February 26, 2021

Mr. Patrick Lennberg
Colorado Division of Reclamation, Mining, and Safety
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, CO 80203

Submitted electronically to patrick.lennberg@state.co.us

Re: GCC Rio Grande Inc Pueblo Facility, DRMS Permit M-2002-004
Reporting Year 2020 Annual Groundwater Report

Dear Mr. Lennberg:

GCC Rio Grande Inc. (GCC) owns and operates the Pueblo cement plant and associated on-site limestone quarry operations. Enclosed is the 2020 Annual Groundwater Report prepared on behalf of GCC by Resource Hydrogeologic Services, Inc. for this facility.

GCC is requesting to submit this report, including maps and diagrams, electronically, and will provide an additional hardcopy with appropriate scaling, upon request.

As previously discussed, I will be reaching out to you in the next few weeks to continue the discussion of enhancing groundwater monitoring at this facility, including answering any questions you may have on the contents of this report.

GCC looks forward to continue working with the Colorado Division of Reclamation, Mining & Safety (DRMS) on the groundwater monitoring at the Pueblo facility. If you have questions or concerns regarding this submittal, please do not hesitate to contact me at (719) 647-6861.

Sincerely,

Diana Furman
Environmental Engineer

Enclosure

CC: Alex Alarcon, GCC
Gina Lotito, GCC
Landon Beck, RHS

2020 GCC Rio Grande Pueblo Plant Annual Groundwater Report

Submitted to:
GCC Rio Grande, Inc.

Date:
February 25, 2021

Resource Hydrogeologic Services, Inc.
232 Ute Pass West
Durango, CO 81301
Tel: (970) 459-4865
Email info@resourcehydrogeologic.com

RESOURCE HYDROGEOLOGIC SERVICES

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INTRODUCTION

This Annual Groundwater Report provides a compilation and interpretation of groundwater monitoring data 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 documents groundwater monitoring activities, results and interpretations for 2020. This satisfies a requirement of the CDRMS Mining Permit M-2002-004, specifically under the approved Technical Revision 7 (TR-07). To best support these efforts, GCC maintains a quality assurance/quality control (QA/QC) program to:

- Conduct GCC compliance staff and contractor training on water quality sampling for all GCC monitoring locations, equipment and methodologies, with detailed written procedure for groundwater monitoring provided in the facility Sampling and Analysis Plan approved under TR-07.
- Collect all water quality field data with an industry-standard multi-parameter device with electronic data deliverable (EDD) output for all field data.
- Conduct industry-standard, 10% random QA/QC lab sample submittals for duplicate and field blank water quality samples.
- Utilize EDDs produced by the contract environmental analytical laboratory for all data analyses.
- Implement Level IV data validation of all compliance groundwater analytical laboratory reporting.
- Compile and manage all water quality and level data in a geo-referenced Microsoft Access database.

GROUNDWATER MONITORING

GROUNDWATER MONITORING LOCATIONS

In 2020 GCC monitored four groundwater monitoring wells at the facility, which are shown on the location map included as **Figure 1**:

- MW-5 completed in unconsolidated surficial/overburden 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 Hayes Limestone just down-dip, and presumed to be downgradient of mine panel 2 and upgradient of the plant.
- MW-7 completed in the Fort Hayes 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 Hayes Limestone that was documented when exposed during the mining of Panel 2. MW-7 is located approximately 25 feet northwest of MW-6.
- MW-8 was in installed in February of 2020 and is completed in the Codell Sandstone, just down-dip, and presumed to be downgradient of mine panel 2 and upgradient of the plant. MW-8 is located approximately 25 feet northeast of MW-7.

GROUNDWATER MONITORING DATA COLLECTION

Groundwater monitoring was conducted quarterly in 2020 at MW-6, MW-7, and MW-8, however due to COVID-19 health and safety regulations, monitoring was not conducted in 2020Q2, with approval of these extenuating circumstances to GCC by CDRMS. Because MW-8 was installed at the end of February 2020 and was initially dry, a representative compliance sample could not be collected prior to GCC's initiation of COVID-19 protocols restricting access and work performed at the facility. MW-8 was purged dry at the time MW-6 and MW-7 were monitored, however facility protocols implemented immediately following the MW-8 purge prevented the sampling contractor from returning to complete the MW-8 monitoring during that 2020Q2 period. MW-5, which has been observed as dry since installation in 2013, was monitored in 2020Q3 and 2020Q4 and as with all previous years, was found to be dry in each event.

For the wet monitoring wells MW-6, MW-7, and MW-8, 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.

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. This protocol is the foundation for the SAP approved by CDRMS in 2020 TR-07 and adopted by GCC as the site-specific, stand-alone document guiding groundwater monitoring at the facility.

Groundwater was purged and sampled by means of disposable plastic bailer for all monitoring events in 2020. Three-casing volumes were purged prior to sample collection, or otherwise until the well was purged dry and revisited to collect a sample at a later time when adequate volume was present to fill all required sample bottles. MW-6 and MW-8 demonstrate low-head, low-yield conditions typically resulting in a purge that evacuates the well bore. At MW-6, a period of several hours was required to allow recovery in order to obtain a representative water quality sample following the initial purge during 2020 monitoring events. However, MW-7, the adjacent well completed across a known local Fort Hayes fault, is a relatively high-head, high-yield monitoring well in which production to obtain a representative water quality sample has been adequate to collect immediately following the three well bore purge. MW-8 exhibits even lower-yield conditions than MW-6; after the initial purges during the 2020Q3 and 2020Q4 monitoring events this well did not recover to yield adequate volume for collection of samples for 1-2 weeks. **Table 1** includes field parameters for each sample event and **Attachment 1** is a compilation of all MW-5, MW-6, MW-7, and MW-8 "Groundwater Sampling Record" field forms completed by the sampler for 2020 monitoring.

The CDRMS-required groundwater compliance constituents for the facility are given in **Table 1**. These constituents are required by TR-06 and represent the 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

GROUNDWATER QUALITY

Analytical results from water quality samples collected from MW-6, MW-7, and MW-8 are presented in **Table 1**. Samples were analyzed for selected general chemistry and trace elements, and compared to CDPHE Colorado Water Quality Control Commission agricultural use reference standards (CDPHE, 2016). Complete analytical laboratory reports for 2020 are provided as **Attachment 2**.

Observed water quality in the Fort Hayes Limestone at locations MW-6 and MW-7 is characterized by near neutral to alkaline pH, and total dissolved solids (TDS) ranging from 4,950 to 6,740 mg/L. Generally, concentrations of analyzed constituents were less than the applicable reference standards, with a few exceptions. Concentrations of manganese at MW-6 consistently exceeded the reference standard for samples collected at MW-6 between 2018 and 2020. 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. No exceedances of manganese were observed in MW-7. Selenium exceeds the reference standard for four of eight (50%) and five of six (approximately 80%) samples collected from MW-6 and MW-7, respectively. The occurrence and abundance of selenium in groundwater of the Fort Hayes Limestone is likely attributed to naturally-occurring seleniferous minerals deposited in a marine environment.

Although both MW-6 and MW-7 were completed in Fort Hayes Limestone in relatively 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 flow paths. 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.

An additional monitoring well, MW-8, was installed in the underlying Codell Sandstone to support the definition of site-wide and regional groundwater flow paths and provide additional basis to evaluate potential impacts from site activities. Groundwater chemistry at MW-8 exhibits neutral pH and TDS ranging from 4,060 to 8,600 mg/L. Exceedances of the groundwater quality reference standards were documented for both boron and manganese. Further monitoring of groundwater quality in the Codell

Sandstone will provide additional support to the overall evaluation of groundwater quality conceptual understanding of site groundwater.

QUALITY ASSURANCE/QUALITY CONTROL

In 2020 GCC collected and submitted one blind duplicate sample in the quarter one, 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 quarters one and three, and MW-8 in quarter four.

Future compliance groundwater sampling will continue to include standard submittal of 10% QA/QC blind duplicate or field blank samples per quarter (one sample for up to ten sites).

Beginning in 2020, per the approved SAP, the compliance groundwater data were validated at EPA Level III (EPA Stage 2B) with a minimum of 10% validated as EPA raw data review. All laboratory standard delivery groups (SDGs) are Level IV. The groundwater data validation for 2020 found that the laboratory has complied with the requested methods and the data is considered fully useable for project purposes with the exception of nitrite data for all samples submitted in 2020Q4. This nitrite data was qualified as rejected as it exceeded the 48-hour method 353.2 hold time. The samples were received right at the 48-hour hold time maximum due to a winter storm delay with UPS next day air delivery, and then due to the Thanksgiving holiday, these analyses were not run for six days. However, the total nitrogen data are qualified as estimated and are considered useable for project purposes. The data quality review report, prepared by Diane Short & Associates, Inc., is included here as **Attachment 3**.

GROUNDWATER LEVEL

Bedrock groundwater level data for the facility is currently limited to two Fort Hayes Limestone monitoring wells, and one Codell Sandstone monitoring well. Shallow groundwater at the facility was not observed to be present in 2020; the single unconsolidated surficial/overburden well MW-5 has been documented dry since installation in 2013. Of the two Fort Hayes 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 Hayes Limestone hosts a groundwater pressure regime that is derived from limited fracture networks with relatively low hydraulic conductivity and storage. However, as displayed in **Figure 2**, over the course of monitoring in 2020, the static water level at MW-6 tracked with MW-7. This appears to complete the pressure regime equilibration that was evolving since these wells were installed and water level monitoring began in January 2018. MW-8, which was a completely dry borehole at the time it was drilled in February 2020, only wetted after approximately a week. The COVID-19 schedule disruptions prevented planned monthly water level measurements that were intended to more closely track the pressure regime evolution for the three months following installation of MW-8. Nevertheless, it appears that by the September 16, 2020 monitoring event all three monitoring wells at this location had roughly equivalent depth to water measurements, all measured to be within 0.13 feet of each other. While this is

only a single point in time, the coincident water levels in these wells suggests hydraulic communication between the Fort Hayes and Codell at this location.

The MW-8 depth to water measurement in 2020Q4 deviates by approximately 7 feet from depth measurements at MW-6 and MW-7. This is likely because MW-8 was still recovering after being purged dry during the sampling event in 2020Q3.

Note that while the hydrograph presented as **Figure 2** is based on measured depths to water without conversion to potentiometric groundwater elevation, these locations are on a flat-graded wellsite pad. High-accuracy surveying of all facility monitoring wells is planned for 2021 and will assist with further defining the extent of Fort Hayes limestone and Codell sandstone hydraulic communication and delineation of the bedrock vertical pressure gradient at this location. This characterization will also be aided by additional bedrock groundwater monitoring well installations at other locations at the facility planned for 2021.

RECOMMENDATIONS

To further support the understanding of the physical and geochemical characteristics of (and potential communication between) the Fort Hayes Limestone and Codell Sandstone lithologic units, the following recommendations are presented to address gaps in the dataset and improve the site conceptual model understanding.

- Collect major cations and anions to determine general groundwater type, which will significantly improve the ability to assess inorganic trace constituent groundwater chemistry. Add calcium, magnesium, sodium, potassium, chloride, sulfate, bicarbonate, and total alkalinity as voluntary supplementation to the existing compliance groundwater analytical suite required by TR-06.
- Add additional groundwater monitoring well locations to monitor groundwater chemistry along interpreted flow paths to improve the understanding of the nature and extent of constituents of interest. In addition to aiding facility groundwater chemistry interpretation, installing and maintaining at least three monitoring wells in each relevant hydrostratigraphic interval will allow delineation of the respective unconsolidated surficial/overburden sediments, Fort Hayes limestone and Codell sandstone groundwater flow direction and gradient. One of the clustered monitoring well locations should be located sufficiently downgradient on the facility property to adequately represent the groundwater point-of-compliance.

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.

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

TABLES

Table 1 (Page 1 of 2). GCC Quarterly Compliance Monitoring Data 2018-2020.

Location ID	Sample Date	Depth to Water (ft TOC)	Field pH (SU)	Field Specific Conductance (µS/cm)	Field Temperature (Degrees C)	Total Dissolved Solids (mg/L)	Fluoride (mg/L)	Nitrate (mg/L)	Nitrate/Nitrite (mg/L)	Nitrite (mg/L)	Aluminum (mg/L	Arsenic (mg/L)	Beryllium (mg/L)
MW-5	9/17/2020	DRY											
MW-5	11/23/2020	DRY											
MW-6	1/3/2018	48.24	6.95	4720	14	----			<0.020		0.636	<0.03	<0.005
MW-6	4/27/2018	41.31	7.2	6200	16.3	5030	<1.0	<0.10	<0.020	<0.040	<0.2	<0.03	<0.005
MW-6	9/26/2018	DRY											
MW-6	12/12/2018	42.91	7.39	6500	14.9	----	<1.0	----	<0.020	<0.040	<0.2	<0.03	<0.005
MW-6	3/7/2019	56.03	Inadequate volume for representative field parameters or lab sample submittal										
MW-6	6/12/2019	43.92	7.14	5975	17.8	5620	0.6	12	12.1	0.03	0.5	<0.2	<0.05
MW-6	9/19/2019	28.15	----	----	----	5860	0.6	11	11.1	0.08	<0.3	0.0004	<0.05
MW-6	12/9/2019	30.44	----	----	----	5460	0.8	8.1	8.12	0.02	<0.3	<0.001	<0.05
MW-6	3/9/2020	32.30	7.22	5591	16.5	5780	0.7	2.02	2.58	0.56	<0.3	0.0005	<0.05
MW-6	9/16/2020	29.78	7.2	5405	16.7	5480	0.5	0.05	0.05	<0.01	0.19	0.0009	<0.01
MW-6	11/23/2020	30.92	7.25	5425	14.3	5300	0.57	1.62	1.63	0.012	<0.25	<0.001	<0.05
MW-7	1/3/2018	42.91	6.86	4765	15	5510	0.415	----	<0.020	<1.00	1.35	0.00949	<0.005
MW-7	4/27/2018	39.09	6.85	5820	15	5270	<0.50	<0.050	<0.100	<0.020	<0.2	<0.03	<0.005
MW-7	9/26/2018	DRY											
MW-7	12/12/2018	37.84	6.9	6093	14	----	<1.0	----	<0.020	<0.040	<0.2	<0.03	<0.005
MW-7	3/7/2019	40.79	6.95	6020	13.7	5640	----	----	0.0144		<0.2	<0.03	<0.005
MW-7	6/12/2019	31.25	6.95	5997	18	5700	0.5	1.73	1.74	0.01	<0.3	<0.2	<0.05
MW-7	9/18/2019	27.89	----	----	----	6740	0.5	10	10.1	0.02	0.4	0.0003	<0.05
MW-7	12/9/2019	29.51	----	----	----	5320	0.5	14	14.3	0.08	<0.3	<0.001	<0.05
MW-7	3/9/2020	32.46	7.01	6459	15.8	6540	0.4	15	14.9	0.06	<0.3	<0.0002	<0.05
MW-7	9/16/2020	29.65	7.17	4772	15.2	4950	0.4	11	11	0.03	0.16	<0.0002	<0.01
MW-7	11/23/2020	30.40	7.16	4999	14.3	5070	0.47	11	11.2	0.039	<0.25	<0.001	<0.05
MW-8	3/9/2020	43.78	Inadequate volume for representative field parameters or lab sample submittal at time of water level measurement and then COVID-19 restrictions enacted before well could be revisited following purge										
MW-8	9/16/2020	29.74	Inadequate volume for representative field parameters or lab sample submittal after purge - sample collected 9/28/20 because well took 2 weeks to recover										
MW-8	9/28/2020	57.43	7.26	9179	14.7	7900	0.9	<0.02	<0.02	<0.01	<0.25	0.0138	<0.05
MW-8	11/9/2020	37.26	Inadequate volume for representative field parameters or lab sample submittal after purge - sample collected 11/23/20 because well took 2 weeks to recover										
MW-8	11/23/2020	39.73	7.11	5327	13.9	4060	1.14	<0.050	<0.02	<0.01	<0.25	0.00219	<0.05
Field QA/QC Samples													
MW-6 (duplicate)	9/19/2019	----	----	----	----	6020	0.7	11	10.8	0.08	<0.3	0.0004	<0.05
MW-7 (duplicate)	11/9/2019	----	----	----	----	5510	0.5	15	14.7	0.08	<0.3	<0.001	<0.05
MW-7 (duplicate)	3/9/2020	----	----	----	----	6530	0.4	15	14.5	0.05	<0.3	<0.0002	<0.05
MW-7 (duplicate)	6/12/2019	----	----	----	----	5600	0.9	1.28	1.28	<0.01	<0.3	<0.2	<0.05
MW-7 (duplicate)	9/16/2020	----	----	----	----	5040	0.4	11	10.9	0.03	0.11	<0.0002	<0.01
MW-8 (duplicate	11/23/2020	----	----	----	----	4040	1.15	<0.050	<0.02	<0.01	<0.25	0.00234	<0.05
CDPHE Regulation 41 Table 3 Groundwater Quality Reference Standards (Agricultural Use)			*6.5 -8.5*	----	----	----	*2*	----	*100*	*10*	*5.0*	*0.10*	*0.10*

Notes:
Concentrations in bold indicate exceedance of CDPHE Groundwater Quality Reference Standard for Agricultural Use.
MW-5 has been dry since installation and initial monitoring on 4/13/2013.
2020 Quarter 2 monitoring not conducted due to COVID-19 restrictions.

Table 1 (Page 2 of 2). GCC Quarterly Compliance Monitoring Data 2018-2020.

