

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





TABLE OF CONTENTS

INTRODUCTION	3
GROUNDWATER MONITORING	3
GROUNDWATER MONITORING LOCATIONS	3
GROUNDWATER MONITORING DATA COLLECTION	4
GROUNDWATER MONITORING DATA ANALYSIS	5
GROUNDWATER QUALITY	
QUALITY ASSURANCE/QUALITY CONTROL	
GROUNDWATER LEVEL	6
RECOMMENDATIONS	7
REFERENCES	8
TABLES	9
FIGURES	12

ATTACHMENT 1 - GCC GROUNDWATER SAMPLING RECORDS ATTACHMENT 2 - GCC GROUNDWATER SAMPLING ANALYTICAL LAB REPORTS ATTACHMENT 3 - GCC LAB DATA VALIDATION REPORT



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 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



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		6500	14.9		<1.0		<0.020	<0.040	<0.2	<0.03	<0.005
MW-6	3/7/2019			volume for representati									
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												
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 v	volume for representati	ve field parameters or la	ab sample submittal	at time of water le	vel measurer	nent and then COVID-19 rest	trictions ena	cted before well could l	pe revisited foll	owing purge
MW-8	9/16/2020	29.74	Inadequate v	volume for representati	ve field parameters or la	ab sample submittal	after purge - samp	le collected 9	/28/20 because well took 2	weeks to rec	over		
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		-	-	ve field parameters or la	ab sample submittal	after purge - samp	le collected 1	1/23/20 because well took 2				
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 Groundwater Qualit Standards (Agricul	y Reference		6.5 -8.5				2		100	10	5.0	0.10	0.10

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

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.



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																
Groundwater Qual Standards (Agric		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	

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

Notes:

Concentrations in bold indicate exceedand 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.







GCC Rio Grande Pueblo Plant Bedrock Groundwater Hydrograph - Period of Record 2018-2020

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

GCC RIO GRANDE PUEBLO PLANT 2020 ANNUAL GROUNDWATER REPORT



ATTACHMENT 1 - GCC Groundwater Sampling Records

	GROUN	IDWATE	R SAM	PLING F	ECOR	D	SAMPLE N	o. Mu	1-6	
Project No:				Location:	all p	Pueblo			Page of	
Date: 3/9	1/20	Weather Cond	ditions:			w.c.r.	Personnel:			
Comments:	1	Juli	iy							
				INS	TRUMENTS	USED				
Instr	ument	Manufact	urer/Model	1	al No.	T		Calibration		
Water Level Prot		A 1	L WLM							
pH Meter			ro Series			Std: 4 7 10	@_21.5 °C R	eading 7.01		Slope:
pH Meter			in garles			Std: (4) 7 10	@ 20.9 °C R	eading 4.00	2	
Specific Conduct	ance Meter	YST P	ro Servies			Std: 10	uS @ 25°0 R	eading 10.00		
Specific Conduct	ance Meter	-				Std: 1413	_uS@25°C R	eading 1413		
Temperature		YSI P	ro Services					Pasto		
Other:		-								
Filtration	0.45 micron in	n-line high capa	city disposabl	e filter.						
				WELL PU	JRGING INFO	ORMATION				
Casing Diameter	(inches): Z"		Borehole Diamet	er (inches):		Screened Interva	al (ft. BGL):			
Depth to Water (ft below MP): 3	4.80	Total Depth (ft):	60.15	Casing Volume	(gal): 406		(gal/ft: 1.5" = 0.0	9; 2" = 0.16; 4" = 0	0.65)
Purging Method:						18				
Comments:	Monitoring point	(MP) is the top of the	ne PVC well casin	g.						
		Depth to		Specific						
Date/	Vol. Purged	Water		Conductance	Temp	Appe	arance			
Time	(gal)	(feet below MP)	pH	(uS @ 25 deg C)	(deg C)	(color, sec	diment, etc.)		Comments	
10:25	Intl.	34.80	6.89	5705	17.1	Gear	Nooder			
10:37	2.0	39.85	6.88	5771	15.2	e.4	LL.			
10:40	4.0	44.32	6.92	5660	15.4	10 10				
10:48	10-0	49.27	6.98	5859	15.2	εt i	U.			
11:02	8.0	53,24	6.94	5865	14.9	11 11				
11:09	10.0	58.10	7.02	5857	15.5	11 4				
11:17	11.5	58.75	7.13	5973	15.5	Slobte	thidity .	Purge	1 dry	_
Cummulative Vol	lume Purged:			(gallons)		2	(casing vol)	0	0	
				WELL SA	MPLING INF	ORMATION			÷	
Sampling Equipn	nent: (See	above								
Comments:										
SAMPLING N	EASUREMEN	TS:								
	Depth to	Depth		Specific		Other	Other			
Date/	Water	Sampled		Conductance	Temp					
Time	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)				Comments	
1338.	56.87		7.22	5591	16.5	clear	Hyo, no	color		
SAMPLE HAN	NDLING:				1	1				
Date/			uots		Filtered	Preserved		2		
Time	Volume (ml)		mposition	Quantity	(Y/N)	(type)		Con	nments	
3/9/20	125	LDF			yes	HNO.3				_
3/9/20	250	LDPI			No				9	
3/8/20	500	CDPE		1	No					
Field Onloc	0	4-14	unla Ma V							
		cted (type, Sam	ipie No.):							
Equipment De	econtamination	:								
Waste Dispos	sal:									
	Id Personnel:						GCC F	RIO GRAND	E, INC.	
Signature of Fie								Pueblo, CO		

	GROUN	IDWATE	R SAM	PLING F	ECORI	C	SAMPLE N	o. MU	0-7
Project No:				Location:	icc R	ieblo			Page of
Date: 3 - 9	-20	Weather Con	ditions:				Personnel:		
Comments:	20		Junny)					
				INS	TRUMENTS I	ISED			
Instru	mont	Manufact	urer/Model	1	al No.			Calibration	
Water Level Probe				Selia	ai NO.			Calibration	
	1	George				Std: 4 7 10	@ °C P	eading	Slope
pH Meter		YSI Pra	MUS			Concerner and their book in		eading	
pH Meter			To Plus			Std: 4 7 10		eading	
Specific Conducta		AST L	FO PLUS			Std:			
Specific Conducta	nce Meter	YST 1	Pro Plus			- Sid		eauling	
Temperature		1.54	-Lo I IKT						
Other:	0.45	- View black some		- Eller					
Filtration	0.45 micron in	n-line high capa	acity disposable			DMATION			
	-	24			JRGING INFC	1			
Casing Diameter (Borehole Diamet		a	(gal): 3.87	I (IT. BGL):	(0. 0. 0 10. 1 0.05
Depth to Water (ft	below MP): 3	15-10	Total Depth (ft):	27.54	Casing Volume	(gal): <u>5.87</u>		(gai/ft: 1.5" = 0.05	9; 2" = 0.16; 4" = 0.65)
Purging Method:									
Comments:	Monitoring point ((MP) is the top of ti	he PVC well casin	g.					
			1			1			
	1000 21 2	Depth to		Specific					
Date/	Vol. Purged	Water		Conductance	Temp		arance		A
Time 11:59	(gal)	(feet below MP)	рн 7.02	(uS @ 25 deg C)	(deg C)		iment, etc.)		Comments
	Inti	35.10		6234	15.6	Clear	1 cdor		
12:04	2.00	36.50	6.94	6194	15.1	11	11		
12:12	9.00	36.83	0117			11	11		
12:20	6.00	37-20	7.01	6236	15.8		1	N 0.12	
12:28	8.00	2011	7.04	6386	15-9	slightly-	tusped A.	brown	no odor
1236	10.00	36-81	7.01	6455	15-7	13			
Cummulative Volu	12.00	12.0	1001	(gallons)	10-4		(casing vol)		
Cummulative volu	ine i diged.			10	MPLING INFO	ORMATION	(out in g ton)		
Sampling Equipme	ent: co 2	above		11222 07					
Comments:		1. 00Y							
SAMPLING MI	EASUREMEN	TS:							
Gran Line in	Depth to	Depth		Specific		Other	Other		
Date/	Water	Sampled		Conductance	Temp				
Time	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)				Comments
1748	37.01		7.01	6455	15 1	slightlike	turbed b	rain the C	
1-1-						3.0			
SAMPLE HAN	DLING:								
SAMPLE HAN		Alic	quots		Filtered	Preserved			
Date/		7un		0	(Y/N)	(type)		Com	ments
	Volume (ml)	Bottle Co	omposition	Quantity	(17/14)				
Date/	Volume (ml)	1		Quantity	Jes	HNOZ			
Date/ Time	125	Bottle Co	Æ	quantity					
Date/ Time 3/9/240 1 7 48		Bottle Co	YE YE	A	Jes	HNO3			
Date/ Time 19/20 7.48 9/20 248	125	Bottle Co	YE YE	J.Z.	No	HNO3			
Date/ Time 19/26 7.48 1/20 7.48	125	Bottle Co	YE YE	J.Z.	No	HNO3			
Date/ Time 19/26 7.48 1/20 7.48	125	Bottle Co	YE YE	J.Z.	No	HNO3			
Date/ Time 19/26 7.48 1/20 7.48	125	Bottle Co	YE YE	1 2 2	No No	HNO3			
Date/ Time 7/20 + 7.49 7/23 1248 7/20 248	125 250 500	Bottle Co	E E	J.Z.	No No	HNO3			
Date/ Time 7/20 + 7.49 7/23 1248 7/20 1248	125 250 500	Bottle Cc LDF LDF LDF Ccted (type, San	E E	1 2 2	No No	HNO3			
Date/ Time 7/20 + 7.49 7/20 + 7.49	250 500 Gamples Collec	Bottle Cc LDF LDF LDF Cced (type, San	E E	1 2 2	No No	HNO3			
Date/ Time 7/20 + 7.49 7/23 12.48 7/20 12.48 7/20 12.48 Field QA/QC S	250 500 Gamples Collec contamination:	Bottle Cc LDF LDF LDF Ccted (type, San	E E	1 2 2	No No	HNO3		RIO GRAND	

