STATE OF COLORADO

Lennberg - DNR, Patrick <patrick.lennberg@state.co.us>

GCC Rio Grande - Pueblo Plant - Submittal of 2nd Quarter Groundwater Monitoring Data - M2002004

1 message

Furman Diana <dfurman@gcc.com> Tue, Sep 10, 2019 at 12:56 PM
To: "Patrick Lennberg - DNR (patrick.lennberg@state.co.us)" <patrick.lennberg@state.co.us>
Cc: Lotito Gina <glotito@gcc.com>, "Bence V. Close" <bclose@closegroupllc.com>, Alarcon Alejandro <aalarcon@gcc.com>, Furman Diana <dfurman@gcc.com>

Good Afternoon Patrick,

GCC has completed a data validation and verification process for the 2nd Quarter samples collected on June 12, 2019. The laboratory report and field sampling forms are attached. After initial laboratory data review, analyses for Arsenic, Cadmium, and Lead were rerun using ICP-MS because required sample matrix dilution resulted in ICP Method Detection Limits being higher than the CO Ag Standards. Selenium analyses were also rerun to confirm concentrations that were higher than previously observed.

A field duplicate sample was collected for MW-7 and labeled with a sample ID of MW-2B. Relative Percent Differences were within generally acceptable criterion with the exception of Nitrate/Nitrite and Fluoride, which were at 30% and 57%, respectively. Nitrate/Nitrite and Fluoride for MW-7 will be flagged accordingly. Nitrate concentrations reported by ACZ were higher than those previously reported, but still well below the state standard. The Fluoride concentration reported for MW-7 is in line with prior results.

If you have any questions, please do not hesitate to contact me.

Thanks,

[DFurman Env Eng Email Sig]

3 attachments

image001.png
22K

2019 - GCC 2nd Quarter GW Monitoring Records.pdf
453K

L52436.pdf
600K

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-6

Project No:	Location:	Page
Quarterly Compliance	GCC - Pueblo	1 of 1

Date:	Weather Conditions:	Personnel:
6/12/19	P. Cloudy 65°F	B. Close, D. Furman, M. Bliahu

Comments: 2nd Quarter 2019

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech ET	6757	
pH Meter	YSI Pro 1030	18J103866	Std: 4 (7) 10 @ 22.9 °C Reading 7.0 — Slope:
pH Meter			Std: (4) 7 10 @ 22.9 °C Reading 4.0
Specific Conductance Meter	YSI Pro 1030	18J103866	Std: 1413 uS @ 25 °C Reading 1413
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____
Temperature	YSI Pro 1030	18J103866	
Other:			

Filtration: 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2	Borehole Diameter (inches): 6	Screened Interval (ft. BGL): 31.1' - 56.1'
Depth to Water (ft below MP): 46.42	Total Depth (ft): 59.55	Casing Volume (gal): 2.1 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method: Bailer, poly

Comments: Monitoring point (MP) is the top of the PVC well casing. black mark

Steel csg stickup = 2.66'
PVC csg stickup = 2.50'

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
9:50	–	46.42					
10:15	2.1	52.33	6.92	5785	15.6	Sl. Cloudy	
10:27	2.1	57.48	6.95	5956	15.8	"	
10:38	0.5	~ dry	7.07	6053	15.9	"	
14:15		57.60					
14:30		58.91					

Cummulative Volume Purged: 4.7 (gallons) 2.4 (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer, poly

Comments:

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
14:20		59	7.14	5975	17.8			

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			
14:20	125	LDPE	1	Y	HNO3	
14:20	250	LDPE	1	Y	None	
14:20	500	LDPE	1	N	None	

Field QA/QC Samples Collected (type, Sample No.):

Equipment Decontamination: DI water

Waste Disposal:

Signature of Field Personnel: Bernie Close

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-7

Project No: Quarterly Compliance | Location: GCC - Pueblo | Page 1 of 1

Date: 6/12/19 | Weather Conditions: P. Cloudy 65°F | Personnel: B. Close, D. Furman, M. Bliahu