Location ID	Sample Date	Boron (mg/L)	Cadmium (mg/L)	Chromium (mg/L)	Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Lithium (mg/L)	Manganese (mg/L)	Mercury (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Vanadium (mg/L)	Zinc (mg/L)	Barium (mg/L)
MW-5	9/17/2020															
MW-5	11/23/2020															
MW-6	1/3/2018	0.633	<0.005	<0.005	0.00423	0.0061	0.474	<0.01	0.664	**0.591**	<0.0002	0.0289	<0.03	<0.005	0.0248	----
MW-6	4/27/2018	0.654	<0.005	<0.005	0.0188	<0.01	0.0556	<0.01	0.689	**1.14**	<0.0002	0.0688	<0.03	<0.005	<0.01	0.032
MW-6	9/26/2018															
MW-6	12/12/2018	0.624	<0.005	<0.005	0.00601	<0.01	<0.1	0.00399	0.476	**0.663**	<0.0002	0.0171	0.00619	0.00116	0.00899	----
MW-6	3/7/2019	DRY													DRY	
MW-6	6/12/2019	0.5	0.0003	<0.05	<0.05	<0.05	0.8	0.0022	0.52	**0.97**	<0.0002	0.15	**0.0966**	<0.03	<0.05	----
MW-6	9/19/2019	0.3	0.00026	<0.05	0.05	<0.05	0.3	0.0004	0.49	**0.58**	<0.0002	0.13	**0.14**	<0.03	<0.05	----
MW-6	12/9/2019	0.3	<0.0003	<0.05	<0.05	<0.05	<0.2	<0.0005	0.49	**0.49**	<0.0002	0.11	**0.088**	<0.03	<0.05	----
MW-6	3/9/2020	0.3	0.00016	<0.05	<0.05	0.06	<0.2	<0.0001	0.48	**0.4**	<0.0002	0.11	**0.0401**	<0.03	<0.05	----
MW-6	9/16/2020	0.31	0.00011	0.01	0.03	<0.01	0.19	0.0006	0.486	**0.39**	<0.0002	0.088	0.0064	<0.01	0.02	----
MW-6	11/23/2020	0.325	<0.00025	<0.05	<0.05	<0.05	<0.3	<0.0005	0.448	**0.334**	<0.0002	0.114	0.0155	<0.05	0.11	----
MW-7	1/3/2018	0.461	<0.005	<0.005	0.00135	0.00555	1.39	<0.01	0.779	0.20	<0.0002	0.0163	<0.03	0.0023	0.0267	----
MW-7	4/27/2018	0.441	<0.005	<0.005	<0.005	<0.01	0.249	<0.01	0.665	0.166	<0.0002	0.00607	<0.03	<0.005	<0.01	0.0142
MW-7	9/26/2018															
MW-7	12/12/2018	0.446	<0.005	<0.005	<0.005	<0.01	0.242	<0.01	0.571	0.101	<0.0002	0.00359	<0.03	<0.005	0.0102	----
MW-7	3/7/2019	0.427	<0.005	<0.005	0.00197	<0.01	0.297	<0.01	0.557	0.152	<0.0002	0.008	<0.03	<0.005	0.00956	----
MW-7	6/12/2019	0.4	<0.04	<0.05	<0.05	<0.05	<0.2	<0.2	0.62	0.14	<0.0002	<0.04	0.0087	<0.03	<0.05	----
MW-7	9/18/2019	0.3	0.00015	<0.05	<0.05	<0.05	0.8	0.001	0.48	0.1	<0.0002	<0.04	**0.0762**	<0.03	<0.05	----
MW-7	12/9/2019	0.2	<0.0003	<0.05	<0.05	<0.05	<0.2	<0.0005	0.44	<0.05	<0.0002	<0.04	**0.0903**	<0.03	<0.05	----
MW-7	3/9/2020	0.2	0.00011	<0.05	<0.05	<0.05	<0.2	<0.0001	0.6	<0.05	<0.0002	<0.04	**0.0701**	<0.03	<0.05	----
MW-7	9/16/2020	0.14	0.00007	0.01	<0.01	<0.01	0.15	0.0002	0.428	0.01	<0.0002	0.013	**0.0655**	<0.01	<0.02	----
MW-7	11/23/2020	0.153	<0.00025	<0.05	<0.05	<0.05	<0.3	<0.0005	0.376	<0.05	<0.0002	<0.04	**0.0452**	<0.05	<0.1	----
MW-8	3/9/2020															
MW-8	9/16/2020															
MW-8	9/28/2020	**1.2**	<0.00025	<0.05	<0.05	<0.05	2.62	<0.0005	0.51	**0.299**	<0.0002	<0.04	0.00075	<0.05	<0.1	----
MW-8	11/9/2020															
MW-8	11/23/2020	**0.817**	<0.00025	<0.05	<0.05	<0.05	<0.3	<0.0005	0.333	**0.249**	<0.0002	<0.04	<0.0005	<0.05	<0.1	----
Field QA/QC Samples																
MW-6 (duplicate)	9/19/2019	0.3	0.00031	<0.05	0.05	<0.05	0.3	0.0005	0.48	**0.57**	<0.0002	0.15	**0.141**	<0.03	<0.05	----
MW-7 (duplicate)	11/9/2019	0.2	<0.0003	<0.05	<0.05	<0.05	<0.2	<0.0005	0.44	<0.05	<0.0002	<0.04	**0.0903**	<0.03	<0.05	----
MW-7 (duplicate)	3/9/2020	0.1	0.0001	<0.05	<0.05	<0.05	<0.2	<0.0001	0.6	<0.05	<0.0002	<0.04	**0.0704**	<0.03	<0.05	----
MW-7 (duplicate)	6/12/2019	0.4	<0.04	<0.05	<0.05	<0.05	0.2	<0.2	0.61	0.14	<0.0002	<0.04	**0.0084**	<0.03	<0.05	----
MW-7 (duplicate)	9/16/2020	0.13	0.00007	0.01	<0.01	<0.01	0.12	0.0002	0.425	0.01	<0.0002	0.01	**0.0654**	<0.01	<0.02	----
MW-8 (duplicate	11/23/2020	**0.834**	<0.00025	<0.05	<0.05	<0.05	<0.3	<0.0005	0.337	**0.253**	<0.0002	<0.04	<0.0005	<0.05	<0.1	----
CDPHE Regulation 41 Table 3 Groundwater Quality Reference Standards (Agricultural Use)		*0.750*	*0.01*	*0.10*	*0.05*	*0.2*	*5.0*	*0.10*	*2.5*	*0.20*	*0.01*	*0.20*	*0.02*	*0.10*	*2.0*	----

Notes:
Concentrations in bold indicate exceedan
MW-5 has been dry since installation and
2020 Quarter 2 monitoring not conductec

FIGURES

Figure 1. GCC site map with 2020 groundwater monitoring locations.

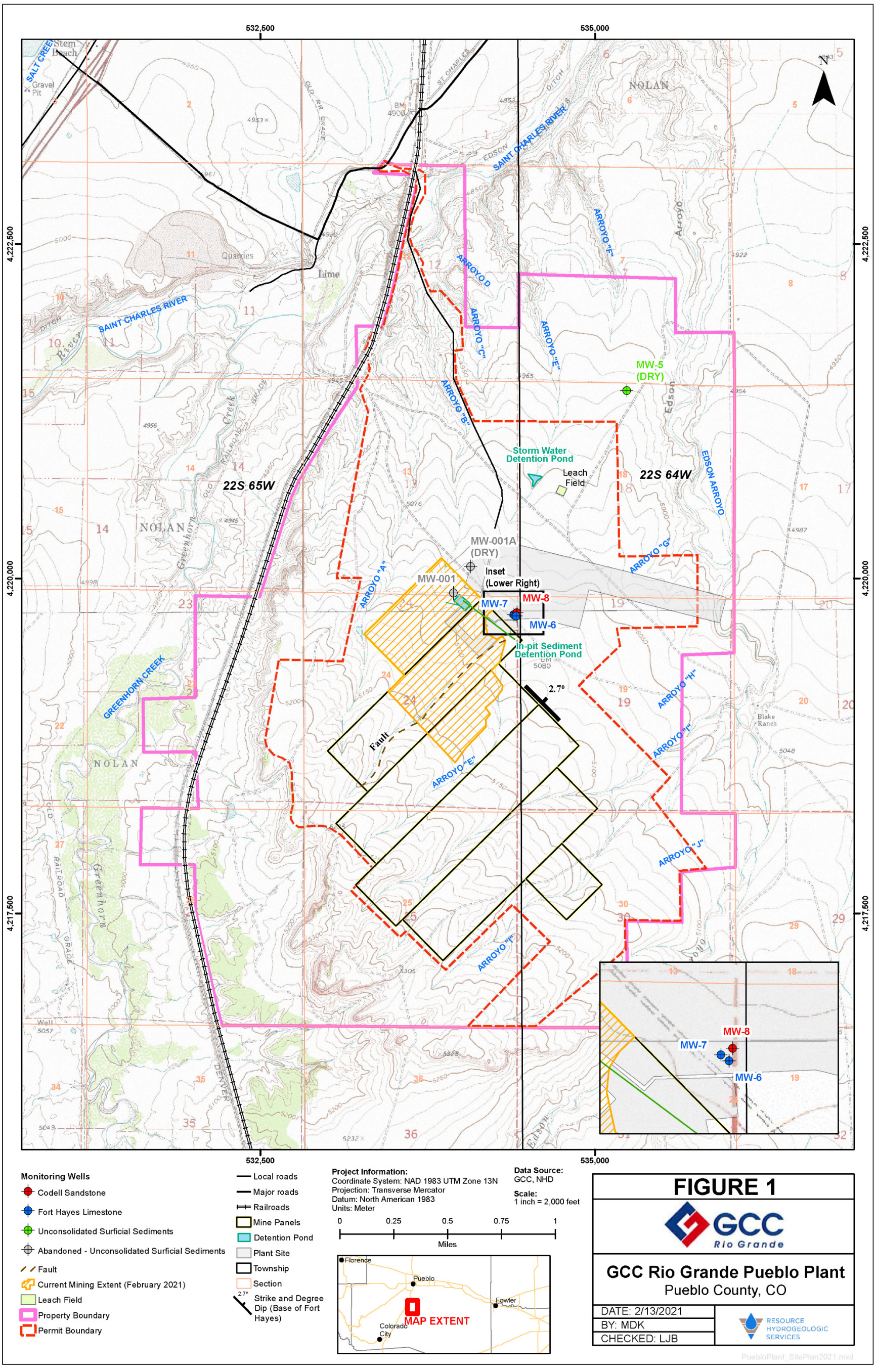
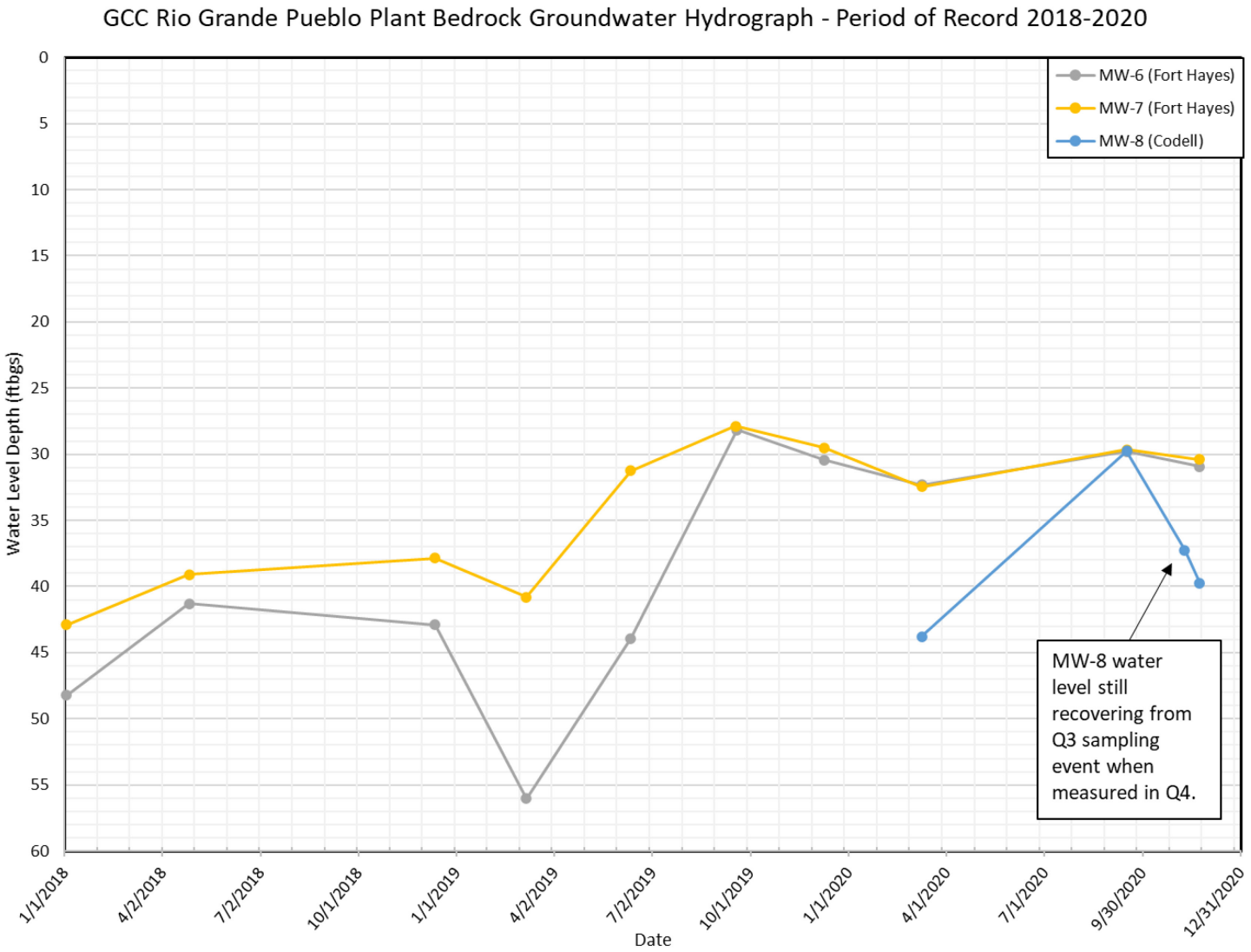


Figure 2. GCC Rio Grande Pueblo Plant Bedrock Groundwater Hydrograph – Period of Record 2018-2020.



ATTACHMENT 1 - GCC Groundwater Sampling Records

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-6

Project No:	Location: GCC Pueblo	Page of
Date: 3/9/20	Weather Conditions: Sunny	Personnel:
Comments:		

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech WLM		
pH Meter	YSI Pro Series		Std: 4 (7) 10 @ 21.5 °C Reading 7.01 — Slope:
pH Meter	–		Std: (4) 7 10 @ 20.9 °C Reading 4.00
Specific Conductance Meter	YSI Pro Series		Std: 10 uS @ ~~25 °C~~ 20.3 Reading 10.05
Specific Conductance Meter	–		Std: 1413 uS @ 25 °C Reading 1413
Temperature	YSI Pro Series		
Other:	–		

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2"	Borehole Diameter (inches):	Screened Interval (ft. BGL):
Depth to Water (ft below MP): 34.80	Total Depth (ft): 60.15	Casing Volume (gal): 406 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)
Purging Method: Bailer		

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
10:25	Intl.	34.80	6.89	5705	17.1	Clear No odor	
10:32	2.0	39.85	6.88	5771	15.2	" "	
10:40	4.0	44.32	6.92	5660	15.4	" "	
10:48	6.0	49.27	6.98	5859	15.2	" "	
11:02	8.0	53.24	6.94	5865	14.9	" "	
11:09	10.0	58.10	7.02	5857	15.5	" "	
11:17	12.5	58.95	7.13	5973	15.5	Slight turbidity	Purged dry

Cummulative Volume Purged: (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: (see above)

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
3/9/20 1338	56.87		7.22	5591	16.5	clear	H_2O, no	odor

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments
3/9/20	125	LDPE	1	yes	HNO_3	
3/9/20	250	LDPE	1	No	–	
3/9/20	500	LDPE	1	No	–	

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-7

Project No: | Location: GCC Pueblo | Page of

Date: 3-9-20 | Weather Conditions: Sunny | Personnel:

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech MLM		
pH Meter	YSI Pro Plus		Std: 4 7 10 @ ____ °C Reading ____ Slope:
pH Meter	–		Std: 4 7 10 @ ____ °C Reading ____
Specific Conductance Meter	YSI Pro Plus		Std: ____ uS @ 25 °C Reading ____
Specific Conductance Meter	–		Std: ____ uS @ 25 °C Reading ____
Temperature	YSI Pro Plus		
Other:	–		

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2" | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 35.10 | Total Depth (ft): 59.39 | Casing Volume (gal): 3.89 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method:

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

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
11:59	Intl	35.10	7.02	6234	14.9	Clear no odor	
12:04	2.00	36.50	6.94	6194	15.6	" "	
12:12	4.00	36.82	6.95	6182	15.1	" "	
12:20	6.00	37.20	7.01	6236	15.8	" "	
12:28	8.00	36.94	6.98	6257	15.9	slightly turbid, brown, no odor	
1236	10.00	36.81	7.04	6386	15.4	"	
1248	12.00	37.01	7.01	6455	15.7	"	
Cummulative Volume Purged:		12.0	(gallons)			(casing vol)	

WELL SAMPLING INFORMATION

Sampling Equipment: see above

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
3/9/20 1248	37.01		7.01	6455	15.7	slightly	turbid, brown H_2O, no odor	

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments
3/9/20 1240	125	LDPE	2	Yes	HNO_3	
3/9/20 1243	250	LDPE	2	No	–	
3/9/20 1248	500	LDPE	2	No	–	

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

Equipment Decontamination: N/A

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-8

Project No:

Location: GCC Pueblo

Page of

Date: 3/9/20

Weather Conditions: Sunny

Personnel:

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech WLM		
pH Meter	YSI Pro Series		Std: 4 (7) 10 @ 21.5 °C Reading 7.01 — Slope:
pH Meter			Std: (4) 7 10 @ 20.9 °C Reading 4.00
Specific Conductance Meter	YSI Pro Plus		Std: 10 ~~uS~~ @ ~~25~~ °C Reading 10.05
Specific Conductance Meter			Std: 1413 uS @ 25 °C Reading 1413
Temperature	YSI Pro Plus		
Other:			

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2" | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 64.49 | Total Depth (ft): 65.95 | Casing Volume (gal): 0.234 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method: Bailer

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

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
11:34	Intl	64.49	7.43	16350	15.6	slightly brown no odor	
11:40	0.25	65.24	7.47	15375	15.2	" "	

Cummulative Volume Purged: (gallons) (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

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-5

Project No: Quarterly Compliance | Location: | Page 1 of 1

Date: 9/17/20 | Weather Conditions: Sunny - 61°F | Personnel: S. Heaney

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration	
Water Level Probe				
pH Meter			Std: 4 7 10 @ _____ °C Reading _____	Slope:
pH Meter			Std: 4 7 10 @ _____ °C Reading _____	
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____	
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____	
Temperature				
Other:				

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

WELL PURGING INFORMATION

Casing Diameter (inches): 2" | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): Dry | Total Depth (ft): 26.44 | Casing Volume (gal): N/A (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method: N/A

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Specific Conductance (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
9/17/20	~0925						

Cummulative Volume Purged: (gallons) (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
N/A								

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-6

Project No: Quarterly Compliance | Location: | Page 1 of 1

Date: 9/16/20 | Weather Conditions: Sunny - 77°F | Personnel: S. Heggy

Comments: Duplicate collected

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech	4275	(4) 7 10 @ 21.4 °C Reading 3.98
pH Meter	YSI Pro Plus	17C100181	Std: 4 (7) 10 @ 21.8 °C Reading 7.02 Slope:
pH Meter	"	"	Std: 4 7 (10) @ 21.7 °C Reading 9.97
Specific Conductance Meter	"	"	Std: _____ uS @ 25 °C Reading _____
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____
Temperature			
Other:			

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

WELL PURGING INFORMATION

Casing Diameter (inches): | Borehole Diameter (inches): | Screened Interval (ft. BGL):

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

Purging Method:

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

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
1124	Initial	32.28	6.49	5321	15.2	clear, no odor	
1137	2	36.94	6.97	5357	15.4	"	
1143	4	40.70	6.95	5341	14.9	"	
1150	6	45.08	6.93	5322	14.9	slightly cloudy, no odor	
1159	8	49.97	6.96	5336	15.2	"	
1204	10	52.97	7.03	5350	15.3	"	
1215	12	57.57	6.96	5421	15.1	"	

Cummulative Volume Purged: 12.5 gal (gallons) 4.44 (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
1530	56.31	56.31	7.20	5405	16.7			clear - no odor

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-7

Project No: Quarterly Compliance | Location: | Page 1 of 1

Date: | Weather Conditions: Sunny - 77°F | Personnel: S. Legg

Comments: Duplicate collected

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech	4225	(4) 21.1 3.98
pH Meter	YSI Pro Plus	12C100181	Std: 4 (7) 10 @ 21.8 °C Reading 7.02 Slope:
pH Meter	"	"	Std: 4 7 (10) @ 21.7 °C Reading 9.97
Specific Conductance Meter	"	"	Std: 1413 uS @ 25 °C Reading 1412
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____
Temperature			
Other:			

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2 | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 32.29 | Total Depth (ft): 59.31 | Casing Volume (gal): 4.32 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

12.97

Purging Method: Bailer

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

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
1402	—	32.29	7.17	4830	17.1	clear, no odor	
1413	3	33.81	7.36	4902	15.7	lt. brown, sediment, no odor	
1422	6	34.38	7.15	4759	14.9	"	
1430	9	34.46	7.13	4759	15.1	"	
1440	12	34.63	7.17	4770	15.0		
1445	13.5	34.62	7.17	4772	15.2		

Cummulative Volume Purged: (gallons) (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
1445	34.62	34.62	7.17	4772	15.2			Lt. Brown - no odor
1500								Duplicate - MW-28