	GROUN	IDWATE	R SAM		RECORI	כ	SAMPLE N	lo. Mil	1-8	
Project No:				Location:	ACC F	rebb		,	Page of	
Date:	120	Weather Con	ditions: Sun	ny			Personnel:			
Comments:										
				INS	TRUMENTS L	JSED				
Instr	ument	Manufact	urer/Model		al No.			Calibration		
Water Level Prof	be	Genter	h wem							
pH Meter		YSI P	to Sean			Std: 4 7 10	@_21.5°C R	leading 7.01		Slope:
pH Meter		1 - 2					@20.9°C R	eading 4.00		
Specific Conduct	ance Meter	YSI T	Co Plus			Std: 10	US @ 25 °C R	Reading 10.05		
Specific Conduct	ance Meter		-			Std: 1413	US @ 25 °C R	Reading <u>1413</u>	<u> </u>	
Temperature		1St Pro	Flus							
Other:										
Filtration	0.45 micron in	n-line high capa	acity disposable			DUITION				
0-1-01-1-1	()	211	Developing Discout		JRGING INFO		1/2 2011			
Casing Diameter		449	Borehole Diamete Total Depth (ft):		Casing Values	Screened Interva		(ac)#: 1 E! = 0.00	0 - 0 40 4 -	0.65)
Depth to Water (Purging Method:	Ball	0.99	Total Depth (it):	62.73	Casing Volume	(gai): (0 - 6-5	7	(gal/ft: 1.5" = 0.09;	2 - 0.10, 4 -	0.65)
Comments:	terrife	(MP) is the top of t	ne PVC well casin	0						
Commenta.						1				
		Depth to		Specific						
Date/	Vol. Purged	Water		Conductance	Temp	102	earance		Commente	
Time	(gal) Intl	(feet below MP) 64, 49	рн 7,43	(uS @ 25 deg C)	(deg C)	Slighth	diment, etc.)	odor	Comments	
11:40	0.25	65.24	7.47	15375	15.2	Sugary	brown ro	Cor		
11.70	0.62	03.67	1.91	1220	12.0					
Cummulative Vol	ume Purged:	0		(gallons)			(casing vol)			
				WELL SA	MPLING INFO	ORMATION				
Sampling Equipm	nent									
Comments:										
SAMPLING M	TEASUREMEN	1				1	1			
	Depth to	Depth		Specific		Other	Other			
Date/	Water	Sampled		Conductance	Temp					
Time .	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)				Comments	
SAMPLE HAN						1	1			
Date/		Alic	uots		Filtered	Preserved				
Time	Volume (ml)		mposition	Quantity	(Y/N)	(type)		Comn	nents	
		cted (type, San	ple No.):			:				
Equipment De	econtamination	6								
Manto Diaza	al:									
Waste Dispos Signature of Fie						T	GCC F	RIO GRANDE	E, INC.	
								Pueblo, CO		

	GROUN	DWATE	R SAM	PLING F	RECOR	כ	SAMPLE N	Io. Mu	1-5	
Project No:	Querte	the Co	mpliance	Location:					Page of)
Date: 9/17	GROUN Quortu 120	Weather Con	ditions: Sur	ing - (0105		Personnel:	heap		
Comments:	1			0				Ð		
				INS	TRUMENTS L	JSED				
Instr	ument	Manufact	urer/Model	Seria	al No.			Calibration		
Water Level Prot	oe									
pH Meter								eading		Slope:
pH Meter								eading		I
Specific Conduct								eading		
Specific Conduct	ance Meter					Std:	US @ 25 °C F	leading		
Temperature									_	
Other:	0.45 micron in	line high can	acity disposable	a filtor						
Filtration	0,45 1110101111	-ine nigit capa	icity disposable		URGING INFO	RMATION				
Casing Diameter	(inches): 7	U	Borehole Diamet			Screened Interva	al (ft. BGL):			
Depth to Water (1)ry	Total Depth (ft):	26.44	Casing Volume ((gal/ft: 1.5" = 0.09	; 2" = 0.16; 4" =	0.65)
Purging Method:	NIA	0								
Comments:	Monitoring point (MP) is the top of t	he PVC well casin	g.						
		Depth to		Specific						
Date/	Vol. Purged	Water		Conductance	Temp	Appe	earance			
Time	(gal)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)	(color, see	diment, etc.)		Comments	
9/11/20	e 0925									
Cummulative Vol	ume Purged:		1	(gallons)			(casing vol)			
				WELL SA	MPLING INFO	ORMATION				
Sampling Equipn	nent:									
Comments:										
SAMPLING N	IEASUREMEN	TS:		1	1		1	1		
	Depth to	Depth		Specific		Other	Other			
Date/	Water	Sampled		Conductance	Temp				Commonte	
Time N/A	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)				Comments	
MA										
SAMPLE HA	NDLING:							1		
Date/	1	Alio	quots		Filtered	Preserved				
Time	Volume (ml)	Bottle Co	omposition	Quantity	(Y/N)	(type)		Com	ments	
Field OA/OC	Samples Collec	ted (type Ser	nnle No V		1					
	econtamination		npie no.j.							
Waste Dispos	al									
Signature of Fie							GCC		E, INC.	
								Pueblo, CO		

					RECOR	C	SAMPLE N	lo. MU	<u>U-6</u>	
Project No:	Quarte	Weather Cond	npliance	Location:					Page of	1
Date: 9	116/20	Weather Cond	litions: S	unny -	770F	-	Personnel:	5.1	reace	
Comments:		Dupli	,	collects						
		1			TRUMENTS I	JSED				
ไกรtru	ument	Manufactu	urer/Model	Seria	al No.			Calibration		
Water Level Prob	e _	Greater	h	4225		<u> </u>	<u> </u>	3.99		
pH Meter		457 Pro	Plus_	12010	181	Std: 4 0 10	@_ 1\$_ °C R	eading 7.0	<u>Z</u>	Slope:
pH Meter		<u>.</u> ()		{1				eading 9.97	7	
Specific Conduct		<u></u>		<u> </u>			uS@(25 °C F		_	
Specific Conducta	ance Meter		•··	+		-l ^{sia:}	uS@_25 °C F	teading	<u> </u>	
Temperature										
Other: Filtration	0.45 micron in	l I-line high capa	city disposable	j e filter		<u>,</u>				
F104001	0.45 1101011	Hite High Capa			JRGING INFO	RMATION				
Casing Diameter	(inches):		Borehole Diamet			Screened Interva	al (ft. BGL):			
Depth to Water (f			Total Depth (ft):		Casing Volume	•		(gal/ft; 1.5" = 0.09	; 2" = 0.16; 4" = 1	0,65)
Purging Method:										
Comments:	Monitoring point (MP) is the top of th	ne PVC well casing	g.		-				
		Depth to		Specific						
Date/	Vol. Purged	Water		Conductance	Temp	Appe	arance			
Time	(gal)	(feet below MP)	pН	(uS 🧑 25 deg C)	(deg C)	(color, sec	fiment, etc.)		Comments	
1124	Initial	32.28	6.49	5321	15.2	clea	r, no od	or		
1137	2	36.94	6.97	5357	15.4	0	1 -			
11.43	4	40.70	6.95	5341	14-9	<u>u</u>				
1150	<u>(e</u>	45.08	6.93	5322	(4.9	-shahd	thy clou	dus, no a	dar	
1159	8	49.97	6.96	5336	15.2	<u> </u>		- · ·	·	
1204	10	52.97	7.03	5350	15.3	<u> </u>				
1215	12	57.57	6.96	5421	15.1	<u> </u>	N			
Cummulative Volu	Jme Purgea:	12.50	<u>al</u>	(gallons)	MPLING INFO		(casing vol)	L	R	
Sampling Equipm	ent:					ORMANON				
Comments:	G()(.									·····
	EASUREMEN	TS:				· · · ·				
	Depth to	Depth		Specific		Other	Other			
Date/	Water	Sampled		Conductance	Temp		1			
Time	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)				Comments	
1530	56.31	56.31	7.20	5405	16.7			den - nà	s odal	
			·	1	_			L		
SAMPLE HAN	IDLING:						1			
Date/		1	uots		Filtered	Preserved			i	
Time	Volume (ml)	Bottle Co	mposition	Quantity	(Y/N)	(type)		Com	ments	
						<u> </u>				
						1	· · · · · · · · · · · · · · · · · · ·			
	•					1				
						1				
Field QA/QC S	Samples Collec	ted (type, Sam	ple No.):	·	·	· · · · · · · · · · · · · · · · · · ·				
Equipment De										
Waste Dispos	al:	<u>_</u>								
Signature of Fiel			• • • •				GCC I	Pueblo, CO	Ē, INC.	
L						L				

	GROUN	DWATE	R SAM		RECOR	<u> </u>	SAMPLE 1	No. MW	· ~)
Project No:				Location:					Page (of)
	Quarter	ly Com	phone						<u> </u>
Date:		Weather Con	attions: Su	nnis-7	7.5		Personnel:	S. Lega	
Comments:	Dual	ate	collect	. S			•	0.	
	12400				TRUMENTS	ISED		• • • •	· · · · · · · · · · · · · · · · · · ·
Instr	ument	Manufacti	urer/Model	1	al No.			Calibration	
Nater Level Prob		Geofel		41.1	15	(i)	21:4	3.98	· · · ·
oH Meter		USI P.	-o Plus	12010	0/81		@ °C F		Slope:
H Meter		, n				Std: 4 7 10	@ 11.7 °C F	Reading 1.17	<u> </u>
Specific Conduct	ance Meter	r –				Std: <u>(4/3</u>	_uS@(25 °C		<u></u>
Specific Conduct	ance Meter					Std:	uS @ 25 °C I	Reading	<u> </u>
emperature									
Other:		<u> </u>	•• •• ••						ı
filtration	0,45 micron in	I-line high capa	icity disposable						· · · · · · · · · · · · · · · · · · ·
Casing Diameter	(inchee):	2	Borehole Diamet		JRGING INFO	Screened Interva			
Depth to Water (f	<u></u>		Total Depth (ft):		Casing Volume			/osi/ft: 1.5* = 0.09:	2" = 0.16; 4" = 0.65)
Purging Method:	Bailer		Lionar nabai (ir).	1.2		19-17. 1	<u> </u>	(gass: 1.0 - 0.08,	~ 0.10,7 0.001
Comments:	, -	MP) is the top of th	ne PVC well casin						······································
		,		-					
		Depth to		Specific					
Date/	Vol. Purged	Water		Conductance	Тепр	Арре	arance		
Time	(gal)	(feet below MP)	рН	(ưS @g 25 deg C)	(deg C)	(color, sec	liment, etc.)		Comments
1404		32.29	7.17	4830	17.1	cleur	no od		4
1013	3	33.81	7.36	4902	15.7	It. bro.	sa, sedi	jut no	orten
1422	<u>la</u>	34.38	7.15	4759	149	<u>tı</u>			
1430	2	34.46	1.13	4759	15.1				
1440	12	34.63	7. 7	4770	15.0				• • • • • • • • • • • • • • • • • • •
1445	13.5	34.62	7.17	4772	15.2				
			l				(casing vol)		· · · · · ·
Cummutative Vol	unie Purgeu.			(gallons) WELL SA	MPLING INFO		(casking voi)		· · · · · · · ·
Sampling Equipm	ent		•						•
Comments:									
	EASUREMEN	TS:							
	Depth to	Depth		Specific		Other	Other		
Date/	Water	Sampled		Conductance	Тетр				
Time	(feat below MP)	(feet below MP)	рН	(uS @ 25 deg C)	(deg C)				Comments
1145	34.62	34.62	7.17	4772	15.2	- · · · ·	 	At. Brow	
1500							l	Displices	le - MILI-28
SAMPLE HAN	DLING:						1		
Date/			uots		Filtered	Preserved		0	to
Time	Volume (ml)	Bottle Co	mposition	Quantity	(Y/N)	(type)	<u></u>	Comm	sents
						·		· · ·	
									· · · · · ·
		-							
Field QA/QC S	Samples Collec	ted (type, Sam	nple No.):						
Equipment De	contamination:					_			
Naste Dispos	al:								·
Signature of Fiel							GCC	RIO GRANDE	E, INC.
						l		Pueblo, CO	

