

TECHNICAL MEMORANDUM

To	Diana Furman	Ref #	2020-13-04-TM
CC		Date	1/30/2020
From	Landon Beck		
Subject	GCC Pueblo Plant 2019 Annual Groundwater Monitoring Report		

This technical memorandum serves as the annual groundwater report to the Colorado Division of Reclamation, Mining and Safety (CDRMS) for the GCC Rio Grande, Inc. (GCC) Pueblo Cement Plant and Quarry (the facility) and documenting groundwater monitoring activities, results and interpretations for 2019.

GROUNDWATER MONITORING

Monitoring was performed by GCC, or their designated contractor with coordination by GCC, as required by Technical Revisions three and seven (TR-03 and TR-07). The monitoring was performed at three environmental monitoring wells, MW-005, MW-6 and MW-7.

GROUNDWATER MONITORING LOCATIONS

In 2019 GCC monitored three groundwater monitoring wells at the facility, which are shown on the location map included as **Figure 1**:

- MW-005 completed in unconsolidated surficial sediments above bedrock at a location presumed to be downgradient of the entire facility, including both the quarry and plant.
- MW-6 completed in the Fort Hays Limestone just down-dip, and presumed to be downgradient of Mine Panel 2 and upgradient of the plant.
- MW-7 completed in the Fort Hays Limestone just down-dip, and presumed to be downgradient of Mine Panel 2 and upgradient of the plant. This well is completed across a fault in the Fort Hays Limestone that was documented when exposed during mining of Panel 2. MW-7 is located approximately 25 feet northwest of MW-6.

GROUNDWATER MONITORING DATA COLLECTION

Groundwater monitoring was conducted quarterly in 2019 at MW-6 and MW-7 and semi-annually (twice) at MW-005, as the latter has been observed dry since installation in 2008. For the wet wells MW-6 and MW-7 installed in December 2017, depth to water measurements, and field water quality parameters temperature, pH and specific conductance were documented for each monitoring event. These monitoring events also included water sample collection for submittal and analysis by an accredited environmental analytical laboratory.

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Industry-standard protocol for groundwater sample collection was utilized, specifically applying the Colorado Department of Public Health and Environment (CDPHE) Suggested Sampling Protocol for Ground Water Monitoring Wells. It is noted that this protocol is the foundation for a facility Sampling and Analysis Plan (SAP) in development for adoption in 2020 by GCC, pending submittal to and approval by CDRMS. The SAP will be the site-specific, standalone document guiding groundwater monitoring at the facility.

Groundwater was purged and sampled by means of plastic bailer for all monitoring events in 2019. Three-casing volumes were purged prior to sample collection, or otherwise the well was purged dry and revisited to collect a sample if possible, the following day. During the 2018-2019 period of record for MW-7 and MW-6, MW-6 has shown to be a very low-head, low-yield monitoring well typically resulting in a purge that evacuates the well bore. A period of several hours, if not waiting until the next day, has been required to obtain a representative water quality sample following the purge. However, MW-7, the adjacent well completed across a known Fort Hays fault, is a relatively high-head, high-yield monitoring well in which production to obtain a representative water quality sample has been adequate to date. **Table 1** includes field parameters for each sample event and **Attachment 1** is a compilation of all MW-6 and MW-7 "Groundwater Sampling Record" field forms completed by the sampler. MW-005 dry conditions have been documented by GCC in the form of semi-annual letters submitted to CDRMS for each event, which are on file under the facility DRMS permit M-2002-004 and not included here. In the future, MW-005 monitoring observations will be recorded on the facility "Groundwater Sampling Record" forms and conducted at the time of the quarter two and four MW-6 and MW-7 monitoring events and included in this annual report.

The CDRMS groundwater compliance constituents for the facility are given in **Table 1**. These constituents are required by TR-06 and represent the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission Regulation 41, the basic standards for groundwater (herein after, reference standards). GCC is specifically subject to Table 3 of that document, Agricultural Standards, CDPHE 2016.

GROUNDWATER MONITORING DATA ANALYSIS

Analytical results from water quality samples collected from MW-6 and MW-7 are presented in **Table 1**. Samples were analyzed for major ions and trace elements, and compared to reference standards. Complete analytical laboratory reports for 2019 quarters three and four are provided as **Attachment 2**. 2019 quarter one and two lab reports have been submitted to CDRMS under separate cover, April 25, 2019 and September 10, 2019, respectively.

Observed water quality in the Fort Hays Limestone at locations MW-6 and MW-7 is characterized by near neutral to neutral pH, and total dissolved solids ranging from 5,030 to 6,740 $\mu\text{S}/\text{cm}$. Generally, concentrations of analyzed constituents were less than the applicable reference standards, with two exceptions. Concentrations of manganese at MW-6 consistently exceeded the reference standard for approximately 80 percent of the samples collected at MW-6

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between 2018 and 2019. Although manganese exceeds the reference standard, the Colorado Water Quality Control Commission issued a decision that the reference standard is only applicable where pH values are less than 6.0. Because all water quality samples have a measured pH value of greater than 6.0, less emphasis is placed on the exceedance of manganese of the reference standard. Selenium exceeds the reference standard for three of seven (approaching 45%) and two of seven (approximately 30%) samples collected from MW-6 and MW-7, respectively. The occurrence and abundance of selenium in groundwater of the Fort Hays Limestone is likely attributed to naturally-occurring seleniferous minerals deposited in a marine environment. The increasing concentration trend since well installation approximately two years ago is probably due to continued natural development of the well with time, a process that is subject to factors including limited groundwater recharge and flow in fractured rock. This condition can limit the success of two-inch monitoring well development typically conducted immediately after drilling and installation. Additionally, the drilling and well completion across the observed fault system possibly created new flow paths which can be expected to create dynamic water quality conditions for some time until a new equilibrium is reached. Groundwater under hydrostatic confining pressure derived from fractures will flow from discrete fractures into the wellbore and travel within the filter pack to contact fresh rock surfaces that had not previously been exposed to groundwater, also contributing to an evolution of groundwater chemistry.

Although both MW-6 and MW-7 were completed in Fort Hays Limestone in relative close proximity to one another, differences observed in groundwater chemistry identify the mechanism for groundwater flow through faults and fracture zones, instead of continuous horizontal flowpaths. Additional monitoring wells intersecting the underlying Codell Sandstone will assist in defining site-wide and regional groundwater flow paths and provide additional basis to evaluate potential impacts from site activities.

Groundwater level data for the facility is limited to two Fort Hays Limestone monitoring wells, given the single unconsolidated overburden well MW-005 has been documented dry since installation in 2008. Of the two Fort Hays monitoring wells MW-6 and MW-7, initial evaluation of water level monitoring appears to indicate that MW-6 demonstrates that the non-faulted Fort Hays Limestone hosts a groundwater pressure regime that is derived from limited fracture networks with relatively low hydraulic conductivity and storage. However, over the course of monitoring in 2019, the static water level at MW-6 continued to increase from about 56 feet below ground surface (3/7/19) to 33 feet below ground surface (12/9/19). This is in contrast to the water level observations at MW-7, which is screened across a fault through the Fort Hays Limestone and presumably through the underlying bedrock units. The water level observed in MW-7 during 2019 was typically in the range of 15 feet higher than the level measured at MW-6, with notably greater production as observed during bailer purges. As the pressure regime continues to evolve toward a new equilibrium, superimposed over seasonal level fluctuations and quarry operations that will potentially increase direct Fort Hays Limestone groundwater recharge, continued water level monitoring and analysis will assist with future characterization. This will also be aided by additional bedrock groundwater monitoring well installation planned for 2020.

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QUALITY ASSURANCE/QUALITY CONTROL

In 2019 GCC collected and submitted one blind duplicate sample in the quarter two, three and four sampling events, which is given sample ID MW-2B. These duplicates were reported to have constituent concentrations within acceptable ranges of the named sample, which was MW-7 in quarter two and four and MW-6 in quarter three.

In 2019 quarter four, duplicate samples were collected at both MW-6 and MW-7 for comparative analysis by Origins Labs and ACZ Labs. Primarily this action was taken to evaluate the observation that selenium concentration results apparently increased only after GCC changed their primary contract water quality lab from Origins to ACZ. The results shown in **Table 1** indicate similar selenium concentrations reported by the separate labs for each well, thus suggesting an increasing selenium trend since well installation, rather than false or excessively elevated reported results by ACZ in the 2019 quarter two and three samples. Future compliance groundwater sampling will include standard submittal of 10% QA/QC blind duplicate or field blank samples per quarter (one sample for up to ten sites).

In the 2019 quarter three sample event, the MW-7 sample hold time was exceeded for nitrite/nitrate analysis. This occurred when the adjacent well MW-6 was dewatered during compliance sample well purging, forcing an extra day to collect the sample once the well adequately recovered. The nitrite/nitrate analysis hold time was not immediately recognized so both MW-6 and MW-7 samples were shipped on the same date, thus pushing the MW-7 sample one day beyond the two-day nitrite/nitrate analysis hold time. This particular hold time is now very much recognized by GCC and future compliance water samples will be shipped same day as collection for overnight delivery. That said, review of the MW-7 nitrite/nitrate results to date in **Table 1** appear to demonstrate an increasing concentration over time, specifically in nitrate. The trend appears to be coming into range with the adjacent MW-6 concentrations suggesting regardless of hold time exceedance, in this case the subject values are reasonable to meet the goal to assess baseline conditions.

One other note is that the groundwater samples submitted to ACZ Labs for 2019 quarter three were mistakenly reported on the chain of custody form to be sampled on December 9, 2019, rather than correctly as November 9, 2019. Subsequently the lab report in **Attachment 2** gives the incorrect December 9, 2019 sampling date, while the field forms in **Attachment 1** report the correct sampling date of November 9, 2019.

REFERENCES

Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Commission, 2016. Regulation No. 41, The Basic Standards for Ground Water (5 CCR 1002-41), December 30.

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Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Commission, Undated. Suggested Sampling Protocol for Ground Water Monitoring Wells.