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-8 -- Purge 2

Project No: Quarterly Compliance | Location: | Page 1 of 1

Date: | Weather Conditions: Sunny - 17°F | Personnel: S. Leggs

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech	4725	(12) 21.7 Reading
pH Meter	YSI Pro Plus	17C100181	Std: (4) 7 10 @ 21.4 °C Reading 3.98 — Slope:
pH Meter	YSI Pro Plus	17C100181	Std: 4 (7) 10 @ 21.8 °C Reading 7.02
Specific Conductance Meter	YSI Pro Plus	17C100981	Std: 1413 uS @ 25 °C Reading 1412
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____
Temperature			
Other:			

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

WELL PURGING INFORMATION

Casing Diameter (inches): 2 | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 32.38 | Total Depth (ft): 65.99 | Casing Volume (gal): 5.38 (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65) — 16.13

Purging Method: bailer

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

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
12:41	Initial	32.38	7.08	9956	15.2	~~clear white flecks~~ black & white suspended particles, slightly foamy	Strong sulfur odor
1252	3	49.20	7.50	10164	15.7	"	
1310	6	64.55	7.96	10405	16.0	"	
1335	6.5	65.24	7.70	10763	16.9	almost black, highly sedimented, black particles foamy	

Cummulative Volume Purged: (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer

Comments: See reverse for instrument calibration on 9/17/20 * see narrative

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
~~1640~~	~~65.11~~	~~65.11~~	~~7.52~~	~~10578~~	~~17.6~~	~~Black, sulfur smell, heavily particulated~~		~~Sample not collected~~
1930	65.12	65.12	7.29	10505	17.6	"	"	

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-8

Project No:

Location: GCC - Pueblo

Page 1 of 1

Date: 9/24/20

Weather Conditions: Sunny, clear

Personnel: D. Furman, GCC

Comments: check H_2O levels only

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration	
Water Level Probe				
pH Meter			Std: 4 7 10 @ _____ °C Reading _____	Slope:
pH Meter	N/A		Std: 4 7 10 @ _____ °C Reading _____	
Specific Conductance Meter			Std: _____ uS @ 25 °C Reading _____	
Specific Conductance Meter	N/A		Std: _____ uS @ 25 °C Reading _____	
Temperature				
Other:				

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2 | Borehole Diameter (inches): DUW | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 62.41 | Total Depth (ft): ~~67.25~~ 65.97 | Casing Volume (gal): (gal/ft: 1.5" = 0.09; 2" = 0.16; 4" = 0.65)

Purging Method:

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

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
	N/A						

Cummulative Volume Purged: (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: N/A

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
	N/A							

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			
	N/A					

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

Equipment Decontamination:

Waste Disposal: N/A

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-8

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

Date: 9/28/2020 | Weather Conditions: Sunny - 57°F | Personnel: S. Legg

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration
Water Level Probe	Geotech WLM	8205001 3	(1) 13.3°C 3.99
pH Meter	YSI Pro Plus	12C100181	Std: 4 (7) 10 @ 12.3 °C Reading 7.02 — Slope:
pH Meter	"	"	Std: 4 7 (10) @ 13.6 °C Reading 10.01
Conductivity Meter	"	"	Std: 1413 uS @ 25 °C Reading 1412
Conductivity Meter	"	"	Std: _____ uS @ 25 °C Reading _____
Temperature			
Other:			

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

WELL PURGING INFORMATION

Casing Diameter (inches): 2" | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 60.07 | Total Depth (ft): 65.90 | Casing Volume (gal): (gal/ft: 1.5" = 0.092; 2" = 0.163; 4" = 0.653)

Purging Method: Bailer

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
0930	Initial	60.07	7.00	8221	14.7	Lt. tan, mild sulfur odor, mild foaming	
0945	1 gal	63.84	7.12	8532	14.6	Slightly darker, stronger sulfur odor, mild foam	
0955	1.5	65.01	7.18	9371	14.6	"	
1005	1.5	65.22	7.28	9258	14.7	"	

Cumulative Volume Purged: ~1.5 gal (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer

Comments:

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
10:10	65.22	65.22	7.26	9179	14.7			Lt. brown color, sulfur/mineral odor, mild foam

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments
1010	500	Poly	1	N	Raw	
1010	250	Poly	1	yes	NO	
1010	125	Poly	1	yes	HNO3	

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-5

Page 1 of 1

Project No: 4Q 2020 GW Sampling

Location: GCC Rio Grande

Date: 11/23/20

Weather Conditions: 53°F - Sunny

Personnel: Scott Lux

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No	Calibration
Water Level Probe			
pH Meter			Std: 4 7 10 @ ____°C Reading ____ Slope:
pH Meter	N/A	N/A	Std: 4 7 10 @ ____°C Reading ____
Conductivity Meter			Std: ____µS @ 25 °C Reading ____
Conductivity Meter			Std: ____µS @ 25 °C Reading ____
Temperature			
Other:			

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

WELL PURGING INFORMATION

Casing Diameter (inches): Borehole Diameter (inches): Screened Interval (ft. BGL):

Depth to Water (ft below MP): N/A Total Depth (ft): 20.44 Casing Volume (gal): (gal/ft: 1.5" = 0.092; 2" = 0.163; 4" = 0.653)

Purging Method: N/A

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Conductivity (µS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
N/A - DRY WELL							

Cumulative Volume Purged: (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment:

Comments:

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Conductivity (µS @ 25 deg C)	Temp (deg C)	Other	Other	Comments

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel: Scott Lux

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-6

Project No: 2020 Q4 GW Sampling | Location: MW-6 : GCC Rio Grande | Page 1 of 1

Date: 11/23/20 | Weather Conditions: Sunny 36°F | Personnel: S. Lacy

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No	Calibration
Water Level Probe	Geotech WLM	92500013	(1) 16.99 3.99
pH Meter	YSI Pro Plus	18A104951	Std: 4 (7) 10 @ 14.6 °C Reading 7.02 Slope:
pH Meter			Std: 4 7 (10) @ 11.7 °C Reading 9.99
Conductivity Meter			Std: 1413 µS @ 25 °C Reading 1409
Conductivity Meter			Std: _____ µS @ 25 °C Reading _____
Temperature			
Other:			

Filtration: 0.45 micron in-line high capacity disposable filter

WELL PURGING INFORMATION

Casing Diameter (inches):	Borehole Diameter (inches): 2"	Screened Interval (ft. BGL):	
Depth to Water (ft below MP): 33.42	Total Depth (ft): 59.47	Casing Volume (gal): 4.25	(gal/ft: 1.5" = 0.092; 2" = 0.163; 4" = 0.653)

12.75

Purging Method: Bailer

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Conductivity (µS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
11/23 0953	Initial	33.42	6.93	5320	13.4	Clear, no odor	
0910	2	41.39	6.96	5472	13.7	Lt brown, sediment, no odor	
0923	6	47.20	6.89	5500	14.1	"	
0935	9	53.17	6.89	5523	14.2	"	
0950	11.75	53.83	6.91	5626	14.4	"	
DRY							

Cumulative Volume Purged: 11.75 (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer

Comments:

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Conductivity (µS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
11/23/2 1215	57.04	57.04	7.25	5495	14.3		clear no odor	

SAMPLE HANDLING:

Date/ Time	Aliquots: Volume (ml)	Aliquots: Bottle Composition	Aliquots: Quantity	Filtered (Y/N)	Preserved (type)	Comments

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-7

Page 1 of 1

Project No: 40 2020 GW Sample

Location: GCC Rio Grande

Date: 11/23/20

Weather Conditions: Sunny, 45°F

Personnel: S. Legg

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No	Calibration
Water Level Probe	Geotech MLM	3250013	4 @ 4.69°C 3.98
pH Meter	YSI PRO Plus	15A104951	Std: 4 (7) 10 @ 14.6 °C Reading 7.02 Slope:
pH Meter			Std: 4 7 (10) @ 11.7 °C Reading 9.99
Conductivity Meter			Std: 1413 uS @ 25 °C Reading 1409
Conductivity Meter			Std: _____ uS @ 25 °C Reading _____
Temperature			
Other:			

Filtration: 0.45 micron in-line high capacity disposable filter

WELL PURGING INFORMATION

Casing Diameter (inches): Borehole Diameter (inches): Screened Interval (ft. BGL):

Depth to Water (ft below MP): 33.04 Total Depth (ft): 59.36 Casing Volume (gal): 4.29 (gal/ft: 1.5" = 0.092; 2" = 0.163; 4" = 0.653)

Purging Method: Bailer

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

Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
11/23/20 1100	Initial	33.04	7.19	5041	14.5	Clear, no odor	
1117	3	34.26	6.98	5003	14.5	Brown sediment, no odor	
1126	6	34.58	7.00	4998	14.0	"	
1139	9	34.30	7.21	5047	14.2	"	
1149	12	34.44	7.17	5017	14.2	"	
1200	15	34.44	7.16	4999	14.3	"	

Cumulative Volume Purged: 15 (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment: Bailer

Comments:

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
1205	34.44	36.44	7.16	4999	14.3	Brown	Sediment	no odor

SAMPLE HANDLING:

Date/ Time	Aliquots			Filtered (Y/N)	Preserved (type)	Comments
	Volume (ml)	Bottle Composition	Quantity			

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel:

GCC RIO GRANDE, INC.
Pueblo, CO

MW-8

GROUNDWATER SAMPLING RECORD

SAMPLE No. MW-8 + MW-28

Project No: MW-8 2020 4Q GW Sampling	Location: GCC Rio Grande	Page 1 of 1
Date: 11/9/20	Weather Conditions: 59° F Sunny	Personnel: J. Ooms / C. Abeyta

Comments:

INSTRUMENTS USED

Instrument	Manufacturer/Model	Serial No.	Calibration	
Water Level Probe	Keck Water Level	4225		
pH Meter	YSI Pro Plus	Meter #1	Std: 4 7 10 @ 15.2 °C Reading 4/7/10	Slope: 58.40
pH Meter	↓	↓	Std: 4 7 10 @ 15.3 °C Reading 4/7/10	
Conductivity Meter			Std: 1413 uS @ 25 °C Reading 1413	
Conductivity Meter			Std: 1413 uS @ 25 °C Reading 1413	
Temperature				
Other:				

Filtration 0.45 micron in-line high capacity disposable filter.

WELL PURGING INFORMATION

Casing Diameter (inches): 2" | Borehole Diameter (inches): | Screened Interval (ft. BGL):

Depth to Water (ft below MP): 39.90 | Total Depth (ft): 66.02 | Casing Volume (gal): 4.26 (gal/ft: 1.5" = 0.092; 2" = 0.163; 4" = 0.653)

Purging Method: Bailer

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

11/9/20 Date/ Time	Vol. Purged (gal)	Depth to Water (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Appearance (color, sediment, etc.)	Comments
14:03	—	39.00	7.13	6640	14.7	~~Cl~~ Cloudy	Slight sulfur odor
14:08	1g	47.12	7.14	5641	14.8	Cloudy	"
14:13	2g	53.15	7.21	5670	14.3	"	"
14:18	3g	59.59	7.20	5625	13.8	"	"
14:21	4g	63.40	7.19	5863	13.9	"	"
14:29	5g	64.65	7.26	7048	13.9		
14:32	5.5	—	—	—	—	Well purged dry	

Cumulative Volume Purged: 5.5 gallons (gallons) (casing vol)

WELL SAMPLING INFORMATION

Sampling Equipment:

Comments: Sample Collected on 11/23/2020 by Scott Lagg (1st draw after recharge) (Duplicate collected, MW-28)

SAMPLING MEASUREMENTS:

Date/ Time	Depth to Water (feet below MP)	Depth Sampled (feet below MP)	pH	Conductivity (uS @ 25 deg C)	Temp (deg C)	Other	Other	Comments
11/23/20 1015	42.37	45.37	7.11	5327	13.8 13.9			Clear, mild sulfur odor

SAMPLE HANDLING:

Date/ Time	Volume (ml)	Bottle Composition	Quantity	Filtered (Y/N)	Preserved (type)	Comments

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

Equipment Decontamination:

Waste Disposal:

Signature of Field Personnel: [signature] / Scott Lagg [signature]

GCC RIO GRANDE, INC.
Pueblo, CO

ATTACHMENT 2 - GCC Groundwater Sampling Analytical Lab Reports

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

Analytical Report

March 19, 2020

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: L57840

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on March 10, 2020. This project has been assigned to ACZ's project number, L57840. 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 L57840. 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 April 18, 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: ***L57840-01***
Date Sampled: *03/09/20 13:38*
Date Received: *03/10/20*
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	03/13/20 17:57	kja
Arsenic, dissolved	M200.8 ICP-MS	1	0.0005	B		mg/L	0.0002	0.001	03/12/20 17:28	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 17:57	kja
Boron, dissolved	M200.7 ICP	5	0.3	B		mg/L	0.1	0.5	03/13/20 17:57	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00016	B		mg/L	0.00005	0.0003	03/12/20 17:28	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 17:57	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 17:57	kja
Copper, dissolved	M200.7 ICP	5	0.06	B	*	mg/L	0.05	0.3	03/17/20 15:18	aeh
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	03/13/20 17:57	kja
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/12/20 17:28	mfm
Lithium, dissolved	M200.7 ICP	5	0.48			mg/L	0.04	0.2	03/13/20 17:57	kja
Manganese, dissolved	M200.7 ICP	5	0.40			mg/L	0.05	0.3	03/13/20 17:57	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/17/20 14:51	slm
Nickel, dissolved	M200.7 ICP	5	0.11	B		mg/L	0.04	0.2	03/13/20 17:57	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.0401			mg/L	0.0001	0.0003	03/12/20 17:28	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	03/13/20 17:57	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 17:57	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	03/16/20 16:54	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		2.02			mg/L	0.02	0.1	03/19/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	2.58		*	mg/L	0.02	0.1	03/11/20 0:21	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.56		*	mg/L	0.01	0.05	03/11/20 0:21	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H	*	units	0.1	0.1	03/13/20 0:00	eep
pH measured at		1	22.0			C	0.1	0.1	03/13/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	5780			mg/L	40	80	03/10/20 20:12	jck

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

ACZ Sample ID: ***L57840-02***
Date Sampled: *03/09/20 12:48*
Date Received: *03/10/20*
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	03/13/20 18:00	kja
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	03/12/20 17:29	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:00	kja
Boron, dissolved	M200.7 ICP	5	0.2	B		mg/L	0.1	0.5	03/13/20 18:00	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	03/12/20 17:29	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:00	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:00	kja
Copper, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.3	03/17/20 15:21	aeh
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	03/13/20 18:00	kja
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/12/20 17:29	mfm
Lithium, dissolved	M200.7 ICP	5	0.60			mg/L	0.04	0.2	03/13/20 18:00	kja
Manganese, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:00	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/17/20 14:52	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	03/13/20 18:00	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.0701			mg/L	0.0001	0.0003	03/12/20 17:29	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	03/13/20 18:00	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:00	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.4			mg/L	0.1	0.4	03/16/20 16:57	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		15			mg/L	0.2	1	03/19/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	10	14.9			mg/L	0.2	1	03/11/20 0:35	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.06		*	mg/L	0.01	0.05	03/11/20 0:22	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H	*	units	0.1	0.1	03/13/20 0:00	eep
pH measured at		1	22.1			C	0.1	0.1	03/13/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	6540			mg/L	40	80	03/10/20 20:15	jck

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

ACZ Sample ID: ***L57840-03***
Date Sampled: *03/09/20 13:03*
Date Received: *03/10/20*
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	03/13/20 18:04	kja
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	03/12/20 17:31	mfm
Beryllium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:04	kja
Boron, dissolved	M200.7 ICP	5	0.1	B		mg/L	0.1	0.5	03/13/20 18:04	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	B		mg/L	0.00005	0.0003	03/12/20 17:31	mfm
Chromium, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:04	kja
Cobalt, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:04	kja
Copper, dissolved	M200.7 ICP	5		U	*	mg/L	0.05	0.3	03/17/20 15:30	aeh
Iron, dissolved	M200.7 ICP	5		U		mg/L	0.2	0.4	03/13/20 18:04	kja
Lead, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0001	0.0005	03/12/20 17:31	mfm
Lithium, dissolved	M200.7 ICP	5	0.60			mg/L	0.04	0.2	03/13/20 18:04	kja
Manganese, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:04	kja
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	03/17/20 14:53	slm
Nickel, dissolved	M200.7 ICP	5		U		mg/L	0.04	0.2	03/13/20 18:04	kja
Selenium, dissolved	M200.8 ICP-MS	1	0.0704			mg/L	0.0001	0.0003	03/12/20 17:31	mfm
Vanadium, dissolved	M200.7 ICP	5		U		mg/L	0.03	0.1	03/13/20 18:04	kja
Zinc, dissolved	M200.7 ICP	5		U		mg/L	0.05	0.3	03/13/20 18:04	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.4		*	mg/L	0.1	0.4	03/16/20 17:00	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		15			mg/L	0.2	1	03/19/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	10	14.5			mg/L	0.2	1	03/11/20 0:38	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.05		*	mg/L	0.01	0.05	03/11/20 0:25	pjb
pH (lab)	SM4500H+ B									
pH		1	8.0	H		units	0.1	0.1	03/13/20 0:00	eep
pH measured at		1	22.1			C	0.1	0.1	03/13/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	6530			mg/L	40	80	03/10/20 20:17	jck

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

Inorganic Reference

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

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

Method References

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

Comments

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

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

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: ***L57840***

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
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.928	mg/L	96	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.15	0.15			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	1.0012		.992	mg/L	99	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	1.0012	U	1.01	mg/L	101	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	1.0012	U	1.038	mg/L	104	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
WG493478													
WG493478ICV	ICV	03/12/20 16:54	MS200210-2	.05		.05005	mg/L	100	90	110			
WG493478ICB	ICB	03/12/20 16:55				U	mg/L		-0.00044	0.00044			
WG493478LFB	LFB	03/12/20 16:57	MS200120-3	.05005		.04802	mg/L	96	85	115			
L57840-03AS	AS	03/12/20 17:33	MS200120-3	.05005	U	.03943	mg/L	79	70	130			
L57840-03ASD	ASD	03/12/20 17:35	MS200120-3	.05005	U	.04249	mg/L	85	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
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.923	mg/L	96	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.5005		.501	mg/L	100	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.5005	U	.489	mg/L	98	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.5005	U	.483	mg/L	97	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.953	mg/L	98	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.06	0.06			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.5005		.506	mg/L	101	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.5005	U	.515	mg/L	103	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.5005	U	.518	mg/L	103	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493478													
WG493478ICV	ICV	03/12/20 16:54	MS200210-2	.05		.049798	mg/L	100	90	110			
WG493478ICB	ICB	03/12/20 16:55				U	mg/L		-0.00011	0.00011			
WG493478LFB	LFB	03/12/20 16:57	MS200120-3	.05005		.047151	mg/L	94	85	115			
L57840-03AS	AS	03/12/20 17:33	MS200120-3	.05005	.0001	.040096	mg/L	80	70	130			
L57840-03ASD	ASD	03/12/20 17:35	MS200120-3	.05005	.0001	.042398	mg/L	85	70	130	6	20	

GCC Rio Grande

ACZ Project ID: ***L57840***

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
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.934	mg/L	97	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.501		.502	mg/L	100	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.501	U	.498	mg/L	99	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.501	U	.493	mg/L	98	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
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2.002		1.907	mg/L	95	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.5		.489	mg/L	98	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.5	U	.478	mg/L	96	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.5	U	.47	mg/L	94	85	115	2	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493605													
WG493605ICV	ICV	03/17/20 14:36	II200228-2	2		1.945	mg/L	97	95	105			
WG493605ICB	ICB	03/17/20 14:42				U	mg/L		-0.03	0.03			
WG493605LFB	LFB	03/17/20 14:54	II200302-4	.502		.545	mg/L	109	85	115			
L57664-01AS	AS	03/17/20 15:00	II200302-4	.502	12.9	12.77	mg/L	-26	85	115			M3
L57664-01ASD	ASD	03/17/20 15:03	II200302-4	.502	12.9	12.8	mg/L	-20	85	115	0	20	M3