12.97

	GROUN	IDWATE	ER SAM	PLING F	RECOR	D	SAMPLE N	o. Mu	1-8 Paraz
Project No:	Quarte	rly Co	mpliance	Location:			•		Page of
Date:		Weather Cor	nditions: So	unny-	17°F		Personnel:	S. Legg	
Comments:			1002	0					
				INS	TRUMENTS	USED			
Instr	rument		turer/Model		al No.)	Calibration	
Vater Level Prot	be	Greated		4225	I	0	× 21.7 V	Leading	
H Meter			Plus	12.0100			@ 71.4 °C Re		Slope:
H Meter		YSI Pro	Plus	1261001			@_ <u>ZI.\$</u> °C Re U\$@25°C Re		
pecific Conduct	100	952 Pr	o Plus	120100	181		US @ 25 °C Re		-
emperature	lance weter								
ther:					23				
Itration	0.45 micron in	n-line high cap	acity disposabl	e filter.		-1			
				Nation 18 av from	URGING INFO	RMATION			
asing Diameter	(inches):	2	Borehole Diamet	er (inches):		Screened Interva	l (ft. BGL):		
epth to Water (f	ft below MP):	32.38	Total Depth (ft):	65.99	Casing Volume	(gal): 5.3	8	(gal/ft: 1.5" = 0.09;	2" = 0.16; 4" = 0.65)
urging Method:	baili	in							
comments:	Monitoring point	(MP) is the top of t	he PVC well casin	g.					
	1				1			Dal acto	+ white
Detet	V-L D	Depth to		Specific	-			0 acto	t white ded particles, slig comments
Date/	Vol. Purged	Water	-11	Conductance	Temp		arance	" support	Commonte
Time	(gal)	(feet below MP) 32.38	PH	(uS @ 25 deg C)	(deg C)		timent, etc.)		Sulfin ada
121252		49.20	7.50	10164	15.2	J UI	the FIElds	Strong	Shipy Odd
1310	6	64.55	1.96	10403	14.0	"			
1335	1.5	65.24	7.10	10763	16.9	almost 6	July hid	Inly sedin	nuted, black f
1232	(0.0	60.01	1.10	1-1005	10.			ally search	and the prace of
						for	0		
ummulative Vol	ume Purged:			(gallons)			(casing vol)		
				WELL SA	MPLING INFO	ORMATION			
ampling Equipm		The second s						he	
omments: AMPLING M	IEASUREMEN	TS:	for w	strument	caliloon	etian on	- 9/17/	20 #	see warmer
	Depth to	Depth		Specific		Other	Other		
Date/	Water	Sampled		Conductance	Temp				A
Time	(feet below MP)	(feet below MP)	pH	(uS @ 25 deg C)	(deg C)	-			comments Barright
1640	65.11	6511	7.52		17.6	Black	E, Sulfor	smell, b	varily pactice
1930	105-17	65.16	104.9	10505	1/= 6		11 0		
MPLE HAN		, tt.,	nuote		Eiltored	Preserved			
Date/ Time	Volume (ml)		uots omposition	Quantity	Filtered (Y/N)	(type)		Comm	nents
inne	volume (mi)	Bottle Co	mpoallon	quantity	(1/14)	(type)		Contr	ising .
-									
					1				
ald QA/QC S	Samples Collec	ted (type, San	nple No.):						
	Samples Collecter		nple No.):						
quipment De	contamination		nple No.):						
	econtamination al:		nple No.):				GCC R	IO GRANDE	E, INC.

	GROUN	DWATE	R SAM		ECORI	C	SAMPLE N	Io. MW-	8	
Project No:				Location:	Puebl	U			Page of	1
Date:	24/20	Weather Con SUNN	ditions:				Personnel: D.Fui	man GCC	,	
Comments:	heck t									
		A lot of		INS	TRUMENTS	JSED				
Instr	ument	Manufact	urer/Model	Seria	al No.			Calibration		
Water Level Prob)e									
pH Meter						Std: 4 7 10	@°C F	leading		Slope:
pH Meter		NA				Std: 4 7 10	@°C F	leading		
Specific Conduct	ance Meter					Std:	uS @ 25 °C F	Reading		
Specific Conduct	ance Meter	AN/A				Std:	US @ 25 °C F	Reading		
Temperature		1011	1							
Other:										
Filtration	0.45 micron ir	n-line high capa	acity disposable	e filter.						
					JRGING INFO	RMATION				
Casing Diameter				er (inches):	INF	Screened Interva	al (ft. BGL):			
Depth to Water (f	t below MP): 🔰	6.41	Total Depth (ft):		Casing Volume	(gal):		(gal/ft: 1.5" = 0.09;	; 2" = 0.16; 4" =	0.65)
Purging Method:				65.9-	ł					
Comments:	Monitoring point ((MP) is the top of t	he PVC well casing	g.						
		Depth to		Specific						
Date/	Vol. Purged	Water		Conductance	Temp	Appe	earance			
Time	(gal)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)	(color, se	diment, etc.)		Comments	
	,									
	IA									
N										
	L									
Cummulative Vol	ume Purged:		-	(gallons)	MPLING INF	OPMATION	(casing vol)			
Compling Equipm	1)	A		WELL SA		ORMATION				
Sampling Equipm Comments:										
	EASUREMEN	TS								
	Depth to	Depth		Specific		Other	Other			
Date/	Water	Sampled		Conductance	Temp					
Time	(feet below MP)	(feet below MP)	pН	(uS @ 25 deg C)	(deg C)		1		Comments	
	NI	A								
SAMPLE HAN	DLING:									
Date/		Alic	luots		Filtered	Preserved				
Time	Volume (ml)	Bottle Co	mposition	Quantity	(Y/N)	(type)		Comn	nents	
	MA									
	MIL									
FULCHOS			unto No York of			1				
	Samples Collec		npie No.): N	H						
Equipment De	econtamination	10						a.		
Waste Dispos		IA				Υ				
Signature of Fie	ld Personnel:						GCC	Pueblo, CO	E, INC.	
								1 00010,000		

<u>e</u> : Sa undwater	ampling and Monitoring	l Analysis F	lan for Env	vironmental		ntrol Numbe	_	Revision Date: 3/13/2020	Page 25 of 33
									1
	GROUN	DWATI	ER SAM	PLING I	RECOR	D	SAMPLE	No. MW-	8
Project No:	Quarter	Ny Co.	upliance	Location:	GCC-	Pueblo		Page	
Date: 9/		Weather Cond	litions: S	unny -	57°F	2	Personnel:	S. Lega	
Comments:							7	00	>
				IN	STRUMENTS	USED			
	rument	Manufactu	urer/Model		al No.			Calibration	
Water Level Pro	obe	Geo-ec		82050		(D)	13.3°C	3.99	
pH Meter		YSI Pr	o Plus	12010		Std: 4 @ 10	@ 12.3°CR	rading 7.02 rading 10.01	Slope:
pH Meter Conductivity Me	eter	11		1		Sta: 4 / 10	us a as or P	eading 10.01	7
Conductivity Me					Li		us@25°C R		L
Temperature					-				
Other:									
Filtration	0.45 micron in	-line high capac	ity disposable	filter.					
				WELL P	URGING INF	ORMATION			
Casing Diameter		2.11	Borehole Diamete			Screened Interval	(ft. BGL):		
Depth to Water (f		0.07	Total Depth (ft):	65.90	Casing Volume (gal):		(gal/ft: 1.5" = 0.092; 2" =	0.163; 4" = 0.653)
Purging Method:			0000						
Comments:	Monitoring point (MP) is the top of th	e PVC well casing	g.					
		Depth to		Conductivity					
Date/	Vol. Purged	Water		(uS @ 25 deg C)	Temp	Appe	arance		
Time	(gal)	(feet below MP)	pH	10001	(deg C)		diment, etc.)		omments
0930	Initial	60.07	7.00	8221	14.7		, mild su	lfus ador n	
0945		63.84	7.12	8532	14.6	Stightly	darlan,	strunger su	fur oder, mil
0955	1.50	65.22	7.18	9371 9258	14.6	0 (,0			
1605	1.5	60.62	1.64	7000	14.7				
			0	(anthous)					
Cumulative Volu	ume Purged:	~1.5		(gallons)			(casing vol)		
Cumulative Volu	ume Purged:	~ 1.5	ber		AMPLING INF	ORMATION	(casing vol)		
			ð° l		AMPLING INF	ORMATION	(casing vol)		
Sampling Equips			o ^{e V}		AMPLING INF	ORMATION	(casing vol)		
Sampling Equips Comments:		lec	o ^o V		AMPLING INF	ORMATION	(casing vol)		
Comments:	ment: Boui	lec			AMPLING INF	ORMATION	(casing vol) Other		
Sampling Equips Comments:	MEASUREMENT Depth to Water	lec is:		WELL SA	AMPLING INF	1			7
Sampling Equips Compents: SAMPLING N Date/ Time	MEASUREMENT Depth to Water (See balow MP)	S: Depth Sampled (feet below MP)	PH	WELL SA Conductivity (u5 @ 25 deg C)	Temp (deg C)	1		11 1	mments
Sampling Equips Compents: SAMPLING M Date/	MEASUREMENT Depth to Water	S: Depth Sampled	рн 7.24	WELL SA	Temp	1		4. brown a	mments color, sulfur/u
Sampling Equipr Comments: SAMPLING N Date/ Time /0: /0	MEASUREMENT Depth to Water (See Selow MP) 6 5 . 2 2	S: Depth Sampled (feet below MP)		WELL SA Conductivity (u5 @ 25 deg C)	Temp (deg C)	1		11 1	, , , , ,
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN	MEASUREMENT Depth to Water (See Selow MP) 6 5 . 2 2	S: Depth Sampled (for below MP) G S. 72	7.26	WELL SA Conductivity (u5 @ 25 deg C)	Temp (deg C) / 4/.7	Other		4. brown a	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0: /0 SAMPLE HAN Date/	MEASUREMENT Depth to Water (Kee balow MP) 6 5 . 22 NDLING:	S: Depth Sampled (for MP) G S. 72 Aliq	7.26	WELL S/ Conductivity (us @ 25 deg C) 9/7 9	Temp (deg C) / 4. 7 Filtered	Other		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /o : /o SAMPLE HAN Date/ Time	MEASUREMENT Depth to Water (kee balow MP) 6 5 . 22 NDLING: Volume (ml)	S: Depth Sampled (fast before MP) G S. 72 Aliq Bottle Cor	7.26	WELL S/ Conductivity (u5 @ 25 deg C)	Temp (deg C) / 4. 7 Filtered (Y/N)	Other Preserved (type)		4. brown a	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0/0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20)	S: Depth Sampled (fort below MP) G S. 72 Aliq Bottle Cor Po / W	7.26	WELL S/ Conductivity (us @ 25 deg C) 9/7 9	Temp (deg C) / 4. 7 Filtered (Y/N)	Other Preserved (type)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /O:/O SAMPLE HAN Date/ Time (O/O /O	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 0	S: Depth Sampled (for before MP) G S . 72 Aliq Bottle Cor Po / G Po / G	7.26	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0/0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20)	S: Depth Sampled (fort below MP) G S. 72 Aliq Bottle Cor Po / W	7.26	WELL S/ Conductivity (us @ 25 deg C) 9/7 9	Temp (deg C) / 4. 7 Filtered (Y/N)	Other Preserved (type)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0 / 0 / 0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 0	S: Depth Sampled (for before MP) G S . 72 Aliq Bottle Cor Po / G Po / G	7.26	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0 / 0 / 0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 0	S: Depth Sampled (for before MP) G S . 72 Aliq Bottle Cor Po / G Po / G	7.26	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0 / 0 / 0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 0	S: Depth Sampled (for before MP) G S . 72 Aliq Bottle Cor Po / G Po / G	7.26	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time 10:10 SAMPLE HAN Date/ Time (0/0 /0/0 /0/0	ment: Bout MEASUREMENT Depth to Water (Kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 (2) 1 2 5	S: Depth Sampled (See below MP) G 5.72 Alig Bottle Cor Poly Poly Poly	7.26 mposition	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \ \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0/0 /0/0 /0/0 /0/0 /0/0 /0/0	MEASUREMENT Depth to Water (kee balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 0	S: Depth Sampled (See below MP) G 5.72 Alig Bottle Cor Pollo Pollo Pollo O	7.26 mposition	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \ \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0/0 /0/0 /0/0 /0/0 /0/0 /0/0	ment: Bour MEASUREMENT Depth to Water (feet balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (20) 2 5 (2) 1 2 5 Samples Collected econtamination:	S: Depth Sampled (See below MP) G 5.72 Alig Bottle Cor Pollo Pollo Pollo O	7.26 mposition	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity \ \	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)		4. brown (odor, mild	olor, sulfur/
Sampling Equipr Compents: SAMPLING N Date/ Time /0 : /0 SAMPLE HAN Date/ Time (0/0 /0/0 /0/0 /0/0 /0/0 /0/0 /0 /0 /0 /0	ment: Bow MEASUREMENT Depth to Water (See balow MP) 6 5 · 22 NDLING: Volume (ml) 5 (25 0) 1 2 5 1 2 5 Samples Collected econtamination: sal:	S: Depth Sampled (See below MP) G 5.72 Alig Bottle Cor Pollo Pollo Pollo Pollo	7.26 mposition	WELL SA Conductivity (us @ 25 deg C) 9/7 9 Quantity 1 1	Temp (deg C) / 4/.7 Filtered (Y/N) N/	Other Preserved (type) Kau)	Other	4. brown (odor, mild	olor, sulfut/ form

