



"Safety as a Value"

Telephone: 970.385.4528
Facsimile: 970.385.4638

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

April 12, 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
1st Quarter 2017

Mr. Zuber:

Please find enclosed a copy of the King I quarterly water analysis for the Wiltse Well for the 1st quarter of 2017.

Also, please find enclosed a copy of the King II quarterly water analysis for the #1 up-gradient monitoring well, the #2 down-gradient monitoring well, the Hay Gulch Irrigation Ditch down-gradient, the Hay Gulch Irrigation Ditch up-gradient, and MW-HGA-4 (upgradient from King I mine).

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'. The signature is fluid and cursive, with a large, looped 'D' 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

04 April 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 03/21/17 16:47. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

If you any 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.

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: [none]
Project Manager: Tom Bird

Reported:
04/04/17 15:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Wiltse Well	1703167-01	Water	03/21/17 12:50	03/21/17 16:47

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:
04/04/17 15:01

Wiltse Well**1703167-01 (Water)**

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

Alkalinity, Bicarbonate as CaCO ₃ *	410	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	410	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	72.5	5.00	0.717	mg/L	5	03/27/17	EPA300.0		JDA
Fluoride*	<0.500	0.500	0.0798	mg/L	5	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	0.492	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
pH*	7.22			pH Units	1	03/23/17	EPA150.1		BDV
Total Dissolved Solids	1480	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Sulfate	731	20.0	3.13	mg/L	20	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/27/17	EPA200.7		LLG
Calcium*	205	0.100	0.036	mg/L	1	03/27/17	EPA200.7		LLG
Hardness as CaCO ₃	1040	0.662	0.195	mg/L	1	03/27/17	2340 B		LLG
Iron*	0.286	0.050	0.014	mg/L	1	03/27/17	EPA200.7		LLG
Magnesium*	128	0.100	0.026	mg/L	1	03/27/17	EPA200.7		LLG
Potassium*	4.61	1.00	0.094	mg/L	1	03/27/17	EPA200.7		LLG
Silica (SiO ₂)	14.7	1.07	0.298	mg/L	1	03/27/17	Calculation		LLG
Silicon	6.85	0.500	0.139	mg/L	1	03/27/17	EPA200.7		LLG
Sodium*	110	1.00	0.087	mg/L	1	03/27/17	EPA200.7		LLG

Dissolved Metals by ICPMS

Arsenic*	0.0009	0.0005	0.00008	mg/L	1	03/24/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/24/17	EPA200.8		LLG
Copper*	0.0023	0.0001	0.00003	mg/L	1	03/24/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/24/17	EPA200.8		LLG
Manganese*	0.440	0.0005	0.0003	mg/L	1	03/24/17	EPA200.8		LLG
Molybdenum*	0.0016	0.0005	0.00006	mg/L	1	03/24/17	EPA200.8		LLG
Selenium*	0.0027	0.0010	0.0002	mg/L	1	03/24/17	EPA200.8		LLG
Uranium	0.0024	0.0001	0.00001	mg/L	1	03/24/17	EPA200.8		LLG
Zinc*	0.0194	0.0020	0.0009	mg/L	1	03/24/17	EPA200.8		LLG

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:
04/04/17 15:01

Wiltse Well

1703167-01 (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	03/24/17	EPA245.1		LLG
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:01

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 B703190 - General Prep - Wet Chem

Duplicate (B703190-DUP1) Source: 1703167-01 Prepared & Analyzed: 03/23/17

pH	7.24		pH Units	7.22				0.277	20	
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Reference (B703190-SRM1) Prepared & Analyzed: 03/23/17

pH	9.14		pH Units	9.08		101	7.807-102.19			
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Batch B703210 - General Prep - Wet Chem

Blank (B703210-BLK1) Prepared & Analyzed: 03/27/17

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

LCS (B703210-BS1) Prepared & Analyzed: 03/27/17

Chloride	23.1	1.00	mg/L	25.0		92.4	90-110			
Fluoride	2.38	0.100	mg/L	2.50		95.1	90-110			
Sulfate	23.8	1.00	mg/L	25.0		95.1	90-110			

LCS Dup (B703210-BSD1) Prepared & Analyzed: 03/27/17

Chloride	23.3	1.00	mg/L	25.0		93.2	90-110	0.806	20	
Fluoride	2.42	0.100	mg/L	2.50		96.9	90-110	1.92	20	
Sulfate	23.9	1.00	mg/L	25.0		95.8	90-110	0.691	20	

Batch B703225 - General Prep - Wet Chem

Blank (B703225-BLK1) Prepared & Analyzed: 03/28/17

Total Dissolved Solids	ND	10.0	mg/L							
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Duplicate (B703225-DUP1) Source: 1703165-01 Prepared & Analyzed: 03/28/17

Total Dissolved Solids	300	10.0	mg/L		335			11.0	20	
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Reference (B703225-SRM1) Prepared & Analyzed: 03/28/17

Total Dissolved Solids	375	10.0	mg/L	390		96.2	85-115			
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Batch B704008 - General Prep - Wet Chem

Blank (B704008-BLK1) Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	ND	0.020	mg/L							
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LCS (B704008-BS1) Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	1.01	0.020	mg/L	1.00		101	90-110			
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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:
04/04/17 15:01

**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 B704008 - General Prep - Wet Chem (Continued)

LCS Dup (B704008-BSD1)

Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	1.01	0.020	mg/L	1.00		101	90-110	0.367	20	
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Batch B704014 - General Prep - Wet Chem

Blank (B704014-BLK1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L							
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LCS (B704014-BS1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	109	10.0	mg/L	100		109	85-115			
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LCS Dup (B704014-BSD1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100		105	85-115	3.74	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: [none]
Project Manager: Tom Bird

Reported:
04/04/17 15:01

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 B703201 - Dissolved Metals, 200.7/200.8

Blank (B703201-BLK1)

Prepared & Analyzed: 03/27/17

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 (B703201-BS1)

Prepared & Analyzed: 03/27/17

Aluminum	4.75	0.050	mg/L	5.00		95.0	85-115			
Calcium	4.83	0.100	mg/L	5.00		96.7	85-115			
Iron	4.87	0.050	mg/L	5.00		97.4	85-115			
Magnesium	24.6	0.100	mg/L	25.0		98.2	85-115			
Potassium	9.66	1.00	mg/L	10.0		96.6	85-115			
Silicon	5.31	0.500	mg/L	5.00		106	85-115			
Sodium	7.92	1.00	mg/L	8.10		97.8	85-115			

LCS Dup (B703201-BSD1)

Prepared & Analyzed: 03/27/17

Aluminum	5.02	0.050	mg/L	5.00		100	85-115	5.50	20	
Calcium	5.11	0.100	mg/L	5.00		102	85-115	5.53	20	
Iron	5.02	0.050	mg/L	5.00		100	85-115	3.06	20	
Magnesium	26.1	0.100	mg/L	25.0		105	85-115	6.20	20	
Potassium	10.2	1.00	mg/L	10.0		102	85-115	5.40	20	
Sodium	8.42	1.00	mg/L	8.10		104	85-115	6.07	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: [none]
Project Manager: Tom Bird

Reported:
04/04/17 15:01

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 B703185 - Dissolved Metals, 200.7/200.8

Blank (B703185-BLK1)

Prepared: 03/23/17 Analyzed: 03/24/17

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 (B703185-BS1)

Prepared: 03/23/17 Analyzed: 03/24/17

Arsenic	0.0491	0.0005	mg/L	0.0500		98.2	85-115			
Cadmium	0.0486	0.0001	mg/L	0.0500		97.2	85-115			
Copper	0.0474	0.0001	mg/L	0.0500		94.8	85-115			
Lead	0.0484	0.0005	mg/L	0.0500		96.7	85-115			
Manganese	0.0485	0.0005	mg/L	0.0500		96.9	85-115			
Molybdenum	0.0471	0.0005	mg/L	0.0500		94.1	85-115			
Selenium	0.240	0.0010	mg/L	0.250		96.2	85-115			
Uranium	0.0471	0.0001	mg/L	0.0500		94.2	85-115			
Zinc	0.0473	0.0020	mg/L	0.0500		94.6	85-115			

LCS Dup (B703185-BSD1)

Prepared: 03/23/17 Analyzed: 03/24/17

Arsenic	0.0484	0.0005	mg/L	0.0500		96.8	85-115	1.39	20	
Cadmium	0.0474	0.0001	mg/L	0.0500		94.7	85-115	2.57	20	
Copper	0.0457	0.0001	mg/L	0.0500		91.5	85-115	3.59	20	
Lead	0.0495	0.0005	mg/L	0.0500		98.9	85-115	2.23	20	
Manganese	0.0467	0.0005	mg/L	0.0500		93.4	85-115	3.74	20	
Molybdenum	0.0482	0.0005	mg/L	0.0500		96.4	85-115	2.40	20	
Selenium	0.235	0.0010	mg/L	0.250		93.9	85-115	2.37	20	
Uranium	0.0504	0.0001	mg/L	0.0500		101	85-115	6.72	20	
Zinc	0.0482	0.0020	mg/L	0.0500		96.4	85-115	1.87	20	

Green Analytical Laboratories

Debbie Zufelt

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:
04/04/17 15:01

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 B703179 - EPA 245.1/7470

Blank (B703179-BLK1)

Prepared: 03/23/17 Analyzed: 03/24/17

Mercury	ND	0.0002	mg/L							
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LCS (B703179-BS1)

Prepared: 03/23/17 Analyzed: 03/24/17

Mercury	0.0021	0.0002	mg/L	0.00200		104	85-115			
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LCS Dup (B703179-BSD1)

Prepared: 03/23/17 Analyzed: 03/24/17

Mercury	0.0021	0.0002	mg/L	0.00200		104	85-115	0.288	20	
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Notes and Definitions

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

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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* 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

3/21/2017

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	

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Green Analytical Laboratories

Attn: Debbie Zufelt
 75 Suttle Street
 Durango, CO 81303

Report: 385129
 Priority: Immediate Written
 Status: Final
 PWS ID: Not Supplied

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3659560	1703-167-01/Wiltse Well	5310 C	03/21/17 12:50	Client	03/23/17 09:15

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Kelly Trott Analytical Services Manager

Authorized Signature

Title

03/28/2017

Date

Client Name: Green Analytical Laboratories

Report #: 385129

Sampling Point: 1703-167-01/Wiltse Well

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	3.40	mg/L	---	03/24/17 08:10	3659560

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

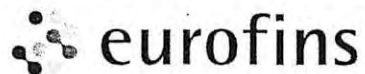
Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