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493593													
WG493593ICV	ICV	03/16/20 10:44	WC200306-7	2.004		1.97	mg/L	98	90	110			
WG493593ICB	ICB	03/16/20 10:52				U	mg/L		-0.3	0.3			
WG493629													
WG493629ICV	ICV	03/16/20 15:41	WC200306-7	2.004		2.02	mg/L	101	90	110			
WG493629ICB	ICB	03/16/20 15:49				U	mg/L		-0.3	0.3			
WG493629LFB1	LFB	03/16/20 15:56	WC191014-1	5.01		5.1	mg/L	102	90	110			
L57727-03AS	AS	03/16/20 16:04	WC191014-1	5.01	.3	5.1	mg/L	96	90	110			
L57727-03ASD	ASD	03/16/20 16:07	WC191014-1	5.01	.3	5.1	mg/L	96	90	110	0	20	
L57840-03AS	AS	03/16/20 17:03	WC191014-1	5.01	.4	4.57	mg/L	83	90	110			M2
L57840-03ASD	ASD	03/16/20 17:07	WC191014-1	5.01	.4	4.57	mg/L	83	90	110	0	20	M2
WG493629LFB2	LFB	03/16/20 17:56	WC191014-1	5.01		5.02	mg/L	100	90	110			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.892	mg/L	95	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.09	0.09			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	1.0018		.981	mg/L	98	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	1.0018	1.53	2.431	mg/L	90	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	1.0018	1.53	2.447	mg/L	92	85	115	1	20	

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ACZ Project ID: ***L57840***

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
WG493478													
WG493478ICV	ICV	03/12/20 16:54	MS200210-2	.05		.05147	mg/L	103	90	110			
WG493478ICB	ICB	03/12/20 16:55				U	mg/L		-0.00022	0.00022			
WG493478LFB	LFB	03/12/20 16:57	MS200120-3	.05005		.04783	mg/L	96	85	115			
L57840-03AS	AS	03/12/20 17:33	MS200120-3	.05005	U	.04879	mg/L	97	70	130			
L57840-03ASD	ASD	03/12/20 17:35	MS200120-3	.05005	U	.05169	mg/L	103	70	130	6	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.8998	mg/L	95	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.024	0.024			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	1.002		.9603	mg/L	96	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	1.002	.018	.9829	mg/L	96	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	1.002	.018	1.01	mg/L	99	85	115	3	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.904	mg/L	95	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.5015		.51	mg/L	102	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.5015	.83	1.298	mg/L	93	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.5015	.83	1.295	mg/L	93	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
WG493658													
WG493658ICV	ICV	03/17/20 14:42	HG200224-3	.004995		.005	mg/L	100	95	105			
WG493658ICB	ICB	03/17/20 14:43				U	mg/L		-0.0002	0.0002			
WG493658LRB	LRB	03/17/20 14:45				U	mg/L		-0.00044	0.00044			
WG493658LFB	LFB	03/17/20 14:46	HG200313-3	.002002		.00184	mg/L	92	85	115			
L57752-02LFM	LFM	03/17/20 14:48	HG200313-3	.002002	U	.00192	mg/L	96	85	115			
L57752-02LFMD	LFMD	03/17/20 14:49	HG200313-3	.002002	U	.0019	mg/L	95	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.9425	mg/L	97	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.024	0.024			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.501		.507	mg/L	101	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.501	U	.4935	mg/L	99	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.501	U	.4801	mg/L	96	85	115	3	20	

GCC Rio Grande

ACZ Project ID: ***L57840***

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
WG493316													
WG493316ICV	ICV	03/10/20 23:57	WI200213-7	2.416		2.48	mg/L	103	90	110			
WG493316ICB	ICB	03/10/20 23:58				U	mg/L		-0.02	0.02			
WG493316LFB	LFB	03/11/20 0:02	WI191004-3	2		2.125	mg/L	106	90	110			
L57821-01AS	AS	03/11/20 0:04	WI191004-3	2	U	2.192	mg/L	110	90	110			
L57821-02DUP	DUP	03/11/20 0:07			U	U	mg/L				0	20	RA
L57840-02AS	AS	03/11/20 0:36	WI191004-3	20	14.9	34.39	mg/L	97	90	110			
L57840-03DUP	DUP	03/11/20 0:39			14.5	14.55	mg/L				0	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
WG493316													
WG493316ICV	ICV	03/10/20 23:57	WI200213-7	.609		.614	mg/L	101	90	110			
WG493316ICB	ICB	03/10/20 23:58				U	mg/L		-0.01	0.01			
WG493316LFB	LFB	03/11/20 0:02	WI191004-3	1		1.079	mg/L	108	90	110			
L57821-01AS	AS	03/11/20 0:04	WI191004-3	1	U	1.14	mg/L	114	90	110			M1
L57821-02DUP	DUP	03/11/20 0:07			U	U	mg/L				0	20	RA
L57840-02AS	AS	03/11/20 0:23	WI191004-3	1	.06	1.116	mg/L	106	90	110			
L57840-03DUP	DUP	03/11/20 0:26			.05	.052	mg/L				4	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493479													
WG493479LCSW1	LCSW	03/12/20 18:21	PCN59370	6		6.1	units	102	5.9	6.1			
WG493479LCSW4	LCSW	03/12/20 21:48	PCN59370	6		6.1	units	102	5.9	6.1			
WG493479LCSW7	LCSW	03/13/20 1:07	PCN59370	6		6.1	units	102	5.9	6.1			
WG493479LCSW10	LCSW	03/13/20 4:53	PCN59370	6		6.1	units	102	5.9	6.1			
L45957-85DUP	DUP	03/13/20 7:59			7.5	7.5	units				0	20	
WG493479LCSW13	LCSW	03/13/20 8:04	PCN59370	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
WG493315													
WG493315PBW	PBW	03/10/20 19:50				U	mg/L		-20	20			
WG493315LCSW	LCSW	03/10/20 19:52	PCN60399	963		1010	mg/L	105	80	120			
L57840-03DUP	DUP	03/10/20 20:20			6530	6550	mg/L				0	10	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493478													
WG493478ICV	ICV	03/12/20 16:54	MS200210-2	.05		.05064	mg/L	101	90	110			
WG493478ICB	ICB	03/12/20 16:55				U	mg/L		-0.00022	0.00022			
WG493478LFB	LFB	03/12/20 16:57	MS200120-3	.05		.04753	mg/L	95	85	115			
L57840-03AS	AS	03/12/20 17:33	MS200120-3	.05	.0704	.1194	mg/L	98	70	130			
L57840-03ASD	ASD	03/12/20 17:35	MS200120-3	.05	.0704	.12902	mg/L	117	70	130	8	20	

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ACZ Project ID: ***L57840***

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
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.933	mg/L	97	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.015	0.015			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.4995		.4974	mg/L	100	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.4995	U	.5003	mg/L	100	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.4995	U	.5098	mg/L	102	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	II200228-2	2		1.92	mg/L	96	95	105			
WG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
WG493513LFB	LFB	03/13/20 17:02	II200302-4	.50075		.512	mg/L	102	85	115			
L57841-01AS	AS	03/13/20 18:10	II200302-4	.50075	U	.525	mg/L	105	85	115			
L57841-01ASD	ASD	03/13/20 18:20	II200302-4	.50075	U	.528	mg/L	105	85	115	1	20	

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

Inorganic Extended Qualifier Report

GCC Rio Grande ACZ Project ID: ***L57840***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L57840-01	WG493605	Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG493316	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	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).
	WG493479	pH	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L57840-02	WG493605	Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG493316	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).
	WG493479	pH	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L57840-03	WG493605	Copper, dissolved	M200.7 ICP	M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The recovery of the associated control sample (LCS or LFB) was acceptable.
	WG493629	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG493316	Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	RA	Relative Percent Difference (RPD) was not used for data validation because the concentration of the duplicated sample is too low for accurate evaluation (< 10x MDL).

Certification Qualifiers

GCC Rio Grande ACZ Project ID: ***L57840***

No certification qualifiers associated with this analysis

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

Sample Receipt

GCC Rio Grande

ACZ Project ID: L57840
Date Received: 03/10/2020 11:04
Received By:
Date Printed: 3/11/2020

Receipt Verification

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

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA32491	3.4	<=6.0	15	N/A

Was ice present in the shipment container(s)?

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

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

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

Sample Receipt

GCC Rio Grande

ACZ Project ID:	L57840
Date Received:	03/10/2020 11:04
Received By:	
Date Printed:	3/11/2020

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

ACZ Laboratories, Inc. L57840

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

CHAIN of CUSTODY

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: Scott Lee **Sampler's Site Information** State CO Zip code 81004 Time Zone MDT
***Sampler's Signature:** [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 quote but no pH							
MW-6	03/09/20 : 13:38	GW	3	☒	☐	☐	☐	☐	☐	☐	☐
MW-7	03/09/20 : 12:48	GW	3	☒	☐	☐	☐	☐	☐	☐	☐
MW-2B	03/09/20 : 13:03	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
Scott Lee	3/9/20 : 14:17	Diana Furman	3/9/20 14:17
Diana Furman		UPS	
		[signature] 3/10/20	11:04

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L57840 Chain of Custod

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

Analytical Report

September 30, 2020

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: L61534

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 17, 2020. This project has been assigned to ACZ's project number, L61534. 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 L61534. 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 October 30, 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: ***L61534-01***
Date Sampled: *09/16/20 15:30*
Date Received: *09/17/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.19	B		mg/L	0.05	0.3	09/21/20 15:06	jlw
Arsenic, dissolved	M200.8 ICP-MS	1	0.0009	B		mg/L	0.0002	0.001	09/22/20 17:20	bsu
Beryllium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:06	jlw
Boron, dissolved	M200.7 ICP	1	0.31			mg/L	0.02	0.1	09/21/20 15:06	jlw
Cadmium, dissolved	M200.8 ICP-MS	1	0.00011	B		mg/L	0.00005	0.0003	09/22/20 17:20	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/21/20 15:06	jlw
Cobalt, dissolved	M200.7 ICP	1	0.03	B		mg/L	0.01	0.05	09/21/20 15:06	jlw
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:06	jlw
Iron, dissolved	M200.7 ICP	1	0.19	B		mg/L	0.06	0.2	09/21/20 15:06	jlw
Lead, dissolved	M200.8 ICP-MS	1	0.0006			mg/L	0.0001	0.0005	09/22/20 17:20	bsu
Lithium, dissolved	M200.7 ICP	1	0.486			mg/L	0.008	0.04	09/21/20 15:06	jlw
Manganese, dissolved	M200.7 ICP	1	0.39			mg/L	0.01	0.05	09/21/20 15:06	jlw
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/21/20 14:28	llr/aeh
Nickel, dissolved	M200.7 ICP	1	0.088			mg/L	0.008	0.04	09/21/20 15:06	jlw
Selenium, dissolved	M200.8 ICP-MS	1	0.0064			mg/L	0.0001	0.0003	09/22/20 17:20	bsu
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	09/21/20 15:06	jlw
Zinc, dissolved	M200.7 ICP	1	0.02	B		mg/L	0.02	0.05	09/21/20 15:06	jlw

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	09/21/20 21:07	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		0.05	B		mg/L	0.02	0.1	09/30/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.05	B		mg/L	0.02	0.1	09/17/20 22:39	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1		U	*	mg/L	0.01	0.05	09/17/20 22:39	pjb
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.0			C	0.1	0.1	09/17/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	5480		*	mg/L	40	80	09/23/20 12:02	mlh

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

ACZ Sample ID: ***L61534-02***
Date Sampled: *09/16/20 14:45*
Date Received: *09/17/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	B		mg/L	0.05	0.3	09/21/20 15:09	jlw
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	09/22/20 17:22	bsu
Beryllium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:09	jlw
Boron, dissolved	M200.7 ICP	1	0.14			mg/L	0.02	0.1	09/21/20 15:09	jlw
Cadmium, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	09/22/20 17:22	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/21/20 15:09	jlw
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:09	jlw
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:09	jlw
Iron, dissolved	M200.7 ICP	1	0.15	B		mg/L	0.06	0.2	09/21/20 15:09	jlw
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	09/22/20 17:22	bsu
Lithium, dissolved	M200.7 ICP	1	0.428			mg/L	0.008	0.04	09/21/20 15:09	jlw
Manganese, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/21/20 15:09	jlw
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/21/20 14:29	llr/aeh
Nickel, dissolved	M200.7 ICP	1	0.013	B		mg/L	0.008	0.04	09/21/20 15:09	jlw
Selenium, dissolved	M200.8 ICP-MS	1	0.0655			mg/L	0.0001	0.0003	09/22/20 17:22	bsu
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	09/21/20 15:09	jlw
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	09/21/20 15:09	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.4		*	mg/L	0.1	0.4	09/21/20 21:11	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		11.0			mg/L	0.1	0.5	09/30/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	11.0			mg/L	0.1	0.5	09/17/20 23:21	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.03	B	*	mg/L	0.01	0.05	09/17/20 22:45	pjb
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.1			C	0.1	0.1	09/17/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	4950			mg/L	40	80	09/23/20 19:51	eep

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

ACZ Sample ID: ***L61534-03***
Date Sampled: *09/16/20 15:00*
Date Received: *09/17/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.11	B		mg/L	0.05	0.3	09/21/20 15:12	jlw
Arsenic, dissolved	M200.8 ICP-MS	1		U		mg/L	0.0002	0.001	09/22/20 17:24	bsu
Beryllium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:12	jlw
Boron, dissolved	M200.7 ICP	1	0.13			mg/L	0.02	0.1	09/21/20 15:12	jlw
Cadmium, dissolved	M200.8 ICP-MS	1	0.00007	B		mg/L	0.00005	0.0003	09/22/20 17:24	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/21/20 15:12	jlw
Cobalt, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:12	jlw
Copper, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.05	09/21/20 15:12	jlw
Iron, dissolved	M200.7 ICP	1	0.12	B		mg/L	0.06	0.2	09/21/20 15:12	jlw
Lead, dissolved	M200.8 ICP-MS	1	0.0002	B		mg/L	0.0001	0.0005	09/22/20 17:24	bsu
Lithium, dissolved	M200.7 ICP	1	0.425			mg/L	0.008	0.04	09/21/20 15:12	jlw
Manganese, dissolved	M200.7 ICP	1	0.01	B		mg/L	0.01	0.05	09/21/20 15:12	jlw
Mercury, dissolved	M245.1 CVAA	1		U		mg/L	0.0002	0.001	09/21/20 14:30	llr/aeh
Nickel, dissolved	M200.7 ICP	1	0.010	B		mg/L	0.008	0.04	09/21/20 15:12	jlw
Selenium, dissolved	M200.8 ICP-MS	1	0.0654			mg/L	0.0001	0.0003	09/22/20 17:24	bsu
Vanadium, dissolved	M200.7 ICP	1		U		mg/L	0.01	0.03	09/21/20 15:12	jlw
Zinc, dissolved	M200.7 ICP	1		U		mg/L	0.02	0.05	09/21/20 15:12	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.4		*	mg/L	0.1	0.4	09/21/20 21:32	emk
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		11			mg/L	0.1	0.5	09/30/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	10.9			mg/L	0.1	0.5	09/17/20 23:24	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.03	B	*	mg/L	0.01	0.05	09/17/20 22:48	pjb
pH (lab)	SM4500H+ B									
pH		1	7.8	H		units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.0			C	0.1	0.1	09/17/20 0:00	eep
Residue, Filterable (TDS) @180C	SM2540C	2	5040		*	mg/L	40	80	09/23/20 12:05	mlh

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

Inorganic Reference

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

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

Method References

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

Comments

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

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

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: ***L61534***

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
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.983	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.15	0.15			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	1.0012		1.046	mg/L	104	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	1.0012	U	1.059	mg/L	106	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	1.0012	U	1.07	mg/L	107	85	115	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505712													
WG505712ICV	ICV	09/22/20 16:51	MS200812-2	.05		.0504	mg/L	101	90	110			
WG505712ICB	ICB	09/22/20 16:53				U	mg/L		-0.00044	0.00044			
WG505712LFB	LFB	09/22/20 16:55	MS200803-2	.05005		.04772	mg/L	95	85	115			
L61506-03AS	AS	09/22/20 17:06	MS200803-2	.1001	U	.11335	mg/L	113	70	130			
L61506-03ASD	ASD	09/22/20 17:08	MS200803-2	.1001	U	.10867	mg/L	109	70	130	4	20	
L61541-03AS	AS	09/22/20 17:35	MS200803-2	.05005	.0199	.06655	mg/L	93	70	130			
L61541-03ASD	ASD	09/22/20 17:37	MS200803-2	.05005	.0199	.06531	mg/L	91	70	130	2	20	

Beryllium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.922	mg/L	96	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.03	0.03			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.5		.489	mg/L	98	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.5	U	.468	mg/L	94	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.5	U	.466	mg/L	93	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
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.972	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.06	0.06			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.5005		.506	mg/L	101	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.5005	.49	.962	mg/L	94	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.5005	.49	.967	mg/L	95	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505712													
WG505712ICV	ICV	09/22/20 16:51	MS200812-2	.05		.047725	mg/L	95	90	110			
WG505712ICB	ICB	09/22/20 16:53				U	mg/L		-0.00011	0.00011			
WG505712LFB	LFB	09/22/20 16:55	MS200803-2	.05005		.045326	mg/L	91	85	115			
L61506-03AS	AS	09/22/20 17:06	MS200803-2	.1001	U	.09202	mg/L	92	70	130			
L61506-03ASD	ASD	09/22/20 17:08	MS200803-2	.1001	U	.09203	mg/L	92	70	130	0	20	
L61541-03AS	AS	09/22/20 17:35	MS200803-2	.05005	.00011	.044523	mg/L	89	70	130			
L61541-03ASD	ASD	09/22/20 17:37	MS200803-2	.05005	.00011	.044126	mg/L	88	70	130	1	20	

GCC Rio Grande

ACZ Project ID: ***L61534***

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
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.987	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.03	0.03			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.5015		.51	mg/L	102	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.5015	U	.5	mg/L	98	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.5015	U	.497	mg/L	97	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
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2.004		1.982	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.03	0.03			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.5		.488	mg/L	98	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.5	U	.475	mg/L	95	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.5	U	.476	mg/L	95	85	115	0	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.95	mg/L	98	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.03	0.03			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.501		.503	mg/L	100	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.501	U	.502	mg/L	100	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.501	U	.498	mg/L	99	85	115	1	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505571													
WG505571ICV	ICV	09/21/20 11:47	WC200910-3	2.002		2.09	mg/L	104	90	110			
WG505571ICB	ICB	09/21/20 11:51				U	mg/L		-0.3	0.3			
WG505621													
WG505621ICV	ICV	09/21/20 17:12	WC200910-3	2.002		2.02	mg/L	101	90	110			
WG505621ICB	ICB	09/21/20 17:20				U	mg/L		-0.3	0.3			
WG505621LFB1	LFB	09/21/20 17:26	WC200511-1	5		4.81	mg/L	96	90	110			
WG505621LFB2	LFB	09/21/20 19:38	WC200511-1	5		4.91	mg/L	98	90	110			
L61485-05AS	AS	09/21/20 19:48	WC200511-1	5	.3	5.16	mg/L	97	90	110			
L61485-05ASD	ASD	09/21/20 19:52	WC200511-1	5	.3	5.14	mg/L	97	90	110	0	20	
L61534-02AS	AS	09/21/20 21:14	WC200511-1	5	.4	4.68	mg/L	86	90	110			M2
L61534-02ASD	ASD	09/21/20 21:29	WC200511-1	5	.4	4.68	mg/L	86	90	110	0	20	M2