: Sam undwater M	pling and A onitoring	Analysis Pla	In for Env	ironmental		ol Number: EN.D.026.04	1	Revision I 3/13/2020	<u>-a.c</u> .	Page 25 o
									~	
	GROUNI	DWATE	<u>r sam</u>	PLING RI	ECORD		SAMPLE	√ 0. ///	(1)~_{	
Project No: 46	7020	GW	Samplen	Location: CCC	<u>2 Ris</u>	Gro	nole Personiel:		Page	of
Date:	1	Weether Condi	tions: $\sqrt[n]{5}$	<u>3°E ~</u>	Sunny	~	Personnel:	Sunt	he	×6
Comments:										
					TRUMENTS L	ISED				
Instru	ment	Manufactu	er/Afcdel	Serial	No			Cambratic	<u></u>	
Water Level Probe	·	·····				8td: 4 7 10	∉ °C R	erding		Slopes
14 Meter		11/1		$-\Lambda^{+}$		Sta: 4 7 10	а'с в	eading		
o <u>H Meter</u> Conductivity Meter	r	$+ \forall / +$	<u> </u>		*	Std:	rs@25°C F	ending		
Conductivity Meter						Sid:	_u\$ @ 25 °C F	keading		
Centerainte										
Dijer.		17	5- dlama - 1.3	+\lar						
eitanties (0.45 mieron in-	ime high capee	ry disposable	THIEF.	RGING INFO	RMATION				
	la chacht		Borehole Diame			Screened interval	(ft. BGL):			· · · ·
Cosing Discuster (i	inches): below NP): _//		Total Depth (ff):			بان		(gal/fi: 1.5" = 0	.094; 2" = 0.1	65;4" = 0.553)
Priging Method:		<u>,</u>								
	Menitoring point (l		FVC well casi	£.2.						
						r				
		Desite to		Conductivity						
Date/	Vel, Purged	Water		⊴≲C,25 ఉ≰C)	Temp		earance		Com	ments
Time	(£బ్)	(ferblow) (f)	pH	_	(deg C)	(celor, se	diment, etc.)	-	<u>con</u>	
			\rightarrow	1	· / 4					
-4-1-1-	4			He I	ELL					
$+ \vee / /$	<u> </u>		٤							
								_		
			ļ			ļ	(and the set B			
Cumulative Volue	ne Purged:			(galiens)	MPLINGENF	OBMATTION	(ley gnizes)			
				WELL SF	WILTEN CLUE	ORMAN				
Sampling Equipm	ient:									
Comments:	EASUREMEN	FG+							· · · · ·	
SHIMPLING	Depth to	Depth		Conductivity		Otter	Other		• ,	
Date/	Water	Sampled		∱c7 @ 25 cing C,	Tenp					
Time	(feet below MF)	(feet bale 17 1 (P)	pE		(čeg C)	<u> </u>			Con	ments
			<u> </u>		I	<u></u>				
SAMPLE HAN	IDLING:				Filtered	Preserved	1			
Date/		1	quels	Quantity	ri.telea (IIN)	(type)			Comments	
Time	Velure (ml)	Bettie C	m.positica	Viender #	N-12.7/					
	<u> </u>						•			· · ·
					<u> </u>					
						-				
	<u> </u>									
		1.14	J. M. V		. I					
	Samples Collecter		ne 100')							
Equipment D	econanna ann	* *								
 							<u></u>	C RIO GRA	NDE IN	C
Waste Dispos			<i>x</i>	5		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- UC	U NU UKA	الالله بتدسير	. .
Waste Dispos Signature of Fie	eld Personnel:	2-1	h z					Pueblo,		

Sam ndwater Mo	onitoring	Analysis Pla			PUE.	EN.D.026.04	3,	/13/2020	Page 25 of 33
G	ROUN	DWATE	R SAMP	LING RE	CORD	S	AMPLE No	. mw-6	
	VI a.	, <	I	LING KE	N-60	Cad	= R.O	Orcal Page	of
	<u>4 GU</u>	1 Sector	TUNK I			P	ersomel:	/	
Date: 11/23	120	Weather Collar	<u></u>	<u>ins. 3</u>	3695		Č	heres	
Comments:									
				INST	UMENTS	JSED			· · · · · · · · · · · · · · · · · · ·
Instrum	nent	Manufactur	erlAfciel	Serial N			E.C. is	Calibration	
farer Level Probe		acatu	6 WUM	3250	013	(ID)	16.9°C.	3.9Q ding 7.672	Slopes
H Meter		45J RC	O DINOS	15 AVO	-1451	Sec. 4 7 10 a	C Rea	ding	
H Meter						Sta: 14/3	_rs@25°C Rea	ding <u>/ 40 1</u>	
enductivity Meter						Sid:	_r\$ @ 25 °C Rea	ding	
enperature .		*							
) ^r ier) : 6 ¹	-line high capaci	tu distasobie	tilter.			·		
itantion (1.45 mieron in	ennie mgn capito	ny majeomore	WELL PU	RGINGINFO				·
lasing Discuster (i	nches):		Borchole Diamete	rijizhesi: <u>2</u>	il.	Screened Interval (gal/ft: 1.5° = 0.092; 2° = 1	0.165:4 [*] = 0.553)
Depth to Water (ft b			Total Depth (ft):	57.47 6	asing Volume (ы <u>, 4.</u> С	27	ganu: 1.5 - 0.052, 2	
rging Method:	Bas	(AP) is the up of th	e TVC well casta						
Remonante di	Monitorrig Pany	(<i>i</i>) is all up of the							
		Dealls to		Conductivity		Appea	-		
Date/	Vel. Purged	Water	рĦ	ार (C 25 der C)	Temp (deg C)		imert, stc.)	C;	minents
Tune 09.5.3		(ferber 157)	6.93	5320	13.4	Clear, no	, color	munt pour	
0910		139	1.0.96	5472	13.17				
0923	(2 9	47-20	6.39	5500	14-1	11			
0975	11 75	53.27	1.91	5626	14.4	Į*			
\sim		•••							
			<u></u>				(cosing vol)		
Cumula ive Volur	ne Purged:	11.7	2	(gallens) WELL SA	MPLINGEN	ORMATION			
Sampling Equipat	ent: Be	ulen		·····					
Comments:									
SAMPLING M		VTS: Depth	1	Conductivity		Otter	Other		1
Date/	Depth to Water	Sampled		:5 @ 15 cieg C,	Temp				
Time	(feet below MF)	(feet bele m 1/P)	pH		(deg C)			······ , ····· ,	Comments
1215	57.0	4 56.04	7-25	5495	121-3		den-1		
SAMPLE HAY	I			_ 					
SAMPLE HAT		LA.	iquçts		Filtered	Preserved		_	
Time	Volume (mf	Bontle C	lenpositica	Quartity	(<i>U</i> N)	(tyr-é)		Comment	S
	<u> </u>	_ <u> </u>					1		······································
	1						<u> </u>		
								·····	
									······
7:44.04/00	Sanustar Call	ected (type, Sam	ple No.'i:		l				·····
Field QA/QC Equipment D									
Waste Dispo				11-			GCC	RIO GRANDE,	INC.
Signature of Fi	eld Personnel:		48	AC	-			Pueblo, CO	
1				V/	1/				
					1				

