/17	EPA200.8		JDA
Uranium	0.0102	0.0010	0.0001	mg/L	10	07/14/17	EPA200.8		JDA
Zinc*	<0.0200	0.0200	0.0090	mg/L	10	07/14/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-3-C

1706322-03 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	07/17/17	EPA245.1		LLG
Cation/Anion Balance	-4.22								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/20/17 16:05

MW-3-M1

1706322-04 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	555	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	120	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	07/12/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	675	10.0		mg/L	5	07/12/17	2320 B		JLM
Chloride*	10.1	4.00	0.573	mg/L	4	07/13/17	EPA300.0		JDA
Fluoride*	1.34	0.400	0.0638	mg/L	4	07/13/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	07/13/17	EPA353.2		LLG
pH*	8.75			pH Units	1	07/06/17	EPA150.1	H4	CMS
Total Dissolved Solids*	1120	10.0		mg/L	1	07/06/17	EPA160.1		LLG
Sulfate*	241	10.0	1.56	mg/L	10	07/14/17	EPA300.0		JDA
Total Organic Carbon	14.8	5.00	2.01	mg/L	10	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	0.102	0.100	0.040	mg/L	2	07/12/17	EPA200.7		JDA
Calcium*	2.32	0.200	0.072	mg/L	2	07/12/17	EPA200.7		JDA
Hardness as CaCO ₃	8.73	1.32	0.390	mg/L	2	07/12/17	2340 B		JDA
Iron*	<0.100	0.100	0.028	mg/L	2	07/12/17	EPA200.7		JDA
Magnesium*	0.714	0.200	0.051	mg/L	2	07/12/17	EPA200.7		JDA
Potassium*	2.21	2.00	0.189	mg/L	2	07/12/17	EPA200.7		JDA
Silica (SiO ₂)	8.18	2.14	0.596	mg/L	2	07/12/17	Calculation		JDA
Silicon	3.82	1.00	0.279	mg/L	2	07/12/17	EPA200.7		JDA
Sodium*	430	2.00	0.174	mg/L	2	07/12/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0167	0.0025	0.0004	mg/L	5	07/14/17	EPA200.8		JDA
Cadmium*	<0.0005	0.0005	0.0005	mg/L	5	07/14/17	EPA200.8		JDA
Copper*	0.0058	0.0005	0.0002	mg/L	5	07/14/17	EPA200.8		JDA
Lead*	<0.0025	0.0025	0.0001	mg/L	5	07/14/17	EPA200.8		JDA
Manganese*	0.0058	0.0025	0.0014	mg/L	5	07/14/17	EPA200.8		JDA
Molybdenum*	0.0211	0.0025	0.0003	mg/L	5	07/14/17	EPA200.8		JDA
Selenium*	<0.0050	0.0050	0.0008	mg/L	5	07/14/17	EPA200.8		JDA
Uranium	0.0084	0.0005	0.00007	mg/L	5	07/14/17	EPA200.8		JDA
Zinc*	<0.0100	0.0100	0.0045	mg/L	5	07/14/17	EPA200.8		JDA

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

MW-3-M1

1706322-04 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	07/17/17	EPA245.1		LLG
Cation/Anion Balance	.18								

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707018 - General Prep - Wet Chem

Blank (B707018-BLK1)

Prepared & Analyzed: 07/05/17

Total Organic Carbon	ND	0.500	mg/L
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LCS (B707018-BS1)

Prepared & Analyzed: 07/05/17

Total Organic Carbon	10.1	0.500	mg/L	10.0	101	85-115
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LCS Dup (B707018-BSD1)

Prepared & Analyzed: 07/05/17

Total Organic Carbon	10.0	0.500	mg/L	10.0	100	85-115	0.995	20
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Batch B707032 - General Prep - Wet Chem

Blank (B707032-BLK1)

Prepared & Analyzed: 07/06/17

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B707032-DUP1)

Source: 1706322-01

Prepared & Analyzed: 07/06/17

Total Dissolved Solids	1470	10.0	mg/L	1470	0.00	20
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Reference (B707032-SRM1)

Prepared & Analyzed: 07/06/17

Total Dissolved Solids	545	10.0	mg/L	550	99.1	85-115
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Batch B707045 - General Prep - Wet Chem

Duplicate (B707045-DUP1)

Source: 1706323-01

Prepared & Analyzed: 07/06/17

pH	8.88	pH Units	8.85	0.338	20
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Reference (B707045-SRM1)

Prepared & Analyzed: 07/06/17

pH	9.07	pH Units	9.08	99.9	97.8-102.2
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Batch B707071 - General Prep - Wet Chem

Blank (B707071-BLK1)

Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L
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LCS (B707071-BS1)

Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	104	10.0	mg/L	100	104	85-115
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LCS Dup (B707071-BSD1)

Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100	105	85-115	0.957	20
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Batch B707089 - General Prep - Wet Chem