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.95	mg/L	98	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.18	0.18			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	1.0018		1.037	mg/L	104	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	1.0018	U	1.007	mg/L	101	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	1.0018	U	1.006	mg/L	100	85	115	0	20	

GCC Rio Grande

ACZ Project ID: ***L61534***

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
WG505712													
WG505712ICV	ICV	09/22/20 16:51	MS200812-2	.05		.05162	mg/L	103	90	110			
WG505712ICB	ICB	09/22/20 16:53				U	mg/L		-0.00022	0.00022			
WG505712LFB	LFB	09/22/20 16:55	MS200803-2	.05005		.04779	mg/L	95	85	115			
L61506-03AS	AS	09/22/20 17:06	MS200803-2	.1001	.0003	.10142	mg/L	101	70	130			
L61506-03ASD	ASD	09/22/20 17:08	MS200803-2	.1001	.0003	.10109	mg/L	101	70	130	0	20	
L61541-03AS	AS	09/22/20 17:35	MS200803-2	.05005	.0004	.05067	mg/L	100	70	130			
L61541-03ASD	ASD	09/22/20 17:37	MS200803-2	.05005	.0004	.05034	mg/L	100	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.9878	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.024	0.024			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.997		.9984	mg/L	100	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.997	.368	1.391	mg/L	103	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.997	.368	1.383	mg/L	102	85	115	1	20	

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.951	mg/L	98	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.03	0.03			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.5005		.501	mg/L	100	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.5005	U	.497	mg/L	99	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.5005	U	.495	mg/L	99	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
WG505546													
WG505546ICV1	ICV	09/21/20 13:19	HG200810-2	.005		.0049	mg/L	98	95	105			
WG505546ICB	ICB	09/21/20 13:20				U	mg/L		-0.0002	0.0002			
WG505548													
WG505548LRB	LRB	09/21/20 14:03				U	mg/L		-0.00044	0.00044			
WG505548LFB	LFB	09/21/20 14:04	HG200918-3	.002002		.00193	mg/L	96	85	115			
L61486-04LFM	LFM	09/21/20 14:21	HG200918-3	.002002	U	.00179	mg/L	89	85	115			
L61486-04LFMD	LFMD	09/21/20 14:22	HG200918-3	.002002	U	.00177	mg/L	88	85	115	1	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.9872	mg/L	99	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.024	0.024			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.501		.4903	mg/L	98	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.501	U	.4837	mg/L	97	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.501	U	.4828	mg/L	96	85	115	0	20	

GCC Rio Grande

ACZ Project ID: ***L61534***

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
WG505415													
WG505415ICV	ICV	09/17/20 21:53	WI200815-1	2.416		2.441	mg/L	101	90	110			
WG505415ICB	ICB	09/17/20 21:54				U	mg/L		-0.02	0.02			
WG505415LFB1	LFB	09/17/20 21:58	WI200331-15	2		2.05	mg/L	103	90	110			
WG505415LFB2	LFB	09/17/20 22:37	WI200331-15	2		2.087	mg/L	104	90	110			
L61534-01AS	AS	09/17/20 22:40	WI200331-15	2	.05	2.055	mg/L	100	90	110			
L61534-02DUP	DUP	09/17/20 23:22			11	10.94	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
WG505415													
WG505415ICV	ICV	09/17/20 21:53	WI200815-1	.609		.6	mg/L	99	90	110			
WG505415ICB	ICB	09/17/20 21:54				U	mg/L		-0.01	0.01			
WG505415LFB1	LFB	09/17/20 21:58	WI200331-15	1		.998	mg/L	100	90	110			
WG505415LFB2	LFB	09/17/20 22:37	WI200331-15	1		1.025	mg/L	103	90	110			
L61534-01AS	AS	09/17/20 22:40	WI200331-15	1	U	1.003	mg/L	100	90	110			
L61534-02DUP	DUP	09/17/20 22:46			.03	.028	mg/L				7	20	RA

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505414													
WG505414LCSW1	LCSW	09/17/20 20:16	PCN60577	6		6	units	100	5.9	6.1			
L61550-01DUP	DUP	09/17/20 22:12			5.4	5.3	units				2	20	
WG505414LCSW4	LCSW	09/17/20 23:44	PCN60577	6		6	units	100	5.9	6.1			
WG505414LCSW7	LCSW	09/18/20 4:34	PCN60577	6		6	units	100	5.9	6.1			
WG505414LCSW10	LCSW	09/18/20 8:39	PCN60577	6		6.1	units	102	5.9	6.1			
WG505414LCSW13	LCSW	09/18/20 11:50	PCN60577	6		6	units	100	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
WG505792													
WG505792PBW	PBW	09/23/20 11:42				U	mg/L		-20	20			
WG505792LCSW	LCSW	09/23/20 11:44	PCN62154	1000		986	mg/L	99	80	120			
L58117-26DUP	DUP	09/23/20 11:55			U	U	mg/L				0	10	RA
WG505843													
WG505843PBW	PBW	09/23/20 19:45				U	mg/L		-20	20			
WG505843LCSW	LCSW	09/23/20 19:48	PCN62154	1000		976	mg/L	98	80	120			
L61534-02DUP	DUP	09/23/20 19:54			4950	4950	mg/L				0	10	

GCC Rio Grande

ACZ Project ID: ***L61534***

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
WG505712													
WG505712ICV	ICV	09/22/20 16:51	MS200812-2	.05		.05066	mg/L	101	90	110			
WG505712ICB	ICB	09/22/20 16:53				U	mg/L		-0.00022	0.00022			
WG505712LFB	LFB	09/22/20 16:55	MS200803-2	.05		.04676	mg/L	94	85	115			
L61506-03AS	AS	09/22/20 17:06	MS200803-2	.1	U	.12312	mg/L	123	70	130			
L61506-03ASD	ASD	09/22/20 17:08	MS200803-2	.1	U	.12123	mg/L	121	70	130	2	20	
L61541-03AS	AS	09/22/20 17:35	MS200803-2	.05	.0024	.0534	mg/L	102	70	130			
L61541-03ASD	ASD	09/22/20 17:37	MS200803-2	.05	.0024	.05278	mg/L	101	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
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		2.008	mg/L	100	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.015	0.015			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.4995		.5182	mg/L	104	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.4995	U	.5107	mg/L	102	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.4995	U	.519	mg/L	104	85	115	2	20	

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505583													
WG505583ICV	ICV	09/21/20 14:07	II200828-1	2		1.926	mg/L	96	95	105			
WG505583ICB	ICB	09/21/20 14:13				U	mg/L		-0.06	0.06			
WG505583LFB	LFB	09/21/20 14:26	II200911-3	.50075		.514	mg/L	103	85	115			
L61507-03AS	AS	09/21/20 14:53	II200911-3	.50075	U	.485	mg/L	97	85	115			
L61507-03ASD	ASD	09/21/20 14:56	II200911-3	.50075	U	.501	mg/L	100	85	115	3	20	

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

Inorganic Extended Qualifier Report

GCC Rio Grande ACZ Project ID: ***L61534***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61534-01	WG505415	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).
	WG505792	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).
L61534-02	WG505621	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG505415	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).
L61534-03	WG505621	Fluoride	SM4500F-C	M2	Matrix spike recovery was low, the recovery of the associated control sample (LCS or LFB) was acceptable.
	WG505415	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).
	WG505792	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).

Certification Qualifiers

GCC Rio Grande ACZ Project ID: ***L61534***

No certification qualifiers associated with this analysis

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

Sample Receipt

GCC Rio Grande

ACZ Project ID: L61534
Date Received: 09/17/2020 11:48
Received By:
Date Printed: 9/18/2020

Receipt Verification

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

A change was made in the Sample ID Line 4 section prior to ACZ custody.

A change was made in the Sample ID Line 4 section prior to ACZ custody.

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A change was made in the Sample ID Line 4 section prior to ACZ custody.

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?

GCC Rio Grande

ACZ Project ID: L61534
Date Received: 09/17/2020 11:48
Received By:
Date Printed: 9/18/2020

NA33644	0.6	<=6.0	15	N/A

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.

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

ACZ Laboratories, Inc. L61534

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

CHAIN of CUSTODY

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 [X] NO [ ]

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

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

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

Sampler's Name: ~~D. Furman~~ Scott Lyon **Sampler's Site Information** State CO Zip code 81004 Time Zone MDT

***Sampler's Signature:** Scott Lyon

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

PROJECT INFORMATION

Quote #: GW-COMPLIANCE 03/27/2019

PO#: N/A

Reporting state for compliance testing: Colorado

Check box if samples include NRC licensed material? [ ]

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

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Per attached quote but no pH							
MW-6	9/16/20 : 15:30	GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
MW-7	9/16/20 : 1445	GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
MW-2B	9/16/20 : 1500	GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
~~MW-8~~	N/A	GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

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
Scott Lyon	9/16/20 : 1641	Diana Furman	9/16/20 16:4
Diana Furman	9/16/20 17:21	UPS 1543	
			9/17/20

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L61534 Chain of Custod

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

Analytical Report

October 13, 2020

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: L61811

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 29, 2020. This project has been assigned to ACZ's project number, L61811. 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 L61811. 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 12, 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-8

ACZ Sample ID: ***L61811-01***
Date Sampled: *09/28/20 10:10*
Date Received: *09/29/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	<0.25	U		mg/L	0.25	1.25	10/07/20 20:12	jlw
Arsenic, dissolved	M200.8 ICP-MS	5	0.0138			mg/L	0.001	0.005	10/13/20 13:05	bsu
Beryllium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	10/07/20 20:12	jlw
Boron, dissolved	M200.7 ICP	5	1.20			mg/L	0.1	0.5	10/07/20 20:12	jlw
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	10/13/20 13:05	bsu
Chromium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	10/07/20 20:12	jlw
Cobalt, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	10/07/20 20:12	jlw
Copper, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	10/07/20 20:12	jlw
Iron, dissolved	M200.7 ICP	5	2.62			mg/L	0.3	0.75	10/07/20 20:12	jlw
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	10/13/20 13:05	bsu
Lithium, dissolved	M200.7 ICP	5	0.510			mg/L	0.04	0.2	10/07/20 20:12	jlw
Manganese, dissolved	M200.7 ICP	5	0.299			mg/L	0.05	0.25	10/07/20 20:12	jlw
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	10/01/20 12:30	llr
Nickel, dissolved	M200.7 ICP	5	<0.04	U		mg/L	0.04	0.2	10/07/20 20:12	jlw
Selenium, dissolved	M200.8 ICP-MS	5	0.00075	B		mg/L	0.0005	0.00125	10/13/20 13:05	bsu
Vanadium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.125	10/07/20 20:12	jlw
Zinc, dissolved	M200.7 ICP	5	<0.1	U		mg/L	0.1	0.25	10/07/20 20:12	jlw

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.9			mg/L	0.1	0.4	10/06/20 19:33	eep
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		<0.02	U		mg/L	0.02	0.1	10/13/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	U	*	mg/L	0.02	0.1	09/30/20 1:33	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	U	*	mg/L	0.01	0.05	09/30/20 1:33	pjb
Residue, Filterable (TDS) @180C	SM2540C	10	7900			mg/L	200	400	09/29/20 16:05	scd

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

Inorganic Reference

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

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

Method References

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

Comments

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

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

REP001.03.15.02

GCC Rio Grande

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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
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.957	mg/L	98	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.15	0.15			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	1.0012		1.012	mg/L	101	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	1.0012	U	1.046	mg/L	104	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	1.0012	U	1.052	mg/L	105	85	115	1	20	

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG507159													
WG507159ICV	ICV	10/13/20 12:12	MS201001-3	.05		.04895	mg/L	98	90	110			
WG507159ICB	ICB	10/13/20 12:14				U	mg/L		-0.00044	0.00044			
WG507159LFB	LFB	10/13/20 12:16	MS200926-3	.05005		.04738	mg/L	95	85	115			
L61795-03AS	AS	10/13/20 12:50	MS200926-3	2.5025	U	2.46265	mg/L	98	70	130			
L61795-03ASD	ASD	10/13/20 12:56	MS200926-3	2.5025	U	2.39457	mg/L	96	70	130	3	20	

Beryllium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.966	mg/L	98	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.03	0.03			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.5		.499	mg/L	100	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.5	U	.495	mg/L	99	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.5	U	.498	mg/L	100	85	115	1	20	

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.967	mg/L	98	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.06	0.06			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.5005		.49	mg/L	98	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.5005	.056	.566	mg/L	102	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.5005	.056	.569	mg/L	102	85	115	1	20	

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG507159													
WG507159ICV	ICV	10/13/20 12:12	MS201001-3	.05		.04658	mg/L	93	90	110			
WG507159ICB	ICB	10/13/20 12:14				U	mg/L		-0.00011	0.00011			
WG507159LFB	LFB	10/13/20 12:16	MS200926-3	.05005		.048252	mg/L	96	85	115			
L61795-03AS	AS	10/13/20 12:50	MS200926-3	2.5025	.0211	2.524386	mg/L	100	70	130			
L61795-03ASD	ASD	10/13/20 12:56	MS200926-3	2.5025	.0211	2.537125	mg/L	101	70	130	1	20	

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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
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.963	mg/L	98	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.03	0.03			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.5015		.501	mg/L	100	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.5015	U	.502	mg/L	100	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.5015	U	.508	mg/L	101	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
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2.004		1.934	mg/L	97	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.03	0.03			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.5		.477	mg/L	95	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.5	U	.486	mg/L	97	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.5	U	.486	mg/L	97	85	115	0	20	

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.946	mg/L	97	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.03	0.03			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.501		.5	mg/L	100	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.501	U	.506	mg/L	101	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.501	U	.508	mg/L	101	85	115	0	20	

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506647													
WG506647ICV	ICV	10/06/20 11:10	WC201006-1	2.002		1.98	mg/L	99	90	110			
WG506647ICB	ICB	10/06/20 11:15				U	mg/L		-0.3	0.3			
WG506710													
WG506710ICV	ICV	10/06/20 17:56	WC201006-1	2.002		1.89	mg/L	94	90	110			
WG506710ICB	ICB	10/06/20 18:00				U	mg/L		-0.3	0.3			
WG506710LFB	LFB	10/06/20 18:07	WC200511-1	5		4.88	mg/L	98	90	110			
L61813-02AS	AS	10/06/20 19:53	WC200511-1	5	.2	4.75	mg/L	91	90	110			
L61813-02ASD	ASD	10/06/20 19:57	WC200511-1	5	.2	4.77	mg/L	91	90	110	0	20	

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.952	mg/L	98	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.18	0.18			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	1.0018		1.012	mg/L	101	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	1.0018	U	1.038	mg/L	104	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	1.0018	U	1.054	mg/L	105	85	115	2	20	

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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
WG507159													
WG507159ICV	ICV	10/13/20 12:12	MS201001-3	.05		.0515	mg/L	103	90	110			
WG507159ICB	ICB	10/13/20 12:14				U	mg/L		-0.00022	0.00022			
WG507159LFB	LFB	10/13/20 12:16	MS200926-3	.05005		.04939	mg/L	99	85	115			
L61795-03AS	AS	10/13/20 12:50	MS200926-3	2.5025	.00866	2.56336	mg/L	102	70	130			
L61795-03ASD	ASD	10/13/20 12:56	MS200926-3	2.5025	.00866	2.58807	mg/L	103	70	130	1	20	

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.986	mg/L	99	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.024	0.024			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.997		.9718	mg/L	97	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.997	.0613	1.043	mg/L	98	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.997	.0613	1.042	mg/L	98	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
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.946	mg/L	97	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.03	0.03			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.5005		.501	mg/L	100	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.5005	.458	.934	mg/L	95	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.5005	.458	.938	mg/L	96	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
WG506344													
WG506344ICV1	ICV	10/01/20 12:00	HG200810-2	.005		.00477	mg/L	95	95	105			
WG506344ICB	ICB	10/01/20 12:01				U	mg/L		-0.0002	0.0002			
WG506344LRB	LRB	10/01/20 12:03				U	mg/L		-0.00044	0.00044			
WG506344LFB	LFB	10/01/20 12:03	HG200918-3	.002002		.00183	mg/L	91	85	115			
L61764-06LFM	LFM	10/01/20 12:27	HG200918-3	.002002	U	.00185	mg/L	92	85	115			
L61764-06LFMD	LFMD	10/01/20 12:28	HG200918-3	.002002	U	.00174	mg/L	87	85	115	6	20	

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.9232	mg/L	96	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.024	0.024			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.501		.491	mg/L	98	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.501	U	.4944	mg/L	99	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.501	U	.4995	mg/L	100	85	115	1	20	

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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
WG506253													
WG506253ICV	ICV	09/30/20 0:51	WI200815-1	2.416		2.388	mg/L	99	90	110			
WG506253ICB	ICB	09/30/20 0:52				U	mg/L		-0.02	0.02			
WG506253LFB	LFB	09/30/20 0:57	WI200331-15	2		2.054	mg/L	103	90	110			
L61810-09AS	AS	09/30/20 1:18	WI200331-15	2	U	2.125	mg/L	106	90	110			
L61810-10DUP	DUP	09/30/20 1:21			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
WG506253													
WG506253ICV	ICV	09/30/20 0:51	WI200815-1	.609		.61	mg/L	100	90	110			
WG506253ICB	ICB	09/30/20 0:52				U	mg/L		-0.01	0.01			
WG506253LFB	LFB	09/30/20 0:57	WI200331-15	1		1.014	mg/L	101	90	110			
L61810-09AS	AS	09/30/20 1:18	WI200331-15	1	U	1.042	mg/L	104	90	110			
L61810-10DUP	DUP	09/30/20 1:21			U	U	mg/L				0	20	RA

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506239													
WG506239PBW	PBW	09/29/20 16:00				U	mg/L		-20	20			
WG506239LCSW	LCSW	09/29/20 16:02	PCN62156	1000		988	mg/L	99	80	120			
L61816-05DUP	DUP	09/29/20 16:31			338	338	mg/L				0	10	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG507159													
WG507159ICV	ICV	10/13/20 12:12	MS201001-3	.05		.04992	mg/L	100	90	110			
WG507159ICB	ICB	10/13/20 12:14				U	mg/L		-0.00022	0.00022			
WG507159LFB	LFB	10/13/20 12:16	MS200926-3	.05		.04628	mg/L	93	85	115			
L61795-03AS	AS	10/13/20 12:50	MS200926-3	2.5	U	2.36733	mg/L	95	70	130			
L61795-03ASD	ASD	10/13/20 12:56	MS200926-3	2.5	U	2.35962	mg/L	94	70	130	0	20	

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.985	mg/L	99	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.015	0.015			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.4995		.5104	mg/L	102	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.4995	U	.5115	mg/L	102	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.4995	U	.516	mg/L	103	85	115	1	20	

GCC Rio Grande

ACZ Project ID: ***L61811***

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.

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
WG506664ICV	ICV	10/07/20 18:35	II200921-1	2		1.98	mg/L	99	95	105			
WG506664ICB	ICB	10/07/20 18:41				U	mg/L		-0.06	0.06			
WG506664LFB	LFB	10/07/20 18:54	II201002-6	.50075		.518	mg/L	103	85	115			
L61810-15AS	AS	10/07/20 19:59	II201002-6	.50075	U	.532	mg/L	106	85	115			
L61810-15ASD	ASD	10/07/20 20:02	II201002-6	.50075	U	.533	mg/L	106	85	115	0	20	

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

Inorganic Extended Qualifier Report

GCC Rio Grande ACZ Project ID: ***L61811***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61811-01	WG506253	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).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.
		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).
			M353.2 - Automated Cadmium Reduction	ZU	Analysis date/time preceeds filter date/time. A portion of sample was filtered and analyzed prior to the creation of a Filter workgroup.