Comments: 2nd Quarter 2019

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech ET	6757	
pH Meter	YSI Pro 1030	18J103866	Std: 4 (7) 10 @ 22.9 °C Reading 7.0 — Slope:
pH Meter			Std: (4) 7 10 @ 22.9 °C Reading 4.0
Specific Conductance Meter	YSI Pro 1030	18J103866	Std: 1413 uS @ 25 °C Reading 1413
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____
Temperature	YSI Pro 1030	18J103866	
Other:			

Filtration: 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2 | Borehole Diameter (inches): 6 | Screened Interval (ft. BGL): 30.4' - 55.4'

Depth to Water (ft below MP): 33.89 | Total Depth (ft): 59.37 | Casing Volume (gal): 4.1 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method: Bailer, poly

Comments: Monitoring point (MP) is the top of the PVC well casing. black mark

Steel csg stickup = 2.84'
PVC csg stickup = 2.64'

6/12 Date/Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
10:45	—	33.89					
11:07	4.1	35.22	6.94	6013	16.1	cloudy - tan	
11:26	4.2	36.14	6.98	6037	16.2	cloudy - tan	
11:46	4.1	35.92	6.99	5949	17.1	cloudy - tan	

Cummulative Volume Purged: 12.4 (gallons) 3.02 (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer, poly

Comments:

SAMPLING MEASUREMENTS:

6/12 Date/Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
12:00	34.90	58.4	6.95	5997	18.0			Submittal duplicate cs
								MW-2B @ 12:30 time

SAMPLE HANDLING:

6/12 Date/Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments
12:00	125	LDPE	1	Y	HNO3	
12:00	250	LDPE	1	Y	None	
12:00	500	LDPE	1	N	None	

Field QA/QC Samples Collected (type, Sample No.): Field duplicate MW-2B 12:30

Equipment Decontamination: DI water

Waste Disposal:

Signature of Field Personnel: Bruce Close

GCC RIO GRANDE, INC. Pueblo, CO

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Revised Analytical Report

July 03, 2019

Report to:
Diana Furman
GCC Rio Grande
3372 Lime Road
Pueblo, CO 81004

Bill to:
Diana Furman
GCC Rio Grande
3372 Lime Road
Pueblo, CO 81004

cc: Bence Close

Project ID:
ACZ Project ID: L52436

Diana Furman:

Enclosed are revised analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on June 13, 2019 and originally reported on July 03, 2019. Refer to the case narrative for an explanation of the changes. This project was assigned to ACZ's project number, L52436. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L52436. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after August 02, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically less than $10/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical reports for five years.

If you have any questions or other needs, please contact your Project Manager.

Bill Lane has reviewed and approved this report

GCC Rio Grande
Project ID:
Sample ID: MW-7

ACZ Sample ID: ***L52436-01***
Date Sampled: *06/12/19 12:00*
Date Received: *06/13/19*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5		U		mg/L	0.3	1	06/27/19 0:48	aeh
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	07/01/19 20:17	bsu
Arsenic, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	06/27/19 0:48	aeh
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:48	aeh
Boron, dissolved	M200.7 ICP	5	0.4	B		mg/L	0.1	0.5	06/27/19 0:48	aeh
Cadmium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/01/19 20:17	bsu
Cadmium, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.1	06/27/19 0:48	aeh
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:48	aeh
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:48	aeh
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:48	aeh
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	06/27/19 0:48	aeh
Lead, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0005	0.003	07/01/19 20:17	bsu
Lead, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	0.8	06/27/19 0:48	aeh
Lithium, dissolved	M200.7 ICP	5	0.62			mg/L	0.04	0.2	06/27/19 0:48	aeh
Manganese, dissolved	M200.7 ICP	5	0.14	B		mg/L	0.05	0.3	06/27/19 0:48	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/17/19 16:08	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	06/27/19 0:48	aeh
Selenium, dissolved	M200.8 ICP-MS	5	0.0087			mg/L	0.0005	0.001	07/01/19 20:17	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	06/27/19 0:48	aeh
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 14:26	dcm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.5			mg/L	0.1	0.4	06/18/19 15:04	enb
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		1.73			mg/L	0.02	0.1	07/03/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	1.74			mg/L	0.02	0.1	06/13/19 21:35	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.01	B	*	mg/L	0.01	0.05	06/13/19 21:35	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	5700			mg/L	100	200	06/18/19 15:28	enb