Eaton Analytical

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CHAIN OF CUSTODY RECORD

Page ____ of ____

Shaded area for EEA use only

REPORT TO: Green Analytical Laboratories 75 Suttle St. Durango, CO 81303				SAMPLER (Signature) Jessica Luna				PWS ID #		STATE (sample origin)		PROJECT NAME GCC Energy		PO# GA-17 120		# OF CONTAINERS 3	MATRIX CODE GW	TURNAROUND TIME 1W	
BILL TO: Same				COMPLIANCE MONITORING		Yes No		POPULATION SERVED		SOURCE WATER		SAMPLE REMARKS GW Baseline		CHLORINATED YES NO					
LAB Number		COLLECTION DATE TIME AM PM		SAMPLING SITE				TEST NAME				SAMPLE REMARKS		CHLORINATED YES NO					
1 3659560		3-21-17 1250 X		Wiltse Well				TOC pH2				1703-167-01							
2																			
3																			
4																			
5																			
6																			
7																			
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11																			
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14																			

Immediate Written!

RELINQUISHED BY: (Signature) Michael Valentine		DATE 3-21-17		TIME 1600		RECEIVED BY: (Signature) UPS		DATE		TIME		LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT					
RELINQUISHED BY: (Signature) UPS		DATE		TIME		RECEIVED BY: (Signature)		DATE		TIME		LAB COMMENTS					
RELINQUISHED BY: (Signature)		DATE		TIME		RECEIVED FOR LABORATORY BY: KD		DATE 3-23-17		TIME 0915							
MATRIX CODES: DW-DRINKING WATER RW-REAGENT WATER GW-GROUND WATER EW-EXPOSURE WATER SW-SURFACE WATER PW-POOL WATER WW-WASTE WATER		TURN-AROUND TIME (TAT) - SURCHARGES SW = Standard Written: (15 working days) 0% RV* = Rush Verbal: (5 working days) 50% RW* = Rush Written: (5 working days) 75% * Please call, expedited service not available for all testing		IV* = Immediate Verbal: (3 working days) 100% IW* = Immediate Written: (3 working days) 125% SP* = Weekend, Holiday CALL STAT* = Less than 48 hours CALL		CONDITIONS UPON RECEIPT (check one): Iced: Wet/Blue ☒ Ambient ☐ 2.8 °C Upon Receipt N/A											



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

04 April 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 03/22/17 16:22. The data to follow was performed, in whole or in part, by a subcontract laboratory with an additional report attached.

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

Sincerely,

A handwritten signature in black ink that reads 'Debbie Zufelt'. The signature is written in a cursive, flowing style.

Debbie Zufelt
Reports Manager

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

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

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



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Well #1 Upgradient	1703180-01	Water	03/22/17 10:10	03/22/17 16:22
Well #2 Downgradient	1703180-02	Water	03/22/17 12:40	03/22/17 16:22
MW-HGA-4	1703180-03	Water	03/22/17 11:55	03/22/17 16:22
Hay Gulch Ditch Upgradient	1703180-04	Water	03/22/17 11:00	03/22/17 16:22
Hay Gulch Ditch Downgradient	1703180-05	Water	03/22/17 09:10	03/22/17 16:22

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:
04/04/17 15:24

Well #1 Upgradient

1703180-01 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	640	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	640	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	4.53	1.00	0.143	mg/L	1	03/27/17	EPA300.0		JDA
Fluoride*	0.337	0.100	0.0160	mg/L	1	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
pH*	7.46			pH Units	1	03/23/17	EPA150.1		BDV
Total Dissolved Solids	775	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Sulfate	156	5.00	0.782	mg/L	5	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/28/17	EPA200.7		LLG
Calcium*	75.7	0.100	0.036	mg/L	1	03/28/17	EPA200.7		LLG
Hardness as CaCO ₃	391	0.662	0.195	mg/L	1	03/28/17	2340 B		LLG
Iron*	2.01	0.050	0.014	mg/L	1	03/28/17	EPA200.7		LLG
Magnesium*	49.1	0.100	0.026	mg/L	1	03/28/17	EPA200.7		LLG
Potassium*	3.30	1.00	0.094	mg/L	1	03/28/17	EPA200.7		LLG
Silica (SiO ₂)	14.2	1.07	0.298	mg/L	1	03/29/17	Calculation		LLG
Silicon	6.64	0.500	0.139	mg/L	1	03/29/17	EPA200.7		LLG
Sodium*	167	1.00	0.087	mg/L	1	03/28/17	EPA200.7		LLG

Dissolved Metals by ICPMS

Arsenic*	0.0009	0.0005	0.00008	mg/L	1	03/29/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/29/17	EPA200.8		LLG
Copper*	0.0020	0.0001	0.00003	mg/L	1	03/29/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/29/17	EPA200.8		LLG
Manganese*	0.491	0.0005	0.0003	mg/L	1	03/29/17	EPA200.8		LLG
Molybdenum*	<0.0005	0.0005	0.00006	mg/L	1	03/29/17	EPA200.8		LLG
Selenium*	0.0245	0.0010	0.0002	mg/L	1	03/29/17	EPA200.8		LLG
Uranium	0.0002	0.0001	0.00001	mg/L	1	03/29/17	EPA200.8		LLG
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	03/29/17	EPA200.8		LLG

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:
04/04/17 15:24

Well #1 Upgradient

1703180-01 (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	03/28/17	EPA245.1		LLG
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Green Analytical Laboratories