Certification Qualifiers

GCC Rio Grande ACZ Project ID: ***L61811***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
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Sample Receipt

GCC Rio Grande

ACZ Project ID: L61811
Date Received: 09/29/2020 11:28
Received By:
Date Printed: 9/30/2020

Receipt Verification

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

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA33724	0.4	<=6.0	15	Yes

Was ice present in the shipment container(s)?

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

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

ACZ Laboratories, Inc.
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Sample Receipt

GCC Rio Grande

ACZ Project ID:	L61811
Date Received:	09/29/2020 11:28
Received By:	
Date Printed:	9/30/2020

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

ACZ Laboratories, Inc. L61811

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

CHAIN of CUSTODY

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 [X] NO [ ]

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

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

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

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

***Sampler's Signature:** Scott Legg

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

PROJECT INFORMATION

Quote #: GW-COMPLIANCE 03/27/2019

PO#: N/A

Reporting state for compliance testing: Colorado

Check box if samples include NRC licensed material? [ ]

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

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Per attached quote but no pH							
MW-6		GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
MW-7		GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
MW-2B		GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
MW-8	09/28/20 : 10:10	GW	3	[X]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
				[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

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

REMARKS

Service Center

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

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Scott Legg	9/28/20 : 1325	Julie Campbell	9/28/20 13:27
		[illegible] 9/29/20	11:28

FRMAD050.06.14.14 White - Return with sample. Yellow - Retain for your records.

L61811 Chain of Custod

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

Analytical Report

December 09, 2020

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: L63033

Diana Furman:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on November 25, 2020. This project has been assigned to ACZ's project number, L63033. 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 L63033. 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 08, 2021. 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.

Sue Webber has reviewed and approved this report.

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

Case Narrative

GCC Rio Grande

December 09, 2020

Project ID:
ACZ Project ID: L63033

Sample Receipt

ACZ Laboratories, Inc. (ACZ) received 4 groundwater samples from GCC Rio Grande on November 25, 2020. The samples were received in good condition. Upon receipt, the sample custodian removed the samples from the cooler, inspected the contents, and logged the samples into ACZ's computerized Laboratory Information Management System (LIMS). The samples were assigned ACZ LIMS project number L63033. The custodian verified the sample information entered into the computer against the chain of custody (COC) forms and sample bottle labels.

Holding Times

All analyses were performed within EPA recommended holding times except for parameters flagged with an "H3", received after the hold time had expired.

Sample Analysis

These samples were analyzed for inorganic parameters. The individual methods are referenced on both, the ACZ invoice and the analytical reports. The following required further explanation not provided by the Extended Qualifier Report:

1. TDS (N1) - Oven range is 80 C to 91 C. Over the weekend, the oven had a minor exceedance in oven temperature. When the oven temperature was checked on Monday 11/30/20, the max temp read at 100.4 C. The workgroup was removed from the oven on 11/30/20 when the oven was back in range. The workgroup was examined and there was no splattering of samples.

ACZ Laboratories, Inc.
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Inorganic Analytical Results

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

ACZ Sample ID: ***L63033-01***
Date Sampled: *11/23/20 12:15*
Date Received: *11/25/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	<0.25	U		mg/L	0.25	1.25	12/04/20 20:00	kja
Arsenic, dissolved	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	12/02/20 14:32	bsu
Beryllium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:00	kja
Boron, dissolved	M200.7 ICP	5	0.325	B		mg/L	0.1	0.5	12/07/20 18:25	kja
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/02/20 14:32	bsu
Chromium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:00	kja
Cobalt, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:00	kja
Copper, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:00	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/07/20 18:25	kja
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	12/02/20 14:32	bsu
Lithium, dissolved	M200.7 ICP	5	0.448			mg/L	0.04	0.2	12/04/20 20:00	kja
Manganese, dissolved	M200.7 ICP	5	0.334			mg/L	0.05	0.25	12/04/20 20:00	kja
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/08/20 10:47	llr
Nickel, dissolved	M200.7 ICP	5	0.114	B		mg/L	0.04	0.2	12/04/20 20:00	kja
Selenium, dissolved	M200.8 ICP-MS	5	0.0155			mg/L	0.0005	0.00125	12/02/20 14:32	bsu
Vanadium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.125	12/04/20 20:00	kja
Zinc, dissolved	M200.7 ICP	5	0.110	B		mg/L	0.1	0.25	12/04/20 20:00	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.57			mg/L	0.11	0.35	12/03/20 17:54	eep
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		1.62	H		mg/L	0.02	0.1	12/09/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	1.63	H	*	mg/L	0.02	0.1	12/01/20 22:57	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.012	BH	*	mg/L	0.01	0.05	12/01/20 22:57	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.0			C	0.1	0.1	12/02/20 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	5	5300		*	mg/L	100	200	11/25/20 19:39	eep

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

Inorganic Analytical Results

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

ACZ Sample ID: ***L63033-02***
Date Sampled: *11/23/20 12:05*
Date Received: *11/25/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	<0.25	U		mg/L	0.25	1.25	12/04/20 20:03	kja
Arsenic, dissolved	M200.8 ICP-MS	5	<0.001	U		mg/L	0.001	0.005	12/02/20 14:34	bsu
Beryllium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:03	kja
Boron, dissolved	M200.7 ICP	5	0.153	B		mg/L	0.1	0.5	12/07/20 18:28	kja
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/02/20 14:34	bsu
Chromium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:03	kja
Cobalt, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:03	kja
Copper, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:03	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/07/20 18:28	kja
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	12/02/20 14:34	bsu
Lithium, dissolved	M200.7 ICP	5	0.376			mg/L	0.04	0.2	12/04/20 20:03	kja
Manganese, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:03	kja
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/08/20 10:50	llr
Nickel, dissolved	M200.7 ICP	5	<0.04	U		mg/L	0.04	0.2	12/04/20 20:03	kja
Selenium, dissolved	M200.8 ICP-MS	5	0.0452			mg/L	0.0005	0.00125	12/02/20 14:34	bsu
Vanadium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.125	12/04/20 20:03	kja
Zinc, dissolved	M200.7 ICP	5	<0.1	U		mg/L	0.1	0.25	12/04/20 20:03	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.47			mg/L	0.11	0.35	12/03/20 17:57	eep
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		11	H		mg/L	0.1	0.5	12/09/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	5	11.2	H	*	mg/L	0.1	0.5	12/01/20 23:24	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	0.039	BH	*	mg/L	0.01	0.05	12/01/20 22:59	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H	*	units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	20.9			C	0.1	0.1	12/02/20 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	2	5070			mg/L	40	80	11/30/20 18:41	scd

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

Inorganic Analytical Results

GCC Rio Grande
Project ID:
Sample ID: MW-8

ACZ Sample ID: ***L63033-03***
Date Sampled: *11/23/20 10:15*
Date Received: *11/25/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	<0.25	U		mg/L	0.25	1.25	12/04/20 20:06	kja
Arsenic, dissolved	M200.8 ICP-MS	5	0.00219	B		mg/L	0.001	0.005	12/02/20 14:36	bsu
Beryllium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:06	kja
Boron, dissolved	M200.7 ICP	5	0.817			mg/L	0.1	0.5	12/07/20 18:31	kja
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/02/20 14:36	bsu
Chromium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:06	kja
Cobalt, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:06	kja
Copper, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:06	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/07/20 18:31	kja
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	12/02/20 14:36	bsu
Lithium, dissolved	M200.7 ICP	5	0.333			mg/L	0.04	0.2	12/04/20 20:06	kja
Manganese, dissolved	M200.7 ICP	5	0.249	B		mg/L	0.05	0.25	12/04/20 20:06	kja
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/08/20 10:51	llr
Nickel, dissolved	M200.7 ICP	5	<0.04	U		mg/L	0.04	0.2	12/04/20 20:06	kja
Selenium, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.00125	12/02/20 14:36	bsu
Vanadium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.125	12/04/20 20:06	kja
Zinc, dissolved	M200.7 ICP	5	<0.1	U		mg/L	0.1	0.25	12/04/20 20:06	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	1.14			mg/L	0.11	0.35	12/03/20 18:00	eep
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		<0.02	UH		mg/L	0.02	0.1	12/09/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	UH	*	mg/L	0.02	0.1	12/01/20 23:25	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	UH	*	mg/L	0.01	0.05	12/01/20 23:00	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.0			C	0.1	0.1	12/02/20 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	10	4060		*	mg/L	200	400	11/25/20 19:45	eep

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

ACZ Sample ID: ***L63033-04***
Date Sampled: *11/23/20 10:30*
Date Received: *11/25/20*
Sample Matrix: *Groundwater*

Metals Analysis

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	5	<0.25	U		mg/L	0.25	1.25	12/04/20 20:10	kja
Arsenic, dissolved	M200.8 ICP-MS	5	0.00234	B		mg/L	0.001	0.005	12/02/20 14:37	bsu
Beryllium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:10	kja
Boron, dissolved	M200.7 ICP	5	0.834			mg/L	0.1	0.5	12/07/20 18:34	kja
Cadmium, dissolved	M200.8 ICP-MS	5	<0.00025	U		mg/L	0.00025	0.00125	12/02/20 14:37	bsu
Chromium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:10	kja
Cobalt, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:10	kja
Copper, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.25	12/04/20 20:10	kja
Iron, dissolved	M200.7 ICP	5	<0.3	U		mg/L	0.3	0.75	12/07/20 18:34	kja
Lead, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.0025	12/02/20 14:37	bsu
Lithium, dissolved	M200.7 ICP	5	0.337			mg/L	0.04	0.2	12/04/20 20:10	kja
Manganese, dissolved	M200.7 ICP	5	0.253			mg/L	0.05	0.25	12/04/20 20:10	kja
Mercury, dissolved	M245.1 CVAA	1	<0.0002	U		mg/L	0.0002	0.001	12/08/20 10:54	llr
Nickel, dissolved	M200.7 ICP	5	<0.04	U		mg/L	0.04	0.2	12/04/20 20:10	kja
Selenium, dissolved	M200.8 ICP-MS	5	<0.0005	U		mg/L	0.0005	0.00125	12/02/20 14:37	bsu
Vanadium, dissolved	M200.7 ICP	5	<0.05	U		mg/L	0.05	0.125	12/04/20 20:10	kja
Zinc, dissolved	M200.7 ICP	5	<0.1	U		mg/L	0.1	0.25	12/04/20 20:10	kja

Wet Chemistry

Parameter	EPA Method	Dilution	Result	Qual	XQ	Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	1.15			mg/L	0.11	0.35	12/03/20 18:11	eep
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		<0.02	UH		mg/L	0.02	0.1	12/09/20 0:00	calc
Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.02	UH	*	mg/L	0.02	0.1	12/01/20 23:01	pjb
Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	1	<0.01	UH	*	mg/L	0.01	0.05	12/01/20 23:01	pjb
pH (lab)	SM4500H+ B									
pH		1	8.1	H		units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.1			C	0.1	0.1	12/02/20 0:00	jck
Residue, Filterable (TDS) @180C	SM2540C	10	4040		*	mg/L	200	400	11/25/20 19:47	eep

Report Header Explanations

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

QC Sample Types

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

QC Sample Type Explanations

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

ACZ Qualifiers (Qual)

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

Method References

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

Comments

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

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

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: ***L63033***

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
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.04	mg/L	102	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.15	0.15			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.250325		.228	mg/L	91	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	200.510325		208.1	mg/L	104	1	200			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	1.0013		.993	mg/L	99	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.975	mg/L	98	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.15	0.15			
L63025-07AS	AS	12/04/20 19:42	II201123-3	1.0013	.112	1.139	mg/L	103	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	1.0013	.112	1.116	mg/L	100	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.974	mg/L	97	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.15	0.15			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.976	mg/L	98	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.15	0.15			

Arsenic, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510562													
WG510562ICV	ICV	12/02/20 13:42	MS201021-2	.05		.04859	mg/L	97	90	110			
WG510562ICB	ICB	12/02/20 13:44				U	mg/L		-0.00044	0.00044			
WG510562LFB	LFB	12/02/20 13:46	MS201117-2	.05005		.04514	mg/L	90	85	115			
WG510562CCV1	CCV	12/02/20 14:01	MS201111-2	.1001		.09848	mg/L	98	90	110			
WG510562CCB1	CCB	12/02/20 14:02				U	mg/L		-0.0006	0.0006			
L63025-08AS	AS	12/02/20 14:21	MS201117-2	.05005	U	.05016	mg/L	100	70	130			
WG510562CCV2	CCV	12/02/20 14:23	MS201111-2	.1001		.09462	mg/L	95	90	110			
WG510562CCB2	CCB	12/02/20 14:24				U	mg/L		-0.0006	0.0006			
L63025-08ASD	ASD	12/02/20 14:26	MS201117-2	.05005	U	.04948	mg/L	99	70	130	1	20	
WG510562CCV3	CCV	12/02/20 14:39	MS201111-2	.1001		.09528	mg/L	95	90	110			
WG510562CCB3	CCB	12/02/20 14:41				U	mg/L		-0.0006	0.0006			

Beryllium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.037	mg/L	102	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.05		.048	mg/L	96	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.10005		.098	mg/L	98	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.5		.485	mg/L	97	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.988	mg/L	99	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.5	U	.482	mg/L	96	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.5	U	.474	mg/L	95	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.98	mg/L	98	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.986	mg/L	99	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

GCC Rio Grande

ACZ Project ID: ***L63033***

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.

Boron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510823													
WG510823ICV	ICV	12/07/20 16:51	II201204-1	2		1.981	mg/L	99	95	105			
WG510823ICB	ICB	12/07/20 16:57				U	mg/L		-0.06	0.06			
WG510823PQV	PQV	12/07/20 17:00	II201203-5	.1001		.11	mg/L	110	70	130			
WG510823SIC	SIC	12/07/20 17:04	II201203-7	.1001		.096	mg/L	96	80	120			
WG510823LFB	LFB	12/07/20 17:10	II201123-3	.5005		.489	mg/L	98	85	115			
WG510823CCV1	CCV	12/07/20 17:41	II201204-2	1		.972	mg/L	97	90	110			
WG510823CCB1	CCB	12/07/20 17:44				U	mg/L		-0.06	0.06			
L63025-07AS	AS	12/07/20 18:06	II201123-3	.5005	U	.501	mg/L	100	85	115			
L63025-07ASD	ASD	12/07/20 18:09	II201123-3	.5005	U	.515	mg/L	103	85	115	3	20	
WG510823CCV2	CCV	12/07/20 18:18	II201204-2	1		.971	mg/L	97	90	110			
WG510823CCB2	CCB	12/07/20 18:21				U	mg/L		-0.06	0.06			
WG510823CCV3	CCV	12/07/20 18:37	II201204-2	1		.998	mg/L	100	90	110			
WG510823CCB3	CCB	12/07/20 18:40				U	mg/L		-0.06	0.06			

Cadmium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510562													
WG510562ICV	ICV	12/02/20 13:42	MS201021-2	.05		.049739	mg/L	99	90	110			
WG510562ICB	ICB	12/02/20 13:44				U	mg/L		-0.00011	0.00011			
WG510562LFB	LFB	12/02/20 13:46	MS201117-2	.05005		.043733	mg/L	87	85	115			
WG510562CCV1	CCV	12/02/20 14:01	MS201111-2	.1001		.098198	mg/L	98	90	110			
WG510562CCB1	CCB	12/02/20 14:02				U	mg/L		-0.00015	0.00015			
L63025-08AS	AS	12/02/20 14:21	MS201117-2	.05005	.0358	.080118	mg/L	89	70	130			
WG510562CCV2	CCV	12/02/20 14:23	MS201111-2	.1001		.095548	mg/L	95	90	110			
WG510562CCB2	CCB	12/02/20 14:24				U	mg/L		-0.00015	0.00015			
L63025-08ASD	ASD	12/02/20 14:26	MS201117-2	.05005	.0358	.081647	mg/L	92	70	130	2	20	
WG510562CCV3	CCV	12/02/20 14:39	MS201111-2	.1001		.095468	mg/L	95	90	110			
WG510562CCB3	CCB	12/02/20 14:41				U	mg/L		-0.00015	0.00015			

Chromium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.04	mg/L	102	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.05015		.041	mg/L	82	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.1003		.087	mg/L	87	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.5015		.485	mg/L	97	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.986	mg/L	99	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.5015	U	.487	mg/L	97	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.5015	U	.479	mg/L	96	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.976	mg/L	98	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.982	mg/L	98	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

GCC Rio Grande

ACZ Project ID: ***L63033***

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.

Cobalt, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2.004		2.069	mg/L	103	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.05		.037	mg/L	74	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.1		.086	mg/L	86	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.5		.478	mg/L	96	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1.002		.994	mg/L	99	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.5	U	.473	mg/L	95	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.5	U	.468	mg/L	94	85	115	1	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1.002		1	mg/L	100	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1.002		1.017	mg/L	101	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

Copper, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		1.999	mg/L	100	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.0501		.045	mg/L	90	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.1002		.09	mg/L	90	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.5015		.484	mg/L	97	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.973	mg/L	97	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.5015	U	.491	mg/L	98	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.5015	U	.483	mg/L	96	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.961	mg/L	96	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.963	mg/L	96	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

GCC Rio Grande

ACZ Project ID: ***L63033***

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

Fluoride SM4500F-C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510668													
WG510668ICV	ICV	12/03/20 12:14	WC201124-2	2.002		2.11	mg/L	105	90	110			
WG510668ICB	ICB	12/03/20 12:18				U	mg/L		-0.33	0.33			
WG510656													
WG510656ICV	ICV	12/03/20 14:20	WC201124-2	2.002		2.02	mg/L	101	90	110			
WG510656ICB	ICB	12/03/20 14:25				U	mg/L		-0.33	0.33			
WG510656PQV	PQV	12/03/20 14:29	WC201104-9	.35		.3	mg/L	86	70	130			
WG510656LFB1	LFB	12/03/20 14:32	WC200511-1	5		5.09	mg/L	102	90	110			
WG510656CCV1	CCV	12/03/20 15:07	WC201124-2	2.002		2.06	mg/L	103	90	110			
WG510656CCB1	CCB	12/03/20 15:15				U	mg/L		-0.33	0.33			
WG510656CCV2	CCV	12/03/20 16:37	WC201124-2	2.002		2.1	mg/L	105	90	110			
WG510656CCB2	CCB	12/03/20 16:45				U	mg/L		-0.33	0.33			
WG510656LFB2	LFB	12/03/20 17:15	WC200511-1	5		5.31	mg/L	106	90	110			
WG510656CCV3	CCV	12/03/20 17:31	WC201124-2	2.002		2.08	mg/L	104	90	110			
WG510656CCB3	CCB	12/03/20 17:39				U	mg/L		-0.33	0.33			
L63033-03AS	AS	12/03/20 18:03	WC200511-1	5	1.14	6.28	mg/L	103	90	110			
L63033-03ASD	ASD	12/03/20 18:07	WC200511-1	5	1.14	6.28	mg/L	103	90	110	0	20	
WG510656CCV4	CCV	12/03/20 18:19	WC201124-2	2.002		2.07	mg/L	103	90	110			
WG510656CCB4	CCB	12/03/20 18:27				U	mg/L		-0.33	0.33			
L63069-01AS	AS	12/03/20 18:55	WC200511-1	5	.24	5.5	mg/L	105	90	110			
L63069-01ASD	ASD	12/03/20 18:59	WC200511-1	5	.24	5.45	mg/L	104	90	110	1	20	
WG510656CCV5	CCV	12/03/20 19:02	WC201124-2	2.002		2.08	mg/L	104	90	110			
WG510656CCB5	CCB	12/03/20 19:10				U	mg/L		-0.33	0.33			