FIGURE 1

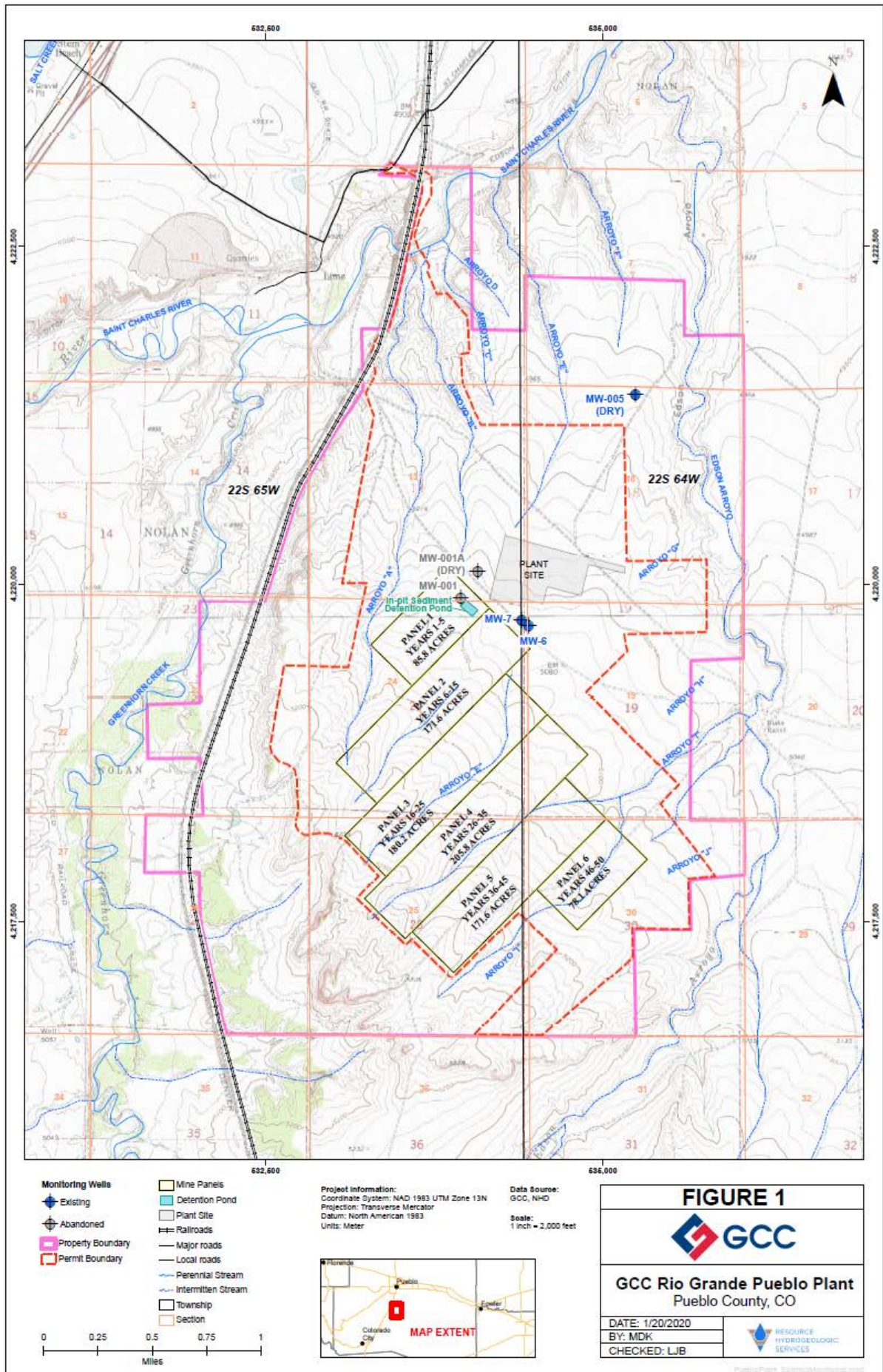


TABLE 1

TABLE 1. SUMMARY OF 2018-2019 FIELD AND LABORATORY WATER QUALITY RESULTS

GCC Rio Grande, Inc. - Pueblo

Parameter	CO State Std (Ag Use)	MW-6 Result (Origins)	MW-6 Result (Origins)	MW-6 Result (Origins)	MW-6 Result (Origins)	MW-6 Result (ACZ)	MW-6 Result (ACZ)	MW-6 Result (ACZ)	MW-6 Result (Origins Dup)	MW-7 Result (Origins)	MW-7 Result (Origins)	MW-7 Result (Origins)	MW-7 Result (Origins)	MW-7 Result (ACZ)	MW-7 Result (ACZ)	MW-7 Result (ACZ)	MW-7 Result (Origins Dup)	Origins MDL	ACZ MDL	Origins PQL	ACZ PQL	Units
Date		1/3/2018	4/27/2018	12/12/2018	3/7/2019	6/12/2019	9/19/2019	12/9/2019	12/9/2019	1/3/2018	4/27/2018	12/12/2018	3/7/2019	6/12/2019	9/19/2019	12/9/2019	12/9/2019					
FIELD																						
pH	6.5 - 8.5	6.95	7.20	7.39	DRY	7.14	7.09	6.99	6.99	6.86	6.85	6.90	6.95	6.95	6.98	7.13	7.13	--	--	--	--	pH units
Specific Conductance	--	4720	6200	6500		5975	6382	6025	6025	4765	5820	6093	6020	5997	6197	5319	5319	--	--	--	--	µS
Temperature	--	14.0	16.3	14.9		18.2	16.1	11.8	11.8	15.0	15.0	14.0	13.7	18.0	20.8	12.2	12.2	--	--	--	--	deg C
LABORATORY																						
pH (lab)	6.5 - 8.5	NA	7.22	7.40		--	--	8.10	7.40	7.35	6.66	6.86	7.67	--	--	8.10	7.40	--	--	--	--	pH units
Aluminum (d)	5000	636	ND	ND		500	ND	ND	302	1350	ND	ND	ND	ND	400	ND	ND	68	300	200	1000	µg/L
Arsenic (d)	100	ND	ND	ND		ND	0.4	ND	ND	9.49 (J)	ND	ND	ND	ND	0.3	ND	ND	5	1 / 0.2	30	5/1	µg/L
Beryllium (d)	100	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1	200/50	5	300	µg/L
Boron (d)	750	633	654	624		500	300	300	300	461	441	446	427	400	300	200	167	15	100	50	500	µg/L
Cadmium (d)	10	ND	ND	ND		0.3	0.26	ND	ND	ND	ND	ND	ND	ND	0.15	ND	ND	1	0.3 / 0.05	5	1/0.3	µg/L
Chromium (d)	100	ND	ND	ND		ND	ND	ND	2.66	ND	ND	ND	ND	ND	ND	ND	3.22	1	50	5	300	µg/L
Cobalt (d)	50	4.23 (J)	18.8	6.01		ND	50	ND	22 (J)	1.35 (J)	ND	ND	1.97 (J)	ND	ND	ND	1.74	1	50	5	300	µg/L
Copper (d)	200	6.1 (J)	ND	ND		ND	ND	ND	ND	5.55 (J)	ND	ND	ND	ND	ND	ND	ND	3	50	10	300	µg/L
Iron (d)	5000	474	55.6 (J)	ND		800	300	ND	229	1390	249	242	297	ND	800	ND	ND	30	200	100	400	µg/L
Lead (d)	100	ND	ND	3.99 (J)		2.2	0.4	ND	ND	ND	ND	ND	ND	ND	1	ND	ND	3.3	0.5 / 0.1	10	3/0.5	µg/L
Lithium (d)	2500	664	689	476		520	490	490	466	779	665	571	557	620	480	440	404	3	40	10	200	µg/L
Manganese (d)	200	591*	1140*	663*		970*	580*	490*	459*	201*	166	101	152	140	100	ND	21.2	2	50	10	300	µg/L
Mercury (d)	10	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.067	0.2	0.2	1	µg/L
Nickel (d)	200	28.9	68.8	17.1		150	130	110	87.7	16.3	6.07	3.59 (J)	8.00	ND	ND	ND	20.1	1.5	40	5	200	µg/L
Selenium (d)	20	ND	ND	6.19 (J)		96.6*	140*	88*	106*	ND	ND	ND	ND	8.7	76.2*	90.3*	99.3*	6	0.5/0.1	30	1/0.3	µg/L
Vanadium (d)	100	ND	ND	1.16 (J)		ND	ND	ND	ND	2.3 (J)	ND	ND	ND	ND	ND	ND	ND	1	30	5	100	µg/L
Zinc (d)	2000	24.8	ND	8.99 (J)		ND	ND	0.02	17.6	26.7	ND	10.2	9.56	ND	ND	ND	9.11	3.3	50	10	300	µg/L
Total Dissolved Solids	--	NS	5030	NA		5620	5860	5460	5690	5510	5270	NA	5640	5700	6740	5320	5230	14.3	100/40	14.3	200/80	mg/L
Fluoride (d)	2	NS	ND	ND		0.6	0.6	0.8	ND	0.415 (J)	ND	ND	0.32 (J)	0.5**	0.5	0.5	ND	1	0.1	1	0.4	mg/L
Nitrite (d)	10	NS	ND	ND		0.03	0.08	0.02	ND	ND	ND	ND	ND	0.01	0.02 (H, J)	0.08	ND	1	0.01	1	0.05	mg/L
N Nitrite & Nitrate (d)	100	ND	ND	ND		12.1	11.1	8.12	8.83	ND	ND	ND	0.0144	1.74**	10.1 (H)	14.3	16.2	0.02	0.02/0.1	0.02	0.1/0.5	mg/L

Notes:

* Exceeds CO State Agricultural Use Standard

** Exceeds or equals 2019 SAP field duplicate comparison criterion

(d) = dissolved

(J) = Result reported greater than the MDL but less than the PQL

(H) = Analysis exceeded method hold time

Dup = Duplicate Sample

ND = Not Detected above MDL

NA = Not Analyzed (lab error)

NS = Not Sufficient sample volume

Pre-2nd quarter 2019 laboratory analyses by Origins Laboratory; Denver, CO. 2nd quarter to present laboratory analyses by ACZ Laboratories, Steamboat, CO

Where two MDLs or PQLs are listed for ACZ, the first represents June 2019 and the second represents September 2019

ATTACHMENT 1

$\frac{3}{8}$

GROUNDWATER SAMPLING RECORD					SAMPLE No. MW-7			
Project No: 06-001			Location: GCC Pueblo Plant		Page 1 of 1			
Date: 3/7/19		Weather Conditions: Cloudy 40°F		Personnel: B. Close / D. Furman / D. Bemis				
Comments: 1st Quarter 2019								
INSTRUMENTS USED								
Instrument	Manufacturer/Model	Serial No.	Calibration					
Water Level Probe	Geotech ET	6757						
pH Meter	YSI Pro 1030	18J103866	Std: 4.0 10 @ 18.8 °C Reading 7.0		Slope:			
pH Meter			Std: 7.0 10 @ 18.8 °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): 40.79		Total Depth (ft): 59.37		Casing Volume (gal): 2.97 (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								
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	
3/7 930	-	40.79						
1020	3.0	41.85	6.88	5730	13.3	Sl. cloudy gray		
1040	3.0	42.26	6.86	5975	13.8	Sl. cloudy gray		
1100	3.0	42.35	6.88	6045	13.9	Sl. cloudy gray		
Cumulative Volume Purged: 9 (gallons) 3 (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
3/7 1105	42.35	55	6.95	6020	13.7			
SAMPLE HANDLING:								
Date/Time	Volume (ml)	Bottle Composition	Quantity	Filtered (Y/N)	Preserved (type)	Comments		
3/7 1105	250	LDPE	1	Y	HNO3			
1105	250	LDPE	1	N	H2SO4			
1105	250	LDPE	2	N	None			
1105	500	LDPE	1	N	None			
Field QA/QC Samples Collected (type, Sample No.):								
Equipment Decontamination: DI water								
Waste Disposal: Ground surface - purge water								
Signature of Field Personnel: B. Close					GCC RIO GRANDE, INC. Pueblo, CO			

GROUNDWATER SAMPLING RECORD						SAMPLE No. <u>MW-6</u>	
Project No: <u>Quarterly Compliance</u>			Location: <u>GCC - Pueblo</u>			Page <u>1</u> of <u>1</u>	
Date: <u>6/12/19</u>		Weather Conditions: <u>P. Cloudy 65°F</u>			Personnel: <u>B. Chase, D. Furman, M. Blichu</u>		
Comments: <u>2nd Quarter 2019</u>							
INSTRUMENTS USED							
Instrument	Manufacturer/Model	Serial No.	Calibration				
Water Level Probe	<u>Geotech ET</u>	<u>6757</u>					
pH Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: 4 <u>7</u> 10 @ <u>22.7</u> °C Reading <u>7.0</u> Slope:				
pH Meter			Std: <u>4</u> 7 10 @ <u>22.7</u> °C Reading <u>4.0</u>				
Specific Conductance Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>				
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____				
Temperature	<u>YSI Pro 1030</u>	<u>18J103866</u>					
Other: _____							
Filtration <u>0.45 micron in-line high capacity disposable filter.</u>							
WELL PURGING INFORMATION							
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>31.1' - 56.1'</u>			
Depth to Water (ft below MP): <u>46.42</u>		Total Depth (ft): <u>59.55</u>		Casing Volume (gal): <u>2.1</u>		(gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)	
Purging Method: <u>Bailer, poly</u>							
Comments: <u>Monitoring point (MP) is the top of the PVC well casing.</u> <u>Steel csg stickup = 2.66'</u> <u>PVC csg stickup = 2.50'</u>							
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
<u>6/12</u> <u>9:50</u>	<u>-</u>	<u>46.42</u>					
<u>10:15</u>	<u>2.1</u>	<u>52.33</u>	<u>6.92</u>	<u>5785</u>	<u>15.6</u>	<u>Sl. Cloudy</u>	
<u>10:27</u>	<u>2.1</u>	<u>57.48</u>	<u>6.95</u>	<u>5956</u>	<u>15.8</u>	<u>"</u>	
<u>10:38</u>	<u>0.5</u>	<u>~ dry</u>	<u>7.07</u>	<u>6053</u>	<u>15.9</u>	<u>"</u>	
<u>14:15</u>		<u>57.60</u>					
<u>14:30</u>		<u>58.91</u>					
Cumulative Volume Purged: <u>4.7</u> (gallons) <u>2.4</u> (casing vol)							
WELL SAMPLING INFORMATION							
Sampling Equipment: <u>Bailer, poly</u>							
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
<u>6/12</u> <u>14:20</u>		<u>59</u>	<u>7.14</u>	<u>5975</u>	<u>17.8</u>		
SAMPLE HANDLING:							
Date/Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments	
	Volume (ml)	Bottle Composition	Quantity				
<u>14:20</u>	<u>125</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>HNO3</u>		
<u>14:20</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>None</u>		
<u>14:20</u>	<u>500</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>None</u>		
Field QA/QC Samples Collected (type, Sample No.): _____							
Equipment Decontamination: <u>DI water</u>							
Waste Disposal: _____							
Signature of Field Personnel: <u>Bence Chase</u>				GCC RIO GRANDE, INC. Pueblo, CO			