GCC Rio Grande
Project ID:
Sample ID: MW-2B

ACZ Sample ID: ***L52436-02***
Date Sampled: *06/12/19 12:30*
Date Received: *06/13/19*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5		U		mg/L	0.3	1	06/27/19 0:51	aeh
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	07/01/19 20:19	bsu
Arsenic, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	06/27/19 0:51	aeh
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:51	aeh
Boron, dissolved	M200.7 ICP	5	0.4	B		mg/L	0.1	0.5	06/27/19 0:51	aeh
Cadmium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	07/01/19 20:19	bsu
Cadmium, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.1	06/27/19 0:51	aeh
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:51	aeh
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:51	aeh
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:51	aeh
Iron, dissolved	M200.7 ICP	5	0.2	B		mg/L	0.2	0.4	06/27/19 0:51	aeh
Lead, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0005	0.003	07/01/19 20:19	bsu
Lead, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	0.8	06/27/19 0:51	aeh
Lithium, dissolved	M200.7 ICP	5	0.61			mg/L	0.04	0.2	06/27/19 0:51	aeh
Manganese, dissolved	M200.7 ICP	5	0.14	B		mg/L	0.05	0.3	06/27/19 0:51	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/17/19 16:10	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	06/27/19 0:51	aeh
Selenium, dissolved	M200.8 ICP-MS	5	0.0084			mg/L	0.0005	0.001	07/01/19 20:19	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	06/27/19 0:51	aeh
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 14:29	dcm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.9		*	mg/L	0.1	0.4	06/19/19 8:45	enb
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		1.28			mg/L	0.02	0.1	07/03/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	1.28			mg/L	0.02	0.1	06/13/19 21:36	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	06/13/19 21:36	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	5600	H	*	mg/L	40	80	06/24/19 17:52	nmc

GCC Rio Grande
Project ID:
Sample ID: MW-6

ACZ Sample ID: ***L52436-03***
Date Sampled: *06/12/19 14:20*
Date Received: *06/13/19*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	0.5	B		mg/L	0.3	1	06/27/19 0:54	aeh
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	07/01/19 20:20	bsu
Arsenic, dissolved	M200.7 ICP	5		U		mg/L	0.2	1	06/27/19 0:54	aeh
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:54	aeh
Boron, dissolved	M200.7 ICP	5	0.5			mg/L	0.1	0.5	06/27/19 0:54	aeh
Cadmium, dissolved	M200.8 ICP-MS	5	0.0003	B		mg/L	0.0003	0.001	07/01/19 20:20	bsu
Cadmium, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.1	06/27/19 0:54	aeh
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:54	aeh
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:54	aeh
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 0:54	aeh
Iron, dissolved	M200.7 ICP	5	0.8			mg/L	0.2	0.4	06/27/19 0:54	aeh
Lead, dissolved	M200.8 ICP-MS	5	0.0022	B		mg/L	0.0005	0.003	07/01/19 20:20	bsu
Lead, dissolved	M200.7 ICP	5		U	*	mg/L	0.2	0.8	06/27/19 0:54	aeh
Lithium, dissolved	M200.7 ICP	5	0.52			mg/L	0.04	0.2	06/27/19 0:54	aeh
Manganese, dissolved	M200.7 ICP	5	0.97			mg/L	0.05	0.3	06/27/19 0:54	aeh
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	06/17/19 16:11	slm
Nickel, dissolved	M200.7 ICP	5	0.15	B		mg/L	0.04	0.2	06/27/19 0:54	aeh
Selenium, dissolved	M200.8 ICP-MS	5	0.0966			mg/L	0.0005	0.001	07/01/19 20:20	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	06/27/19 0:54	aeh
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	06/27/19 14:32	dcm