Iron, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510823													
WG510823ICV	ICV	12/07/20 16:51	II201204-1	2		1.95	mg/L	98	95	105			
WG510823ICB	ICB	12/07/20 16:57				U	mg/L		-0.18	0.18			
WG510823PQV	PQV	12/07/20 17:00	II201203-5	.15027		.149	mg/L	99	70	130			
WG510823SIC	SIC	12/07/20 17:04	II201203-7	200.51027		199.3	mg/L	99	1	200			
WG510823LFB	LFB	12/07/20 17:10	II201123-3	1.0018		.961	mg/L	96	85	115			
WG510823CCV1	CCV	12/07/20 17:41	II201204-2	1		.964	mg/L	96	90	110			
WG510823CCB1	CCB	12/07/20 17:44				U	mg/L		-0.18	0.18			
L63025-07AS	AS	12/07/20 18:06	II201123-3	1.0018	U	.96	mg/L	96	85	115			
L63025-07ASD	ASD	12/07/20 18:09	II201123-3	1.0018	U	1	mg/L	100	85	115	4	20	
WG510823CCV2	CCV	12/07/20 18:18	II201204-2	1		1.001	mg/L	100	90	110			
WG510823CCB2	CCB	12/07/20 18:21				U	mg/L		-0.18	0.18			
WG510823CCV3	CCV	12/07/20 18:37	II201204-2	1		.977	mg/L	98	90	110			
WG510823CCB3	CCB	12/07/20 18:40				U	mg/L		-0.18	0.18			

GCC Rio Grande

ACZ Project ID: ***L63033***

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
WG510562													
WG510562ICV	ICV	12/02/20 13:42	MS201021-2	.05		.05158	mg/L	103	90	110			
WG510562ICB	ICB	12/02/20 13:44				U	mg/L		-0.00022	0.00022			
WG510562LFB	LFB	12/02/20 13:46	MS201117-2	.05005		.0456	mg/L	91	85	115			
WG510562CCV1	CCV	12/02/20 14:01	MS201111-2	.25025		.24329	mg/L	97	90	110			
WG510562CCB1	CCB	12/02/20 14:02				U	mg/L		-0.0003	0.0003			
L63025-08AS	AS	12/02/20 14:21	MS201117-2	.05005	U	.04896	mg/L	98	70	130			
WG510562CCV2	CCV	12/02/20 14:23	MS201111-2	.25025		.24563	mg/L	98	90	110			
WG510562CCB2	CCB	12/02/20 14:24				U	mg/L		-0.0003	0.0003			
L63025-08ASD	ASD	12/02/20 14:26	MS201117-2	.05005	U	.04969	mg/L	99	70	130	1	20	
WG510562CCV3	CCV	12/02/20 14:39	MS201111-2	.25025		.24365	mg/L	97	90	110			
WG510562CCB3	CCB	12/02/20 14:41				U	mg/L		-0.0003	0.0003			

Lithium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.0088	mg/L	100	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.024	0.024			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.03988		.0359	mg/L	90	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.0997		.0983	mg/L	99	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.997		.969	mg/L	97	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.9744	mg/L	97	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.024	0.024			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.997	.107	1.105	mg/L	100	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.997	.107	1.079	mg/L	97	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.9678	mg/L	97	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.024	0.024			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.9739	mg/L	97	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.024	0.024			

Manganese, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.003	mg/L	100	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.0501		.046	mg/L	92	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	50.1001		48.06	mg/L	96	1	200			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.5005		.473	mg/L	95	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.977	mg/L	98	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.5005	.064	.539	mg/L	95	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.5005	.064	.528	mg/L	93	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.97	mg/L	97	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.971	mg/L	97	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

GCC Rio Grande

ACZ Project ID: ***L63033***

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.

Mercury, dissolved M245.1 CVAA

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510801													
WG510801ICV	ICV	12/08/20 10:26	HG201109-2	.005		.00479	mg/L	96	95	105			
WG510801ICB	ICB	12/08/20 10:27				U	mg/L		-0.0002	0.0002			
WG510801PQV	PQV	12/08/20 10:28	HG201130-2	.001001		.00096	mg/L	96	70	130			
WG510801LRB	LRB	12/08/20 10:28				U	mg/L		-0.00044	0.00044			
WG510801LFB	LFB	12/08/20 10:29	HG201130-3	.002002		.00182	mg/L	91	85	115			
WG510801CCV1	CCV	12/08/20 10:37	HG201109-2	.005		.00497	mg/L	99	90	110			
WG510801CCB1	CCB	12/08/20 10:38				U	mg/L		-0.0002	0.0002			
WG510801CCV2	CCV	12/08/20 10:48	HG201109-2	.005		.00487	mg/L	97	90	110			
WG510801CCB2	CCB	12/08/20 10:49				U	mg/L		-0.0002	0.0002			
L63033-03LFM	LFM	12/08/20 10:52	HG201130-3	.002002	U	.00179	mg/L	89	85	115			
L63033-03LFMD	LFMD	12/08/20 10:53	HG201130-3	.002002	U	.00184	mg/L	92	85	115	3	20	
WG510801CCV3	CCV	12/08/20 10:57	HG201109-2	.005		.00475	mg/L	95	90	110			
WG510801CCB3	CCB	12/08/20 10:58				U	mg/L		-0.0002	0.0002			

Nickel, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.0928	mg/L	105	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.024	0.024			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.04016		.0429	mg/L	107	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.1002		.105	mg/L	105	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.502		.4952	mg/L	99	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		1.009	mg/L	101	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.024	0.024			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.502	U	.4902	mg/L	98	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.502	U	.4828	mg/L	96	85	115	2	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.9973	mg/L	100	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.024	0.024			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.9964	mg/L	100	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.024	0.024			

GCC Rio Grande

ACZ Project ID: ***L63033***

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
WG510534													
WG510534ICV	ICV	12/01/20 22:38	WI201117-3	2.416		2.424	mg/L	100	90	110			
WG510534ICB	ICB	12/01/20 22:39				U	mg/L		-0.02	0.02			
WG510534PQV	PQV	12/01/20 22:43	WI201001-12	.1		.097	mg/L	97	70	130			
WG510534LFB	LFB	12/01/20 22:44	WI201001-11	2		1.962	mg/L	98	90	110			
L63029-01AS	AS	12/01/20 22:47	WI201001-11	2	U	2.019	mg/L	101	90	110			
L63029-02DUP	DUP	12/01/20 22:50			U	U	mg/L				0	20	RA
WG510534CCV1	CCV	12/01/20 22:53	WI201128-1	2		2.054	mg/L	103	90	110			
WG510534CCB1	CCB	12/01/20 22:56				U	mg/L		-0.02	0.02			
WG510534CCV2	CCV	12/01/20 23:10	WI201128-1	2		1.942	mg/L	97	90	110			
WG510534CCB2	CCB	12/01/20 23:13				U	mg/L		-0.02	0.02			
WG510534CCV3	CCV	12/01/20 23:26	WI201128-1	2		2.023	mg/L	101	90	110			
WG510534CCB3	CCB	12/01/20 23:29				U	mg/L		-0.02	0.02			
WG510534CCV4	CCV	12/01/20 23:43	WI201128-1	2		2.034	mg/L	102	90	110			
WG510534CCB4	CCB	12/01/20 23:46				U	mg/L		-0.02	0.02			

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
WG510534													
WG510534ICV	ICV	12/01/20 22:38	WI201117-3	.609		.625	mg/L	103	90	110			
WG510534ICB	ICB	12/01/20 22:39				U	mg/L		-0.01	0.01			
WG510534PQV	PQV	12/01/20 22:43	WI201001-12	.05		.046	mg/L	92	70	130			
WG510534LFB	LFB	12/01/20 22:44	WI201001-11	1		.987	mg/L	99	90	110			
L63029-01AS	AS	12/01/20 22:47	WI201001-11	1	U	1.038	mg/L	104	90	110			
L63029-02DUP	DUP	12/01/20 22:50			U	U	mg/L				0	20	RA
WG510534CCV1	CCV	12/01/20 22:53	WI201128-1	1		1.034	mg/L	103	90	110			
WG510534CCB1	CCB	12/01/20 22:56				U	mg/L		-0.01	0.01			
WG510534CCV2	CCV	12/01/20 23:10	WI201128-1	1		1.029	mg/L	103	90	110			
WG510534CCB2	CCB	12/01/20 23:13				U	mg/L		-0.01	0.01			
WG510534CCV3	CCV	12/01/20 23:26	WI201128-1	1		1.021	mg/L	102	90	110			
WG510534CCB3	CCB	12/01/20 23:29				U	mg/L		-0.01	0.01			
WG510534CCV4	CCV	12/01/20 23:43	WI201128-1	1		1.026	mg/L	103	90	110			
WG510534CCB4	CCB	12/01/20 23:46				U	mg/L		-0.01	0.01			

pH (lab) SM4500H+ B

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510512													
WG510512LCSW1	LCSW	12/01/20 18:49	PCN60577	6		6.1	units	102	5.9	6.1			
WG510512LCSW4	LCSW	12/01/20 22:21	PCN60577	6		6.1	units	102	5.9	6.1			
WG510512LCSW7	LCSW	12/02/20 1:36	PCN60577	6		6.1	units	102	5.9	6.1			
WG510512LCSW10	LCSW	12/02/20 5:29	PCN60577	6		6.1	units	102	5.9	6.1			
L63033-02DUP	DUP	12/02/20 8:13			8.1	8.1	units				0	20	
L63057-01DUP	DUP	12/02/20 9:42			8.8	8.8	units				0	20	
WG510512LCSW13	LCSW	12/02/20 9:52	PCN60577	6		6.1	units	102	5.9	6.1			

GCC Rio Grande

ACZ Project ID: ***L63033***

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.

Residue, Filterable (TDS) @180C SM2540C

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510323													
WG510323PBW	PBW	11/25/20 19:20				U	mg/L		-20	20			
WG510323LCSW	LCSW	11/25/20 19:22	PCN62443	1000		1002	mg/L	100	80	120			
L63033-02DUP	DUP	11/25/20 19:43			5260	5290	mg/L				1	10	RO
L63033-04DUP	DUP	11/25/20 19:50			4040	3880	mg/L				4	10	
WG510436													
WG510436PBW	PBW	11/30/20 18:00				U	mg/L		-20	20			
WG510436LCSW	LCSW	11/30/20 18:02	PCN62443	1000		1008	mg/L	101	80	120			
WG510436PQV	PQV	11/30/20 18:05	WC200727-1	40		40	mg/L	100	50	150			
L63058-04DUP	DUP	11/30/20 19:00			2200	2210	mg/L				0	10	

Selenium, dissolved M200.8 ICP-MS

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510562													
WG510562ICV	ICV	12/02/20 13:42	MS201021-2	.05		.05006	mg/L	100	90	110			
WG510562ICB	ICB	12/02/20 13:44				U	mg/L		-0.00022	0.00022			
WG510562LFB	LFB	12/02/20 13:46	MS201117-2	.05		.04386	mg/L	88	85	115			
WG510562CCV1	CCV	12/02/20 14:01	MS201111-2	.25		.24512	mg/L	98	90	110			
WG510562CCB1	CCB	12/02/20 14:02				.00014	mg/L		-0.0003	0.0003			
L63025-08AS	AS	12/02/20 14:21	MS201117-2	.05	.00042	.05654	mg/L	112	70	130			
WG510562CCV2	CCV	12/02/20 14:23	MS201111-2	.25		.24293	mg/L	97	90	110			
WG510562CCB2	CCB	12/02/20 14:24				U	mg/L		-0.0003	0.0003			
L63025-08ASD	ASD	12/02/20 14:26	MS201117-2	.05	.00042	.05655	mg/L	112	70	130	0	20	
WG510562CCV3	CCV	12/02/20 14:39	MS201111-2	.25		.24131	mg/L	97	90	110			
WG510562CCB3	CCB	12/02/20 14:41				U	mg/L		-0.0003	0.0003			

Vanadium, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.047	mg/L	102	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.015	0.015			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.024975		.025	mg/L	100	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.0999		.085	mg/L	85	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.4995		.5083	mg/L	102	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.99	mg/L	99	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.03	0.03			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.4995	U	.5076	mg/L	102	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.4995	U	.494	mg/L	99	85	115	3	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.987	mg/L	99	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.03	0.03			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		1.01	mg/L	101	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.03	0.03			

GCC Rio Grande

ACZ Project ID: ***L63033***

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.

Zinc, dissolved M200.7 ICP

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.053	mg/L	103	95	105			
WG510680ICB	ICB	12/04/20 18:30				U	mg/L		-0.06	0.06			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.0502		.042	mg/L	84	70	130			
WG510680SIC	SIC	12/04/20 18:36	II201104-2	.1004		.097	mg/L	97	80	120			
WG510680LFB	LFB	12/04/20 18:42	II201123-3	.50075		.562	mg/L	112	85	115			
WG510680CCV1	CCV	12/04/20 19:14	II201112-4	1		.981	mg/L	98	90	110			
WG510680CCB1	CCB	12/04/20 19:17				U	mg/L		-0.06	0.06			
L63025-07AS	AS	12/04/20 19:42	II201123-3	.50075	U	.553	mg/L	110	85	115			
L63025-07ASD	ASD	12/04/20 19:45	II201123-3	.50075	U	.547	mg/L	109	85	115	1	20	
WG510680CCV2	CCV	12/04/20 19:51	II201112-4	1		.988	mg/L	99	90	110			
WG510680CCB2	CCB	12/04/20 19:54				U	mg/L		-0.06	0.06			
WG510680CCV3	CCV	12/04/20 20:13	II201112-4	1		.998	mg/L	100	90	110			
WG510680CCB3	CCB	12/04/20 20:16				U	mg/L		-0.06	0.06			

GCC Rio Grande ACZ Project ID: ***L63033***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63033-01	WG510534	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			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	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			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).
	WG510323	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density did not meet method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
L63033-02	WG510534	Nitrate/Nitrite as N, dissolved	M353.2 - Automated Cadmium Reduction	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			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	HE	Analysis performed past holding time. Method holding time is less than or equal to 7 days and sample was received with less than half of the holding time remaining (refer to item C5 of ACZ's Terms & Conditions).
			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).
	WG510512	pH	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L63033-03	WG510534	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).
		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).
	WG510323	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.
			SM2540C	RO	The duplicate originally assigned to this sample was not used for precision assessment because residue density did not meet method limits. Another duplicate in the batch was used to assess precision. Method required duplicate frequency was not met.
L63033-04	WG510534	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).
		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).
	WG510323	Residue, Filterable (TDS) @180C	SM2540C	N1	See Case Narrative.

Certification Qualifiers

GCC Rio Grande ACZ Project ID: ***L63033***

No certification qualifiers associated with this analysis

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

Sample Receipt

GCC Rio Grande

ACZ Project ID: L63033
Date Received: 11/25/2020 11:11
Received By:
Date Printed: 11/30/2020

Receipt Verification

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

A change was made in the Address and Sample ID: Date:Time Line 3 section prior to ACZ custody.

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A change was made in the Address and Sample ID: Date:Time Line 3 section prior to ACZ custody.

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

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

Sample Receipt

GCC Rio Grande

ACZ Project ID: L63033
Date Received: 11/25/2020 11:11
Received By:
Date Printed: 11/30/2020

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
NA34154	0.8	<=6.0	15	N/A

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.

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

ACZ Laboratories, Inc. L63033

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

CHAIN of CUSTODY

Report to:

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

Copy of Report to:

Name: N/A	E-mail:
Company:	Telephone:

Invoice to:

Name: Same	Address: Same
Company:	
E-mail:	Telephone:

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 [X]

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

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

***Sampler's Signature:** [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 - COMPLIACE

PO#: NA

Reporting state for compliance testing: CO

Check box if samples include NRC licensed material? [ ]

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers									
MW-6	11/23/20 : 1215	GW	3									
MW-7	11/23/20 : 1205	GW	3									
MW-8	11/23/20 : 1015	GW	3									
MW-2B	11/23/20 1030	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
Scott Legg	11/23/20 1330	UPS	
		[signature]	11/25/20 1151

L63033 Chain of Custod

ATTACHMENT 3 - GCC Lab Data Validation Report

DIANE SHORT & ASSOCIATES, INC.
1978 S. Garrison St. # 114
Lakewood CO 80227
303:271-9642
dsa7cbc@eazyqaqc.com

INORGANIC DATA QUALITY REVIEW REPORT
METALS BY ICPMS, ICP, CVAA, WET CHEMISTRY AND SPECIAL METHODS

SDG	L57840, L61534, L61811 , L63003	
PROJECT	GCC Rio Grande – First , Third, Fourth Quarters, Resource Hydrogeologic Services	
LABORATORY	ACZ Laboratories, Steamboat Springs, CO	
SAMPLE MATRIX	Water	SAMPLING DATE: 3/9/; 9/16/, 9/28/, 11/23 2020
ANALYSES REQUESTED	EPA 200.7 (metals by ICP, dissolved), EPA 200.8 (metals by ICPMS, dissolved), EPA 245.1 (mercury, dissolved), SM4500F-C (Fluoride), M353.2 (nitrate + nitrite as nitrogen, nitrite as nitrogen, nitrate as nitrogen); SM4500H+ B (pH), SM2540C (total dissolved solids), SM5310C	
SAMPLE NUMBER	MW-6, MW-7, MW-2B and MW-8 (L61811 only)	

DATA REVIEWER: John Huntington

QA REVIEWER: Diane Short & Associates, Inc. INITIALS/DATE: ___ DLS ___02/10/2021

Telephone Logs included Yes____ No __X_
Contractual Violations Yes____ No __X_

The Contract Laboratory Program National Functional Guidelines for Inorganic Data Review 2016 (NFG), as applicable, and the requested EPA Methods, Methods of Chemical Analysis of Water and Wastes (MCAWW) and Standard Methods (SM, current updates) have been referenced by the reviewer to perform this data validation review. The review includes evaluation of calibration, holding times and Quality Control (QC) for all samples; and 10% review of transcription and calculation algorithms from the raw data. Determining the exact analytical sequence was performed to verify that the frequencies of QC sample analyses were met, where applicable, on 10% of the data. General comments regarding the data/analytical quality are part of the review when raw data are submitted. The reports use Diane Short & Associates (DSA) validation qualifiers in the text and tables that include the compilation of the reasons for qualification and the associated values, as defined in each section for QC outliers. The United States Environmental Protection Agency (EPA) qualifiers have been provided. The DSA qualifiers, EPA qualifiers, and validation codes are included in the Electronic Data Deliverable (EDD). Note: those items in this report which have an asterisk (*) are specific to inductively coupled plasma-mass spectrometry (ICP-MS) and may include inductively coupled plasma-atomic emission spectroscopy (ICP-AES) as applicable.

I. DELIVERABLES

All deliverables were present as specified in the Statement of Work (SOW), SW-846, or in the project contract. This includes the Case Narrative.

Yes X No _____

Data were submitted for EPA 200.7 (12 metals by ICP, dissolved), EPA 200.8 (4 metals by ICPMS, dissolved), EPA 245.1 (mercury, dissolved), SM4500F-C (Fluoride), M353.2 (nitrate + nitrite as nitrogen, nitrite as nitrogen, nitrate as nitrogen); SM4500H+ B (pH), SM2540C (total dissolved solids), SM5310C. Note that for SDG L61811, lab pH was not requested or performed.

The data were validated at EPA Level III (EPA Stage 2B) with a minimum of 10% validated as EPA raw data review). All SDGs are Level IV.

SDG 63033: The raw data for the mercury analyses were not in the pdf. All calibration and QC data were present. The reported results are all 'U' in the EDD and full raw were reviewed for the previous 2 quarters to fulfill the raw data review requirement. The raw data are requested from the laboratory and submitted. No further action is required.