GROUNDWATER SAMPLING RECORD					SAMPLE No. MW-7			
Project No: <u>Quarterly Compliance</u>			Location: <u>GCC - Pueblo</u>		Page <u>1</u> of <u>1</u>			
Date: <u>6/12/19</u>		Weather Conditions: <u>P. Cloudy 65°F</u>		Personnel: <u>B. Close, D. Furman, M. Blinhu</u>				
Comments: <u>2nd Quarter 2019</u>								
INSTRUMENTS USED								
Instrument	Manufacturer/Model	Serial No.	Calibration					
Water Level Probe	<u>Grotech ET</u>	<u>6757</u>						
pH Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: 4 D 10 @ <u>22.9</u> °C Reading <u>7.0</u>		Slope:			
pH Meter			Std: 4 7 10 @ <u>22.9</u> °C Reading <u>4.0</u>					
Specific Conductance Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>					
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____					
Temperature	<u>YSI Pro 1030</u>	<u>18J103866</u>						
Other: _____								
Filtration: <u>0.45 micron in-line high capacity disposable filter.</u>								
WELL PURGING INFORMATION								
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>30.4' - 55.4'</u>				
Depth to Water (ft. below MP): <u>33.89</u>		Total Depth (ft): <u>59.37</u>		Casing Volume (gal): <u>4.1</u> (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)				
Purging Method: <u>Bailer, poly</u>								
Comments: <u>Monitoring point (MP) is the top of the PVC well casing.</u> <u>black mark</u> <u>Steel csg stickup = 2.84'</u> <u>PVC csg stickup = 2.64'</u>								
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	
<u>6/12</u>	<u>-</u>	<u>33.89</u>						
<u>10:45</u>	<u>-</u>	<u>33.89</u>						
<u>11:07</u>	<u>4.1</u>	<u>35.22</u>	<u>6.94</u>	<u>6013</u>	<u>16.1</u>	<u>cloudy - tan</u>		
<u>11:26</u>	<u>4.2</u>	<u>36.14</u>	<u>6.98</u>	<u>6037</u>	<u>16.2</u>	<u>cloudy - tan</u>		
<u>11:46</u>	<u>4.1</u>	<u>35.92</u>	<u>6.99</u>	<u>5949</u>	<u>17.1</u>	<u>cloudy - tan</u>		
Cumulative Volume Purged: <u>12.4</u> (gallons) <u>3.02</u> (casing vol)								
WELL SAMPLING INFORMATION								
Sampling Equipment: <u>Bailer, poly</u>								
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
<u>6/12</u>								
<u>12:00</u>	<u>34.90</u>	<u>58.4</u>	<u>6.95</u>	<u>5997</u>	<u>18.0</u>			<u>Submitted duplicate cs</u> <u>MW-2B w/ 12:30 time</u>
SAMPLE HANDLING:								
Date/Time	Volume (ml)	Bottle Composition	Quantity	Filtered (Y/N)	Preserved (type)	Comments		
<u>6/12</u>								
<u>12:00</u>	<u>125</u>	<u>LOPE</u>	<u>1</u>	<u>Y</u>	<u>HNO3</u>			
<u>12:00</u>	<u>250</u>	<u>LOPE</u>	<u>1</u>	<u>Y</u>	<u>None</u>			
<u>12:00</u>	<u>500</u>	<u>LOPE</u>	<u>1</u>	<u>N</u>	<u>None</u>			
Field QA/QC Samples Collected (type, Sample No.): <u>Field duplicate MW-2B 12:30</u>								
Equipment Decontamination: <u>DI water</u>								
Waste Disposal: _____								
Signature of Field Personnel: <u>B. Close</u>				GCC RIO GRANDE, INC. Pueblo, CO				

GROUNDWATER SAMPLING RECORD				SAMPLE No. <u>MW6</u>				
Project No: <u>Quarterly Compliance</u>		Location: <u>GCC-Pueblo</u>		Page <u>1</u> of <u>1</u>				
Date: <u>9/18-9/19/19</u>		Weather Conditions: <u>clear, sunny</u>		Personnel: <u>DFurman DBemis</u>				
Comments: <u>3rd Quarter 2019</u>								
INSTRUMENTS USED								
Instrument	Manufacturer/Model	Serial No.	Calibration for 9/19 Calibration					
Water Level Probe	<u>Geotech ET</u>	<u>6757</u>	<u>refer to 9/18 MW-7 record for 9/18 calibration</u>					
pH Meter	<u>YSI Pro 1030</u>	<u>18J103806</u>	Std: 4 <u>7</u> 10 @ <u>18.1</u> °C Reading <u>7.02</u>	Slope:				
pH Meter			Std: 4 <u>7</u> 10 @ <u>18.2</u> °C Reading <u>4.00</u>					
Specific Conductance Meter	<u>YSI Pro 1030</u>	<u>18J103806</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>					
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____					
Temperature	<u>YSI Pro 1030</u>	<u>18J103806</u>						
Other: _____								
Filtration <u>0.45 micron in-line high capacity disposable filter.</u>								
WELL PURGING INFORMATION								
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>31.1' - 56.1'</u>				
Depth to Water (ft below MP): <u>30.65</u>		Total Depth (ft): <u>59.65</u>		Casing Volume (gal): <u>4.64</u> (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)				
Purging Method: <u>bailer, poly</u>								
Comments: <u>Monitoring point (MP) is the top of the PVC well casing.</u>								
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	
<u>9/18 10:25</u>	<u>4.6</u>	<u>40.48</u>	<u>6.93</u>	<u>6536</u>	<u>18.5</u>	<u>slightly cloudy</u>		
<u>12:15</u>	<u>4.75</u>	<u>54.20</u>	<u>6.88</u>	<u>6323</u>	<u>21.6</u>	<u>cloudy/light brown</u>		
<u>12:38</u>	<u>2.5</u>	<u>59.50</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>cloudy/dark brown</u>	<u>no measurements taken (sample released prior to measurement)</u>	
<u>9/19 8:20</u>	<u>-</u>	<u>55.55</u>	<u>7.09</u>	<u>6382</u>	<u>16.1</u>	<u>slightly cloudy</u>		
Cumulative Volume Purged: <u>11.85</u> (gallons) <u>4.6</u> (casing vol)								
WELL SAMPLING INFORMATION								
Sampling Equipment: <u>bailer, poly (dedicated)</u>								
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
<u>9/19 8:32</u>	<u>58.21</u>	<u>58.21</u>	<u>DWIF</u>					
<u>9/19 8:32</u>	<u>58.21</u>	<u>58.5</u>	<u>7.14</u>	<u>6201</u>	<u>15.9</u>			
SAMPLE HANDLING:								
Date/Time	Volume (ml)	Aliquots		Filtered (Y/N)	Preserved (type)	Comments		
		Bottle Composition	Quantity					
<u>8:32</u>	<u>125</u>	<u>LDPE</u>	<u>2</u>	<u>Y</u>	<u>HNO3</u>	<u>includes field duplicates</u>		
<u>8:32</u>	<u>250</u>	<u>LDPE</u>	<u>2</u>	<u>Y</u>	<u>-</u>	<u>"</u>		
<u>8:32</u>	<u>500</u>	<u>LDPE</u>	<u>2</u>	<u>N</u>	<u>-</u>	<u>"</u>		
Field QA/QC Samples Collected (type, Sample No.): <u>MWB2</u>								
Equipment Decontamination: <u>DI water</u>								
Waste Disposal: _____								
Signature of Field Personnel: <u>[Signature]</u>				GCC RIO GRANDE, INC. Pueblo, CO				

GROUNDWATER SAMPLING RECORD					SAMPLE No. <u>MW -7</u>			
Project No: <u>Quarterly Compliance</u>			Location: <u>GCC - Pueblo</u>		Page <u>1</u> of <u>1</u>			
Date: <u>9/18/2019</u>		Weather Conditions: <u>Clear, Sunny 62°F</u>		Personnel: <u>D. Furman / D. Bemis</u>				
Comments: <u>3rd Quarter 2019</u>								
INSTRUMENTS USED								
Instrument	Manufacturer/Model	Serial No.	Calibration					
Water Level Probe	<u>Geotech ET</u>	<u>6757</u>						
pH Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: 4 <u>7</u> 10 @ <u>18.1</u> °C Reading <u>7.02</u>	Slope:				
pH Meter			Std: 4 7 <u>10</u> @ <u>17</u> °C Reading <u>10.00</u>					
Specific Conductance Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>					
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____					
Temperature	<u>YSI Pro 1030</u>	<u>18J103866</u>						
Other:								
Filtration <u>0.45 micron in-line high capacity disposable filter.</u>								
WELL PURGING INFORMATION								
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>30.4' - 55.4'</u>				
Depth to Water (ft below MP): <u>30.53</u>		Total Depth (ft): <u>59.40</u>		Casing Volume (gal): <u>4.62</u> (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)				
Purging Method: <u>bailer, poly</u>								
Comments: <u>Monitoring point (MP) is the top of the PVC well casing.</u>								
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	
<u>9/18</u>								
<u>08:55</u>	<u>—</u>	<u>30.53</u>						
<u>09:10</u>	<u>5</u>	<u>31.77</u>	<u>6.91</u>	<u>6307</u>	<u>18.5</u>	<u>slightly cloudy; light brown</u>		
<u>09:49</u>	<u>4.5</u>	<u>31.93</u>	<u>6.95</u>	<u>6204</u>	<u>19.7</u>	<u>slightly cloudy</u>		
<u>10:10</u>	<u>4.75</u>	<u>32.2</u>	<u>6.98</u>	<u>6197</u>	<u>20.8</u>	<u>slightly cloudy</u>		
Cumulative Volume Purged: <u>14.25</u> (gallons) <u>4.6</u> (casing vol)								
WELL SAMPLING INFORMATION								
Sampling Equipment: <u>bailer, poly (dedicated)</u>								
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
<u>9/18 10:45</u>	<u>31.27</u>	<u>58</u>	<u>6.97</u>	<u>6046</u>	<u>19.4</u>			
SAMPLE HANDLING:								
Date/Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments		
	Volume (ml)	Bottle Composition	Quantity					
<u>9/18 10:45</u>	<u>125</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>HNO3</u>			
<u>10:45</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>—</u>			
<u>10:45</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>—</u>			
Field QA/QC Samples Collected (type, Sample No.): <u>N/A</u>								
Equipment Decontamination: <u>DI Water</u>								
Waste Disposal:								
Signature of Field Personnel: <u>D. Furman</u>				GCC RIO GRANDE, INC. Pueblo, CO				

GROUNDWATER SAMPLING RECORD						SAMPLE No. <u>MW-6</u>		
Project No: <u>Quarterly Compliance</u>			Location: <u>GCC - Pueblo</u>			Page <u>1</u> of <u>1</u>		
Date: <u>12/9/19</u>		Weather Conditions: <u>Clear, Sunny 37°F</u>			Personnel: <u>DFurman, Sleggs (AGX)</u>			
Comments: <u>4th Quarter 2019</u>								
INSTRUMENTS USED								
Instrument	Manufacturer/Model	Serial No.	Calibration					
Water Level Probe	<u>Geotech ET</u>	<u>6757/2320 (AGX)</u>						
pH Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: 4 <u>7</u> 10 @ <u>20.7</u> °C Reading <u>7.02</u>	Slope:				
pH Meter			Std: <u>4</u> 7 10 @ <u>20.5</u> °C Reading <u>4.00</u>					
Specific Conductance Meter	<u>YSI Pro 1030</u>	<u>18J103866</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>					
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____					
Temperature	<u>YSI Pro 1030</u>	<u>18J103866</u>						
Other: <u>medium</u>								
Filtration <u>0.45 micron in-line high capacity disposable filter.</u>								
WELL PURGING INFORMATION								
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>31.1' - 56.1'</u>				
Depth to Water (ft below MP): <u>32.94</u>		Total Depth (ft): <u>59.55</u>		Casing Volume (gal): <u>4.26</u>		(gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)		
Purging Method: <u>bailer, poly</u>								
Comments: <u>Monitoring point (MP) is the top of the PVC well casing.</u>								
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	
<u>12/9</u> <u>10:32</u>	<u>—</u>	<u>32.94</u>	<u>6.84</u>	<u>5446</u>	<u>13.7</u>	<u>clear</u>		
<u>10:39</u>	<u>2</u>	<u>—</u>	<u>6.88</u>	<u>5814</u>	<u>12.0</u>	<u>slightly cloudy</u>	<u>missed measurement (depth)</u>	
<u>10:50</u>	<u>2</u>	<u>42.98</u>	<u>6.91</u>	<u>5869</u>	<u>11.6</u>	<u>slightly cloudy</u>		
<u>11:01</u>	<u>2</u>	<u>47.40</u>	<u>6.92</u>	<u>5970</u>	<u>11.2</u>	<u>slightly cloudy</u>		
<u>11:07</u>	<u>2</u>	<u>—</u>	<u>6.90</u>	<u>5809</u>	<u>11.7</u>	<u>slightly cloudy</u>	<u>missed depth measurement</u>	
<u>11:16</u>	<u>2</u>	<u>56.08</u>	<u>6.94</u>	<u>5939</u>	<u>12.2</u>	<u>cloudy</u>		
<u>11:28</u>	<u>1.2</u>	<u>58.43</u>	<u>6.99</u>	<u>6025</u>	<u>11.8</u>	<u>cloudy brown</u>		
Cumulative Volume Purged: _____ (gallons)				<u>4.3</u> (casing vol)				
WELL SAMPLING INFORMATION								
Sampling Equipment:								
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
<u>12/9</u> <u>14:15</u>	<u>56.57</u>	<u>58.5</u>	<u>7.20</u>	<u>5693</u>	<u>12.3</u>			<u>Used medium instead of high capacity filter due to sample volume limitations</u>
SAMPLE HANDLING:								
Date/Time	Volume (ml)	Aliquots Bottle Composition	Quantity	Filtered (Y/N)	Preserved (type)	Comments		
<u>14:15</u>	<u>125</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>HNO3</u>	<u>ACZ Labs - shipped on ice</u>		
<u>14:15</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>Y</u>	<u>—</u>	<u>"</u>		
<u>14:15</u>	<u>500</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>—</u>	<u>"</u>		
<u>14:15</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>H2SO4</u>	<u>Ongins laboratory - hand delivered by AGX</u>		
<u>14:15</u>	<u>250</u>	<u>LDPE</u>	<u>2</u>	<u>N</u>	<u>—</u>	<u>no filtration based on lab provided</u>		
<u>14:15</u>	<u>500</u>	<u>LDPE</u>	<u>2</u>	<u>N</u>	<u>—</u>	<u>Preservatives</u>		
Field QA/QC Samples Collected (type, Sample No.): <u>N/A</u>								
Equipment Decontamination: <u>DI water</u>								
Waste Disposal:								
Signature of Field Personnel: <u>DF</u>				GCC RIO GRANDE, INC. Pueblo, CO				