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.6		*	mg/L	0.1	0.4	06/19/19 9:00	enb
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		12			mg/L	0.2	1	07/03/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	10	12.1		*	mg/L	0.2	1	06/13/19 21:57	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.03	B	*	mg/L	0.01	0.05	06/13/19 21:38	pjb
Residue, Filterable (TDS) @180C	SM2540C	5	5620			mg/L	100	200	06/18/19 15:36	enb

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
Lower	Lower Recovery Limit, in % (except for LCSS, mg/Kg)
MDL	Method Detection Limit. Same as Minimum Reporting Limit unless omitted or equal to the PQL (see comment #5). Allows for instrument and annual fluctuations.
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term "minimum level".
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Recovered amount of the true value or spike added, in % (except for LCSS, mg/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

AS	Analytical Spike (Post Digestion)	*LCSWD*	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	*LFB*	Laboratory Fortified Blank
CCB	Continuing Calibration Blank	*LFM*	Laboratory Fortified Matrix
CCV	Continuing Calibration Verification standard	*LFMD*	Laboratory Fortified Matrix Duplicate
DUP	Sample Duplicate	*LRB*	Laboratory Reagent Blank
ICB	Initial Calibration Blank	*MS*	Matrix Spike
ICV	Initial Calibration Verification standard	*MSD*	Matrix Spike Duplicate
ICSAB	Inter-element Correction Standard - A plus B solutions	*PBS*	Prep Blank - Soil
LCSS	Laboratory Control Sample - Soil	*PBW*	Prep Blank - Water
LCSSD	Laboratory Control Sample - Soil Duplicate	*PQV*	Practical Quantitation Verification standard
LCSW	Laboratory Control Sample - Water	*SDL*	Serial Dilution

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method or calibration procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Spikes/Fortified Matrix	Determines sample matrix interferences, if any.
Standard	Verifies the validity of the calibration.

ACZ Qualifiers (Qual)

B	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
H	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
L	Target analyte response was below the laboratory defined negative threshold.
U	The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

Method References

(1) EPA 600/4-83-020. Methods for Chemical Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-93-100. Methods for the Determination of Inorganic Substances in Environmental Samples, August 1993.
(3) EPA 600/R-94-111. Methods for the Determination of Metals in Environmental Samples - Supplement I, May 1994.
(4) EPA SW-846. Test Methods for Evaluating Solid Waste.
(5) Standard Methods for the Examination of Water and Wastewater.

Comments

(1) QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(2) Soil, Sludge, and Plant matrices for Inorganic analyses are reported on a dry weight basis.
(3) Animal matrices for Inorganic analyses are reported on an "as received" basis.
(4) An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.
(5) If the MDL equals the PQL or the MDL column is omitted, the PQL is the reporting limit.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: ***L52436***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Aluminum, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.937	mg/L	97	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.15	0.15			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	1.0006		1.013	mg/L	101	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	1.0006	U	1.046	mg/L	105	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	1.0006	U	1.033	mg/L	103	85	115	1	20	

Arsenic, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	4		3.84	mg/L	96	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.12	0.12			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	1.001		1.067	mg/L	107	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	1.001	U	1.115	mg/L	111	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	1.001	U	1.095	mg/L	109	85	115	2	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476006													
WG476006ICV	ICV	07/01/19 20:11	MS190630-2	.05		.04845	mg/L	97	90	110			
WG476006ICB	ICB	07/01/19 20:13				U	mg/L		-0.00044	0.00044			
WG476006LFB	LFB	07/01/19 20:15	MS190606-3	.05005		.04997	mg/L	100	85	115			
L52621-02AS	AS	07/01/19 20:26	MS190606-3	.05005	U	.04757	mg/L	95	70	130			
L52621-02ASD	ASD	07/01/19 20:28	MS190606-3	.05005	U	.05105	mg/L	102	70	130	7	20	