Blank (B707089-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

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
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707089 - General Prep - Wet Chem (Continued)

LCS (B707089-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Chloride	24.2	1.00	mg/L	25.0		96.9	90-110			
Fluoride	2.50	0.100	mg/L	2.50		100	90-110			
Sulfate	23.9	1.00	mg/L	25.0		95.8	90-110			

LCS Dup (B707089-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Chloride	24.5	1.00	mg/L	25.0		98.0	90-110	1.04	20	
Fluoride	2.52	0.100	mg/L	2.50		101	90-110	0.915	20	
Sulfate	24.2	1.00	mg/L	25.0		96.8	90-110	1.07	20	

Batch B707092 - General Prep - Wet Chem

Blank (B707092-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	ND	0.020	mg/L							
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LCS (B707092-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00		103	90-110			
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LCS Dup (B707092-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00		103	90-110	0.0483	20	
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/20/17 16:05

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707011 - Diss. 200.7/200.8

Blank (B707011-BLK1)

Prepared: 07/03/17 Analyzed: 07/07/17

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 (B707011-BS1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115
Calcium	4.84	0.100	mg/L	5.00	96.9	85-115
Iron	4.86	0.050	mg/L	5.00	97.2	85-115
Magnesium	24.6	0.100	mg/L	25.0	98.5	85-115
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115
Silicon	4.62	0.500	mg/L	5.00	92.3	85-115
Sodium	7.88	1.00	mg/L	8.10	97.3	85-115

LCS Dup (B707011-BSD1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115	0.0932	20
Calcium	4.84	0.100	mg/L	5.00	96.7	85-115	0.146	20
Iron	4.86	0.050	mg/L	5.00	97.2	85-115	0.0387	20
Magnesium	24.6	0.100	mg/L	25.0	98.3	85-115	0.198	20
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115	0.0271	20
Silicon	4.60	0.500	mg/L	5.00	92.0	85-115	0.326	20
Sodium	7.85	1.00	mg/L	8.10	97.0	85-115	0.359	20

Batch B707087 - Diss. 200.7/200.8

Blank (B707087-BLK1)

Prepared & Analyzed: 07/12/17

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 (B707087-BS1)

Prepared & Analyzed: 07/12/17

Aluminum	4.90	0.050	mg/L	5.00	98.1	85-115
Calcium	5.02	0.100	mg/L	5.00	100	85-115
Iron	5.01	0.050	mg/L	5.00	100	85-115

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

**Dissolved Metals by ICP - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707087 - Diss. 200.7/200.8 (Continued)

LCS (B707087-BS1) (Continued)

Prepared & Analyzed: 07/12/17

Magnesium	25.2	0.100	mg/L	25.0		101	85-115			
Potassium	9.69	1.00	mg/L	10.0		96.9	85-115			
Silicon	4.79	0.500	mg/L	5.00		95.7	85-115			
Sodium	8.60	1.00	mg/L	8.10		106	85-115			

LCS Dup (B707087-BSD1)

Prepared & Analyzed: 07/12/17

Aluminum	4.90	0.050	mg/L	5.00		97.9	85-115	0.162	20	
Calcium	4.99	0.100	mg/L	5.00		99.7	85-115	0.646	20	
Iron	5.01	0.050	mg/L	5.00		100	85-115	0.125	20	
Magnesium	25.1	0.100	mg/L	25.0		100	85-115	0.481	20	
Potassium	9.67	1.00	mg/L	10.0		96.7	85-115	0.188	20	
Silicon	4.80	0.500	mg/L	5.00		96.0	85-115	0.286	20	
Sodium	8.60	1.00	mg/L	8.10		106	85-115	0.0274	20	

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Debbie Zufelt

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
07/20/17 16:05

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707085 - Diss. 200.7/200.8

Blank (B707085-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

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 (B707085-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0544	0.0005	mg/L	0.0500	109	85-115
Cadmium	0.0530	0.0001	mg/L	0.0500	106	85-115
Copper	0.0504	0.0001	mg/L	0.0500	101	85-115
Lead	0.0503	0.0005	mg/L	0.0500	101	85-115
Manganese	0.0483	0.0005	mg/L	0.0500	96.6	85-115
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115
Selenium	0.262	0.0010	mg/L	0.250	105	85-115
Uranium	0.0493	0.0001	mg/L	0.0500	98.7	85-115
Zinc	0.0530	0.0020	mg/L	0.0500	106	85-115

LCS Dup (B707085-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0524	0.0005	mg/L	0.0500	105	85-115	3.67	20
Cadmium	0.0525	0.0001	mg/L	0.0500	105	85-115	0.964	20
Copper	0.0519	0.0001	mg/L	0.0500	104	85-115	3.08	20
Lead	0.0523	0.0005	mg/L	0.0500	105	85-115	3.89	20
Manganese	0.0494	0.0005	mg/L	0.0500	98.8	85-115	2.28	20
Molybdenum	0.0471	0.0005	mg/L	0.0500	94.2	85-115	4.05	20
Selenium	0.256	0.0010	mg/L	0.250	102	85-115	2.44	20
Uranium	0.0507	0.0001	mg/L	0.0500	101	85-115	2.76	20
Zinc	0.0502	0.0020	mg/L	0.0500	100	85-115	5.51	20