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:
04/04/17 15:24

Well #2 Downgradient

1703180-02 (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	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	375	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	23.3	1.00	0.143	mg/L	1	03/27/17	EPA300.0		JDA
Fluoride*	0.228	0.100	0.0160	mg/L	1	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
pH*	7.72			pH Units	1	03/23/17	EPA150.1		BDV
Total Dissolved Solids	635	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Sulfate	153	5.00	0.782	mg/L	5	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/28/17	EPA200.7		LLG
Calcium*	81.0	0.100	0.036	mg/L	1	03/28/17	EPA200.7		LLG
Hardness as CaCO ₃	485	0.662	0.195	mg/L	1	03/28/17	2340 B		LLG
Iron*	0.213	0.050	0.014	mg/L	1	03/28/17	EPA200.7		LLG
Magnesium*	68.7	0.100	0.026	mg/L	1	03/28/17	EPA200.7		LLG
Potassium*	1.94	1.00	0.094	mg/L	1	03/28/17	EPA200.7		LLG
Silica (SiO ₂)	10.9	1.07	0.298	mg/L	1	03/29/17	Calculation		LLG
Silicon	5.12	0.500	0.139	mg/L	1	03/29/17	EPA200.7		LLG
Sodium*	21.8	1.00	0.087	mg/L	1	03/28/17	EPA200.7		LLG

Dissolved Metals by ICPMS

Arsenic*	0.0009	0.0005	0.00008	mg/L	1	03/29/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/29/17	EPA200.8		LLG
Copper*	0.0007	0.0001	0.00003	mg/L	1	03/29/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/29/17	EPA200.8		LLG
Manganese*	0.384	0.0005	0.0003	mg/L	1	03/29/17	EPA200.8		LLG
Molybdenum*	0.0021	0.0005	0.00006	mg/L	1	03/29/17	EPA200.8		LLG
Selenium*	0.0045	0.0010	0.0002	mg/L	1	03/29/17	EPA200.8		LLG
Uranium	0.0014	0.0001	0.00001	mg/L	1	03/29/17	EPA200.8		LLG
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	03/29/17	EPA200.8		LLG

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:
04/04/17 15:24

Well #2 Downgradient

1703180-02 (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	03/28/17	EPA245.1		LLG
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

MW-HGA-4**1703180-03 (Water)**

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

Alkalinity, Bicarbonate as CaCO ₃ *	465	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	465	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	8.75	1.00	0.143	mg/L	1	03/27/17	EPA300.0		JDA
Fluoride*	0.485	0.100	0.0160	mg/L	1	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
pH*	7.17			pH Units	1	03/23/17	EPA150.1		BDV
Total Dissolved Solids	710	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Sulfate	229	5.00	0.782	mg/L	5	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/28/17	EPA200.7		LLG
Calcium*	118	0.100	0.036	mg/L	1	03/28/17	EPA200.7		LLG
Hardness as CaCO ₃	611	0.662	0.195	mg/L	1	03/28/17	2340 B		LLG
Iron*	7.29	0.050	0.014	mg/L	1	03/28/17	EPA200.7		LLG
Magnesium*	76.7	0.100	0.026	mg/L	1	03/28/17	EPA200.7	M5	LLG
Potassium*	2.13	1.00	0.094	mg/L	1	03/28/17	EPA200.7		LLG
Silica (SiO ₂)	16.8	1.07	0.298	mg/L	1	03/29/17	Calculation		LLG
Silicon	7.86	0.500	0.139	mg/L	1	03/29/17	EPA200.7		LLG
Sodium*	27.4	1.00	0.087	mg/L	1	03/28/17	EPA200.7		LLG

Dissolved Metals by ICPMS

Arsenic*	0.0029	0.0005	0.00008	mg/L	1	03/29/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/29/17	EPA200.8		LLG
Copper*	0.0008	0.0001	0.00003	mg/L	1	03/29/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/29/17	EPA200.8		LLG
Manganese*	2.78	0.0005	0.0003	mg/L	1	03/29/17	EPA200.8		LLG
Molybdenum*	0.0024	0.0005	0.00006	mg/L	1	03/29/17	EPA200.8		LLG
Selenium*	0.0030	0.0010	0.0002	mg/L	1	03/29/17	EPA200.8		LLG
Uranium	0.0004	0.0001	0.00001	mg/L	1	03/29/17	EPA200.8		LLG
Zinc*	0.0046	0.0020	0.0009	mg/L	1	03/29/17	EPA200.8		LLG

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:
04/04/17 15:24

MW-HGA-4

1703180-03 (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	03/28/17	EPA245.1		LLG
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:24

Hay Gulch Ditch Upgradient

1703180-04 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	185	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	185	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	22.7	1.00	0.143	mg/L	1	03/27/17	EPA300.0		JDA
Fluoride*	0.215	0.100	0.0160	mg/L	1	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	0.053	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	03/29/17	EPA1664 A		BDV
pH*	8.34			pH Units	1	03/23/17	EPA150.1		BDV
SAR	0.30			No Unit	1	03/28/17	Calculation		LLG
Total Dissolved Solids	285	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Total Suspended Solids*	2.50	2.00		mg/L	1	03/28/17	EPA160.2		JDA
Sulfate	87.7	5.00	0.782	mg/L	5	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/28/17	EPA200.7		LLG
Calcium*	53.6	0.100	0.036	mg/L	1	03/28/17	EPA200.7		LLG
Hardness as CaCO ₃	257	0.662	0.195	mg/L	1	03/28/17	2340 B		LLG
Iron*	<0.050	0.050	0.014	mg/L	1	03/28/17	EPA200.7		LLG
Magnesium*	29.8	0.100	0.026	mg/L	1	03/28/17	EPA200.7		LLG
Potassium*	1.75	1.00	0.094	mg/L	1	03/28/17	EPA200.7		LLG
Silica (SiO ₂)	9.04	1.07	0.298	mg/L	1	03/29/17	Calculation		LLG
Silicon	4.23	0.500	0.139	mg/L	1	03/29/17	EPA200.7		LLG
Sodium*	10.9	1.00	0.087	mg/L	1	03/28/17	EPA200.7		LLG