The raw data include results for alkalinity and conductivity. These are no reported in the EDD. As there are no methods noted on the chain of custody, the project manager will ensure that all requested data are in the pdf and the EDD.

The laboratory has reported detections to the MDL and has flagged results between the MDL and the PQL with a "B". This is noted because many laboratories use "J" instead of "B" for this purpose, so the meaning of this flag needs to be kept in mind when reviewing the data. The definition of lab flags is provided in the report in the Inorganic Reference section.

II. ANALYTICAL REPORT FORMS

A. The Analytical Report or Data Sheets are present and complete for all requested analyses.

Yes X No _____

B. Holding Times

1. The contract holding times were met for all analyses (time of sample receipt to date of analysis).

Yes _____ No X N/A _____

Data are qualified from date of collection to analysis, as presented in the next section.

2. The method holding times were met for all analyses (time of sample collection to date of analysis per the holding times in the project QAPP).

Yes _____ No X

The method holding times were met for all analyses, with the following clarifications and exceptions.

pH - SM4500H+ B (pH): EPA considers pH to be a field parameter and allows only a 15-minute hold time. All pH results reported by the lab are qualified as JH#, where # is the number of days since sampling. An outlier that is greater than 2 x the hold time is usually rejected, but the project manager has verified that field pH data have been collected to compare to the laboratory data. Results should be considered as estimates due to time and temperature changes in the samples. See the table at the end of this report.

SDG 63033: Method 353.2 NO3/NO2. The holding time for the individual NO2 and NO3 components of this method is 48 hours. Samples were not received in time to meet this holding time. Holding times were exceeded by

more than 2 x the limit. The nitrite (NO2) data are qualified as rejected. The total nitrogen data are qualified as estimated 'JH#'. See table at the end of the report.

3. Samples were properly preserved to pH < 2 for metals, and applicable preservative was used for other methods.

Yes X No _____ N/A _____

C. Chains of Custody (COC)

Chains of Custody (COC) were reviewed and all fields were complete, signatures were present, and cross outs were clean and initialed.

Yes _____ No X

All sample analyses were sent under a COC to ACZ Labs, Steamboat Springs, CO.
SDG 63033: There are no methods specified on the chain.
The log-in form has a field for holding times. Although samples were received for pH and Method 353.2 past holding time, the box was not checked.

III. CALIBRATION AND STANDARDIZATION

1. Initial calibration, mass calibration, and resolution checks for both low and high mass isotopes were within 0.1 atomic mass unit (amu) of the true value. (*)

Yes X No _____

All requisite instrument tuning or performance measures were done according to the method requirements. (*).

US EPA Tune Check Sample reports were provided in the raw data and reports indicated the tunes passed in all cases.

2. Mass calibration and resolution checks for both low and high mass isotopes produced a peak width of approximately 0.6 to 0.9 amu at 10% peak height. (*)

Yes X No _____

3. Instrument Stability

A tuning solution was analyzed a minimum of four times, and the relative standard deviation (RSD) of absolute signals for all analytes was less than 5%. (*)

Yes X No _____

B. Instrument Performance and Calibration Standards

1. The Initial Calibration Verification (ICV) standard was within the required control limits of ± 10% of the established value for all analytes. (80 – 120% for mercury, 85 – 115% for Se species)

Yes X No _____

2. The Continuing Calibration Verification (CCV) standards were analyzed at the required frequency following every 10 analyses.

Yes X No _____

Sequencing was performed to verify that the frequencies were met for client samples and for proper application of the qualifiers.

3. The CCV standard percent recovery results were within the required control limits of 90 – 110% (80 – 120 % for mercury and wet chemistry)

Yes X No _____
All CCVs were within criteria.

4. The correlation coefficients met the ≥ 0.995 criterion, as applicable to the method for mercury.

Yes X No _____

IV. CONTRACT REQUIRED DETECTION LIMIT (CRDL) STANDARDS

1. The 2x CRDL standards were analyzed for metals as required in the QAPP.

Yes X No _____ N/A _____

2. The 2x CRDL standards were within the required control limits of 70 – 130% (ICP: 50 – 150% for Lead, Antimony, and Thallium; ICPMS: 50 – 150% for Cobalt, Manganese, and Zinc).

Yes X No _____
All CRDLs were within criteria. A CRDL check is not required for Method 200.8. However, the laboratory initial calibration run each day has a low-level standard that is very near the reporting limit. This meets method requirements. The 200.7 method does include an RL Check standard that meets criteria.

V. INTERFERENCES

Isobaric Elemental and Molecular Interferences (* for ICP-MS)
The isotope selected was free of isobaric elemental and elemental interferences as measured by the Interference Check Sample Solutions A and AB (ICSA/ICSAB) for ICP-AES and ICP-MS.

Yes X No _____
Data are only qualified if the interfering analyte is present in the sample and at levels near the high end of the linear range of the instrument.

VI. LABORATORY REAGENT BLANK (LRB) OR PREPARATION BLANK

A. Blanks were prepared and analyzed at the required frequency of at least one per each set of samples.

Yes X No _____
The ICB is used as the method blank. This is acceptable since no digestion was performed on the samples prior to analysis.

B. All analytes in the blank were less than the MDL.

Yes X No _____
Analytes reported as contaminants in the Preparation Blank are qualified with the DSA qualifier "UMB#," where # is the value of the associated blank. Only detected data less than 10x the blank for metals or 5x the blank for other analyses are qualified. Such data are fully usable as non-detected values at the reported concentration or elevated reporting limit. All associated client field sample data were either non-detect or > 10x the blank.

Yes _____ No _____ N/A X

VII. CALIBRATION BLANKS

The highest blank associated with any particular analyte is used for the qualification process and is the value entered after the DSA "B" blank-qualifier descriptor.

A. Calibration Blanks were prepared and analyzed at the required frequency after each set of 10 samples as required by the method.

Yes X No _____
Sequencing was required to verify association with client samples.

B. The Calibration Blank results were within the required control limits or did not require data qualification.

Yes _____ No X N/A _____
Analytes reported as contaminants in the Calibration Blanks are qualified with the DSA qualifier "UCB#," where # is the value of the blank. Such data are fully usable as non-detected values at the reported concentration or elevated reporting limit. Only detected data less than 10 × blank for metals and 5 × blank for other analyse are qualified.

SDG L57840: Selenium was detected in one run of 200.8 analysis. The associated samples are greater than 10x the selenium in the CCBs and no qualifiers are required. All other CCBs are in control for 200.7 and 245.1.
SDG L61534: Chromium was detected in the CCBs in the 200.7 analysis. Chromium detections in samples were essentially the same as the CCBs and are qualified as shown in the table below.
SDG 63033: Selenium was detected in one run of 200.8 analysis. The associated samples are greater than 10x the selenium in the CCBs and no qualifiers are required.

CLIENTID	LABID	ANALYTE	RESULT	QUAL	UNITS	MDL	PQL	DSA	EPA
MW-6	L61534-01	Chromium, dissolved	0.01	B	mg/L	0.01	0.05	UCB0.01	UB
MW-7	L61534-02	Chromium, dissolved	0.01	B	mg/L	0.01	0.05	UCB0.01	UB
MW-2B	L61534-03	Chromium, dissolved	0.01	B	mg/L	0.01	0.05	UCB0.01	UB

C. Field, decon rinse or other Field Blanks are contained and identified in the package.

Yes _____ No X N/A _____

D. The reported results for the Field Blanks are less than the CRDL or less than the MDL, whichever is lower.

Yes _____ No _____ N/A X

VIII. INTERNAL STANDARD RESPONSES (*)

A. A minimum of three internal standards were present in all standards and blanks at identical levels.

Yes X No _____

B. The absolute response of each internal standard (IS) was within the required EPA control limits of 60 – 125%.

Yes X No _____

C. Dilutions were performed as required by the method to minimize errors if the internal standard analyte is naturally present in a sample.

Yes _____ No _____ N/A X

SDG 63033: samples were diluted 5x for ICPMS and ICP. It is not clear if this was to minimize interferences.

D. If not, the appropriate test procedures were performed and the required corrections performed.

Yes _____ No _____ N/A X

IX. MATRIX SPIKES

A. Matrix Spike and Matrix Spike Duplicate (MS/MSD) samples were prepared and analyzed at one per every 20 or fewer samples for each matrix and each sampling event per day as required.

Yes X No _____

Matrix spikes, duplicates, and matrix spike duplicates were present. For wet chemistry, a matrix spike and a matrix duplicate are analyzed. The project manager will determine if the project frequency is met for these methods. Matrix spikes associated with this set of data are shown in the table below.

The ICP metals (200.7), included MS/MSDs, but these were associated with a different project and are not applicable to these samples for all events. The chains do not designate samples for use as QC samples, nor is there any indication of extra volume collected should it be required. The project frequency for the ICP metals is not met for matrix precision and accuracy. To meet the EPA PARCCs (precision, accuracy, representation and completeness), samples should be collected to best represent the matrix of the current event and designate those to the laboratory.

SDG 63033: Only the fluoride and mercury methods used a client sample MW-8. A matrix duplicate was provided for TDS, MW-7.

Spiked Sample L57840	Methods
MW-2B	200.8
MW-2B	SM4500F-C
MW-2B	M353.2

The metals data included MS/MSDs, but these were associated with a different project and are not applicable to these samples. Nitrate and nitrate (M353.2) had a MS and sample duplicate performed. Matrix spikes are not appropriate for the other methods performed.

Spiked Sample L61534	Methods
MW-7	SM4500F-C
MW-7	M353.2

Spiked Sample L63033	Methods
MW-8	SM4500F-C
MW-8	245.1

B. The MS/MSD percent recoveries were within the required control limits of 75 – 125%.

Yes X No _____ N/A _____

When matrix spikes are present, associated data are qualified with the DSA qualifier JMS#, where # is the value of the %R for the associated MS or MSD. Data may be biased high or low proportional to the spike recovery. The laboratory 'flags' data as M1 whether they are > 4x spike or within the qualifying limits. The laboratory flags are not recommended for use in evaluating the data as MS/MSD recoveries are not used for qualification of data if the result in the parent sample is > 4x the spike. Non-detected data are not qualified for high spikes. Only those MS/MSDs with parent samples in these projects are considered.

For some methods, such as Method 300.0 and Method 353.2, the laboratory uses a recovery window of 90-110%. Results are only qualified if the recoveries are outside the window specified above.

No samples are qualified for matrix spike outliers.

C. A Post Digestion Spike was prepared and analyzed if required.

Yes _____ No _____ N/A X

Not required in this case.

D. The MS/MSD samples were client samples.

Yes X No _____

MS/MSD analyses were also performed on client samples from other SDGs, but are not pertinent for qualification.

X. MATRIX DUPLICATE

A. Matrix Duplicate samples were prepared and analyzed per every 20 samples for each matrix.

Yes X No _____

For nitrate, nitrite, pH, and TDS the duplicate precision criteria are met.

B. The MS/MSD or MD relative percent difference (RPD) values were within the required control limit of ≤ 20 RPD for water samples or ≤ 35% RPD for soil samples. If either of the MD results is less than 5x RL, the RPD is not used and the difference between the results is evaluated and the QC limit is the difference between the original and the duplicate results (± 1x RL for water samples or ± 2x RL for soil samples). If the parent sample result is greater than 4 x the spike concentration, the MS/MSD is not evaluated. Only detected results are qualified for MS/MSD RPD outliers. Only those MS/MSDs with parent samples in these projects are considered.

Yes X No _____

Data are qualified with the DSA qualifier JD#, where # is the value of the RPD for the associated MD or MS/MSD analyses, when there are outliers. In this case there are no qualifiers.

XI. LABORATORY CONTROL SAMPLE

A. Laboratory Control Samples (LCS) were prepared and analyzed per every 20 samples for each matrix.

Yes X No _____

B. The LCS recoveries were within the required control limits of 80 – 120% for metals and for wet chemistry analyses 85 – 115% .

Yes X No _____

All LCS analyses were within criteria.

XII. FIELD QC

A. Field QC samples were identified.

Yes X No _____
L57840: Sample MW-2B is a blind duplicate of sample MW-7.
L61534: Sample MW-2B is a blind duplicate of sample MW-7.
L63033: Sample MW-2B is a blind duplicate of sample MW-8.

B. Field duplicates were within the guidance limit of < 30% RPD for water samples or < 50% RPD for soil samples. If values are less than 5x RL, the water limit is ± 1x RL or the soil limit is ± 2x RL.

Yes X No _____ N/A _____

XIII. SERIAL DILUTION

A. Serial Dilutions were analyzed for every 20 samples if the analyte concentrations were greater than 50x IDL.

Yes _____ No _____ N/A X
Analyte concentrations are too low to require serial dilutions.

B. The percent difference (% D) criteria of ± 10% were met.

Yes _____ No _____ N/A X
When outliers are present, data are qualified with the DSA qualifier JE#, where # is the %D. Data could be biased, usually high, due to non-linear matrix or chemical effects.

XIV. CALCULATIONS

A. Data calculations were checked when required, and significant figures were correctly reported.

Yes X No _____
Over 25% of the data were checked from the raw data to the EDD values for each method and each SDG.

B. Appropriate dilution factors were applied to the calculated sample concentrations.

Yes X No _____
SDG 63033: samples were diluted 5x for ICPMS and ICP. It is not clear if this was to minimize interferences. The results that are reported do not indicate that the dilutions were required for linear range issues. This raises the lower detection limit. The client will determine if action levels are met.

C. Data were acceptable for the total versus dissolved and the cation/ anion balance.
Yes ___ No ___NA__X_
The analyte list required for this calculation is not available in the data.

XV. OVERALL ASSESSMENT OF THE CASE

The laboratory has complied with the requested methods and the data is considered fully useable for project purposes with consideration of the following qualifications or comments.

Data were submitted for EPA 200.7 (12 metals by ICP, dissolved), EPA 200.8 (4 metals by ICPMS, dissolved), EPA 245.1 (mercury, dissolved), SM4500F-C (Fluoride), M353.2 (nitrate + nitrite as nitrogen, nitrite as nitrogen, nitrate as nitrogen); SM4500H+ B (pH), SM2540C (total dissolved solids), SM5310C.

The data were validated at EPA Level III (EPA Stage 2B) with a minimum of 10% validated as EPA raw data review). All SDGs are Level IV.

Deliverables

SDG 63033: The raw data for the mercury analyses were not in the pdf. All calibration and QC data were present. The reported results are all 'U' in the EDD and full raw were reviewed for the previous 2 quarters to fulfill the raw data review requirement. The raw data are requested from the laboratory and submitted. No further action is required.

SDG 63033: There are no methods specified on the chain.
The log-in form has a field for holding times. Although samples were received for pH and Method 353.2 past holding time, the box was not checked.

The laboratory has reported detections to the MDL and has flagged results between the MDL and the PQL with a "B". This is noted because many laboratories use "J" instead of "B" for this purpose, so the meaning of this flag needs to be kept in mind when reviewing the data. The definition of lab flags are provided in the report in the Inorganic Reference section.

Holding Times

The method holding times were met for all analyses, with the following clarifications and exceptions.
pH - SM4500H+ B (pH): EPA considers pH to be a field parameter and allows only a 15-minute hold time. All pH results reported by the lab are qualified as JH#, where # is the number of days since sampling. An outlier that is greater than 2 x the hold time is usually rejected, but the project manager has verified that field pH data have been collected to compare to the laboratory data. Results should be considered as estimates due to time and temperature changes in the samples.

SDG 63033: Method 353.2 NO3/NO2. The holding time for the individual NO2 and NO3 components of this method is 48 hours. Samples were not received in time to meet this holding time. Holding times were exceeded by more than 2 x the limit. The nitrite (NO2) data are qualified as rejected. The total nitrogen data are qualified as estimated 'JH#'. See table at the end of the report.

Continuing Calibration Blanks

L57840:Selenium was detected in one run of 200.8 analysis. The associated samples are greater than 10x the selenium in the CCBS and no qualifiers are required. All other CCBs are in control for 200.7 and 245.1.

L61534: Chromium was detected in the CCBs in the 200.7 analysis. Chromium detections in samples were essentially the same as the CCBs and are qualified as shown in the table below.

L 63033: Selenium was detected in one run of 200.8 analysis. The associated samples are greater than 10x the selenium in the CCBs and no qualifiers are required.

Matrix Spikes

Matrix spikes, duplicates, and matrix spike duplicates were present. For wet chemistry, a matrix spike and a matrix duplicate are analyzed. The project manager will determine if the project frequency is met for these methods. Matrix spikes associated with this set of data are shown in the table below.

The ICP metals (200.7), included MS/MSDs, but these were associated with a different project and are not

applicable to these samples for all events. The chains do not designate samples for use as QC samples, nor is there any indication of extra volume collected should it be required. The project frequency for the ICP metals is not met for matrix precision and accuracy. To meet the EPA PARCCs (precision, accuracy, representation and completeness), samples should be collected to best represent the matrix of the current event and designate those to the laboratory. QC samples are listed in the MS/MSD section.

For nitrate, nitrite, pH, and TDS the duplicate precision criteria are met.

Field Duplicates

L57840: Sample MW-2B is a blind duplicate of sample MW-7.

L61534: Sample MW-2B is a blind duplicate of sample MW-7.

L63033: Sample MW-2B is a blind duplicate of sample MW-8.

Detection Limits

SDG 63033: samples were diluted 5x for ICPMS and ICP. It is not clear if this was to minimize interferences. The results that are reported do not indicate that the dilutions were required for linear range issues. This raises the lower detection limit. The client will determine if action levels are met.

TABLE OF QUALIFIED DATA

LAB ID	CLIENT ID	ANALYTE	Result	Lab Flag	units	MDL	DSA	EPA
L63033-01	MW-6	Nitrate/Nitrite as N, dissolved	1.63	H	mg/L	0.02	JH6	J
L63033-01	MW-6	Nitrite as N, dissolved	0.012	BH	mg/L	0.01	RH6	R
L63033-01	MW-6	pH	8.1	H	pH	0.1	RH	R
L63033-02	MW-7	Nitrate/Nitrite as N, dissolved	11.2	H	mg/L	0.1	JH6	J
L63033-02	MW-7	Nitrite as N, dissolved	0.039	BH	mg/L	0.01	RH6	R
L63033-02	MW-7	pH	8.1	H	pH	0.1	RH	R
L63033-03	MW-8	Nitrate/Nitrite as N, dissolved		UH	mg/L	0.02	JH6.5	J
L63033-03	MW-8	Nitrite as N, dissolved		UH	mg/L	0.01	RH6.5	R
L63033-03	MW-8	pH	8.1	H	pH	0.1	RH	R
L63033-04	MW-2B	Nitrate/Nitrite as N, dissolved		UH	mg/L	0.02	JH6.5	J
L63033-04	MW-2B	Nitrite as N, dissolved		UH	mg/L	0.01	RH6.5	R
L63033-04	MW-2B	pH	8.1	H	pH	0.1	RH	R
L57840-01	MW-6	pH	8.1	H	pH	0.1	JH3.7	J
L57840-02	MW-7	pH	8	H	pH	0.1	JH3.8	J

L57840-03	MW-2B	pH	8	H	pH	0.1	JH3.8	J
L61534-01	MW-6	Chromium, dissolved	0.01	B	mg/L	0.01	UCB0.01	UB
L61534-02	MW-7	Chromium, dissolved	0.01	B	mg/L	0.01	UCB0.01	UB
L61534-03	MW-2B	Chromium, dissolved	0.01	B	mg/L	0.01	UCB0.01	UB
L61534-01	MW-6	pH	7.8	H	pH	0.1	JH1.2	J
L61534-02	MW-7	pH	7.8	H	pH	0.1	JH1.3	J
L61534-03	MW-2B	pH	7.8	H	pH	0.1	JH1.3	J