Batch B707086 - Diss. 200.7/200.8

Blank (B707086-BLK1)

Prepared: 07/12/17 Analyzed: 07/14/17

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

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Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

**Dissolved Metals by ICPMS - Quality Control
(Continued)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707086 - Diss. 200.7/200.8 (Continued)

Blank (B707086-BLK1) (Continued)

Prepared: 07/12/17 Analyzed: 07/14/17

Selenium	ND	0.0010	mg/L							
Uranium	ND	0.0001	mg/L							
Zinc	ND	0.0020	mg/L							

LCS (B707086-BS1)

Prepared: 07/12/17 Analyzed: 07/14/17

Arsenic	0.0483	0.0005	mg/L	0.0500		96.6	85-115			
Cadmium	0.0504	0.0001	mg/L	0.0500		101	85-115			
Copper	0.0499	0.0001	mg/L	0.0500		99.7	85-115			
Lead	0.0478	0.0005	mg/L	0.0500		95.6	85-115			
Manganese	0.0479	0.0005	mg/L	0.0500		95.7	85-115			
Molybdenum	0.0509	0.0005	mg/L	0.0500		102	85-115			
Selenium	0.254	0.0010	mg/L	0.250		102	85-115			
Uranium	0.0468	0.0001	mg/L	0.0500		93.7	85-115			
Zinc	0.0509	0.0020	mg/L	0.0500		102	85-115			

LCS Dup (B707086-BSD1)

Prepared: 07/12/17 Analyzed: 07/14/17

Arsenic	0.0490	0.0005	mg/L	0.0500		98.0	85-115	1.46	20	
Cadmium	0.0506	0.0001	mg/L	0.0500		101	85-115	0.387	20	
Copper	0.0508	0.0001	mg/L	0.0500		102	85-115	1.90	20	
Lead	0.0480	0.0005	mg/L	0.0500		96.0	85-115	0.454	20	
Manganese	0.0489	0.0005	mg/L	0.0500		97.7	85-115	2.03	20	
Molybdenum	0.0521	0.0005	mg/L	0.0500		104	85-115	2.25	20	
Selenium	0.256	0.0010	mg/L	0.250		102	85-115	0.674	20	
Uranium	0.0465	0.0001	mg/L	0.0500		92.9	85-115	0.786	20	
Zinc	0.0511	0.0020	mg/L	0.0500		102	85-115	0.465	20	

Green Analytical Laboratories

Debbie Zufelt

Debbie Zufelt, Reports Manager

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Page 17 of 20



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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707111 - EPA 245.1/7470

Blank (B707111-BLK1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	ND	0.0002	mg/L							
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LCS (B707111-BS1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200		107	85-115			
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LCS Dup (B707111-BSD1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115	0.329	20	
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/20/17 16:05

Notes and Definitions

H4 pH analysis performed more than 48 hours after sampling.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis
*Results reported on as received basis unless designated as dry.

RPD Relative Percent Difference

LCS Laboratory Control Sample (Blank Spike)

RL Report Limit

MDL Method Detection Limit

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Debbie Zufelt, Reports Manager

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

ANALYSIS REQUEST

[illegible]

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

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



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18 July 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 06/29/17 16:22.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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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
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4-C	1706304-01	Water	06/29/17 11:50	06/29/17 16:22

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: GCC GW Baseline
Project Manager: Tom BirdReported:
07/18/17 08:58