Beryllium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.956	mg/L	98	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.03	0.03			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.4985		.526	mg/L	106	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.4985	U	.534	mg/L	107	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.4985	U	.532	mg/L	107	85	115	0	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		2.044	mg/L	102	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.06	0.06			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5005		.542	mg/L	108	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5005	.06	.632	mg/L	114	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5005	.06	.613	mg/L	110	85	115	3	20	

GCC Rio Grande

ACZ Project ID: ***L52436***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Cadmium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.9098	mg/L	95	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.024	0.024			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.502		.5113	mg/L	102	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.502	U	.5261	mg/L	105	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.502	U	.5172	mg/L	103	85	115	2	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476006													
WG476006ICV	ICV	07/01/19 20:11	MS190630-2	.05		.047927	mg/L	96	90	110			
WG476006ICB	ICB	07/01/19 20:13				U	mg/L		-0.00011	0.00011			
WG476006LFB	LFB	07/01/19 20:15	MS190606-3	.05005		.049063	mg/L	98	85	115			
L52621-02AS	AS	07/01/19 20:26	MS190606-3	.05005	.00007	.046911	mg/L	94	70	130			
L52621-02ASD	ASD	07/01/19 20:28	MS190606-3	.05005	.00007	.050177	mg/L	100	70	130	7	20	

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.98	mg/L	99	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.03	0.03			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5025		.54	mg/L	107	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5025	U	.551	mg/L	110	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5025	U	.551	mg/L	110	85	115	0	20	

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2.004		1.962	mg/L	98	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.03	0.03			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5005		.5	mg/L	100	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5005	U	.508	mg/L	101	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5005	U	.504	mg/L	101	85	115	1	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.931	mg/L	97	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.03	0.03			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5005		.52	mg/L	104	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5005	U	.54	mg/L	108	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5005	U	.54	mg/L	108	85	115	0	20	

GCC Rio Grande

ACZ Project ID: ***L52436***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474768													
WG474768ICV	ICV	06/18/19 9:45	WC190617-1	2.004		1.96	mg/L	98	90	110			
WG474768ICB	ICB	06/18/19 9:53				U	mg/L		-0.3	0.3			
WG474768LFB1	LFB	06/18/19 10:00	WC190409-6	5.01		4.88	mg/L	97	90	110			
L52434-01AS	AS	06/18/19 14:14	WC190409-6	5.01	.6	5.47	mg/L	97	90	110			
L52434-01ASD	ASD	06/18/19 14:26	WC190409-6	5.01	.6	5.42	mg/L	96	90	110	1	20	
WG474768LFB2	LFB	06/18/19 14:48	WC190409-6	5.01		5.17	mg/L	103	90	110			
WG474862													
WG474862ICV	ICV	06/19/19 7:55	WC190617-1	2.004		2.05	mg/L	102	90	110			
WG474862ICB	ICB	06/19/19 7:59				U	mg/L		-0.3	0.3			
WG474862LFB1	LFB	06/19/19 8:05	WC190409-6	5.01		4.93	mg/L	98	90	110			
L52436-02AS	AS	06/19/19 8:49	WC190409-6	5.01	.9	5.21	mg/L	86	90	110			M2
L52436-02ASD	ASD	06/19/19 8:52	WC190409-6	5.01	.9	5.16	mg/L	85	90	110	1	20	M2
WG474862LFB2	LFB	06/19/19 12:04	WC190409-6	5.01		5.45	mg/L	109	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.89	mg/L	95	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.09	0.09			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	1.0018		1.042	mg/L	104	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	1.0018	.07	1.148	mg/L	108	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	1.0018	.07	1.14	mg/L	107	85	115	1	20	