GROUNDWATER SAMPLING RECORD						SAMPLE No. <u>MW-7</u>	
Project No: <u>Quarterly Compliance</u>				Location: <u>GCC - Pueblo</u>		Page <u>1</u> of <u>1</u>	
Date: <u>12/9/19</u>		Weather Conditions: <u>Clear, sunny 41°F</u>			Personnel: <u>DFurman, SLegg (AGX)</u>		
Comments: <u>4th Qtr 2019</u>							
INSTRUMENTS USED							
Instrument	Manufacturer/Model	Serial No.	Calibration				
Water Level Probe	<u>Geotech ET</u>	<u>67571 2320 (max)</u>	<u>N/A</u>				
pH Meter	<u>YSI Pro1030</u>	<u>18J103866</u>	Std: 4 <u>7</u> 10 @ <u>20.7</u> °C Reading <u>7.02</u>	Slope:			
pH Meter			Std: 4 <u>7</u> 10 @ <u>20.5</u> °C Reading <u>4.00</u>				
Specific Conductance Meter	<u>YSI Pro1030</u>	<u>18J103866</u>	Std: <u>1413</u> uS @ 25 °C Reading <u>1413</u>				
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____				
Temperature	<u>YSI Pro1030</u>	<u>18J103866</u>					
Other:	<u>medium</u>						
Filtration <u>0.45 micron in-line high capacity disposable filter.</u>							
WELL PURGING INFORMATION							
Casing Diameter (inches): <u>2</u>		Borehole Diameter (inches): <u>6</u>		Screened Interval (ft. BGL): <u>DMWF 31.1' - 56.1' 30.4' - 55.4'</u>			
Depth to Water (ft below MP): <u>32.15</u>		Total Depth (ft): <u>60.31</u>		Casing Volume (gal): <u>4.5</u>		(gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)	
Purging Method: <u>bailler, poly</u>							
Comments: <u>Monitoring point (MP) is the top of the PVC well casing. 13.5</u>							
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
<u>11:56</u>	<u>—</u>	<u>32.15</u>	<u>7.12</u>	<u>5324</u>	<u>10.3</u>	<u>clear</u>	
<u>12:00</u>	<u>2</u>	<u>33.87</u>	<u>7.04</u>	<u>5306</u>	<u>12.6</u>	<u>slightly tan</u>	
<u>12:07</u>	<u>2.25</u>	<u>—</u>	<u>7.02</u>	<u>5264</u>	<u>13.4</u>	<u>slightly cloudy</u>	<u>missed measurement (depth)</u>
<u>12:13</u>	<u>1.75</u>	<u>34.72</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>	<u>missed readings (ph, sp, temp)</u>
<u>12:22</u>	<u>2</u>	<u>34.99</u>	<u>7.08</u>	<u>5318</u>	<u>12.7</u>	<u>slightly cloudy</u>	<u>no sample for readings</u>
<u>12:28</u>	<u>2</u>	<u>35.25</u>	<u>7.13</u>	<u>5399</u>	<u>11.8</u>	<u>slightly cloudy</u>	
<u>12:38</u>	<u>2</u>	<u>34.75</u>	<u>7.13</u>	<u>5319</u>	<u>12.2</u>	<u>slightly cloudy</u>	
Cumulative Volume Purged: <u>13.5</u>		(gallons)		<u>3.5</u>		(casing vol)	
WELL SAMPLING INFORMATION							
Sampling Equipment: <u>bailler, poly (new)</u>							
Comments:							
SAMPLING MEASUREMENTS:							
Date/Time	Depth to Water (feet below MP)	Depth Sampled	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Other	Other
<u>12/47</u>	<u>34.58</u>	<u>59</u>	<u>7.05</u>	<u>5279</u>	<u>12.3</u>		
Comments: <u>Used medium instead of high capacity filter due to sample volume limitations</u>							
SAMPLE HANDLING:							
Date/Time	Volume (ml)	Bottle Composition	Quantity	Filtered (Y/N)	Preserved (type)	Comments	
<u>12:47</u>	<u>125</u>	<u>LDPE</u>	<u>2</u>	<u>Y</u>	<u>HNO3</u>	<u>2 (including duplicate); shipped on ice</u>	
<u>12:47</u>	<u>250</u>	<u>LDPE</u>	<u>2</u>	<u>Y</u>	<u>—</u>	<u>ACZ labs</u>	
<u>12:47</u>	<u>500</u>	<u>LDPE</u>	<u>2</u>	<u>N</u>	<u>—</u>	<u>"</u>	
<u>12:47</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>H2SO4</u>	<u>Ongins laboratory - provided bottles</u>	
<u>12:47</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>—</u>	<u>to perform filtration in the lab</u>	
<u>12:47</u>	<u>250</u>	<u>LDPE</u>	<u>1</u>	<u>N</u>	<u>—</u>	<u>hand-</u>	
Field QA/QC Samples Collected (type, Sample No.): <u>MW-2B Field Duplicate Delivered to lab directly by AGX</u>							
Equipment Decontamination: <u>DI water</u>							
Waste Disposal:							
Signature of Field Personnel: <u>[Signature]</u>				GCC RIO GRANDE, INC. Pueblo, CO			

ATTACHMENT 2

October 04, 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

Project ID:
ACZ Project ID: L54721

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 20, 2019. This project has been assigned to ACZ's project number, L54721. Please reference this number in all future inquiries.

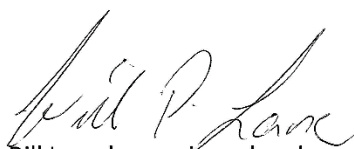
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L54721. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 November 03, 2019. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/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 raw data reports for ten 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-6

ACZ Sample ID: **L54721-01**

Date Sampled: 09/19/19 08:32

Date Received: 09/20/19

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	10/02/19 19:18	kja
Arsenic, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	09/25/19 16:53	bsu
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:18	kja
Boron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.1	0.5	10/02/19 19:18	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00026	B		mg/L	0.00005	0.0003	09/25/19 16:53	bsu
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/04/19 1:21	jlw
Cobalt, dissolved	M200.7 ICP	5	0.05	B		mg/L	0.05	0.3	10/02/19 19:18	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:18	kja
Iron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.2	0.4	10/02/19 19:18	kja
Lead, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0001	0.0005	09/25/19 16:53	bsu
Lithium, dissolved	M200.7 ICP	5	0.49			mg/L	0.04	0.2	10/02/19 19:18	kja
Manganese, dissolved	M200.7 ICP	5	0.58			mg/L	0.05	0.3	10/02/19 19:18	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/24/19 17:13	slm
Nickel, dissolved	M200.7 ICP	5	0.13	B		mg/L	0.04	0.2	10/02/19 19:18	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.140			mg/L	0.0001	0.0003	09/25/19 16:53	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	10/02/19 19:18	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:18	kja

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	09/27/19 10:17	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		11.0			mg/L	0.1	0.5	10/04/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	11.1		*	mg/L	0.1	0.5	09/21/19 1:31	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.08		*	mg/L	0.01	0.05	09/21/19 1:00	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	5860		*	mg/L	40	80	09/25/19 14:40	eep

GCC Rio Grande

Project ID:

Sample ID: MW-7

ACZ Sample ID: **L54721-02**

Date Sampled: 09/18/19 10:45

Date Received: 09/20/19

Sample Matrix: Groundwater

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	0.4	B		mg/L	0.3	1	10/02/19 19:21	kja
Arsenic, dissolved	M200.8 ICP-MS	1	0.0003	B		mg/L	0.0002	0.001	09/25/19 16:55	bsu
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:21	kja
Boron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.1	0.5	10/02/19 19:21	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00015	B		mg/L	0.00005	0.0003	09/25/19 16:55	bsu
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/04/19 1:25	jlw
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:21	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:21	kja
Iron, dissolved	M200.7 ICP	5	0.8			mg/L	0.2	0.4	10/02/19 19:21	kja
Lead, dissolved	M200.8 ICP-MS	1	0.001			mg/L	0.0001	0.0005	09/25/19 16:55	bsu
Lithium, dissolved	M200.7 ICP	5	0.48			mg/L	0.04	0.2	10/02/19 19:21	kja
Manganese, dissolved	M200.7 ICP	5	0.10	B		mg/L	0.05	0.3	10/02/19 19:21	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/24/19 17:14	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	10/02/19 19:21	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.0762			mg/L	0.0001	0.0003	09/25/19 16:55	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	10/02/19 19:21	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:21	kja

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	09/20/19 17:53	enb
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		10	H		mg/L	0.2	1	10/04/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	10	10.1	H	*	mg/L	0.2	1	09/21/19 1:32	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.02	BH	*	mg/L	0.01	0.05	09/21/19 1:02	pjb
Residue, Filterable (TDS) @180C	SM2540C	2	6740		*	mg/L	40	80	09/25/19 14:43	eep

GCC Rio Grande

Project ID:

Sample ID: MW-2B

ACZ Sample ID: **L54721-03**

Date Sampled: 09/19/19 08:32

Date Received: 09/20/19

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	10/02/19 19:24	kja
Arsenic, dissolved	M200.8 ICP-MS	1	0.0004	B		mg/L	0.0002	0.001	09/25/19 17:04	bsu
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:24	kja
Boron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.1	0.5	10/02/19 19:24	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00031			mg/L	0.00005	0.0003	09/25/19 17:04	bsu
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/04/19 1:34	jlw
Cobalt, dissolved	M200.7 ICP	5	0.05	B		mg/L	0.05	0.3	10/02/19 19:24	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:24	kja
Iron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.2	0.4	10/02/19 19:24	kja
Lead, dissolved	M200.8 ICP-MS	1	0.0005			mg/L	0.0001	0.0005	09/25/19 17:04	bsu
Lithium, dissolved	M200.7 ICP	5	0.48			mg/L	0.04	0.2	10/02/19 19:24	kja
Manganese, dissolved	M200.7 ICP	5	0.57			mg/L	0.05	0.3	10/02/19 19:24	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/24/19 17:15	slm
Nickel, dissolved	M200.7 ICP	5	0.15	B		mg/L	0.04	0.2	10/02/19 19:24	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.141		*	mg/L	0.0001	0.0003	09/25/19 17:04	bsu
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	10/02/19 19:24	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	10/02/19 19:24	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.7			mg/L	0.1	0.4	09/30/19 15:16	enb
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		11			mg/L	0.1	0.5	10/04/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	10.8			mg/L	0.1	0.5	09/21/19 1:35	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.08		*	mg/L	0.01	0.05	09/21/19 1:09	pjb
Residue, Filterable (TDS) @180C	SM2540C	10	6020		*	mg/L	200	400	09/26/19 15:59	jck



Report Header Explanations

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

QC Sample Types

<i>AS</i>	Analytical Spike (Post Digestion)	<i>LCSWD</i>	Laboratory Control Sample - Water Duplicate
<i>ASD</i>	Analytical Spike (Post Digestion) Duplicate	<i>LFB</i>	Laboratory Fortified Blank
<i>CCB</i>	Continuing Calibration Blank	<i>LFM</i>	Laboratory Fortified Matrix
<i>CCV</i>	Continuing Calibration Verification standard	<i>LFMD</i>	Laboratory Fortified Matrix Duplicate
<i>DUP</i>	Sample Duplicate	<i>LRB</i>	Laboratory Reagent Blank
<i>ICB</i>	Initial Calibration Blank	<i>MS</i>	Matrix Spike
<i>ICV</i>	Initial Calibration Verification standard	<i>MSD</i>	Matrix Spike Duplicate
<i>ICSAB</i>	Inter-element Correction Standard - A plus B solutions	<i>PBS</i>	Prep Blank - Soil
<i>LCSS</i>	Laboratory Control Sample - Soil	<i>PBW</i>	Prep Blank - Water
<i>LCSSD</i>	Laboratory Control Sample - Soil Duplicate	<i>PQV</i>	Practical Quantitation Verification standard
<i>LCSW</i>	Laboratory Control Sample - Water	<i>SDL</i>	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://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: **L54721**

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
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.981	mg/L	99	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.15	0.15			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	1.0012		1.076	mg/L	107	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	1.0012	U	1.081	mg/L	108	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	1.0012	U	1.082	mg/L	108	85	115	0	20	

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482416													
WG482416ICV	ICV	09/25/19 16:19	MS190806-2	.05		.05062	mg/L	101	90	110			
WG482416ICB	ICB	09/25/19 16:21				U	mg/L		-0.00044	0.00044			
WG482416LFB	LFB	09/25/19 16:22	MS190905-3	.05005		.05294	mg/L	106	85	115			
L54721-02AS	AS	09/25/19 16:57	MS190905-3	.05005	.0003	.05139	mg/L	102	70	130			
L54721-02ASD	ASD	09/25/19 17:02	MS190905-3	.05005	.0003	.05204	mg/L	103	70	130	1	20	

Beryllium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.971	mg/L	99	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.03	0.03			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5005		.487	mg/L	97	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5005	U	.494	mg/L	99	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5005	U	.496	mg/L	99	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
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		2.005	mg/L	100	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.06	0.06			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5005		.513	mg/L	102	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5005	.03	.545	mg/L	103	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5005	.03	.547	mg/L	103	85	115	0	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482416													
WG482416ICV	ICV	09/25/19 16:19	MS190806-2	.05		.050068	mg/L	100	90	110			
WG482416ICB	ICB	09/25/19 16:21				U	mg/L		-0.00011	0.00011			
WG482416LFB	LFB	09/25/19 16:22	MS190905-3	.05005		.052201	mg/L	104	85	115			
L54721-02AS	AS	09/25/19 16:57	MS190905-3	.05005	.00015	.048544	mg/L	97	70	130			
L54721-02ASD	ASD	09/25/19 17:02	MS190905-3	.05005	.00015	.049158	mg/L	98	70	130	1	20	

GCC Rio Grande

ACZ Project ID: **L54721**

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.