MW-4-C

1706304-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	2360	10.0		mg/L	10	07/12/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	10	07/12/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	10	07/12/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	2360	10.0		mg/L	10	07/12/17	2320 B		JLM
Chloride*	550	20.0	2.87	mg/L	20	07/12/17	EPA300.0		JDA
Fluoride*	2.04	1.00	0.160	mg/L	10	07/11/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.500	0.500	0.273	mg/L	25	07/13/17	EPA353.2		LLG
pH*	7.77			pH Units	1	06/30/17	EPA150.1		CMS
Total Dissolved Solids*	4050	10.0		mg/L	1	07/05/17	EPA160.1		LLG
Sulfate*	487	10.0	1.56	mg/L	10	07/11/17	EPA300.0		JDA
Total Organic Carbon	6.42	0.500	0.201	mg/L	1	07/05/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	07/07/17	EPA200.7		JDA
Calcium*	13.7	0.100	0.036	mg/L	1	07/07/17	EPA200.7		JDA
Hardness as CaCO ₃	55.9	0.662	0.195	mg/L	1	07/07/17	2340 B		JDA
Iron*	<0.050	0.050	0.014	mg/L	1	07/07/17	EPA200.7		JDA
Magnesium*	5.26	0.100	0.026	mg/L	1	07/07/17	EPA200.7		JDA
Potassium*	5.71	1.00	0.094	mg/L	1	07/07/17	EPA200.7		JDA
Silica (SiO ₂)	12.6	1.07	0.298	mg/L	1	07/07/17	Calculation		JDA
Silicon	5.88	0.500	0.139	mg/L	1	07/07/17	EPA200.7		JDA
Sodium*	1510	10.0	0.870	mg/L	10	07/07/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0119	0.0050	0.0008	mg/L	10	07/14/17	EPA200.8		JDA
Cadmium*	<0.0010	0.0010	0.0009	mg/L	10	07/14/17	EPA200.8		JDA
Copper*	0.0243	0.0010	0.0003	mg/L	10	07/14/17	EPA200.8		JDA
Lead*	<0.0050	0.0050	0.0002	mg/L	10	07/14/17	EPA200.8		JDA
Manganese*	0.0772	0.0050	0.0027	mg/L	10	07/14/17	EPA200.8		JDA
Molybdenum*	0.115	0.0050	0.0006	mg/L	10	07/14/17	EPA200.8		JDA
Selenium*	0.0231	0.0100	0.0015	mg/L	10	07/14/17	EPA200.8		JDA
Uranium	0.121	0.0010	0.0001	mg/L	10	07/14/17	EPA200.8		JDA
Zinc*	0.0265	0.0200	0.0090	mg/L	10	07/14/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

MW-4-C

1706304-01 (Water)

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

Mercury*	<0.0002	0.0002	0.00009	mg/L	1	07/17/17	EPA245.1		LLG
Cation/Anion Balance	-4.28								

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706281 - General Prep - Wet Chem

Duplicate (B706281-DUP1) Source: 1706313-01 Prepared & Analyzed: 06/30/17

pH	6.71		pH Units	6.64				1.05	20	
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Reference (B706281-SRM1) Prepared & Analyzed: 06/30/17

pH	9.07		pH Units	9.08		99.9	97.8-102.2			
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Batch B707018 - General Prep - Wet Chem

Blank (B707018-BLK1) Prepared & Analyzed: 07/05/17

Total Organic Carbon	ND	0.500	mg/L							
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LCS (B707018-BS1) Prepared & Analyzed: 07/05/17

Total Organic Carbon	10.1	0.500	mg/L	10.0		101	85-115			
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LCS Dup (B707018-BSD1) Prepared & Analyzed: 07/05/17

Total Organic Carbon	10.0	0.500	mg/L	10.0		100	85-115	0.995	20	
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Batch B707025 - General Prep - Wet Chem

Blank (B707025-BLK1) Prepared & Analyzed: 07/05/17

Total Dissolved Solids	ND	10.0	mg/L							
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Duplicate (B707025-DUP1) Source: 1706304-01 Prepared & Analyzed: 07/05/17

Total Dissolved Solids	4060	10.0	mg/L	4050				0.247	20	
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Reference (B707025-SRM1) Prepared & Analyzed: 07/05/17

Total Dissolved Solids	535	10.0	mg/L	550		97.3	85-115			
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Batch B707071 - General Prep - Wet Chem

Blank (B707071-BLK1) Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							
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LCS (B707071-BS1) Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	104	10.0	mg/L	100		104	85-115			
--	-----	------	------	-----	--	-----	--------	--	--	--

LCS Dup (B707071-BSD1) Prepared: 07/10/17 Analyzed: 07/12/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100		105	85-115	0.957	20	
--	-----	------	------	-----	--	-----	--------	-------	----	--

Batch B707074 - General Prep - Wet Chem

Blank (B707074-BLK1) Prepared: 07/10/17 Analyzed: 07/11/17

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

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch B707074 - General Prep - Wet Chem (Continued)

LCS (B707074-BS1)

Prepared: 07/10/17 Analyzed: 07/11/17

Chloride	23.7	1.00	mg/L	25.0	94.7	90-110
Fluoride	2.47	0.100	mg/L	2.50	99.0	90-110
Sulfate	23.5	1.00	mg/L	25.0	94.1	90-110

LCS Dup (B707074-BSD1)

Prepared: 07/10/17 Analyzed: 07/11/17

Chloride	24.1	1.00	mg/L	25.0	96.3	90-110	1.65	20
Fluoride	2.51	0.100	mg/L	2.50	101	90-110	1.60	20
Sulfate	23.9	1.00	mg/L	25.0	95.7	90-110	1.69	20

Batch B707092 - General Prep - Wet Chem

Blank (B707092-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	ND	0.020	mg/L
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LCS (B707092-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00	103	90-110
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LCS Dup (B707092-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00	103	90-110	0.0483	20
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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