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:24

Hay Gulch Ditch Upgradient

1703180-04 (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	03/29/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/29/17	EPA200.8		LLG
Copper*	0.0008	0.0001	0.00003	mg/L	1	03/29/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/29/17	EPA200.8		LLG
Manganese*	0.0070	0.0005	0.0003	mg/L	1	03/29/17	EPA200.8		LLG
Molybdenum*	0.0006	0.0005	0.00006	mg/L	1	03/29/17	EPA200.8		LLG
Selenium*	0.0023	0.0010	0.0002	mg/L	1	03/29/17	EPA200.8		LLG
Uranium	0.0003	0.0001	0.00001	mg/L	1	03/29/17	EPA200.8		LLG
Zinc*	0.0022	0.0020	0.0009	mg/L	1	03/29/17	EPA200.8		LLG

Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00005	mg/L	1	03/28/17	EPA245.1		LLG
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:24

Hay Gulch Ditch Downgradient

1703180-05 (Water)

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

Alkalinity, Bicarbonate as CaCO ₃ *	320	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Carbonate as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Hydroxide as CaCO ₃ *	<10.0	10.0		mg/L	5	04/04/17	2320 B		JDA
Alkalinity, Total as CaCO ₃ *	320	10.0		mg/L	5	04/04/17	2320 B		JDA
Chloride	31.9	1.00	0.143	mg/L	1	03/27/17	EPA300.0		JDA
Fluoride*	0.224	0.100	0.0160	mg/L	1	03/27/17	EPA300.0		JDA
Nitrate/Nitrite as N*	<0.020	0.020	0.011	mg/L	1	04/03/17	EPA353.2		JDA
Oil & Grease (HEM)	<5.00	5.00	0.763	mg/L	1	03/29/17	EPA1664 A		BDV
pH*	8.15			pH Units	1	03/23/17	EPA150.1		BDV
SAR	0.44			No Unit	1	03/29/17	Calculation		LLG
Total Dissolved Solids	615	10.0		mg/L	1	03/28/17	EPA160.1		JDA
Total Suspended Solids*	12.7	2.00		mg/L	1	03/28/17	EPA160.2		JDA
Sulfate	204	5.00	0.782	mg/L	5	03/29/17	EPA300.0		JDA

Dissolved Metals by ICP

Aluminum*	<0.050	0.050	0.020	mg/L	1	03/29/17	EPA200.7		LLG
Calcium*	112	0.100	0.036	mg/L	1	03/29/17	EPA200.7		LLG
Hardness as CaCO ₃	503	0.662	0.195	mg/L	1	03/29/17	2340 B		LLG
Iron*	<0.050	0.050	0.014	mg/L	1	03/29/17	EPA200.7		LLG
Magnesium*	54.6	0.100	0.026	mg/L	1	03/29/17	EPA200.7		LLG
Potassium*	2.33	1.00	0.094	mg/L	1	03/29/17	EPA200.7		LLG
Silica (SiO ₂)	12.2	1.07	0.298	mg/L	1	03/29/17	Calculation		LLG
Silicon	5.70	0.500	0.139	mg/L	1	03/29/17	EPA200.7		LLG
Sodium*	22.5	1.00	0.087	mg/L	1	03/29/17	EPA200.7		LLG

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:24

Hay Gulch Ditch Downgradient

1703180-05 (Water)

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

Arsenic*	0.0006	0.0005	0.00008	mg/L	1	03/29/17	EPA200.8		LLG
Cadmium*	<0.0001	0.0001	0.00009	mg/L	1	03/29/17	EPA200.8		LLG
Copper*	0.0004	0.0001	0.00003	mg/L	1	03/29/17	EPA200.8		LLG
Lead*	<0.0005	0.0005	0.00002	mg/L	1	03/29/17	EPA200.8		LLG
Manganese*	0.0112	0.0005	0.0003	mg/L	1	03/29/17	EPA200.8		LLG
Molybdenum*	<0.0005	0.0005	0.00006	mg/L	1	03/29/17	EPA200.8		LLG
Selenium*	0.0022	0.0010	0.0002	mg/L	1	03/29/17	EPA200.8		LLG
Uranium	0.0009	0.0001	0.00001	mg/L	1	03/29/17	EPA200.8		LLG
Zinc*	<0.0020	0.0020	0.0009	mg/L	1	03/29/17	EPA200.8		LLG

Total Mercury by CVAA

Mercury*	<0.0002	0.0002	0.00005	mg/L	1	03/28/17	EPA245.1		LLG
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326Project: GCC GW & SW Baseline
Project Name / Number: [none]
Project Manager: Tom BirdReported:
04/04/17 15:24

General Chemistry - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B703190 - General Prep - Wet Chem