: San undwater M	lonitoring	Analysis Pla			PUE.E	EN.D.026.04	3	/13/2020	Page 25 of
						<u> </u>			<u> </u>
(ROUN	DWATE	R SAMP	LING RI	ECORD	s	SAMPLE No		
Project No: 40	2020	GW	1 Sovely	Location:	Rio (armale		Page	of
Dete: (1 / 2	3/70	Weather Condi	Sunne	Location: <u>666</u> 6		P	ersonnel:	5. Leg	
Comments:	'								
					RUMENTS L	ISED		Calibration	
Instru		Manufactu		Serial 9.7 S O		4	169°C	2.98	
Water Level Probe	·	Grotech YSJ PRO	100714-	15A.10	19 51	Stc: 4 🗇 10 @	<u>14.6°</u> C Rea	ding	Slopes
pH Meter		<u>154 144</u>				Stá: 4 7 10 0	1. 11. 7°C Res	ding <u>9,000</u>	
oH Meter Conductivity Meter	a a a a a a a a a a a a a a a a a a a	÷				51d: <u>413_</u>	_rS@25°C Re	ding 1409	
Conductivity Mete						Std:	_uS @ 25 °C Re	101bg	
Tenrersure			· · · · · ·						
Orier.		<u> </u>	· · · · ·	<u> </u>		L <u>,</u>	• ·	· · · · · · · · · · · · · · · · · · ·	
Filmatics	0 45 micron in	-line high capac	try disposable	Triet.	RGING INFO	PMATION			
			Borehole Diamete			Screened Interval (ft BGLy:		~~
Casing Diameter (Depth to Water (fi		23.04	Fotai Depth (fi):		Casing Volume (g	· · · · · · · · · · · · · · · · · · ·		(gal/fl: 1.5" = 0.0927 2" = 0	163;}*= 0.553)
Depth to Water (fi Parging Method:		<u>)) - 5-14.</u> A						1 - 11 - 11 - 11 - 11 - 11 - 11 - 11 -	
Comment:		(dP) is the up of t	ePVC well casing	ξ.				· · · · · · · · · · · · · · · · · · ·	
<u> </u>	1	Depth to		Conductivity					
Date/	Vol. Purged	Water		SEC.25 der C	Temp	Appea	erace		
Time	(gh)	(fer:bal:=157)	pĦ		(deg C)	(celor, sedi	íment, etc.)	Co:	nrients
1100	Turtia	33.04	749	5041	145		<u>no o</u> o	(en	1.00
1/1-7	2	34.76	698	5003	14,5	<u>Bro</u> a	in seden	why per a	100
1176	6	34.58	1.00	4995	14.0	· · · · ·			
1139	9	34-30	7.7.1	5047	14.2	1)			
1149	17	<u>34.44</u> 34.44	7.16	12949	14.3				
12.00	15	<u> (79 6 7 7</u>	<u>(</u>	<u></u>	<u> </u>				
Cumulative Volu	ime Purged'	12	-	(galiens)			(cosing vol)		
Stelling Inc. a Off		· · · · · · · · · · · · · · · · · · ·		WELL SA	MPLINGENF	ORMATION		·····	
Sampling Equip:	sent: Pos	185							
Comments:									
SAMPLING	AFASUREMEN		1		I	01#	Other		
	Dep:la to	Depth		Conductivity	Temp	014			
Date/	Water	Sampled (feet below 14P)	pE	'ርና @ 15 dag C)	(deg C)			Co	mments
Time	(feet bilen MF)		*7.1(o	4999	14.3	RIOMA	Sections	no adom	
1405		1	<u> </u>				<u> </u>		
SAMPLE HA	NDLING.				1	· · · · · · · · · · · · · · · · · · ·	r	•	
Date/		A	liquets		Filtered	Preserved		Comments	
Time	Volume (mI)	Bettle C	Composition	Quantity	(Y/N)	(5750)	<u> </u>	Comments	
	<u> </u>						-		·
	_								
 	-	-							
						•			
Field QA/OC	Samples Colle	eted (type, Sam	ple No.):	NA					
	Decontaminatio								
Waste Dispo	sal:						GCC	RIO GRANDE, I	VC.
Signature of F	ield Personnel:	1 F	AL.	Lal				Pueblo, CO	

Proje Date Com Water pH Me Condu Condu Condu Temp Odier: Filtrali Casin Depth Purgiu Comm	iwater Mo	nitoring ROUND W - 8 120 went 120 45 micron in-li	VATE 2023 eather Condit Manufactur Nech W VSI Pr	er/Model	LING RE Location: Group Group INST Serial N	CORD CC P Sunny RUMENTS L No. 5 4 2	Lio Gr 1 ISED	SAMPLE N ande Personnel: J.	$\frac{3/13/2020}{10. (M \cup 1) - 8}$ $\frac{Page}{1}$ $\frac{Ooms}{Calibration}$ $\frac{Galibration}{10}$	of <u>l</u> <u>Abcyfa</u> Siope:
Control Water pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	ject No: (ie: (1 / 9 mments: Instrum r Level Probe feter feter feter feter feter feter feter feter feter feter feter feter feter for a feter	₩-8 120 w ent 45 micron in-li ches): 2"	Volto 'eather Condit Manufactur Mech W YSI Pr V	er/Model	Location: Group INST Serial D Group	CC P Shin my RUMENTS L No. 5 5 4 2	Lio Gr 1 ISED	nde Personnel: J.	Page Ooms / C. Calibration	of <u>l</u> <u>Abcyfa</u> Siope:
Control Water pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	ject No: (ie: (1 / 9 mments: Instrum r Level Probe feter feter feter feter feter feter feter feter feter feter feter feter feter for a feter	₩-8 120 w ent 45 micron in-li ches): 2"	Volto 'eather Condit Manufactur Mech W YSI Pr V	er/Model	Location: Group INST Serial D Group	CC P Shin my RUMENTS L No. 5 5 4 2	15ED	n /5.9 °C R	Calibration	l Abcyta Siope:
Control Water pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	te: U/9 mments: Instrum r Level Probe feter fete	(20) W	Manufactur Neche W VSI Pr	er/Model fr Level	INST Serial D	RUMENTS U Jo. 5 # 1_	ISED	n /5.9 °C R	Calibration	Siope:
Water pH Mc Condu Condu Temp Other Filtrati Casing Depth Purgiu Comm	Instrum r Level Probe feter fe	45 micron in-li ches): 2."	Keck W YSI Pr	for bevel	Serial N	10. 5 #1_	Stat- 4 7 10 (<u>n /5.9</u> ℃R	eading 4/7/10	
pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	r Level Probe leter feter feter fuctivity Meter huctivity Meter perature r: tion 0 ng Diameter (in h to Water (fi br ing Method: 1	45 micron in-li ches): 2."	Keck W YSI Pr	for bevel	Serial N	10. 5 #1_	Stat- 4 7 10 (<u>n 15.9 °</u> C R	eading 4/7/10	
pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	r Level Probe leter feter feter fuctivity Meter huctivity Meter perature r: tion 0 ng Diameter (in h to Water (fi br ing Method: 1	45 micron in-li ches): 2."	Keck W YSI Pr	for bevel	422 ° Mcter	#1	Std: 4 7 10 (n <u>/5.9</u> °C R	ading 4/7/10	
pH Me pH Me Condu Condu Temp Other: Filtrati Casing Depth Purgiu Comm	leter feter feter fuctivity Meter perature r: nion 0 ng Diameter (in h to Water (fi bo ing Method: 1	ches): 2"	YSI Pr		Mcher		Std: 4 7 10 (n 15.9 °C R	ading 9/1/10	
pH Me Condu Condu Temp Other Filtrati Casin Depth Purgin Comm	feter fuctivity Meter fuctivity Meter perature r: tition 0 ng Diameter (in h to Water (fi bu ing Method: 1	ches): 2"	*							58.40
Condu Condu Temp Other: Filtrati Casin; Depth Purgi Comm	Auctivity Meter perature r: tion 0 ng Diameter (in h to Water (fl bu ing Method: 1	ches): 2"	ine high capaci				Std 4 7 10 0	2 5. <u>3</u> CR	eading 9/ 1/12	20.10
Coadu Temp Other Filtrati Casin; Depth Purgiu Comu	huctivity Meter perature r: htion 0 ng Diameter (in h to Water (ft be ing Method: 1	ches): 2"	ne high capaci		1		Std: 1412 Std: 1413	_uS@25°CR	eading <u>1413</u>	
Temp Other Filtrati Casin Depth Purgin Comm	perature r: tion 0 ng Diameter (in h to Water (ft be ing Method: 1	ches): 2"	ine high capaci				Std: 112	_05@25°C R	caung 1112	
Other: Filtrati Casin Depth Purgin Comm	r: htion 0 ng Diameter (in h to Water (ft be ing Method: 1	ches): 2"	ne high capaci		4				······	
Casin Depth Purgiu Comm	ng Diameter (in h to Water (ft be ing Method: 1	ches): 2"	ne high capaci						······································	
Depth Purgi Comm	h to Water (ft be ing Method: 🕽	ches): 2" low MP): 39		ty disposable	filter.		DMATION			
Depth Purgi Comm	h to Water (ft be ing Method: 🕽	ches): 2" low MP): 39				RGING INFO	RMATION Screened Interval	(A BOI)	·····	
Depth Purgi Comm	h to Water (ft be ing Method: 🕽	low MP): 39		Borehole Diamete			aí): 4.26	(n. 101).	(gal/ft: 1.5" = 0.092; 2" = 0.	.163; 4" = 0.653)
Com	ing Method: 🕽 ments: N		.40	Total Depth (ft): (66.02 C	asing Volume (g	au): -7 · 4 0			
	ments: M	ailer				· · · · · · · · · · · · · · · · · · ·			······	
117		lonitoring point (M	P) is the top of the	PVC well casing			T		Т	
111	19/20		Depth to		Conductivity					
1	Date/	Vol. Purged	Water		(uS @ 25 deg C)	Temp	1	arance		nments
L.	Time	(gtl)	(feet below MP)	pH		(deg C)		iment, etc.)		I fur da
14	4.03		31.00	7.13	6640	14.7	CA Clo		Stupht Sh	1.1 me & Cha
	1.08	12	47.12	7.14	5681	14.9	You	sy.	1,	
174	4:13	21	53.15	7.21	5670	14.3		/	1/ 1/	
tt	4:18	3.1	59.59	7.20	5125	12.8	<u> </u>		71	
10	4:21	49	63.40	7.19	\$ 963	13.1	+		+	<u></u>
14	1:29	5.	64.65	7.26	7048	13.9	We	U DWA	nged day	
14	1:32	5.5		<u> </u>			w <		<u>₩</u> ₩4	
Cum	mulative Volum	e Purged:	P 5.5	gallons_	(gallons)			(casing vol)		
				/	WELL SA	MPLING INF	ORMATION			
Sam	npling Equipmo	ent:				1		at la	112 1	rows often
	mments:	Sampl		check o	n 11/23	1020 dected		<u>call 6-e</u> >	the second se	1
SAI	MPLING M	ASUREMENT	S:	- Wup	11	ances as	···· • · · · · · · · · · · · · · · · ·	Other		
		Depth to	Depth		Conductivity		Other			
1	Date/	Water	Sampled		(uS @ 25 deg C)	Temp	1	1	Ca	omments
L	Time	(feet below MP)	(feet below MP)	pH	5327	(deg C)			Clear, mild	sulfor o
20 1	1015	42.37	45.37	"(a [/	23.61	13.9	-	+		U
			L <u></u>		1	1.5.7	í			
SA	MPLE HAN	DLING:				Filtered	Preserved	1		
	Date/		T	iquots		(Y/N)	(type)		Comments	
	Time	Volume (ml)	Bottle C	omposition	Quantity	(110)		1	<u></u>	
			<u> </u>	,	_		-			
L						<u> </u>			·····	
			L				-	1		
L			<u> </u>							
			<u> </u>							
L										
L			1			1			······································	
		Samples Collec		ple No.):						
Ec	quipment D	econtamination	1:							
	Vaste Dispos		////	1	1/2	10	/	GC	C RIO GRANDE, I	NC.
S	Signature of Fie	an Fersonnel:	(IAV	N/	1/5	JAF J	× 1/		Pueblo, CO	
L				-D'		(X			

ence



ATTACHMENT 2 - GCC Groundwater Sampling Analytical Lab Reports



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 is 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^{IS} 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 is 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