Dissolved Metals by ICP - Quality Control

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

Batch B707011 - Diss. 200.7/200.8

Blank (B707011-BLK1)

Prepared: 07/03/17 Analyzed: 07/07/17

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 (B707011-BS1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115
Calcium	4.84	0.100	mg/L	5.00	96.9	85-115
Iron	4.86	0.050	mg/L	5.00	97.2	85-115
Magnesium	24.6	0.100	mg/L	25.0	98.5	85-115
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115
Silicon	4.62	0.500	mg/L	5.00	92.3	85-115
Sodium	7.88	1.00	mg/L	8.10	97.3	85-115

LCS Dup (B707011-BSD1)

Prepared: 07/03/17 Analyzed: 07/07/17

Aluminum	4.86	0.050	mg/L	5.00	97.2	85-115	0.0932	20
Calcium	4.84	0.100	mg/L	5.00	96.7	85-115	0.146	20
Iron	4.86	0.050	mg/L	5.00	97.2	85-115	0.0387	20
Magnesium	24.6	0.100	mg/L	25.0	98.3	85-115	0.198	20
Potassium	9.62	1.00	mg/L	10.0	96.2	85-115	0.0271	20
Silicon	4.60	0.500	mg/L	5.00	92.0	85-115	0.326	20
Sodium	7.85	1.00	mg/L	8.10	97.0	85-115	0.359	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707085 - Diss. 200.7/200.8

Blank (B707085-BLK1)

Prepared: 07/12/17 Analyzed: 07/13/17

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 (B707085-BS1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0544	0.0005	mg/L	0.0500	109	85-115				
Cadmium	0.0530	0.0001	mg/L	0.0500	106	85-115				
Copper	0.0504	0.0001	mg/L	0.0500	101	85-115				
Lead	0.0503	0.0005	mg/L	0.0500	101	85-115				
Manganese	0.0483	0.0005	mg/L	0.0500	96.6	85-115				
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115				
Selenium	0.262	0.0010	mg/L	0.250	105	85-115				
Uranium	0.0493	0.0001	mg/L	0.0500	98.7	85-115				
Zinc	0.0530	0.0020	mg/L	0.0500	106	85-115				

LCS Dup (B707085-BSD1)

Prepared: 07/12/17 Analyzed: 07/13/17

Arsenic	0.0524	0.0005	mg/L	0.0500	105	85-115	3.67	20		
Cadmium	0.0525	0.0001	mg/L	0.0500	105	85-115	0.964	20		
Copper	0.0519	0.0001	mg/L	0.0500	104	85-115	3.08	20		
Lead	0.0523	0.0005	mg/L	0.0500	105	85-115	3.89	20		
Manganese	0.0494	0.0005	mg/L	0.0500	98.8	85-115	2.28	20		
Molybdenum	0.0471	0.0005	mg/L	0.0500	94.2	85-115	4.05	20		
Selenium	0.256	0.0010	mg/L	0.250	102	85-115	2.44	20		
Uranium	0.0507	0.0001	mg/L	0.0500	101	85-115	2.76	20		
Zinc	0.0502	0.0020	mg/L	0.0500	100	85-115	5.51	20		

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B707111 - EPA 245.1/7470

Blank (B707111-BLK1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	ND	0.0002	mg/L							
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LCS (B707111-BS1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200		107	85-115			
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LCS Dup (B707111-BSD1)

Prepared: 07/13/17 Analyzed: 07/17/17

Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115	0.329	20	
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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
07/18/17 08:58

Notes and Definitions

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

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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75 Suttle St Durango, CO 81303

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Company Name: <u>GCC ENVIRONMENTAL, LLC</u>		P.O. #:		Bill to (if different):		ANALYSIS REQUEST																																					
Project Manager: <u>Tom Bird</u>		Company:																																									
Address: <u>1473 C.P. 12d</u>		Attn:																																									
City: <u>HEPENS</u>		State: <u>CO</u>		Zip: <u>81324</u>																																							
Phone #: <u>970-386-4528</u>		Email: <u>TD@GCC.COM</u>		Address:																																							
Additional Report To: <u>BRUCE@ENVIRONMENTAL.COM</u>		City:																																									
Project Name:		State:		Zip:																																							
Project Number:		Phone #:																																									
Fax or Email:																																											
Sample Name (Print): <u>Jessica Luna + Michael McFarland</u>		Matrix (check one)		# of containers																																							
FOR LAB USE ONLY		Collected																																									
Lab I.D.		Sample Name or Location		Date		Time		GROUNDWATER		SURFACEWATER		WASTEWATER		PRODUCEDWATER		SOIL		OTHER :		No preservation (general)		HNO ₃		HCl		H ₂ SO ₄		Other:		Other:													
<u>1706-30401 MN-4-C</u>		<u>4/29/17</u>		<u>11:30AM</u>		<u>X</u>														<u>1</u>		<u>1</u>		<u>4</u>								<u>X GCC GW Baseline</u>											
Relinquished By: <u>Michael L. Farland</u>		Date: <u>6/29/17</u>		Received By: <u>[Signature]</u>		Time: <u>1622</u>																												Report to State? (Circle) Yes No									
Relinquished By: <u>Michael C. McFarland</u>		Date:		Received By:		Time:																																					
Relinquished By:		Date:		Received By:		Time:																																					
Delivered By: (Circle One)		Temperature at receipt:		CHECKED BY:																																							
Sampler - UPS - FedEx - Kangaroo - Other:		<u>0-7109C #1010</u>		<u>82</u>																																							