Chromium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG483042													
WG483042ICV	ICV	10/04/19 0:37	II190926-2	2		2.004	mg/L	100	95	105			
WG483042ICB	ICB	10/04/19 0:43				U	mg/L		-0.03	0.03			
WG483042LFB	LFB	10/04/19 0:56	II190920-2	.501		.521	mg/L	104	85	115			
L42796-84AS	AS	10/04/19 1:09	II190920-2	.501	U	.518	mg/L	103	85	115			
L42796-84ASD	ASD	10/04/19 1:12	II190920-2	.501	U	.514	mg/L	103	85	115	1	20	

Cobalt, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2.002		1.926	mg/L	96	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.03	0.03			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5		.478	mg/L	96	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5	U	.487	mg/L	97	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5	U	.484	mg/L	97	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
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.927	mg/L	96	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.03	0.03			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5005		.478	mg/L	96	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5005	U	.488	mg/L	98	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5005	U	.489	mg/L	98	85	115	0	20	

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482081													
WG482081ICV	ICV	09/20/19 13:42	WC190920-1	2.004		2.01	mg/L	100	90	110			
WG482081ICB	ICB	09/20/19 13:49				U	mg/L		-0.3	0.3			
WG482081LFB1	LFB	09/20/19 13:57	WC190409-6	5.01		4.84	mg/L	97	90	110			
WG482081LFB2	LFB	09/20/19 16:02	WC190409-6	5.01		4.71	mg/L	94	90	110			
L54587-22AS	AS	09/20/19 17:06	WC190409-6	5.01	U	4.64	mg/L	93	90	110			
L54587-22ASD	ASD	09/20/19 17:19	WC190409-6	5.01	U	4.58	mg/L	91	90	110	1	20	
WG482609													
WG482609ICV	ICV	09/27/19 9:19	WC190920-1	2.004		2.1	mg/L	105	90	110			
WG482609ICB	ICB	09/27/19 9:24				U	mg/L		-0.3	0.3			
WG482609LFB1	LFB	09/27/19 9:32	WC190409-6	5.01		5.45	mg/L	109	90	110			
L37465-122AS	AS	09/27/19 9:39	WC190409-6	5.01	.1	5	mg/L	98	90	110			
L37465-122ASD	ASD	09/27/19 9:45	WC190409-6	5.01	.1	5.02	mg/L	98	90	110	0	20	
WG482706													
WG482706ICV	ICV	09/30/19 14:42	WC190920-1	2.004		2.08	mg/L	104	90	110			
WG482706ICB	ICB	09/30/19 14:47				U	mg/L		-0.3	0.3			
WG482706LFB1	LFB	09/30/19 14:54	WC190409-6	5.01		5.09	mg/L	102	90	110			
L39579-106AS	AS	09/30/19 15:05	WC190409-6	5.01	U	4.82	mg/L	96	90	110			
L39579-106ASD	ASD	09/30/19 15:13	WC190409-6	5.01	U	4.91	mg/L	98	90	110	2	20	
WG482706LFB2	LFB	09/30/19 16:56	WC190409-6	5.01		5.36	mg/L	107	90	110			

GCC Rio Grande

ACZ Project ID: **L54721**

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.

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.932	mg/L	97	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.09	0.09			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	1.0018		1.015	mg/L	101	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	1.0018	U	1.03	mg/L	103	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	1.0018	U	1.029	mg/L	103	85	115	0	20	

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482416													
WG482416ICV	ICV	09/25/19 16:19	MS190806-2	.05		.05138	mg/L	103	90	110			
WG482416ICB	ICB	09/25/19 16:21				U	mg/L		-0.00022	0.00022			
WG482416LFB	LFB	09/25/19 16:22	MS190905-3	.05005		.0539	mg/L	108	85	115			
L54721-02AS	AS	09/25/19 16:57	MS190905-3	.05005	.001	.05463	mg/L	107	70	130			
L54721-02ASD	ASD	09/25/19 17:02	MS190905-3	.05005	.001	.05547	mg/L	109	70	130	2	20	

Lithium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.9315	mg/L	97	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.024	0.024			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	1.002		.9287	mg/L	93	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	1.002	.064	.9901	mg/L	92	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	1.002	.064	.9894	mg/L	92	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
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.951	mg/L	98	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.03	0.03			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5015		.497	mg/L	99	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5015	U	.507	mg/L	101	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5015	U	.509	mg/L	101	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
WG482137													
WG482137ICV	ICV	09/24/19 10:47	HG190911-3	.004995		.00492	mg/L	98	90	110			
WG482137ICB	ICB	09/24/19 10:48				U	mg/L		-0.0006	0.0006			
WG482203													
WG482203LRB	LRB	09/24/19 17:11				U	mg/L		-0.00044	0.00044			
WG482203LFB	LFB	09/24/19 17:12	HG190924-3	.002002		.00177	mg/L	88	85	115			
L54740-01LFM	LFM	09/24/19 17:18	HG190924-3	.002002	U	.0018	mg/L	90	85	115			
L54740-01LFMD	LFMD	09/24/19 17:19	HG190924-3	.002002	U	.0018	mg/L	90	85	115	0	20	

GCC Rio Grande

ACZ Project ID: **L54721**

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.

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2.004		1.9328	mg/L	96	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.024	0.024			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.501		.484	mg/L	97	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.501	U	.4881	mg/L	97	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.501	U	.4885	mg/L	98	85	115	0	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
WG482110													
WG482110ICV	ICV	09/21/19 0:15	WI190809-1	2.416		2.492	mg/L	103	90	110			
WG482110ICB	ICB	09/21/19 0:16				U	mg/L		-0.02	0.02			
WG482110LFB1	LFB	09/21/19 0:21	WI190405-9	2		2.012	mg/L	101	90	110			
L54711-02AS	AS	09/21/19 0:43	WI190405-9	2	U	2.073	mg/L	104	90	110			
L54711-03DUP	DUP	09/21/19 0:45			U	U	mg/L				0	20	RA
WG482110LFB2	LFB	09/21/19 1:01	WI190405-9	2		2.035	mg/L	102	90	110			
L54721-02AS	AS	09/21/19 1:33	WI190405-9	20	10.1	30.08	mg/L	100	90	110			
L54721-03DUP	DUP	09/21/19 1:36			10.8	10.88	mg/L				1	20	

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
WG482110													
WG482110ICV	ICV	09/21/19 0:15	WI190809-1	.609		.622	mg/L	102	90	110			
WG482110ICB	ICB	09/21/19 0:16				U	mg/L		-0.01	0.01			
WG482110LFB1	LFB	09/21/19 0:21	WI190405-9	1		.977	mg/L	98	90	110			
L54711-02AS	AS	09/21/19 0:43	WI190405-9	1	U	.981	mg/L	98	90	110			
L54711-03DUP	DUP	09/21/19 0:45			U	U	mg/L				0	20	RA
WG482110LFB2	LFB	09/21/19 1:01	WI190405-9	1		1.014	mg/L	101	90	110			
L54721-02AS	AS	09/21/19 1:08	WI190405-9	1	.02	1.031	mg/L	101	90	110			
L54721-03DUP	DUP	09/21/19 1:10			.08	.078	mg/L				3	20	RA

Residue, Filterable (TDS) @180C

SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482425													
WG482425PBW	PBW	09/25/19 14:35				U	mg/L		-40	40			
WG482425LCSW	LCSW	09/25/19 14:37	PCN59650	1000		980	mg/L	98	80	120			
L54804-07DUP	DUP	09/25/19 14:58			28	22	mg/L				24	10	RA
WG482575													
WG482575PBW	PBW	09/26/19 15:52				U	mg/L		-40	40			
WG482575LCSW	LCSW	09/26/19 15:54	PCN59650	1000		1000	mg/L	100	80	120			
L54812-05DUP	DUP	09/26/19 16:23			2500	2450	mg/L				2	10	RA

GCC Rio Grande

ACZ Project ID: **L54721**

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.

Selenium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482416													
WG482416ICV	ICV	09/25/19 16:19	MS190806-2	.05		.0508	mg/L	102	90	110			
WG482416ICB	ICB	09/25/19 16:21				U	mg/L		-0.00022	0.00022			
WG482416LFB	LFB	09/25/19 16:22	MS190905-3	.05005		.05234	mg/L	105	85	115			
L54721-02AS	AS	09/25/19 16:57	MS190905-3	.05005	.0762	.13148	mg/L	110	70	130			
L54721-02ASD	ASD	09/25/19 17:02	MS190905-3	.05005	.0762	.13346	mg/L	114	70	130	1	20	

Vanadium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.9575	mg/L	98	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.015	0.015			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.5005		.5006	mg/L	100	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.5005	.042	.536	mg/L	99	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.5005	.042	.5411	mg/L	100	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
WG482957													
WG482957ICV	ICV	10/02/19 18:21	II190926-2	2		1.966	mg/L	98	95	105			
WG482957ICB	ICB	10/02/19 18:27				U	mg/L		-0.03	0.03			
WG482957LFB	LFB	10/02/19 18:40	II190920-2	.50075		.512	mg/L	102	85	115			
L50323-29AS	AS	10/02/19 18:53	II190920-2	.50075	U	.514	mg/L	103	85	115			
L50323-29ASD	ASD	10/02/19 18:56	II190920-2	.50075	U	.515	mg/L	103	85	115	0	20	

GCC Rio Grande

ACZ Project ID: **L54721**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L54721-01	WG482110	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).
	WG482425	Residue, Filterable (TDS) @180C	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).
L54721-02	WG482110	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
		Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
	WG482425	Residue, Filterable (TDS) @180C	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).
			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).
L54721-03	WG482110	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).
	WG482575	Residue, Filterable (TDS) @180C	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).
	WG482416	Selenium, dissolved	M200.8 ICP-MS	BB	Target analyte detected in calibration blank at or above acceptance limit. Sample value was > 10X the concentration in the calibration blank.

REPAD.15.06.05.01

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GCC Rio Grande

ACZ Project ID: **L54721**

No certification qualifiers associated with this analysis



Laboratories, Inc. L54721

CHAIN of CUSTODY

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

Report to:

Name: Diana Furman

Company: GCC Rio Grande Inc.

E-mail: dfurman@gcc.com

Address: 3372 Lime Road, Pueblo, CO 81004

Telephone: (719)647-6861

Copy of Report to:

Name:

Company:

E-mail:

Telephone:

Invoice to:

Name: Diana Furman

Company: GCC Rio Grande Inc.

E-mail: dfurman@gcc.com

Address: 3372 Lime Road, Pueblo, CO 81004

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 ☒
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 ☒

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

Sampler's Name: D. Furman

Sampler's Site Information

State CO

Zip code 81004

Time Zone MDT

*Sampler's Signature:

*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

ANALYSES REQUESTED (attach list or use quote number)

Quote #: GW-COMPLIANCE 03/27/2019

PO#: N/A

Reporting state for compliance testing: Colorado

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Per attached quote but no pH															
MW-6	6/19/19 8:32	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-7	6/18/19 10:45	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-2B	6/19/19 8:32	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
DFurman	9/19/19 10:30	UPS # 1543	9/19/19 10:30
			9/20/19 11:22

FRMAD050.06.14.14

White - Return with sample. Yellow - Retain for your records.

Diana Furman
GCC Rio Grande
3372 Lime Road
Pueblo, CO 81004Page 1 of 2
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 G	\$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.

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

Page 2 of 2
3/27/2019

Quote Number: GW-COMPLIANCE

CONTRACT DETAILS

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 three to five days for delivery when ordering containers. ACZ must be notified prior to receiving samples of all special requests such as electronic data deliverables or special reporting requirements. The client will be charged for special sample containers or express shipping and additional charges may apply for non-standard requests.

This quotation is valid for six months from the bid date unless specified otherwise in the bid. All bids must be signed and returned to ACZ before the project(s) is received. The authorized signature represents acceptance of the pricing as well as the general terms and conditions of ACZ Laboratories, Inc. which may be downloaded from our web site at <http://www.acz.com/PDF/termsconditions.pdf>. Please note that MDL's in this quote may possibly increase due to sample matrix or samples with high TDS.

All orders that require shipping of coolers are subject to a minimum charge of \$200.00. Local orders without shipping are subject to a minimum charge of \$125.00. Samples may incur a \$11.00/sample disposal fee for any samples deemed to be hazardous.

ACZ Representative (Authorized signature and date) _____

Client Representative (Authorized signature and date) _____

REPAD.09.06.05.01

S/ tjv D/ ## P/

L54721-1910041334

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Laboratories, Inc. L54721

CHAIN of CUSTODY

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

Report to:

Name: Diana Furman

Company: GCC Rio Grande Inc.

E-mail: dfurman@gcc.com

Address: 3372 Lime Road, Pueblo, CO 81004

Telephone: (719)647-6861

Copy of Report to:

Name:

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Invoice to:

Name: Diana Furman

Company: GCC Rio Grande Inc.