Duplicate (B703190-DUP1) Source: 1703167-01 Prepared & Analyzed: 03/23/17

pH	7.24		pH Units	7.22				0.277	20	
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Reference (B703190-SRM1) Prepared & Analyzed: 03/23/17

pH	9.14		pH Units	9.08		101	7.807-102.19			
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Batch B703210 - General Prep - Wet Chem

Blank (B703210-BLK1) Prepared & Analyzed: 03/27/17

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

LCS (B703210-BS1) Prepared & Analyzed: 03/27/17

Chloride	23.1	1.00	mg/L	25.0		92.4	90-110			
Fluoride	2.38	0.100	mg/L	2.50		95.1	90-110			
Sulfate	23.8	1.00	mg/L	25.0		95.1	90-110			

LCS Dup (B703210-BSD1) Prepared & Analyzed: 03/27/17

Chloride	23.3	1.00	mg/L	25.0		93.2	90-110	0.806	20	
Fluoride	2.42	0.100	mg/L	2.50		96.9	90-110	1.92	20	
Sulfate	23.9	1.00	mg/L	25.0		95.8	90-110	0.691	20	

Batch B703216 - General Prep - Wet Chem

Blank (B703216-BLK1) Prepared & Analyzed: 03/24/17

Oil & Grease (HEM)	ND	5.00	mg/L							
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LCS (B703216-BS1) Prepared & Analyzed: 03/24/17

Oil & Grease (HEM)	37.1	5.00	mg/L	40.0		92.8	85-115			
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LCS Dup (B703216-BSD1) Prepared & Analyzed: 03/24/17

Oil & Grease (HEM)	35.8	5.00	mg/L	40.0		89.5	85-115	3.57	20	
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Batch B703225 - General Prep - Wet Chem

Blank (B703225-BLK1) Prepared & Analyzed: 03/28/17

Total Dissolved Solids	ND	10.0	mg/L							
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Duplicate (B703225-DUP1) Source: 1703165-01 Prepared & Analyzed: 03/28/17

Total Dissolved Solids	300	10.0	mg/L		335			11.0	20	
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

**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 B703225 - General Prep - Wet Chem (Continued)

Reference (B703225-SRM1)

Prepared & Analyzed: 03/28/17

Total Dissolved Solids	375	10.0	mg/L	390	96.2	85-115
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Batch B703230 - General Prep - Wet Chem

Blank (B703230-BLK1)

Prepared & Analyzed: 03/28/17

Total Suspended Solids	ND	2.00	mg/L
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Duplicate (B703230-DUP1)

Source: 1703180-04 Prepared & Analyzed: 03/28/17

Total Suspended Solids	3.00	2.00	mg/L	2.50	18.2	20
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Reference (B703230-SRM1)

Prepared & Analyzed: 03/28/17

Total Suspended Solids	90.0	2.00	mg/L	100	90.0	85-115
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Batch B704008 - General Prep - Wet Chem

Blank (B704008-BLK1)

Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	ND	0.020	mg/L
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LCS (B704008-BS1)

Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	1.01	0.020	mg/L	1.00	101	90-110
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LCS Dup (B704008-BSD1)

Prepared & Analyzed: 04/03/17

Nitrate/Nitrite as N	1.01	0.020	mg/L	1.00	101	90-110	0.367	20
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Batch B704014 - General Prep - Wet Chem

Blank (B704014-BLK1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	ND	10.0	mg/L
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LCS (B704014-BS1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	109	10.0	mg/L	100	109	85-115
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LCS Dup (B704014-BSD1)

Prepared & Analyzed: 04/04/17

Alkalinity, Total as CaCO ₃	105	10.0	mg/L	100	105	85-115	3.74	20
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Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

Dissolved Metals by ICP - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B703229 - Dissolved Metals, 200.7/200.8

Blank (B703229-BLK1)

Prepared & Analyzed: 03/28/17

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 (B703229-BS1)

Prepared & Analyzed: 03/28/17

Aluminum	4.76	0.050	mg/L	5.00		95.2	85-115			
Calcium	4.88	0.100	mg/L	5.00		97.5	85-115			
Iron	4.92	0.050	mg/L	5.00		98.4	85-115			
Magnesium	24.7	0.100	mg/L	25.0		98.9	85-115			
Potassium	9.56	1.00	mg/L	10.0		95.6	85-115			
Silicon	5.21	0.500	mg/L	5.00		104	85-115			
Sodium	8.13	1.00	mg/L	8.10		100	85-115			

LCS Dup (B703229-BSD1)

Prepared & Analyzed: 03/28/17

Aluminum	5.36	0.050	mg/L	5.00		107	85-115	11.9	20	
Calcium	5.51	0.100	mg/L	5.00		110	85-115	12.2	20	
Iron	5.48	0.050	mg/L	5.00		110	85-115	10.8	20	
Magnesium	27.9	0.100	mg/L	25.0		111	85-115	11.9	20	
Potassium	10.7	1.00	mg/L	10.0		107	85-115	11.6	20	
Silicon	5.14	0.500	mg/L	5.00		103	85-115	1.33	20	
Sodium	9.10	1.00	mg/L	8.10		112	85-115	11.2	20	

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

Dissolved Metals by ICPMS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B703200 - Dissolved Metals, 200.7/200.8

Blank (B703200-BLK1)

Prepared: 03/24/17 Analyzed: 03/29/17

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 (B703200-BS1)