Lead, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	4		4.038	mg/L	101	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.09	0.09			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	1.0017		1.119	mg/L	112	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	1.0017	U	1.163	mg/L	116	85	115			MA
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	1.0017	U	1.14	mg/L	114	85	115	2	20	

Lead, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476006													
WG476006ICV	ICV	07/01/19 20:11	MS190630-2	.05		.04931	mg/L	99	90	110			
WG476006ICB	ICB	07/01/19 20:13				U	mg/L		-0.00022	0.00022			
WG476006LFB	LFB	07/01/19 20:15	MS190606-3	.05005		.0498	mg/L	100	85	115			
L52621-02AS	AS	07/01/19 20:26	MS190606-3	.05005	U	.04727	mg/L	94	70	130			
L52621-02ASD	ASD	07/01/19 20:28	MS190606-3	.05005	U	.05081	mg/L	102	70	130	7	20	

GCC Rio Grande

ACZ Project ID: ***L52436***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		2.045	mg/L	102	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.024	0.024			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	1.003		1.062	mg/L	106	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	1.003	.02	1.146	mg/L	112	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	1.003	.02	1.146	mg/L	112	85	115	0	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.917	mg/L	96	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.03	0.03			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.4995		.521	mg/L	104	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.4995	.01	.547	mg/L	108	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.4995	.01	.546	mg/L	107	85	115	0	20	

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474526													
WG474526ICV	ICV	06/17/19 14:12	HG190528-3	.004995		.00502	mg/L	101	95	105			
WG474526ICB	ICB	06/17/19 14:13				U	mg/L		-0.0002	0.0002			
WG474603													
WG474603LRB	LRB	06/17/19 16:04				U	mg/L		-0.00044	0.00044			
WG474603LFB	LFB	06/17/19 16:05	HG190611-3	.002002		.00198	mg/L	99	85	115			
L52436-01LFM	LFM	06/17/19 16:09	HG190611-3	.002002	U	.0019	mg/L	95	85	115			
L52436-01LFMD	LFMD	06/17/19 16:10	HG190611-3	.002002	U	.00188	mg/L	94	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2.004		1.9038	mg/L	95	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.024	0.024			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5		.5155	mg/L	103	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5	U	.5327	mg/L	107	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5	U	.5238	mg/L	105	85	115	2	20	

Nitrate/Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474529													
WG474529ICV	ICV	06/13/19 21:11	WI190508-3	2.416		2.484	mg/L	103	90	110			
WG474529ICB	ICB	06/13/19 21:12				U	mg/L		-0.02	0.02			
WG474529LFB	LFB	06/13/19 21:17	WI190405-9	2		2.006	mg/L	100	90	110			
L52405-01AS	AS	06/13/19 21:19	WI190405-9	2	.68	2.662	mg/L	99	90	110			
L52406-01DUP	DUP	06/13/19 21:22			.48	.484	mg/L				1	20	
L52436-03AS	AS	06/13/19 21:58	WI190405-9	20	12.1	32.16	mg/L	100	90	110			
L52437-01DUP	DUP	06/13/19 22:05			.05	.051	mg/L				2	20	RA

GCC Rio Grande

ACZ Project ID: ***L52436***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Nitrite as N, dissolved M353.2 - Automated Cadmium Reduction

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474529													
WG474529ICV	ICV	06/13/19 21:11	WI190508-3	.609		.627	mg/L	103	90	110			
WG474529ICB	ICB	06/13/19 21:12				U	mg/L		-0.01	0.01			
WG474529LFB	LFB	06/13/19 21:17	WI190405-9	1		.988	mg/L	99	90	110			
L52405-01AS	AS	06/13/19 21:19	WI190405-9	1	U	.639	mg/L	64	90	110			M2
L52406-01DUP	DUP	06/13/19 21:22			U	U	mg/L				0	20	RA
L52436-03AS	AS	06/13/19 21:39	WI190405-9	1	.03	1.019	mg/L	99	90	110			
L52437-01DUP	DUP	06/13/19 21:41			U	U	mg/L				0	20	RA