E-mail: dfurman@gcc.com

Address: 3372 Lime Road, Pueblo, CO 81004

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 ☒
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 ☒

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

Sampler's Name: D. Furman

Sampler's Site Information

State CO

Zip code 81004

Time Zone MDT

*Sampler's Signature:

*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

ANALYSES REQUESTED (attach list or use quote number)

Quote #: GW-COMPLIANCE 03/27/2019

PO#: N/A

Reporting state for compliance testing: Colorado

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Per attached quote but no pH															
MW-6	6/19/19 8:32	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-7	6/18/19 10:45	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-2B	6/19/19 8:32	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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

DFurman

9/19/19

UPS # 1543

9/19/19

10:30

10:30

9/20/19 11:22

FRMAD050.06.14.14

White - Return with sample.

Yellow - Retain for your records.

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

Page 1 of 2
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 G	\$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.

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

Page 2 of 2
3/27/2019

Quote Number: GW-COMPLIANCE

CONTRACT DETAILS

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 three to five days for delivery when ordering containers. ACZ must be notified prior to receiving samples of all special requests such as electronic data deliverables or special reporting requirements. The client will be charged for special sample containers or express shipping and additional charges may apply for non-standard requests.

This quotation is valid for six months from the bid date unless specified otherwise in the bid. All bids must be signed and returned to ACZ before the project(s) is received. The authorized signature represents acceptance of the pricing as well as the general terms and conditions of ACZ Laboratories, Inc. which may be downloaded from our web site at <http://www.acz.com/PDF/termsconditions.pdf>. Please note that MDL's in this quote may possibly increase due to sample matrix or samples with high TDS.

All orders that require shipping of coolers are subject to a minimum charge of \$200.00. Local orders without shipping are subject to a minimum charge of \$125.00. Samples may incur a \$11.00/sample disposal fee for any samples deemed to be hazardous.

ACZ Representative (Authorized signature and date)

Client Representative (Authorized signature and date)

REPAD.09.06.05.01

S/ tjv D/ ## P/

L54721-1910041334

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December 27, 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

Project ID:

ACZ Project ID: L56347

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on December 10, 2019. This project has been assigned to ACZ's project number, L56347. Please reference this number in all future inquiries.

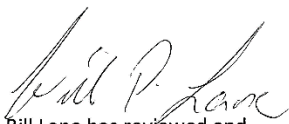
All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L56347. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

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 January 26, 2020. If the samples are determined to be hazardous, additional charges apply for disposal (typically \$11/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 raw data reports for ten 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-6

ACZ Sample ID: **L56347-01**

Date Sampled: 11/09/19 14:15

Date Received: 12/10/19

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	12/13/19 13:01	kja
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	12/17/19 14:18	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:01	kja
Boron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.1	0.5	12/13/19 13:01	kja
Cadmium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	12/17/19 14:18	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:01	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:01	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:01	kja
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	12/13/19 13:01	kja
Lead, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0005	0.003	12/17/19 14:18	mfm
Lithium, dissolved	M200.7 ICP	5	0.49			mg/L	0.04	0.2	12/13/19 13:01	kja
Manganese, dissolved	M200.7 ICP	5	0.49			mg/L	0.05	0.3	12/13/19 13:01	kja
Mercury, dissolved	M245.1 CVAA	1		UH	*	mg/L	0.0002	0.001	12/11/19 16:20	slm
Nickel, dissolved	M200.7 ICP	5	0.11	B		mg/L	0.04	0.2	12/13/19 13:01	kja
Selenium, dissolved	M200.8 ICP-MS	5	0.088			mg/L	0.0005	0.001	12/17/19 14:18	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	12/13/19 13:01	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:01	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.8	H	*	mg/L	0.1	0.4	12/11/19 18:40	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		8.10	H		mg/L	0.08	0.4	12/27/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	4	8.12	H	*	mg/L	0.08	0.4	12/10/19 23:02	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.02	BH	*	mg/L	0.01	0.05	12/10/19 22:55	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H	*	units	0.1	0.1	12/11/19 0:00	nmc
pH measured at		1	24.8			C	0.1	0.1	12/11/19 0:00	nmc
Residue, Filterable (TDS) @180C	SM2540C	5	5460	H	*	mg/L	100	200	12/19/19 11:27	jck

GCC Rio Grande

Project ID:

Sample ID: MW-7

ACZ Sample ID: **L56347-02**

Date Sampled: 11/09/19 12:47

Date Received: 12/10/19

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	12/13/19 13:04	kja
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	12/17/19 14:20	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja
Boron, dissolved	M200.7 ICP	5	0.2	B		mg/L	0.1	0.5	12/13/19 13:04	kja
Cadmium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	12/17/19 14:20	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	12/13/19 13:04	kja
Lead, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0005	0.003	12/17/19 14:20	mfm
Lithium, dissolved	M200.7 ICP	5	0.44			mg/L	0.04	0.2	12/13/19 13:04	kja
Manganese, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja
Mercury, dissolved	M245.1 CVAA	1		UH	*	mg/L	0.0002	0.001	12/11/19 16:21	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	12/13/19 13:04	kja
Selenium, dissolved	M200.8 ICP-MS	5	0.0903			mg/L	0.0005	0.001	12/17/19 14:20	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	12/13/19 13:04	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:04	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.5	H	*	mg/L	0.1	0.4	12/11/19 18:45	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		14	H		mg/L	0.1	0.5	12/27/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	14.3	H	*	mg/L	0.1	0.5	12/10/19 23:07	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.08	H	*	mg/L	0.01	0.05	12/10/19 22:56	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/11/19 0:00	nmc
pH measured at		1	24.7			C	0.1	0.1	12/11/19 0:00	nmc
Residue, Filterable (TDS) @180C	SM2540C	5	5320	H	*	mg/L	100	200	12/19/19 11:30	jck

GCC Rio Grande

Project ID:

Sample ID: MW-2B

ACZ Sample ID: **L56347-03**

Date Sampled: 11/09/19 12:47

Date Received: 12/10/19

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	12/13/19 13:07	kja
Arsenic, dissolved	M200.8 ICP-MS	5		U		mg/L	0.001	0.005	12/17/19 14:25	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja
Boron, dissolved	M200.7 ICP	5	0.2	B		mg/L	0.1	0.5	12/13/19 13:07	kja
Cadmium, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0003	0.001	12/17/19 14:25	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja
Copper, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	12/13/19 13:07	kja
Lead, dissolved	M200.8 ICP-MS	5		U		mg/L	0.0005	0.003	12/17/19 14:25	mfm
Lithium, dissolved	M200.7 ICP	5	0.44			mg/L	0.04	0.2	12/13/19 13:07	kja
Manganese, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja
Mercury, dissolved	M245.1 CVAA	1		UH	*	mg/L	0.0002	0.001	12/11/19 16:22	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	12/13/19 13:07	kja
Selenium, dissolved	M200.8 ICP-MS	5	0.0903			mg/L	0.0005	0.001	12/17/19 14:25	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	12/13/19 13:07	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	12/13/19 13:07	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.5	H	*	mg/L	0.1	0.4	12/11/19 18:49	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		15	H		mg/L	0.1	0.5	12/27/19 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	14.7	H	*	mg/L	0.1	0.5	12/10/19 23:04	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.08	H	*	mg/L	0.01	0.05	12/10/19 22:57	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/11/19 0:00	nmc
pH measured at		1	24.5			C	0.1	0.1	12/11/19 0:00	nmc
Residue, Filterable (TDS) @180C	SM2540C	2	5510	H	*	mg/L	40	80	12/16/19 13:28	mlh

Report Header Explanations

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

QC Sample Types

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

<i>B</i>	Analyte concentration detected at a value between MDL and PQL. The associated value is an estimated quantity.
<i>H</i>	Analysis exceeded method hold time. pH is a field test with an immediate hold time.
<i>L</i>	Target analyte response was below the laboratory defined negative threshold.
<i>U</i>	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://aczk.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf>

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: **L56347**

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
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.972	mg/L	99	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.15	0.15			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	1.0012		.993	mg/L	99	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	1.0012	U	1.081	mg/L	108	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	1.0012	U	1.048	mg/L	105	85	115	3	20	

Arsenic, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488318													
WG488318ICV	ICV	12/17/19 13:38	MS191014-8	.05		.04929	mg/L	99	90	110			
WG488318ICB	ICB	12/17/19 13:40				U	mg/L		-0.00044	0.00044			
WG488318LFB	LFB	12/17/19 13:42	MS191119-5	.05005		.04957	mg/L	99	85	115			
L56358-01AS	AS	12/17/19 14:29	MS191119-5	.05005	U	.05358	mg/L	107	70	130			
L56358-01ASD	ASD	12/17/19 14:31	MS191119-5	.05005	U	.0577	mg/L	115	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
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.949	mg/L	97	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.5005		.5	mg/L	100	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.5005	U	.52	mg/L	104	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.5005	U	.504	mg/L	101	85	115	3	20	

Boron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.99	mg/L	100	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.06	0.06			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.5005		.517	mg/L	103	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.5005	.03	.575	mg/L	109	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.5005	.03	.552	mg/L	104	85	115	4	20	

Cadmium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488318													
WG488318ICV	ICV	12/17/19 13:38	MS191014-8	.05		.048453	mg/L	97	90	110			
WG488318ICB	ICB	12/17/19 13:40				U	mg/L		-0.00011	0.00011			
WG488318LFB	LFB	12/17/19 13:42	MS191119-5	.05005		.049344	mg/L	99	85	115			
L56358-01AS	AS	12/17/19 14:29	MS191119-5	.05005	U	.052973	mg/L	106	70	130			
L56358-01ASD	ASD	12/17/19 14:31	MS191119-5	.05005	U	.054658	mg/L	109	70	130	3	20	

GCC Rio Grande

ACZ Project ID: **L56347**

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.

Chromium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.957	mg/L	98	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.501		.497	mg/L	99	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.501	U	.526	mg/L	105	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.501	U	.501	mg/L	100	85	115	5	20	

Cobalt, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2.002		1.961	mg/L	98	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.5		.511	mg/L	102	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.5	U	.532	mg/L	106	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.5	U	.498	mg/L	100	85	115	7	20	

Copper, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.911	mg/L	96	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.5005		.488	mg/L	98	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.5005	U	.521	mg/L	104	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.5005	U	.501	mg/L	100	85	115	4	20	

Fluoride

SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG487911													
WG487911ICV	ICV	12/11/19 14:56	WC191204-2	2.004		2.06	mg/L	103	90	110			
WG487911ICB	ICB	12/11/19 15:02				U	mg/L		-0.3	0.3			
WG487911LFB1	LFB	12/11/19 15:09	WC191014-1	5.01		4.82	mg/L	96	90	110			
WG487911LFB2	LFB	12/11/19 17:43	WC191014-1	5.01		4.95	mg/L	99	90	110			
L56266-01AS	AS	12/11/19 18:07	WC191014-1	5.01	.2	5.12	mg/L	98	90	110			
L56266-01ASD	ASD	12/11/19 18:13	WC191014-1	5.01	.2	5.17	mg/L	99	90	110	1	20	

Iron, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.933	mg/L	97	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.09	0.09			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	1.0018		.999	mg/L	100	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	1.0018	1.66	2.684	mg/L	102	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	1.0018	1.66	2.615	mg/L	95	85	115	3	20	

GCC Rio Grande

ACZ Project ID: **L56347**

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.

Lead, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488318													
WG488318ICV	ICV	12/17/19 13:38	MS191014-8	.05		.05001	mg/L	100	90	110			
WG488318ICB	ICB	12/17/19 13:40				U	mg/L		-0.00022	0.00022			
WG488318LFB	LFB	12/17/19 13:42	MS191119-5	.05005		.04978	mg/L	99	85	115			
L56358-01AS	AS	12/17/19 14:29	MS191119-5	.05005	U	.05187	mg/L	104	70	130			
L56358-01ASD	ASD	12/17/19 14:31	MS191119-5	.05005	U	.05323	mg/L	106	70	130	3	20	

Lithium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		2.0102	mg/L	101	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.024	0.024			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	1.002		.9998	mg/L	100	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	1.002	.037	1.116	mg/L	108	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	1.002	.037	1.055	mg/L	102	85	115	6	20	

Manganese, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.935	mg/L	97	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.5015		.498	mg/L	99	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.5015	.02	.548	mg/L	105	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.5015	.02	.532	mg/L	102	85	115	3	20	

Mercury, dissolved

M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG487825													
WG487825ICV	ICV	12/11/19 14:49	HG191211-3	.004995		.00498	mg/L	100	95	105			
WG487825ICB	ICB	12/11/19 14:50				U	mg/L		-0.0002	0.0002			
WG487824													
WG487824LRB	LRB	12/11/19 15:37				U	mg/L		-0.00044	0.00044			
WG487824LFB	LFB	12/11/19 15:38	HG191206-3	.002002		.00202	mg/L	101	85	115			
L56307-07LFM	LFM	12/11/19 15:53	HG191206-3	.002002	U	.00189	mg/L	94	85	115			
L56307-07LFMD	LFMD	12/11/19 15:54	HG191206-3	.002002	U	.00189	mg/L	94	85	115	0	20	

Nickel, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.9508	mg/L	98	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.024	0.024			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.501		.4976	mg/L	99	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.501	U	.5129	mg/L	102	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.501	U	.4999	mg/L	100	85	115	3	20	

GCC Rio Grande

ACZ Project ID: **L56347**

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.