Prepared: 03/24/17 Analyzed: 03/29/17

Arsenic	0.0471	0.0005	mg/L	0.0500		94.3	85-115		
Cadmium	0.0467	0.0001	mg/L	0.0500		93.3	85-115		
Copper	0.0474	0.0001	mg/L	0.0500		94.8	85-115		
Lead	0.0487	0.0005	mg/L	0.0500		97.4	85-115		
Manganese	0.0481	0.0005	mg/L	0.0500		96.3	85-115		
Molybdenum	0.0468	0.0005	mg/L	0.0500		93.6	85-115		
Selenium	0.241	0.0010	mg/L	0.250		96.2	85-115		
Uranium	0.0458	0.0001	mg/L	0.0500		91.5	85-115		
Zinc	0.0473	0.0020	mg/L	0.0500		94.6	85-115		

LCS Dup (B703200-BSD1)

Prepared: 03/24/17 Analyzed: 03/29/17

Arsenic	0.0459	0.0005	mg/L	0.0500		91.9	85-115	2.60	20
Cadmium	0.0485	0.0001	mg/L	0.0500		97.0	85-115	3.88	20
Copper	0.0501	0.0001	mg/L	0.0500		100	85-115	5.47	20
Lead	0.0487	0.0005	mg/L	0.0500		97.5	85-115	0.147	20
Manganese	0.0506	0.0005	mg/L	0.0500		101	85-115	5.01	20
Molybdenum	0.0480	0.0005	mg/L	0.0500		96.0	85-115	2.57	20
Selenium	0.237	0.0010	mg/L	0.250		95.0	85-115	1.29	20
Uranium	0.0463	0.0001	mg/L	0.0500		92.5	85-115	1.08	20
Zinc	0.0483	0.0020	mg/L	0.0500		96.7	85-115	2.16	20

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety. In no event shall Green Analytical Laboratories be liable for incidental or consequential damages. GALs liability, and clients exclusive remedy for any claim arising, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever, shall be deemed waived unless made in writing and received within thirty days after completion of the applicable service.



GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

Total Mercury by CVAA - Quality Control

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

Batch B703207 - EPA 245.1/7470

Blank (B703207-BLK1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	ND	0.0002	mg/L							
---------	----	--------	------	--	--	--	--	--	--	--

LCS (B703207-BS1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	0.0022	0.0002	mg/L	0.00200		108	85-115			
---------	--------	--------	------	---------	--	-----	--------	--	--	--

LCS Dup (B703207-BSD1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	0.0024	0.0002	mg/L	0.00200		119	85-115	9.39	20	BS1
---------	--------	--------	------	---------	--	-----	--------	------	----	-----

Dissolved Mercury by CVAA - Quality Control

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

Batch B703208 - EPA 245.1/7470

Blank (B703208-BLK1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	ND	0.0002	mg/L							
---------	----	--------	------	--	--	--	--	--	--	--

LCS (B703208-BS1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	0.0021	0.0002	mg/L	0.00200		103	85-115			
---------	--------	--------	------	---------	--	-----	--------	--	--	--

LCS Dup (B703208-BSD1)

Prepared: 03/27/17 Analyzed: 03/28/17

Mercury	0.0021	0.0002	mg/L	0.00200		106	85-115	2.11	20	
---------	--------	--------	------	---------	--	-----	--------	------	----	--

Green Analytical Laboratories

Debbie Zufelt, Reports Manager

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GCC Energy, LLC
6473 CR 120
Hesperus CO, 81326

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

Reported:
04/04/17 15:24

Notes and Definitions

M5	Sample was chosen for matrix spike. Spike recovery did not meet laboratory acceptance criteria, possible matrix interference in sample.
BS1	Laboratory control sample recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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

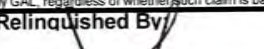
Debbie Zufelt, Reports Manager

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

Page 19 of 28

Relinquished By: 		Date: 3/22/17	Received By: Michael G. McFarland	Report to State? (Circle) Yes ☒ No ☐
Relinquished By: Michael G. McFarland Michael G. McFarland		Date: 3-22-17	Received By: Michael Valentine	ADDITIONAL REMARKS: Rush TOL to 5-day TAT
Relinquished By:		Date: 1622	Received By:	
Delivered By: (Circle One) Sampler - UPS - FedEx - Kangaroo - Other:		Temperature at receipt: 1.3°/1.5° on ice	CHECKED BY: MV	

* 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

3/22/2017

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 I 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

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

3/22/2017

Project Name:	GCC SW Baseline	Invoice To:	GCC Energy, LLC
Project Number:	GCC SW Baseline	Invoice Bid:	GCC SW 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 Total by CVAA	
Molybdenum Dissolved by ICPM	
Nitrate/Nitrite as N	
Oil & Grease	
pH	
Potassium Dissolved by ICP	
SAR	
Selenium Dissolved by ICPMS	
Silica Dissolved by ICP Package	
Sodium Dissolved by ICP	
Solids, Total Dissolved (TDS)	
Solids, Total Suspended (TSS)	
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	

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Green Analytical Laboratories

Attn: Debbie Zufelt
 75 Suttle Street
 Durango, CO 81303

Report: 385130
 Priority: Immediate Written
 Status: Final
 PWS ID: Not Supplied

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3659561	1703-180-1/Well #1 Upgradient	5310 C	03/22/17 10:10	Client	03/23/17 09:15
3659562	1703-180-2/Well #2 Down	5310 C	03/22/17 12:40	Client	03/23/17 09:15
3659563	1703-180-3/MW-HGA-4	5310 C	03/22/17 11:55	Client	03/23/17 09:15
3659564	1703-180-4/Hay Gulch Upgradient	5310 C	03/22/17 11:00	Client	03/23/17 09:15
3659565	1703-180-5/Hay Gulch Down	5310 C	03/22/17 09:10	Client	03/23/17 09:15
Report Summary					

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA.