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG474831													
WG474831PBW	PBW	06/18/19 15:00				U	mg/L		-40	40			
WG474831LCSW	LCSW	06/18/19 15:02	PCN58475	260		266	mg/L	102	80	120			
L52436-01DUP	DUP	06/18/19 15:31			5700	5730	mg/L				1	10	
L52446-02DUP	DUP	06/18/19 16:00			94	102	mg/L				8	10	RA
WG475416													
WG475416PBW	PBW	06/24/19 17:45				U	mg/L		-40	40			
WG475416LCSW	LCSW	06/24/19 17:47	PCN58473	260		262	mg/L	101	80	120			
L52655-05DUP	DUP	06/24/19 18:16			102	104	mg/L				2	10	RA

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG476006													
WG476006ICV	ICV	07/01/19 20:11	MS190630-2	.05		.04842	mg/L	97	90	110			
WG476006ICB	ICB	07/01/19 20:13				U	mg/L		-0.00022	0.00022			
WG476006LFB	LFB	07/01/19 20:15	MS190606-3	.05005		.04877	mg/L	97	85	115			
L52621-02AS	AS	07/01/19 20:26	MS190606-3	.05005	U	.04817	mg/L	96	70	130			
L52621-02ASD	ASD	07/01/19 20:28	MS190606-3	.05005	U	.0516	mg/L	103	70	130	7	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475608													
WG475608ICV	ICV	06/27/19 0:08	II190613-1	2		1.9558	mg/L	98	95	105			
WG475608ICB	ICB	06/27/19 0:14				U	mg/L		-0.015	0.015			
WG475608LFB	LFB	06/27/19 0:26	II190606-4	.5005		.5115	mg/L	102	85	115			
L52435-04AS	AS	06/27/19 0:42	II190606-4	.5005	U	.5283	mg/L	106	85	115			
L52435-04ASD	ASD	06/27/19 0:45	II190606-4	.5005	U	.5233	mg/L	105	85	115	1	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG475741													
WG475741ICV	ICV	06/27/19 14:02	II190529-1	2		1.904	mg/L	95	95	105			
WG475741ICB	ICB	06/27/19 14:08				U	mg/L		-0.03	0.03			
WG475741LFB	LFB	06/27/19 14:20	II190606-4	.50075		.507	mg/L	101	85	115			
L52457-01AS	AS	06/27/19 14:45	II190606-4	.50075	U	.52	mg/L	104	85	115			
L52457-01ASD	ASD	06/27/19 14:48	II190606-4	.50075	U	.513	mg/L	102	85	115	1	20	

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Inorganic Extended Qualifier Report

GCC Rio Grande ACZ Project ID: ***L52436***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L52436-01	WG475608	Lead, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG474529	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L52436-02	WG474862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG475608	Lead, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG474529	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG475416	Residue, Filterable (TDS) @180C	SM2540C	H2	Initial analysis within holding time. Reanalysis for the required dilution was past holding time.
			SM2540C	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
L52436-03	WG474862	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG475608	Lead, dissolved	M200.7 ICP	MA	Recovery for either the spike or spike duplicate was outside of the acceptance limits; the RPD was within the acceptance limits.
	WG474529	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

GCC Rio Grande ACZ Project ID: ***L52436***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

GCC Rio Grande

ACZ Project ID: L52436
Date Received: 06/13/2019 12:18
Received By:
Date Printed: 6/14/2019

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?	X		

A change was made in the Matrix Line 1 section prior to ACZ custody.