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
WG487853													
WG487853ICV	ICV	12/10/19 22:36	WI191112-1	2.416		2.411	mg/L	100	90	110			
WG487853ICB	ICB	12/10/19 22:37				U	mg/L		-0.02	0.02			
WG487853LFB	LFB	12/10/19 22:41	WI191004-3	2		2.041	mg/L	102	90	110			
L56240-01AS	AS	12/10/19 22:43	WI191004-3	2	U	1.997	mg/L	100	90	110			
L56319-01DUP	DUP	12/10/19 22:46			U	U	mg/L				0	20	RA

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
WG487853													
WG487853ICV	ICV	12/10/19 22:36	WI191112-1	.609		.586	mg/L	96	90	110			
WG487853ICB	ICB	12/10/19 22:37				U	mg/L		-0.01	0.01			
WG487853LFB	LFB	12/10/19 22:41	WI191004-3	1		1.01	mg/L	101	90	110			
L56240-01AS	AS	12/10/19 22:43	WI191004-3	1	U	.973	mg/L	97	90	110			
L56319-01DUP	DUP	12/10/19 22:46			U	U	mg/L				0	20	RA

pH (lab)

SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG487844													
WG487844LCSW1	LCSW	12/10/19 17:32	PCN58053	6		6	units	100	5.9	6.1			
WG487844LCSW4	LCSW	12/10/19 21:44	PCN58053	6		6.1	units	102	5.9	6.1			
WG487844LCSW7	LCSW	12/11/19 1:34	PCN58053	6		6.1	units	102	5.9	6.1			
WG487844LCSW10	LCSW	12/11/19 5:25	PCN58053	6		6.1	units	102	5.9	6.1			
L56347-03DUP	DUP	12/11/19 7:30			8.1	8.1	units				0	20	
WG487844LCSW13	LCSW	12/11/19 9:04	PCN58053	6		6.1	units	102	5.9	6.1			

Residue, Filterable (TDS) @180C

SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488214													
WG488214PBW	PBW	12/16/19 12:59				U	mg/L		-40	40			
WG488214LCSW	LCSW	12/16/19 13:01	PCN59814	1000		992	mg/L	99	80	120			
L56405-01DUP	DUP	12/16/19 13:34			1390	1380	mg/L				1	10	
WG488533													
WG488533PBW	PBW	12/19/19 11:20				U	mg/L		-40	40			
WG488533LCSW	LCSW	12/19/19 11:22	PCN59813	1000		996	mg/L	100	80	120			
L56499-34DUP	DUP	12/19/19 11:54			206	204	mg/L				1	10	

Selenium, dissolved

M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488318													
WG488318ICV	ICV	12/17/19 13:38	MS191014-8	.05		.04952	mg/L	99	90	110			
WG488318ICB	ICB	12/17/19 13:40				U	mg/L		-0.00022	0.00022			
WG488318LFB	LFB	12/17/19 13:42	MS191119-5	.05005		.05126	mg/L	102	85	115			
L56358-01AS	AS	12/17/19 14:29	MS191119-5	.05005	.0002	.05464	mg/L	109	70	130			
L56358-01ASD	ASD	12/17/19 14:31	MS191119-5	.05005	.0002	.05772	mg/L	115	70	130	5	20	

GCC Rio Grande

ACZ Project ID: **L56347**

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.

Vanadium, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.964	mg/L	98	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.015	0.015			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.4995		.4964	mg/L	99	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.4995	U	.5211	mg/L	104	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.4995	U	.5062	mg/L	101	85	115	3	20	

Zinc, dissolved

M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG488068													
WG488068ICV	ICV	12/13/19 11:47	II191210-1	2		1.961	mg/L	98	95	105			
WG488068ICB	ICB	12/13/19 11:53				U	mg/L		-0.03	0.03			
WG488068LFB	LFB	12/13/19 12:06	II191204-3	.50075		.544	mg/L	109	85	115			
L56307-11AS	AS	12/13/19 12:55	II191204-3	.50075	.13	.666	mg/L	107	85	115			
L56307-11ASD	ASD	12/13/19 12:58	II191204-3	.50075	.13	.652	mg/L	104	85	115	2	20	

GCC Rio Grande

ACZ Project ID: **L56347**

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L56347-01	WG487911	Fluoride	SM4500F-C	H3	Sample was received and analyzed past holding time.
	WG487824	Mercury, dissolved	M245.1 CVAA	H3	Sample was received and analyzed past holding time.
	WG487853	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			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).
			M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
	WG487844	pH	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).
			SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
	WG488533	Residue, Filterable (TDS) @180C	SM2540C	H3	Sample was received and analyzed past holding time.
L56347-02	WG487911	Fluoride	SM4500F-C	H3	Sample was received and analyzed past holding time.
	WG487824	Mercury, dissolved	M245.1 CVAA	H3	Sample was received and analyzed past holding time.
	WG487853	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			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).
			M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
	WG488533	Residue, Filterable (TDS) @180C	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).
			SM2540C	H3	Sample was received and analyzed past holding time.
L56347-03	WG487911	Fluoride	SM4500F-C	H3	Sample was received and analyzed past holding time.
	WG487824	Mercury, dissolved	M245.1 CVAA	H3	Sample was received and analyzed past holding time.
	WG487853	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
			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).
			M353.2 - Automated Cadmium Reduction	H3	Sample was received and analyzed past holding time.
	WG488214	Residue, Filterable (TDS) @180C	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).
			SM2540C	H3	Sample was received and analyzed past holding time.

GCC Rio Grande

ACZ Project ID: **L56347**

No certification qualifiers associated with this analysis

GCC Rio Grande

ACZ Project ID: L56347

Date Received: 12/10/2019 12:33

Received By:

Date Printed: 12/12/2019

Receipt Verification

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

Samples/Containers

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

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?
4556	1.3	<=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.

GCC Rio Grande

ACZ Project ID: L56347

Date Received: 12/10/2019 12:33

Received By:

Date Printed: 12/12/2019

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).



Laboratories, Inc. L56347

CHAIN of CUSTODY

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

Report to:

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

Copy of Report to:

Name: E-mail:
Company: Telephone:

Invoice to:

Name: Diana Furman Address: 3372 Lime Road, Pueblo, CO 81004
Company: GCC Rio Grande Inc.
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 ☒ 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 ☒

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

Sampler's Name: Scott Leger Sampler's Site Information State CO Zip code 81004 Time Zone MDT

*Sampler's Signature: Scott Leger *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

ANALYSES REQUESTED (attach list or use quote number)

Quote #: GW-COMPLIANCE 03/27/2019

PO#: N/A

Reporting state for compliance testing: Colorado

Check box if samples include NRC licensed material? ☐

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Per attached quote but no pH															
MW-6	11/9/19 14:15	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-7	11/9/19 12:47	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
MW-2B	11/9/19 12:47	GW	3	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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

REMARKS

Field filtration performed on 2 of 3 bottles HNO_3 + white green dot dot

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

RELINQUISHED BY: DATE:TIME RECEIVED BY: DATE:TIME

Scott Leger 11/9/19 15:01 D Furman 11/9/19 15:01
DFurman 12/09/19 UPS # 4871 12/10/19 12:33

FRMAD050.06.14.14

White - Return with sample. Yellow - Retain for your records.

L56347 Chain of Custody

Diana Furman
GCC Rio Grande
3372 Lime Road
Pueblo, CO 81004Page 1 of 2
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 C	\$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.

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

Page 2 of 2
3/27/2019

Quote Number: GW-COMPLIANCE

CONTRACT DETAILS

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 three to five days for delivery when ordering containers. ACZ must be notified prior to receiving samples of all special requests such as electronic data deliverables or special reporting requirements. The client will be charged for special sample containers or express shipping and additional charges may apply for non-standard requests.

This quotation is valid for six months from the bid date unless specified otherwise in the bid. All bids must be signed and returned to ACZ before the project(s) is received. The authorized signature represents acceptance of the pricing as well as the general terms and conditions of ACZ Laboratories, Inc. which may be downloaded from our web site at <http://www.acz.com/PDF/termsconditions.pdf>. Please note that MDL's in this quote may possibly increase due to sample matrix or samples with high TDS.

All orders that require shipping of coolers are subject to a minimum charge of \$200.00. Local orders without shipping are subject to a minimum charge of \$125.00. Samples may incur a \$11.00/sample disposal fee for any samples deemed to be hazardous.

ACZ Representative (Authorized signature and date)

Client Representative (Authorized signature and date)

REPAD.09.06.05.01

S/ tjv D/ ## P/

L56347-1912271234

Page 17 of 17



December 17, 2019

GCC Pueblo

David Bemis

3372 Lime Road

Pueblo

CO

81004

Project Name - Groundwater Monitoring

Project Number - [none]

Attached are your analytical results for Groundwater Monitoring received by Origins Laboratory, Inc. December 10, 2019. This project is associated with Origins project number Y912138-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-6	Y912138-01	Water	December 9, 2019 14:15	12/10/2019 09:05
MW-7	Y912138-02	Water	December 9, 2019 12:47	12/10/2019 09:05

Origins Laboratory, Inc.



Jen Pellegrini, Project 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.

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

www.originslaboratory.com

912138

ORIGINS
LABORATORY, INC

page of

Client: GCC Pueblo
Address: 3372 Lime Rd
Pueblo CO 81004
Telephone Number: (719) 252-2412
Email Address: d.furman@gcc.com

Project Manager: Diana Furman
Project Name: Groundwater Monitoring
Project Number: _____
Samples Collected By: D. Furman / S. Lega
ABX

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis				Sample Instructions
				Unpreserved	HCl	HNO ₃	Other H ₂ SO ₄	Groundwater	Soil	Air Summa Canister #	Other	TDS	FI/NO ₃	Nitrate/ Nitrite	
MW-6	12/09/19	14:15	5												1
MW-7	12/09/19	12:47	5												2
															3
															4
															5
															6
															7
															8
															9
															10

Relinquished By: [Signature] Date: 12/10/19 Time: 0905

Relinquished By: [Signature] Date: 12/10/19 Time: 0905

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☒ Standard

Date Results Needed

Temp Received: 2.2

Origins Laboratory, Inc.

[Signature]

Jen Pellegrini, Project 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.

GCC Pueblo

3372 Lime Road

Pueblo

CO

81004

David Bemis

Project Number: [none]

Project: Groundwater Monitoring

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 4912138

Client: GCC Pueblo

Client Project ID: GW Monitoring

Checklist Completed by: JP

Shipped Via: HD
(UPS, FedEx, Hand-Delivered, Pick-up, etc.)

Date/time completed: 12/10/19

Airbill #: NA

Matrix(s) Received: (Check all that apply): Soil/Solid ☒ Water ☒ Other: (Describe)

Cooler Number/Temperature: 1 12.2 °C / °C / °C / °C

Thermometer ID: TOU3

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	☒	☐	☐	
Is there ice present (document if blue ice is used)	☒	☐	☐	
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	☐	☒	☐	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)	☐	☒	☐	
Were all samples received intact ⁽¹⁾ ?	☒	☐	☐	
Was adequate sample volume provided ⁽¹⁾ ?	☒	☐	☐	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	☒	☐	☐	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	☒	☐	☐	<u>pH</u>
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	☒	☐	☐	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	☒	☐	☐	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	☒	☐	☐	
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.	☐	☐	☒	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)	☒	☐	☐	<u>H₂SO₄</u>
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager)

12-11-19
Date/Time Reviewed

Origins Laboratory, Inc.

Jen Pellegrini

Jen Pellegrini, Project 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.

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

MW-6

12/9/2019 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC

Y912138-01 (Water)

Anions by EPA 300.0

Fluoride	ND	1.65	5.00	mg/L	50	1949080	12/09/2019	12/11/2019	U
Nitrite	ND	1.65	5.00	"	"	"	"	"	HU

Dissolved Metals by 6010C

Aluminum	302	68.0	200	ug/L	1	1949876	12/13/2019	12/13/2019	
Arsenic	ND	5.00	30.0	"	"	"	"	"	U
Beryllium	ND	1.00	5.00	"	"	"	"	"	U
Boron	300	15.0	50.0	"	"	"	"	"	
Cadmium	ND	1.00	5.00	"	"	"	"	"	U
Chromium	2.66	1.00	10.0	"	"	"	"	"	J
Cobalt	22.0	1.00	5.00	"	"	"	"	12/16/2019	
Copper	ND	3.00	20.0	"	"	"	"	12/13/2019	U
Iron	229	30.0	100	"	"	"	"	"	
Lead	ND	3.30	20.0	"	"	"	"	"	U
Manganese	459	2.00	10.0	"	"	"	"	"	
Nickel	87.7	1.50	5.00	"	"	"	"	"	
Selenium	106	6.00	30.0	"	"	"	"	"	
Vanadium	ND	1.00	5.00	"	"	"	"	"	U
Zinc	17.6	3.30	20.0	"	"	"	"	"	J

Dissolved Metals by 6020A

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

MW-6

12/9/2019 2:15:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC

Y912138-01 (Water)

Dissolved Metals by 6020A

Lithium	466	30.0	100	ug/L	10	1949873	12/13/2019	12/15/2019	
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Dissolved Metals by 7470A

Mercury	ND	0.067	0.200	ug/L	1	1950258	"	12/16/2019	U
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Nitrate/Nitrite by EPA 353.2

Nitrogen, Nitrate/Nitrite	8.83	0.070	0.200	mg/L	10	1949601	12/09/2019	12/16/2019	
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pH in Water by EPA 9040C

pH	7.40			pH Units	1	B9L1001	12/10/2019	12/10/2019	
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TDS by EPA 160.1

Total Dissolved Solids	5690	3.40	14.3	mg/L	1	1950845	12/09/2019	12/16/2019	
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Origins Laboratory, Inc.