Inorganic Analytical Results

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	В		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	В		mg/L	0.1	0.5	03/13/20 17:57	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00016	В		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	В	*	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	В		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 pH (lab)	M353.2 - Automated Cadmium Reduction SM4500H+ B	1	0.56		*	mg/L	0.01	0.05	03/11/20 0:21	pjb

8.1

22.0

5780

Н

units

С

mg/L

0.1

0.1

40

0.1

0.1

80

1

1

2

pН

pH measured at

Residue, Filterable

(TDS) @180C

SM2540C

03/13/20 0:00

03/13/20 0:00

03/10/20 20:12

еер

eep

jck



GCC Rio Grande

Project ID: Sample ID: MW-7

Inorganic Analytical **Results**

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	В		mg/L	0.1	0.5	03/13/20 18:00	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.00011	В		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									
pН		1	8.0	Н	*	units	0.1	0.1	03/13/20 0:00	eep

С

mg/L

0.1

40

0.1

80

03/13/20 0:00

03/10/20 20:15

1

2

22.1

6540

pH measured at

Residue, Filterable

(TDS) @180C

SM2540C

eep

jck



GCC Rio Grande

Project ID: Sample ID: MW-2B

Inorganic Analytical Results

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	В	mg/L	0.1	0.5	03/13/20 18:04	kja
Cadmium, dissolved	M200.8 ICP-MS	1	0.0001	В	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								
pН		1	8.0	Н	units	0.1	0.1	03/13/20 0:00	eep

1

2

22.1

6530

С

mg/L

0.1

40

0.1

80

03/13/20 0:00

03/10/20 20:17

eep

jck

pH measured at

Residue, Filterable

(TDS) @180C

SM2540C



Inorganic Reference

oort Header	•		
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 un	nless omitted or ea	qual to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.		
PCN/SCN	A number assigned to reagents/standards to trace to the man	ufacturers certification	ate 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 % (exc	cept for LCSS, mg	/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC	C Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)		
Sample	Value of the Sample of interest		
Sample Ty	rpes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
ССВ	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
			Prep Blank - Water
LCSS	Laboratory Control Sample - Soil	PBW	FIED DIALIK - WALEI
LCSS LCSSD	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate	PBW PQV	Practical Quantitation Verification standard
	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water		•
LCSSD LCSW	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water	PQV	Practical Quantitation Verification standard
LCSSD LCSW Sample Ty	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water ype Explanations	PQV SDL	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water ype Explanations Verifies that there is no or minimal co	PQV SDL ontamination in the	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Pe Explanations Verifies that there is no or minimal control of the method, Verifies the accuracy of the method,	PQV SDL ontamination in the including the prep	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal construction Werifies the accuracy of the method, Verifies the precision of the instrume	PQV SDL ontamination in the including the prep ent and/or method.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Pe Explanations Werifies that there is no or minimal control of the method, Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interference	PQV SDL ontamination in the including the prep ent and/or method. aces, if any.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal construction Werifies the accuracy of the method, Verifies the precision of the instrume	PQV SDL ontamination in the including the prep ent and/or method. aces, if any.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water The Explanations The Ex	PQV SDL ontamination in the including the prep ent and/or method. aces, if any.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water The Explanations The Ex	PQV SDL ontamination in the including the prep ent and/or method. aces, if any.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual)	PQV SDL ontamination in the including the prep ent and/or method. aces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples verifies the accuracy of the method, verifies the precision of the instrume tified Matrix Determines sample matrix interferent verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F	PQV SDL ontamination in the including the prep ent and/or method. inces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Ppe Explanations Werifies that there is no or minimal comples Werifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and R Analysis exceeded method hold time. pH is a field test with an	PQV SDL ontamination in the including the prep ont and/or method. aces, if any. PQL. The associat n immediate hold t gative threshold.	Practical Quantitation Verification standard Serial Dilution procedure. procedure. ed value is an estimated quantity. ime.
LCSSD LCSW Sample Ty Blanks Control Sar Duplicates Spikes/For Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined negotiation	PQV SDL ontamination in the including the prep ent and/or method. aces, if any. PQL. The associat n immediate hold t gative threshold. e level of the asso	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value.
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or	PQV SDL ontamination in the including the prep ent and/or method. aces, if any. PQL. The associat n immediate hold t gative threshold. e level of the asso	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or	PQV SDL ontamination in the including the prep ent and/or method. aces, if any. PQL. The associat n immediate hold t gative threshold. e level of the asso the sample detect	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water and P A Analysis of Water and P A Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg T Analysis exceeded nethod hold time. P A Analysis of Water and P A Analysis exceeded nethod hold time. P A Analysis of Water and P A Analysis exceeded nethod hold time. P A Analysis exceeded nethod hold time and P A Analysis exceeded nethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A A A A A A A A A A A A A A A A A A	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity. ime. ciated value. ion limit. h 1983.
LCSSD LCSW Sample Ty Blanks Control Sar Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Reference (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Imples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgan	PQV SDL	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. red value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Reference (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-94-111. Methods for the Determination of Inorgan	PQV SDL	Practical Quantitation Verification standard Serial Dilution procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control San Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Imples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgan	PQV SDL ontamination in the including the prep ent and/or method. inces, if any. PQL. The associate in immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marconic Substances in I in Environmental S	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. red value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and R Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-94-111. Methods for the Determination of Inorgar EPA 600/R-94-111. Methods for Evaluating Solid Waste.	PQV SDL ontamination in the including the prep ent and/or method. inces, if any. PQL. The associate in immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marconic Substances in I in Environmental S	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. red value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or Ences EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity. ime. inciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U thod Reference (1) (2) (3) (4) (5) mments (1)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with and Target analyte response was below the laboratory defined nego The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or PICES EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slightly	PQV SDL	Practical Quantitation Verification standard Serial Dilution a prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. viciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. alues are used in the calculations.
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U thod Reference (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with and Target analyte response was below the laboratory defined negrets The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slightly Soil, Sludge, and Plant matrices for Inorganic analyses are reported.	PQV SDL ontamination in the including the prep ent and/or method. aces, if any. PQL. The associate in immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marc hic Substances in I in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution a prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. viciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. alues are used in the calculations.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument of the Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewater and Methods for the Examination of Water and Wastewater and Methods for the Examination of Water and Wastewater and Methods for Inorganic analyses are reported on an "as	PQV SDL ontamination in the including the prep ent and/or method. inces, if any. PQL. The associate in immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marconic Substances in I in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity. ime. eted value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. etues are used in the calculations. eight basis.
LCSSD LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U thod Reference (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. 6 (Qual) Analyte concentration detected at a value between MDL and F Analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-93-100. Methods for the Determination of Inorgar EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa QC results calculated from raw data. Results may vary slighth Soil, Sludge, and Plant matrices for Inorganic analyses are reported on an "as An asterisk in the "XQ" column indicates there is an extended	PQV SDL ontamination in the including the prep ent and/or method. inces, if any. PQL. The associate in immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marconic Substances in I in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity. ime. eted value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. etues are used in the calculations. eight basis.
LCSSD LCSW Sample Ty Blanks Control Sat Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument of the Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewater and Methods for the Examination of Water and Wastewater and Methods for the Examination of Water and Wastewater and Methods for Inorganic analyses are reported on an "as	PQV SDL	Practical Quantitation Verification standard Serial Dilution a prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. diated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. elues are used in the calculations. right basis. ertification qualifier

https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

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

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, diss	olved		M200.7 IC	P									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	1.0012	U	1.038	mg/L	104	85	115	3	20	
Arsenic, dissol	ved		M200.8 IC	P-MS									
ACZ ID	Туре	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, diss	olved		M200.7 IC	P									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	.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	11200302-4	.5005	U	.483	mg/L	97	85	115	1	20	
Boron, dissolve	ed		M200.7 IC	;P									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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, diss	olved		M200.8 IC	P-MS									
ACZ ID	Туре	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			
ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

GCC Rio Grande

ACZ Project ID: L57840

Chromium, diss	olved		M200.7 IC	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	.501	U	.493	mg/L	98	85	115	1	20	
Cobalt, dissolve	ed		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	2.002		1.907	mg/L	95	95	105			
NG493513ICB	ICB	03/13/20 16:48				U	mg/L		-0.03	0.03			
NG493513LFB	LFB	03/13/20 17:02	II200302-4	.5		.489	mg/L	98	85	115			
_57841-01AS	AS	03/13/20 18:10	II200302-4	.5	U	.478	mg/L	96	85	115			
_57841-01ASD	ASD	03/13/20 18:20	II200302-4	.5	U	.47	mg/L	94	85	115	2	20	
Copper, dissolv	ed		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
WG493605													
WG493605ICV	ICV	03/17/20 14:36	11200228-2	2		1.945	mg/L	97	95	105			
NG493605ICB	ICB	03/17/20 14:42				U	mg/L		-0.03	0.03			
NG493605LFB	LFB	03/17/20 14:54	II200302-4	.502		.545	mg/L	109	85	115			
_57664-01AS	AS	03/17/20 15:00	II200302-4	.502	12.9	12.77	mg/L	-26	85	115			М3
_57664-01ASD	ASD	03/17/20 15:03	11200302-4	.502	12.9	12.8	mg/L	-20	85	115	0	20	М3
Fluoride			SM4500F	-C									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
WG493593													
NG493593ICV	ICV	03/16/20 10:44	WC200306-7	2.004		1.97	mg/L	98	90	110			
NG493593ICB	ICB	03/16/20 10:52				U	mg/L		-0.3	0.3			
WG493629													
VG493629ICV	ICV	03/16/20 15:41	WC200306-7	2.004		2.02	mg/L	101	90	110			
WG493629ICB	ICB	03/16/20 15:49		2.001		U	mg/L	101	-0.3	0.3			
NG493629LFB1	LFB	03/16/20 15:56	WC191014-1	5.01		5.1	mg/L	102	90	110			
_57727-03AS	AS	03/16/20 16:04	WC191014-1	5.01	.3	5.1	mg/L	96	90	110			
_57727-03ASD	ASD	03/16/20 16:07	WC191014-1	5.01	.3	5.1	mg/L	96	90	110	0	20	
_57840-03AS	AS	03/16/20 17:03	WC191014-1	5.01	.4	4.57	mg/L	83	90	110			M2
_57840-03ASD	ASD	03/16/20 17:07	WC191014-1	5.01	.4	4.57	mg/L	83	90	110	0	20	M2
NG493629LFB2	LFB	03/16/20 17:56	WC191014-1	5.01		5.02	mg/L	100	90	110			
ron, dissolved			M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qua
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	2		1.892	mg/L	95	95	105			
	ICB	03/13/20 16:48				U	mg/L		-0.09	0.09			
WG493513ICB									05	445			
	LFB	03/13/20 17:02	11200302-4	1.0018		.981	mg/L	98	85	115			
WG493513ICB WG493513LFB L57841-01AS	LFB AS	03/13/20 17:02 03/13/20 18:10	II200302-4 II200302-4	1.0018 1.0018	1.53	.981 2.431	mg/L mg/L	98 90	85 85	115			