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
3050	2.2	<=6.0	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

GCC Rio Grande

ACZ Project ID:	L52436
Date Received:	06/13/2019 12:18
Received By:	
Date Printed:	6/14/2019

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L52436

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Diana Furman	Address: 3372 Lime Rd
Company: GCC Rio Grande	Pueblo CO 81004
E-mail: dfurman@gcc.com	Telephone: 719-647-6861

Copy of Report to:

Name: Bence Close	E-mail: bclose@closegroupllc.com
Company: Close Consulting Group LLC	Telephone: 970-290-6239

Invoice to:

Name: Diana Furman	Address: 3372 Lime Rd
Company: GCC Rio Grande	Pueblo, CO 81004
E-mail: dfurman@gcc.com	Telephone: 719 647-6861

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: Diana Furman / Bence Close **Sampler's Site Information** **State** CO **Zip code** 81004 **Time Zone** MDT

***Sampler's Signature:** Bence Close

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: GW-Compliance 3/27/2019

PO#:

Reporting state for compliance testing: CO

Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers								
				Per attached quote but no pH							
MW-7	6/12/19 12:00	GW	3								
MW-2B	6/12/19 12:30	GW	3								
MW-6	6/12/19 14:20	GW	3								

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Diana Furman	6/12/19 18:19	UPS #487	6/13/19 12:18

L52436 Chain of Custod

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Quote

Diana Furman
GCC Rio Grande
3372 Lime Road
Pueblo, CO 81004

3/27/2019

Quote Number: GW-COMPLIANCE

Matrix: Groundwater Quarterly Groundwater Compliance Monitoring: 2019 4 samples Qtr.

Parameter	Method	Detection Limit	Cost/Sample
Metals Analysis			
Dissolved Metals by ICP			$85.00
Aluminum, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Arsenic, dissolved	M200.7 ICP	0.04 mg/L	$0.00
Beryllium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Boron, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Cadmium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Chromium, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Cobalt, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Copper, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Iron, dissolved	M200.7 ICP	0.02 mg/L	$0.00
Lead, dissolved	M200.7 ICP	0.03 mg/L	$0.00
Lithium, dissolved	M200.7 ICP	0.008 mg/L	$0.00
Manganese, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Mercury, dissolved	M245.1 CVAA	0.0002 mg/L	$22.00
Nickel, dissolved	M200.7 ICP	0.008 mg/L	$0.00
Selenium, dissolved	M200.8 ICP-MS	0.0001 mg/L	$30.00
Vanadium, dissolved	M200.7 ICP	0.005 mg/L	$0.00
Zinc, dissolved	M200.7 ICP	0.01 mg/L	$0.00
Misc.			
Electronic Data Deliverable			$0.00
Quality Control Summary			$0.00
Wet Chemistry			
Fluoride	SM4500F-C	0.05 mg/L	$11.00
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2	Calculation	$0.00
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Redu	0.02 mg/L	$11.00
Nitrite as N, dissolved	M353.2 - Automated Cadmium Redu	0.01 mg/L	$11.00
~~pH (lab)~~	~~SM4500H+ B~~	~~0.1 S~~	~~$0.00~~
Residue, Filterable (TDS) @180C	SM2540C	10 mg/L	$14.00
		Cost/Sample:	**$184.00**

This quote is based on a Standard Turn Around Time (TAT) of approximately 14 days (10 business days). TAT may vary with seasonal heavy workload. Please contact your PM if rush TAT is required. Rush TAT must be pre-approved prior to sample shipment to assure that due dates can be met. Pricing includes standard reporting formats and standard ACZ EDDs. All projects received are subject to a $125.00 Minimum Invoice Charge. Please note that method detection limits are estimates and may be elevated depending on sample matrix that require dilution. Pricing includes coolers, bottles pre-preserved as needed, labels, COCs and ice-packs shipped to your site or office via UPS ground. Return shipping is the responsibility of the client. Please allow ample time for your bottles to arrive.

REPAD.09.06.05.01 S/ tjv D/ ## P/