Jen Pellegrini, Project 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.

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

MW-7

12/9/2019 12:47:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC

Y912138-02 (Water)

Anions by EPA 300.0

Fluoride	ND	1.65	5.00	mg/L	50	1949080	12/09/2019	12/11/2019	U
Nitrite	ND	1.65	5.00	"	"	"	"	"	HU

Dissolved Metals by 6010C

Aluminum	ND	68.0	200	ug/L	1	1949876	12/13/2019	12/13/2019	U
Arsenic	ND	5.00	30.0	"	"	"	"	"	U
Beryllium	ND	1.00	5.00	"	"	"	"	"	U
Boron	167	15.0	50.0	"	"	"	"	"	
Cadmium	ND	1.00	5.00	"	"	"	"	"	U
Chromium	3.22	1.00	10.0	"	"	"	"	"	J
Cobalt	1.74	1.00	5.00	"	"	"	"	12/16/2019	J
Copper	ND	3.00	20.0	"	"	"	"	12/13/2019	U
Iron	ND	30.0	100	"	"	"	"	"	U
Lead	ND	3.30	20.0	"	"	"	"	"	U
Manganese	21.2	2.00	10.0	"	"	"	"	"	
Nickel	20.1	1.50	5.00	"	"	"	"	"	
Selenium	99.3	6.00	30.0	"	"	"	"	"	
Vanadium	ND	1.00	5.00	"	"	"	"	"	U
Zinc	9.11	3.30	20.0	"	"	"	"	"	J

Dissolved Metals by 6020A

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

MW-7

12/9/2019 12:47:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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GEL Laboratories, LLC

Y912138-02 (Water)

Dissolved Metals by 6020A

Lithium	404	30.0	100	ug/L	10	1949873	12/13/2019	12/15/2019	
---------	-----	------	-----	------	----	---------	------------	------------	--

Dissolved Metals by 7470A

Mercury	ND	0.067	0.200	ug/L	1	1950258	"	12/16/2019	U
---------	----	-------	-------	------	---	---------	---	------------	---

Nitrate/Nitrite by EPA 353.2

Nitrogen, Nitrate/Nitrite	16.2	0.175	0.500	mg/L	25	1949601	12/09/2019	12/16/2019	
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pH in Water by EPA 9040C

pH	7.40			pH Units	1	B9L1001	12/10/2019	12/10/2019	
----	------	--	--	----------	---	---------	------------	------------	--

TDS by EPA 160.1

Total Dissolved Solids	5230	3.40	14.3	mg/L	1	1950845	12/09/2019	12/16/2019	
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Origins Laboratory, Inc.



Jen Pellegrini, Project 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.

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Classical Chemistry Parameters - Quality Control Origins Laboratory, Inc.

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

Batch B9L1001 - NO PREP

Duplicate (B9L1001-DUP1)		Source: Y912138-01			Prepared: 12/10/2019 Analyzed: 12/10/2019					
pH	7.37		pH Units		7.40			0.406	200	

Origins Laboratory, Inc.



Jen Pellegrini, Project 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.

GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Anions by EPA 300.0 - Quality Control GEL Laboratories, LLC

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

Batch 1949080 -

BLANK (1204452984-BLK)

Prepared: Analyzed: 12/11/2019

Nitrite	ND	0.100	mg/L				-			U
Fluoride	ND	0.100	"				-			U

LCS (1204452985-BKS)

Prepared: Analyzed: 12/11/2019

Nitrite	2.37	0.100	mg/L	2.50		94.6	90-110			
Fluoride	2.39	0.100	"	2.50		95.5	90-110			

DUP (1204452986 D)

Source: 498648001

Prepared: Analyzed: 12/11/2019

Nitrite	ND	5.00	mg/L		<1.65		0-20	0	20	HU
Fluoride	ND	5.00	"		<1.65		0-20	0	20	U

PS (1204452987 S)

Source: 498648001

Prepared: Analyzed: 12/11/2019

Fluoride	120	5.00	mg/L	2.50		95.8	90-110			
Nitrite	118	5.00	"	2.50		94.3	90-110			H

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 6010C - Quality Control
GEL Laboratories, LLC

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

Batch 1949876 -

FLTB (1204452970-BLK)

Prepared: 12/13/2019 Analyzed: 12/13/2019

Boron	ND	50.0	ug/L				-			U
Copper	ND	20.0	"				-			U
Arsenic	ND	30.0	"				-			U
Beryllium	ND	5.00	"				-			U
Cadmium	ND	5.00	"				-			U
Chromium	ND	10.0	"				-			U
Cobalt	ND	5.00	"				-			U
Lead	ND	20.0	"				-			U
Vanadium	ND	5.00	"				-			U
Selenium	ND	30.0	"				-			U
Nickel	ND	5.00	"				-			U
Manganese	ND	10.0	"				-			U
Zinc	ND	20.0	"				-			U
Aluminum	ND	200	"				-			U
Iron	ND	100	"				-			U

BLANK (1204454700-BLK)

Prepared: 12/13/2019 Analyzed: 12/13/2019

Lead	ND	20.0	ug/L				-			U
Manganese	ND	10.0	"				-			U
Nickel	ND	5.00	"				-			U
Selenium	ND	30.0	"				-			U
Zinc	ND	20.0	"				-			U
Iron	ND	100	"				-			U
Arsenic	ND	30.0	"				-			U
Vanadium	ND	5.00	"				-			U
Copper	ND	20.0	"				-			U
Cobalt	ND	5.00	"				-			U

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 6010C - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1949876 - SW846 3005A

BLANK (1204454700-BLK)

Prepared: 12/13/2019 Analyzed: 12/13/2019

Chromium	ND	10.0	ug/L				-			U
Cadmium	ND	5.00	"				-			U
Beryllium	ND	5.00	"				-			U
Aluminum	ND	200	"				-			U
Boron	ND	50.0	"				-			U

LCS (1204454701-BKS)

Prepared: 12/13/2019 Analyzed: 12/16/2019

Cobalt	542	5.00	ug/L	500		108	80-120			
Beryllium	513	5.00	"	500		103	80-120			
Arsenic	497	30.0	"	500		99.4	80-120			
Boron	503	50.0	"	500		101	80-120			
Cadmium	505	5.00	"	500		101	80-120			
Chromium	514	10.0	"	500		103	80-120			
Vanadium	517	5.00	"	500		103	80-120			
Copper	514	20.0	"	500		103	80-120			
Zinc	492	20.0	"	500		98.4	80-120			
Selenium	505	30.0	"	500		101	80-120			
Nickel	493	5.00	"	500		98.6	80-120			
Manganese	511	10.0	"	500		102	80-120			
Lead	519	20.0	"	500		104	80-120			
Iron	5070	100	"	5000		101	80-120			
Aluminum	4850	200	"	5000		96.9	80-120			

DUP (1204454702 D)

Source: Y912138-01

Prepared: 12/13/2019 Analyzed: 12/13/2019

Zinc	16.9	20.0	ug/L		17.6	0-20	4.17	20	J
Manganese	467	10.0	"		459	0-20	1.56	20	
Copper	ND	20.0	"		<3.00	0-20	40.4	20	U

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 6010C - Quality Control

GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1949876 - SW846 3005A

DUP (1204454702 D)			Source: Y912138-01			Prepared: 12/13/2019 Analyzed: 12/13/2019				
Vanadium	ND	5.00	ug/L		<1.00	0-20	200	20	U	
Nickel	86.5	5.00	"		87.7	0-20	1.38	20		
Lead	ND	20.0	"		<3.30	0-20	1.41	20	U	
Iron	262	100	"		229	0-20	13.7	20		
Arsenic	ND	30.0	"		<5.00	0-20	NR	20	U	
Selenium	103	30.0	"		106	0-20	3.1	20		
Aluminum	367	200	"		302	0-20	19.4	20		
Cobalt	22.9	5.00	"		22.0	0-20	4.22	20		
Beryllium	ND	5.00	"		<1.00	0-20	53.6	20	U	
Boron	309	50.0	"		300	0-20	2.96	20		
Cadmium	ND	5.00	"		<1.00	0-20	88.7	20	U	
Chromium	3.04	10.0	"		2.66	0-20	13.4	20	J	

MS (1204454703 S)			Source: Y912138-01			Prepared: 12/13/2019 Analyzed: 12/13/2019				
Iron	5310	100	ug/L	5000	229	102	75-125			
Copper	520	20.0	"	500	<3.00	104	75-125			
Cobalt	481	5.00	"	500	22.0	91.8	75-125			
Chromium	480	10.0	"	500	2.66	95.4	75-125			
Cadmium	449	5.00	"	500	<1.00	89.7	75-125			
Boron	824	50.0	"	500	300	105	75-125			
Beryllium	498	5.00	"	500	<1.00	99.7	75-125			
Arsenic	514	30.0	"	500	<5.00	103	75-125			
Lead	434	20.0	"	500	<3.30	86.8	75-125			
Zinc	503	20.0	"	500	17.6	97.2	75-125			
Manganese	972	10.0	"	500	459	102	75-125			
Nickel	595	5.00	"	500	87.7	102	75-125			
Selenium	622	30.0	"	500	106	103	75-125			

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 6010C - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1949876 - SW846 3005A

MS (1204454703 S)		Source: Y912138-01			Prepared: 12/13/2019 Analyzed: 12/13/2019					
Vanadium	513	5.00	ug/L	500	<1.00	103	75-125			
Aluminum	5570	200	"	5000	302	105	75-125			

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Jen Pellegrini, Project Manager

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 6020A - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1949873 -										
FLTB (1204452970-BLK)					Prepared: 12/13/2019 Analyzed: 12/15/2019					
Lithium	ND	10.0	ug/L				-			U
BLANK (1204454683-BLK)					Prepared: 12/13/2019 Analyzed: 12/15/2019					
Lithium	ND	10.0	ug/L				-			U
LCS (1204454684-BKS)					Prepared: 12/13/2019 Analyzed: 12/15/2019					
Lithium	49.4	10.0	ug/L	50.0		98.9	80-120			
DUP (1204454685 D)					Source: Y912138-01 Prepared: 12/13/2019 Analyzed: 12/15/2019					
Lithium	458	100	ug/L		466		0-20	1.66	20	
MS (1204454686 S)					Source: Y912138-01 Prepared: 12/13/2019 Analyzed: 12/15/2019					
Lithium	472	100	ug/L	50.0	466	0	75-125			

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Dissolved Metals by 7470A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1950258 -										
FLTB (1204452970-BLK)					Prepared: 12/13/2019 Analyzed: 12/16/2019					
Mercury	ND	0.200	ug/L				-			U
BLANK (1204455272-BLK)					Prepared: 12/13/2019 Analyzed: 12/16/2019					
Mercury	ND	0.200	ug/L				-			U
LCS (1204455273-BKS)					Prepared: 12/13/2019 Analyzed: 12/16/2019					
Mercury	2.16	0.200	ug/L	2.00		108	80-120			
DUP (1204455274 D)					Source: 498778003 Prepared: 12/13/2019 Analyzed: 12/16/2019					
Mercury	ND	0.200	ug/L		<0.067		0-20	NR	20	U
MS (1204455275 S)					Source: 498778003 Prepared: 12/13/2019 Analyzed: 12/16/2019					
Mercury	2.21	0.200	ug/L	2.00	<0.067	110	75-125			

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

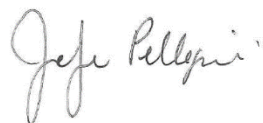
Nitrate/Nitrite by EPA 353.2 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1949601 -

BLANK (1204453978-BLK)					Prepared: Analyzed: 12/16/2019					
Nitrogen, Nitrate/Nitrite	ND	0.020	mg/L				-			U
LCS (1204453979-BKS)					Prepared: Analyzed: 12/16/2019					
Nitrogen, Nitrate/Nitrite	1.05	0.020	mg/L	1.00		105	90-110			
DUP (1204453980 D)					Prepared: Analyzed: 12/16/2019					
Source: 498647001										
Nitrogen, Nitrate/Nitrite	0.870	0.100	mg/L		0.855		0-20	1.74	20	
PS (1204453981 S)					Prepared: Analyzed: 12/16/2019					
Source: 498647001										
Nitrogen, Nitrate/Nitrite	6.10	0.100	mg/L	1.00		105	90-110			

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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

TDS by EPA 160.1 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 1950845 -

BLANK (1204456742-BLK)

Prepared: Analyzed: 12/16/2019

Total Dissolved Solids	ND	14.3	mg/L				-			U
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LCS (1204456743-BKS)

Prepared: Analyzed: 12/16/2019

Total Dissolved Solids	301	14.3	mg/L	300		100	95-105			
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LCSD (1204456744-BKSD)

Prepared: Analyzed: 12/16/2019

Total Dissolved Solids	304	14.3	mg/L	300		101	95-105	0.943	5	
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DUP (1204456745 D)

Source: 498654002

Prepared: Analyzed: 12/16/2019

Total Dissolved Solids	2070	14.3	mg/L		2070		0-5	0.069	5	
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GCC Pueblo
3372 Lime Road
Pueblo CO 81004

David Bemis
Project Number: [none]
Project: Groundwater Monitoring

Notes and Definitions

- U Result not detected above the detection limit
- J Greater than the detection limit but less than the reporting limit
- HU Holding time exceeded. Non detect.
- H Holding time exceeded
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

Origins Laboratory, Inc.



Jen Pellegrini, Project Manager

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