ACZ Project ID: L57840

Lead, dissolved			M200.8 I	CP-MS									
ACZ ID	Туре	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, dissolv	ved		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
NG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	1.002		.9603	mg/L	96	85	115			
L57841-01AS	AS	03/13/20 18:10	11200302-4	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, dis	solved		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
NG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	.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, dissolv	ved		M245.1 C	XAA									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493658													
NO 4026ERIOV	ICV	02/17/20 14.42	110000004.0										
WG493030ICV	10.0	03/17/20 14:42	HG200224-3	.004995		.005	mg/L	100	95	105			
	ICB	03/17/20 14:42	HG200224-3	.004995		.005 U	mg/L mg/L	100	95 -0.0002	105 0.0002			
WG493658ICB			HG200224-3	.004995				100					
WG493658ICB WG493658LRB	ICB	03/17/20 14:43	HG200224-3 HG200313-3	.004995		U	mg/L	100 92	-0.0002	0.0002			
WG493658ICB WG493658LRB WG493658LFB	ICB LRB	03/17/20 14:43 03/17/20 14:45			U	U U	mg/L mg/L		-0.0002 -0.00044	0.0002 0.00044			
NG493658ICB NG493658LRB NG493658LFB _57752-02LFM	ICB LRB LFB	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46	HG200313-3	.002002	U U	U U .00184	mg/L mg/L mg/L	92	-0.0002 -0.00044 85	0.0002 0.00044 115	1	20	
NG493658ICB NG493658LRB NG493658LFB _57752-02LFM _57752-02LFMD	ICB LRB LFB LFM LFMD	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48	HG200313-3 HG200313-3	.002002 .002002 .002002		U U .00184 .00192	mg/L mg/L mg/L mg/L	92 96	-0.0002 -0.00044 85 85	0.0002 0.00044 115 115	1	20	
WG493658ICB WG493658LRB WG493658LFB 57752-02LFM 57752-02LFMD Nickel, dissolve	ICB LRB LFB LFM LFMD	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48	HG200313-3 HG200313-3 HG200313-3	.002002 .002002 .002002		U U .00184 .00192	mg/L mg/L mg/L mg/L mg/L	92 96 95	-0.0002 -0.00044 85 85	0.0002 0.00044 115 115		20 Limit	Qual
WG493658ICB WG493658LRB WG493658LFB L57752-02LFM L57752-02LFMD Nickel, dissolve ACZ ID	ICB LRB LFB LFM LFMD	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48 03/17/20 14:49	HG200313-3 HG200313-3 HG200313-3 M200.7 K	.002002 .002002 .002002	U	U U .00184 .00192 .0019	mg/L mg/L mg/L mg/L mg/L	92 96 95	-0.0002 -0.00044 85 85 85	0.0002 0.00044 115 115 115			Qual
WG493658ICB WG493658LRB WG493658LFB L57752-02LFM L57752-02LFMD Nickel, dissolve ACZ ID WG493513	ICB LRB LFB LFM LFMD	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48 03/17/20 14:49	HG200313-3 HG200313-3 HG200313-3 M200.7 K	.002002 .002002 .002002	U	U U .00184 .00192 .0019	mg/L mg/L mg/L mg/L mg/L	92 96 95	-0.0002 -0.00044 85 85 85	0.0002 0.00044 115 115 115			Qual
WG493658ICV WG493658ICB WG493658LRB UG493658LFB L57752-02LFM Nickel, dissolve ACZ ID WG493513 WG493513ICV WG493513ICB	ICB LRB LFB LFM LFMD d Type	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48 03/17/20 14:49 Analyzed	HG200313-3 HG200313-3 HG200313-3 M200.7 K PCN/SCN	.002002 .002002 .002002 CP QC	U	U U .00184 .00192 .0019 Found	mg/L mg/L mg/L mg/L Units	92 96 95 Rec%	-0.0002 -0.00044 85 85 85 Lower 95	0.0002 0.00044 115 115 115 Upper 105			Qual
WG493658ICB WG493658LRB WG493658LFB L57752-02LFM Nickel, dissolve ACZ ID WG493513 WG493513ICV WG493513ICB	ICB LRB LFB LFM LFMD d Type ICV ICB	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48 03/17/20 14:49 Analyzed 03/13/20 16:42 03/13/20 16:48	HG200313-3 HG200313-3 HG200313-3 M200.7 K PCN/SCN	.002002 .002002 .002002 CP QC 2	U	U U .00184 .00192 .0019 Found 1.9425 U	mg/L mg/L mg/L mg/L Units mg/L	92 96 95 Rec%	-0.0002 -0.00044 85 85 85 Lower 95 -0.024	0.0002 0.00044 115 115 115 Upper 105 0.024			Qual
WG493658ICB WG493658LRB WG493658LFB L57752-02LFM L57752-02LFMD Nickel, dissolve ACZ ID WG493513 WG493513ICV	ICB LRB LFB LFM LFMD d Type	03/17/20 14:43 03/17/20 14:45 03/17/20 14:46 03/17/20 14:48 03/17/20 14:49 Analyzed	HG200313-3 HG200313-3 HG200313-3 M200.7 K PCN/SCN	.002002 .002002 .002002 CP QC	U	U U .00184 .00192 .0019 Found	mg/L mg/L mg/L mg/L Units mg/L	92 96 95 Rec% 97	-0.0002 -0.00044 85 85 85 Lower 95	0.0002 0.00044 115 115 115 Upper 105			Qual

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

GCC Rio Grande

ACZ Project ID: L57840

Nitrate/Nitrite as	N, diss	olved	M353.2 - /	Automate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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, disso	olved		M353.2 - /	Automate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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	I+ B									
ACZ ID	Туре	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, Filterab	le (TDS) @180C	SM2540C	;									
ACZ ID	Туре	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, dissolv	ved		M200.8 IC	CP-MS									
ACZ ID	Туре	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	

ACZ Project ID: L57840

Vanadium, diss	olved		M200.7	ICP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	.4995	U	.5003	mg/L	100	85	115			
L57841-01ASD	ASD	03/13/20 18:20	11200302-4	.4995	U	.5098	mg/L	102	85	115	2	20	
Zinc, dissolved			M200.7	ICP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG493513													
WG493513ICV	ICV	03/13/20 16:42	11200228-2	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	11200302-4	.50075	U	.528	mg/L	105	85	115	1	20	



(800) 334-5493

GCC Rio Grande

ACZ Project ID: L57840

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L57840-01	NG493605	Copper, dissolved	M200.7 ICP	М3	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	NG493605	Copper, dissolved	M200.7 ICP	М3	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	pН	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L57840-03	NG493605	Copper, dissolved	M200.7 ICP	М3	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).



ACZ Project ID: L57840

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc. 2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493	
GCC Rio Grande	ACZ Project ID
	Date Received
	Received By
	Date Printed

GCC Rio Grande A	CZ Proje	ct ID:		L57840
C	Date Rece	eived: 03	3/10/202	0 11:04
	Receive	•		
	Date Pri	nted:	3/	11/2020
Receipt Verification		X/50	NO	
1) Is a foreign soil permit included for applicable samples?		YES	NO	NA X
2) Is the Chain of Custody form or other directive shipping papers present?		Х		
3) Does this project require special handling procedures such as CLP protocol?			Х	
4) Are any samples NRC licensable material?				Х
5) If samples are received past hold time, proceed with requested short hold time analy	ses?	Х		
6) Is the Chain of Custody form complete and accurate?		Х		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the sar	mples?		Х	
Samples/Containers				
		YES	NO	NA
8) Are all containers intact and with no leaks?		Х		
9) Are all labels on containers and are they intact and legible?		Х		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and T	ime?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1		Х		
12) Is there sufficient sample volume to perform all requested work?		Х		
13) Is the custody seal intact on all containers?				Х
14) Are samples that require zero headspace acceptable?				Х
15) Are all sample containers appropriate for analytical requirements?		Х		
16) Is there an Hg-1631 trip blank present?				Х
				Х
17) Is there a VOA trip blank present?				

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.



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).