Kelly Trott Analytical Services Manager

Authorized Signature

Title

03/28/2017

Date

Client Name: Green Analytical Laboratories

Report #: 385130

Sampling Point: 1703-180-1/Well #1 Upgradient

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	3.84	mg/L	---	03/24/17 08:28	3659561

Sampling Point: 1703-180-2/Well #2 Down

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	3.52	mg/L	---	03/24/17 08:47	3659562

Sampling Point: 1703-180-3/MW-HGA-4

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	4.54	mg/L	---	03/24/17 09:05	3659563

Sampling Point: 1703-180-4/Hay Gulch Upgradient

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	2.49	mg/L	---	03/24/17 09:24	3659564

Sampling Point: 1703-180-5/Hay Gulch Down

PWS ID: Not Supplied

General Chemistry									
Analyte ID #	Analyte	Method	Reg Limit	MRL†	Result	Units	Preparation Date	Analyzed Date	EEA ID #
---	Total Organic Carbon (TOC)	5310 C	---	0.500	2.31	mg/L	---	03/24/17 09:42	3659565

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.



Eaton Analytical

110 S. Hill Street
South Bend, IN 46617
T: 1.800.332.4345
F: 1.574.233.8207

Order #

316812

Batch #

385130

www.eatonanalytical.com

CHAIN OF CUSTODY RECORD

Page 1 of 1

Shaded area for EEA use only

REPORT TO:		SAMPLER (Signature)		PWS ID #	STATE (sample origin)	PROJECT NAME	PO#	# OF CONTAINERS	MATRIX CODE	TURNAROUND TIME		
Green Analytical Laboratories 75 Suttle St. Durango, CO 81303		Jessica Luna				GCC Energy	GA-17					
BILL TO:		COMPLIANCE MONITORING		Yes	No	POPULATION SERVED	SOURCE WATER					
same					X							
LAB Number	COLLECTION				SAMPLING SITE	TEST NAME	SAMPLE REMARKS	CHLORINATED				
	DATE	TIME	AM	PM				YES	NO			
1	3659561	3-22-17	1010	X	Well #1 Upgradient	TOC	PHK 2	1703-180-1		3	GW	IW
2	S62		1240	X	Well #2 Downgradient			-2				
3	S63		1155	X	MW-HGA-4			-3				
4	S64		1100	X	Hay Gulch Ditch Upgradient			-4			SW	
5	S65		910	X	Downgradient			-5			SW	
6												
7												
8												
9												
10												
11												
12												
13												
14												

Immediate Written!

RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signature)	DATE	TIME	LAB RESERVES THE RIGHT TO RETURN UNUSED PORTIONS OF NON-AQUEOUS SAMPLES TO CLIENT
Michael Valente	3-21-17	1600	UPS			
		AM PM				
RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED BY:(Signature)	DATE	TIME	LAB COMMENTS
UPS						
		AM PM				
RELINQUISHED BY:(Signature)	DATE	TIME	RECEIVED FOR LABORATORY BY:	DATE	TIME	CONDITIONS UPON RECEIPT (check one):
			KDunn	3-23-17	0915	___ Iced: Wet/Blue ___ Ambient 2.8 °C Upon Receipt ___ N/A
		AM PM				
MATRIX CODES:		TURN-AROUND TIME (TAT) - SURCHARGES				
DW-DRINKING WATER		SW = Standard Written: (15 working days) 0%				
RW-REAGENT WATER		RV* = Rush Verbal: (5 working days) 50%				
GW-GROUND WATER		RW* = Rush Written: (5 working days) 75%				
EW-EXPOSURE WATER						
SW-SURFACE WATER						
PW-POOL WATER						
WW-WASTE WATER						
		* Please call, expedited service not available for all testing				
		IV* = Immediate Verbal: (3 working days) 100%				
		IW* = Immediate Written: (3 working days) 125%				
		SP* = Weekend, Holiday CALL				
		STAT* = Less than 48 hours CALL				
		Samples received unannounced with less than 48 hours holding time remaining may be subject to additional charges.				
		05-LO-F0435 Issue 4.0 Effective Date: 2014-05-01				

Page 6 of 7

Sample analysis will be provided according to the standard EEA/Water Services Terms, which are available upon request. Any other terms proposed by Customer are deemed material alterations and are rejected unless expressly agree to in writing by EEA.

Green Analytical Laboratories
 75 Suttle Street
 Durango, CO 81303
 Phone: 970-247-4220
 FAX: 970-247-4227

PURCHASE REQUEST

Supplier: Eaton

Phone: _____
 FAX: _____
 Account# _____
 Reference: _____
 Contact: _____

PO Number: GA 17-120
 Date Ordered: 3-22-17
 Ordered By: _____
 Date Required: _____

Part Number / Analysis	Description	Quantity	Unit Price	Per	Date Rec'd	Insp By	Comments
	TOC	1	★ 3 DAY		RUSH	★	1703-167-01
	TOC	5	★	↓		★	1703-180, 01-05

Total: \$ _____

Dept. Approval: M. Valentine

Date: 3-22-17

Page ____ of ____