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

Project Information

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

Phone:(970) 385-4528

Fax:(970) 385-4638

King Coal

6/30/2017

Project Name:	GCC GW Baseline	Invoice To:	GCC Energy, LLC
Project Number:	GCC GW Baseline	Invoice Bid:	GCC GW Baseline
Client PM:	Tom Bird	Invoice Manager:	Tom Bird
Comments:			

Analysis	Comment
Manganese Dissolved by ICPMS	
Alkalinity, Carbonate	
Alkalinity, Hydroxide	
Alkalinity, Total	
Aluminum Dissolved by ICP	
Arsenic Dissolved by ICPMS	
Cadmium Dissolved by ICPMS	
Chloride by IC	
Copper Dissolved by ICPMS	
Fluoride by IC	
Hardness, diss	
Iron Dissolved by ICP	
Alkalinity, Bicarbonate	
Zinc Dissolved by ICPMS	
Mercury Dissolved by CVAA	
Molybdenum Dissolved by ICPM	
Nitrate/Nitrite as N	
pH	
Potassium Dissolved by ICP	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Subcontract Analysis 1	TOC
Sulfate by IC	
Uranium Dissolved by ICPMS	
Lead Dissolved by ICPMS	
Hardness, diss subanalyses:	
Calcium Dissolved by ICP	
Magnesium Dissolved by ICP	
Silica Dissolved by ICP Package subanalyses:	
Silicon Dissolved by ICP	



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29 June 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 06/16/17 12:04.
If you need any further assistance, please feel free to contact me.

Sincerely,

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

Debbie Zufelt
Reports Manager

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

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

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



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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-4-MI	1706159-01	Water	06/16/17 09:17	06/16/17 12:04

Green Analytical Laboratories

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

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

MW-4-MI

1706159-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	825	10.0		mg/L	5	06/22/17	2320 B		JLM
Alkalinity, Carbonate as CaCO ₃ *	90.0	10.0		mg/L	5	06/22/17	2320 B		JLM
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	06/22/17	2320 B		JLM
Alkalinity, Total as CaCO ₃ *	915	10.0		mg/L	5	06/22/17	2320 B		JLM
Chloride*	7.50	5.00	0.717	mg/L	5	06/27/17	EPA300.0	M5	JDA
Fluoride*	5.02	0.500	0.0798	mg/L	5	06/27/17	EPA300.0	M5	JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	06/27/17	EPA353.2		LLG
pH*	8.59			pH Units	1	06/19/17	EPA150.1	H4	CMS
Total Dissolved Solids*	1170	10.0		mg/L	1	06/22/17	EPA160.1		LLG
Sulfate*	64.7	5.00	0.782	mg/L	5	06/27/17	EPA300.0	M5	JDA
Total Organic Carbon	6.49	0.500	0.201	mg/L	1	06/23/17	5310C		JDA

Dissolved Metals by ICP

Aluminum*	<0.100	0.100	0.040	mg/L	2	06/20/17	EPA200.7		JDA
Calcium*	2.32	0.200	0.072	mg/L	2	06/20/17	EPA200.7		JDA
Hardness as CaCO ₃	8.71	1.32	0.390	mg/L	2	06/20/17	2340 B		JDA
Iron*	<0.100	0.100	0.028	mg/L	2	06/20/17	EPA200.7		JDA
Magnesium*	0.707	0.200	0.051	mg/L	2	06/20/17	EPA200.7		JDA
Potassium*	<2.00	2.00	0.189	mg/L	2	06/20/17	EPA200.7		JDA
Silica (SiO ₂)	8.01	2.14	0.596	mg/L	2	06/20/17	Calculation		JDA
Silicon	3.75	1.00	0.279	mg/L	2	06/20/17	EPA200.7		JDA
Sodium*	458	2.00	0.174	mg/L	2	06/20/17	EPA200.7		JDA

Dissolved Metals by ICPMS

Arsenic*	0.0220	0.0005	0.00008	mg/L	1	06/22/17	EPA200.8		JDA
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	06/22/17	EPA200.8		JDA
Copper*	0.0058	0.0001	0.00003	mg/L	1	06/22/17	EPA200.8		JDA
Lead*	<0.0005	0.0005	0.00002	mg/L	1	06/22/17	EPA200.8		JDA
Manganese*	0.0066	0.0005	0.0003	mg/L	1	06/22/17	EPA200.8		JDA
Molybdenum*	0.0160	0.0005	0.00006	mg/L	1	06/22/17	EPA200.8		JDA
Selenium*	0.0012	0.0010	0.0002	mg/L	1	06/22/17	EPA200.8		JDA
Uranium	0.0126	0.0001	0.00001	mg/L	1	06/22/17	EPA200.8		JDA
Zinc*	0.0697	0.0020	0.0009	mg/L	1	06/22/17	EPA200.8		JDA

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Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

MW-4-MI

1706159-01 (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	06/21/17	EPA245.1		LLG
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Cation/Anion Balance	.05
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706145 - General Prep - Wet Chem

Duplicate (B706145-DUP2) Source: 1706161-08 Prepared & Analyzed: 06/19/17

pH	7.98		pH Units	7.91		0.881	20
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Reference (B706145-SRM1) Prepared & Analyzed: 06/19/17

pH	8.89		pH Units	9.08		97.9	97.8-102.2
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Batch B706171 - General Prep - Wet Chem

Blank (B706171-BLK1) Prepared: 06/21/17 Analyzed: 06/22/17

Total Dissolved Solids	ND	10.0	mg/L
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Duplicate (B706171-DUP1) Source: 1706154-01 Prepared: 06/21/17 Analyzed: 06/22/17

Total Dissolved Solids	645	10.0	mg/L	645		0.00	20
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Reference (B706171-SRM1) Prepared: 06/21/17 Analyzed: 06/22/17

Total Dissolved Solids	415	10.0	mg/L	390		106	85-115
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Batch B706181 - General Prep - Wet Chem

Blank (B706181-BLK1) Prepared & Analyzed: 06/22/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L
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LCS (B706181-BS1) Prepared & Analyzed: 06/22/17

Alkalinity, Total as CaCO ₃	106	10.0	mg/L	100		106	85-115
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LCS Dup (B706181-BSD1) Prepared & Analyzed: 06/22/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100		105	85-115	0.948	20
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Batch B706194 - General Prep - Wet Chem

Blank (B706194-BLK1) Prepared & Analyzed: 06/23/17

Total Organic Carbon	ND	0.500	mg/L
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LCS (B706194-BS1) Prepared & Analyzed: 06/23/17

Total Organic Carbon	9.67	0.500	mg/L	10.0		96.7	85-115
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LCS Dup (B706194-BSD1) Prepared & Analyzed: 06/23/17

Total Organic Carbon	9.60	0.500	mg/L	10.0		96.0	85-115	0.727	20
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Batch B706219 - General Prep - Wet Chem

Blank (B706219-BLK1) Prepared: 06/26/17 Analyzed: 06/27/17

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

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Debbie Zufelt, Reports Manager

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www.GreenAnalytical.com

GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706219 - General Prep - Wet Chem (Continued)

LCS (B706219-BS1)

Prepared: 06/26/17 Analyzed: 06/27/17

Chloride	24.1	1.00	mg/L	25.0		96.6	90-110			
Fluoride	2.49	0.100	mg/L	2.50		99.4	90-110			
Sulfate	23.8	1.00	mg/L	25.0		95.1	90-110			

LCS Dup (B706219-BSD1)

Prepared: 06/26/17 Analyzed: 06/27/17

Chloride	24.2	1.00	mg/L	25.0		97.0	90-110	0.409	20	
Fluoride	2.51	0.100	mg/L	2.50		100	90-110	0.801	20	
Sulfate	24.0	1.00	mg/L	25.0		96.2	90-110	1.10	20	

Batch B706233 - General Prep - Wet Chem

Blank (B706233-BLK1)

Prepared & Analyzed: 06/27/17

Nitrate/Nitrite as N	ND	0.020	mg/L							
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LCS (B706233-BS1)

Prepared & Analyzed: 06/27/17

Nitrate/Nitrite as N	1.02	0.020	mg/L	1.00		102	90-110			
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LCS Dup (B706233-BSD1)

Prepared & Analyzed: 06/27/17

Nitrate/Nitrite as N	1.03	0.020	mg/L	1.00		103	90-110	0.302	20	
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706153 - Diss. 200.7/200.8

Blank (B706153-BLK1)

Prepared & Analyzed: 06/20/17

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 (B706153-BS1)

Prepared & Analyzed: 06/20/17

Aluminum	5.06	0.050	mg/L	5.00	101	85-115
Calcium	5.13	0.100	mg/L	5.00	103	85-115
Iron	5.12	0.050	mg/L	5.00	102	85-115
Magnesium	26.0	0.100	mg/L	25.0	104	85-115
Potassium	10.2	1.00	mg/L	10.0	102	85-115
Silicon	4.91	0.500	mg/L	5.00	98.3	85-115
Sodium	8.36	1.00	mg/L	8.10	103	85-115

LCS Dup (B706153-BSD1)

Prepared & Analyzed: 06/20/17

Aluminum	5.09	0.050	mg/L	5.00	102	85-115	0.668	20
Calcium	5.16	0.100	mg/L	5.00	103	85-115	0.475	20
Iron	5.16	0.050	mg/L	5.00	103	85-115	0.671	20
Magnesium	26.0	0.100	mg/L	25.0	104	85-115	0.0458	20
Potassium	10.1	1.00	mg/L	10.0	101	85-115	1.08	20
Silicon	4.94	0.500	mg/L	5.00	98.8	85-115	0.462	20
Sodium	8.37	1.00	mg/L	8.10	103	85-115	0.109	20

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706154 - Diss. 200.7/200.8

Blank (B706154-BLK1)

Prepared: 06/20/17 Analyzed: 06/22/17

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 (B706154-BS1)

Prepared: 06/20/17 Analyzed: 06/22/17

Arsenic	0.0537	0.0005	mg/L	0.0500	107	85-115
Cadmium	0.0530	0.0001	mg/L	0.0500	106	85-115
Copper	0.0516	0.0001	mg/L	0.0500	103	85-115
Lead	0.0498	0.0005	mg/L	0.0500	99.6	85-115
Manganese	0.0523	0.0005	mg/L	0.0500	105	85-115
Molybdenum	0.0512	0.0005	mg/L	0.0500	102	85-115
Selenium	0.276	0.0010	mg/L	0.250	110	85-115
Uranium	0.0493	0.0001	mg/L	0.0500	98.7	85-115
Zinc	0.0545	0.0020	mg/L	0.0500	109	85-115

LCS Dup (B706154-BSD1)

Prepared: 06/20/17 Analyzed: 06/22/17

Arsenic	0.0534	0.0005	mg/L	0.0500	107	85-115	0.696	20
Cadmium	0.0498	0.0001	mg/L	0.0500	99.6	85-115	6.28	20
Copper	0.0496	0.0001	mg/L	0.0500	99.2	85-115	4.03	20
Lead	0.0508	0.0005	mg/L	0.0500	102	85-115	2.00	20
Manganese	0.0494	0.0005	mg/L	0.0500	98.9	85-115	5.70	20
Molybdenum	0.0490	0.0005	mg/L	0.0500	98.1	85-115	4.22	20
Selenium	0.269	0.0010	mg/L	0.250	107	85-115	2.78	20
Uranium	0.0495	0.0001	mg/L	0.0500	99.0	85-115	0.367	20
Zinc	0.0530	0.0020	mg/L	0.0500	106	85-115	2.72	20

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6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

Dissolved Mercury by CVAA - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B706156 - EPA 245.1/7470

Blank (B706156-BLK1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	ND	0.0002	mg/L							
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LCS (B706156-BS1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	0.0021	0.0002	mg/L	0.00200	106	85-115				
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LCS Dup (B706156-BSD1)

Prepared: 06/20/17 Analyzed: 06/21/17

Mercury	0.0021	0.0002	mg/L	0.00200	107	85-115	1.36	20		
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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
06/29/17 09:12

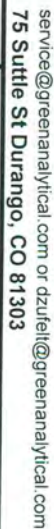
Notes and Definitions

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

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ANALYSIS REQUEST

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Project Information

GCC Energy, LLC

6473 CR 120

Hesperus, CO 81326

Laboratory PM: Debbie Zufelt

Phone:(970) 385-4528

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King Coal

6/16/2017

Project Name:	GCC GW Baseline	Invoice To:	GCC Energy, LLC
Project Number:	GCC GW Baseline	Invoice Bid:	GCC GW Baseline
Client PM:	Tom Bird	Invoice Manager:	Tom Bird
Comments:			

Analysis	Comment
Alkalinity, Bicarbonate	
Alkalinity, Carbonate	
Alkalinity, Hydroxide	
Alkalinity, Total	
Aluminum Dissolved by ICP	
Arsenic Dissolved by ICPMS	
Cadmium Dissolved by ICPMS	
Chloride by IC	
Copper Dissolved by ICPMS	
Fluoride by IC	
Hardness, diss	
Iron Dissolved by ICP	
Lead Dissolved by ICPMS	
Manganese Dissolved by ICPMS	
Mercury Dissolved by CVAA	
Molybdenum Dissolved by ICPM	
Nitrate/Nitrite as N	
pH	
Potassium Dissolved by ICP	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Subcontract Analysis 1	TOC
Sulfate by IC	
Uranium Dissolved by ICPMS	
Zinc Dissolved by ICPMS	
Hardness, diss subanalyses:	
Calcium Dissolved by ICP	
Magnesium Dissolved by ICP	
Silica Dissolved by ICP Package subanalyses:	
Silicon Dissolved by ICP	