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493 Report to: Name:		boratories, Inc.		578	34	\bigcirc	С	HAII	N of	CUS	TO	DY
Name: Diana Furman Address: 3372 Line Road, Pueblo, CO 81004 Company: GCC Rio Grande Inc. Telephone: (719)647-6861 Company: Company: E-mail: Telephone: Telephone: Name: E-mail: Telephone: (719)647-6861 Company: Telephone: Telephone: (719)647-6861 Name: E-mail: Telephone: (719)647-6861 Company: GCC Rio Grande Inc. Telephone: (719)647-6861 E-mail: functional function of the subset of t		t Springs, CO 80487 (800) 334	4-5493									
Company: GCC Rio Grande Inc. E-mail: Telephone: Company: E-mail: Company: Telephone: Invoice to: Address: Name: Diagonal Furman Company: Address: Invoice to: Address: Name: Diagonal Furman Company: Address: Invoice to: Address: Name: Diagonal Furman Company: GCC Rio Grande Inc. E-mail: Telephone: Telephone: (719)647-6361 #sample/s received past holding time (HT), or if insufficient HT remains to complet YES No Image: No Are samples for SDWA Compliance Monitoring? Yes No "I were holding time (HT). State CO State Zip code 81004 Time zone MDT "Sampler's Name: Schift-Tr: Sampler's Stein Information State CO State Zip code 81004 Time zone MDT "Becording state for compliance testing: Colorado State Zip code numbay Zim c				Addre		3721	ime F	Road	Puebl	lo CC	810	04
E-mail: Telephone: (719)647-6861 Copy of Report to: Invoice to: Name: Diana Furman Address: 3372 Lime Road, Pueblo, CO 81004 Company: E-mail: Telephone: Telephone: Invoice to: Address: 3372 Lime Road, Pueblo, CO 81004 Company: GCC Rio Grande Inc. Telephone: (719)647-6861 E-mail: Telephone: (719)647-6861 (719)647-6861 Fasmple/s row Fasmple/s row No No No #rational durate data voltate data voltate quartificant HT remains to complete YES No No #rational durate data voltate quartificant with intermentation State CO No No No *sampler's Signature: Sampler's Signature: State CO Zip code 81004 Time zone MDT *Reporting state for compliance testing: Colorado Signature: State CO Zip code 81004 Time zone MDT *Sampler's Signature: State CO Zip code 81004 Time zone MDT State CO Zip code number of the number for the number of the numer of the number of t		nde Inc.		Audit				(ouu,		0,00		
Copy of Report to: Name: Company: Invoice to: Name: Diana Furman Company: Address: 3372 Lime Road, Pueblo, CO 81004 Company: Get Pointe: Invoice to: Invoice to: Name: Diana Furman Company: 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 manysis before expiration, shall AC2 proceed with requested short HT analyses? No If we please include state forms. Results will be reported to PQL for Colorado. Sampler's Stampler's State CO Zip code 81004 Time Zone MDT 'sampler's Signature: 'sampler's State CO Zip code 81004 Time Zone MDT 'sampler's Signature: 'sampler's Signature: 'sampler's Signature: 'sample's Signature: 'sample's colorado 'sample's before compliance testing: Colorado. 'sample's colorado of the sample inductable with the weak in the mediane and publishe the same in the mediane and publishe the mediane and publishe the mediane in the mediane and publishe the mediane and publishe the mediane the mediane and publishe the mediane and pu				Telep	hone:	(719)	647-6	861				
Name: E-mail: Company: Telephone: Invoice to: Address: 3372 Lime Road, Pueblo, CO 81004 Company: GCC Rio Grande Inc. Telephone: E-mail: furman@gcc.com Telephone: If sample(s) received past holding time (HT), or if insufficient HT remains to complete markins before expiration, shall AC2 proceed with requested short HT analyses? No If worder the instruction. The transition of the requested short HT analyses? No If yes, please include state forms. Results will be reported to PQL for Colorado. No Image: Sampler's Signature: If yes, please include state forms. Results will be reported to PQL for Colorado. Sampler's Signature: Image: Sampler's Signature: If worder will be reported to PQL for Colorado. The compliance testing: Colorado. Colorado. Reporting state for compliance testing: Colorado. Sampler's Signature: Image: Sampler's Signature: Image: Sampler's Signature: MW-6 D3/c9/c2.0 13:(\C3 SIG W) SIG SIG SIG Colorado. Image: Sampler's Colorado. MW-7 D3/c9/c2.0 13:(\C3 SIG W) SIG SIG SIG Colorado. Image: Sampler's Colorado. MW-2B C3/c9/c2.0 13:(\C3 SIG W) SIG SIG SIG Colorado. Ima		1940 - 4 4	1									
Company: Telephone: Invoice to: Address: 3372 Line Road, Pueblo, CO 81004 Company: GCC Rio Grande Inc. Telephone: (719)647-6861 E-mail: dfurman@gcc.com Telephone: (719)647-6861 If sample(s) received past holding time (HT), or if insufficient HT remains to complete NO NO analysis before expiration, shall AC2 proceed with requested short HT analyses? NO Yes samples for SDWA Compliance Monitoring? Yes No Yes please include state forms. Results will be reported to PQL for Colorado. Sampler's Signature: Sampler's Site Information *sampler's Signature: Sampler's Site Information State CO Zip code 81004 Time Zone MDT *sampler's Signature: *sample's Signature: *samp				E-ma	il·					-		
Invoice to: Name: Diana Furman Company: GCC Rio Grande Inc. E-mail: dfurman@gcc.com If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES analysis before expiration, shall ACZ proceed with requested short HT analyses? No If NO the ACZ will received past holding time (HT), or if insufficient HT remains to complete No analysis before expiration, shall ACZ proceed with requested short HT analyses? No If Yoo the ACZ will received and yeas, even HTT is expled, and data will be qualified No Are a samples for SDWA Compliance Montring? Yes No If yes, please include state forms. Results will be reported to PQL for Colorado. State CO Zip code 81004 Sampler's Signature: Sampler's Site Information State CO Zip code 81004 Time zone MDT "sempler's GW-COMPLIANCE 03/27/2019 Yes		1999 (1999) - Marian II. An I. (1999) - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1	1									
Name: Diana Furman Company: GCC Rio Grande Inc. E-mail: dfurman@gcc.com If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES analysis before expiration, shall AC2 proceed with requested short HT analyses? No If wor the AC2 will control to further instruction. If rather YES' nor 'No'' is indicated, AC2 will proceed with the requested analyses, even if HT is regimed, and date will be qualified. Are samplers for SDWA Compliance Monitoring? Yes No No If yes, please include state forms. Results will be reported to PQL for Colorado. Sampler's Signature: Sampler's Site Information State CO Zip code 81004 Time Zone_MDT "tester to be autoreticity and visiting of this ample. No Image Zone Zone Zone Zone Zone Zone Zone Zon]									
Company: GCC Rio Grande Inc. E-mail: dfurman@gcc.com If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES analysis before expiration, shall AC2 proceed with requested short HT remains to complete NO If sample(s) received past holding time (HT), or if insufficient HT remains to complete NO If yes, please include state forms. Results will be reported to PQL for Colorado. Xin Company: Sampler's Name: Scott LT3: Sampler's Site Information Xin the top the analysis, even HT is explicit, and data will be qualified "sampler's Signature: Sampler's Site Information Xin the top the analysis, bootidene froud and public by stora two "ampler's Signature: Sampler's Site Information Xin the top the analysis, bootidene froud and public by stora two PROJECT INFORMATION AVALYSIS RECUESTED (ditch list or des quote number) Quote #: GW-COMPLIANCE 03/27/2019 Signature: PO#: N/A Signatione testing: Colorado MW-6 03/02/20 13.378 GW Signatione Image and analysis analysis and analysis and analysis and analysis a				Addre	3	372 I i	me R	oad P	Pueblo	0.0	8100	14
E-mail: Ifurman@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 AC2 proceed with requested short HT analyses? NO Image: Complete analysis before expiration, shall AC2 proceed with requested short HT analyses? NO Image: Complete analyses, even If HT is expired, and data will be qualified analyses, even If HT is expired, and data will be qualified analyses. If No? then AC2 will context information. Yes No Image: Complete analyses. Image: Comp		nde Inc.	1	Addit	.33. 0.			000, 1		<u>, 00</u>	0100	
If sample(s) received past holding time (HT), or if insufficient HT remains to complete YES XE analysis before expiration, shall AGZ proceed with requested short HT analyses? NO XE If Yoo'then ACZ will condect dinne for thriter 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 NO XE Are samples for SDWA Compliance Monitoring? Yes No XE No XE If yes, please include state forms. Results will be reported to PQL for Colorado. No XE It mer/data/Jocation or tamper indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified "sampler's Name: Scoff L'Ti', Sampler's Site Information State_CO Zip code_81004 Time Zone_MDT "states to the authendidity of this any long balance frow and public by that a water and will be reported to PQL for Colorado. No Xex or authendidity of this any long balance frow and public by that a water and the interdimality midulable interdimale the structure interdimale midulable structure interdimale midulable of the analyses. PROJECT INFORMATION NALYSES REQUESTED (attech field on public of the more family individe the meridate frow and midulation or tamper individe the meridate frow and midulation or tamper individe in the requested material? Yes Yes SAMIPLE IDENTIFICATION DATE:TIME Matrix<				Telep	hone:	(719)	647-6	861				
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 IT 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: Cold Horizon (MDT) "sampler's Signature: Sampler's Site Information State CO Zip code 81004 Time Zone_MDT "Intest to the subteridity and wildity of this sample. Iunderstand that interctionally moleculating the time/data/location or tampering with the analysis analysis, considered freed on punchels by State Law. MDT PROJECT INFORMATION AVALYSES REQUESTED (Attach list or use quote number) Quote #: GW-COMPLIANCE 03/27/2019 getter the sample in such and the instruction or tampering with the analysis analysis, considered freed on punchels by State Law. MOV-6 Colorado getter the sample include NRC licensed material? getter the sample include NRC licensed material? SAMPLE IDENTIFICATION DATE:TIME Matrix: # getter the sample include NRC licensed material? getter the sample include NRC licensed material? MW-7 co3/os/2co : 13:.03 GW GW GW GW GW GW GU GU GU GU GU GU <			nt HT re							YES	×	
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: Cottler; Sampler's Site Information State_CO Zip code_81004 Time Zone_MDT "sampler's Signature: If yets to be authentidity and validity of this sample. Inderstand that intentionally misbaling the time/data/focation or timesring with the sample in anyway. is considered for and published by State Lux. PROJECT INFORMATION AVALYSES REOUESTED (attach list or use quote number) Quote #: GW-COMPLIANCE 03/27/2019 So PO#: N/A So So Reporting state for compliance testing: Colorado So So Check box if samples include NRC licensed material? So So So So MW-6 C3/02/20 13:03 GW So So So So MW-7 C3/02/20 13:03 GW So So So So So MW-2B C3/02/20 13:03 GW SO So So So So So So So So So So So So <td< td=""><td>•</td><td></td><td></td><td></td><td></td><td></td><td>ae aun 14</td><td>LIT ie aval</td><td>- المراجع الم</td><td></td><td>liffed</td><td>J</td></td<>	•						ae aun 14	LIT ie aval	- المراجع الم		liffed	J
Sampler's Name: Soft Long Sampler's Site Information State CO Zip code 81004 Time Zone MDT "Sampler's Signature: Site Information State CO Zip code 81004 Time Zone MDT "Intert to the authenticity and validity of this sample. Lunderstand that intendomily midateling the time/data/location or tampering with the sample in anywey, is condered fraud and purchase taw. PROJECT INFORMATION ANALYSES REQUESTED (attachments of the authenticity and validity of this sample. Lunderstand that intendomily midateling the time/data/location or tampering with the sample in anywey, is condered fraud and purchase taw. PROJECT INFORMATION ANALYSES REQUESTED (attachments of the authenticity and validity of this sample. Lunderstand that intendomily midateling the time/data/location or tampering with the sample in anywey, is condered fraud and purchase taw. PROJECT INFORMATION ANALYSES REQUESTED (attachments of the authenticity and validity of this sample. Lunderstand that intendomily midateling the time/data/location or tampering with the sample in anywey, is condered fraud and purchased taw. PROJECT INFORMATION ANALYSES REQUESTED (attachments of the authenticity and validity of this sample. Lunderstand that intendomily midateling the time/data/location or tampering with the sample in anywey, is condered fraud and purchased taw. PROJECT INFORMATION DATE:TIME Matrix # MW-6 D3/c9/20 13.03 GW 3 K 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			eu, AGZ Will			ested analys		(Same	ru, and data	win be qua	in lea	
"sampler's Signature:	If yes, please include state for	ms. Results will be reported t	o PQL f	or Cold	orado.	-						
Sampler's Signature:	Sampler's Name: <u>Scott L</u>											
Quote #: GW-COMPLIANCE 03/27/2019 g					ay, is consid	lered fraud a	ind punisha	ble by State	Law.			ion or
PO#: N/A is	_				ANA	LYSES RE	QUESTE	D (attach I	ist or use	quote nui	mber)	
SAMPLE IDENTIFICATION DATE: TIME Matrix ** *		ICE 03/2//2019		lers	Ξ							
SAMPLE IDENTIFICATION DATE: TIME Matrix ** *		Oslanska		Itair	t no p							
SAMPLE IDENTIFICATION DATE: TIME Matrix ** *			1 -3	S	ote bu							
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			Matrix		er qu							
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$												m
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		03/04/20 12:48		l								
	MW-2B	03/06/20 12:03		3								
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SC (Soil) · OL (Oil) · Other (Specify)												
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SC (Soil) · OL (Oil) · Other (Specify)												
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Slutzer) · SL (Sl										U. A.		
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)												
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)												
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)												
Matrix SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)												
	Matrix SW (Surface Water) ·	GW (Ground Water) · WW (Waste V	Vater) D	W (Drink	ting Wate	er) · SL (S	Sludge) ·	SO (Soil)	• OL (0	il) · Other	(Specify	ר וו
		and the second		ocated			-		COC.			
Please refer to ACZ's terms & conditions located on the reverse side of this COC.	RELINQUISHED	BY: DATE:TI	ME		F	RECEIN	/ED B`	<i>(</i> :				
RELINQUISHED BY: DATE:TIME RECEIVED BY: DATE:TIME	Eath Kerr	< <u> 3/9/20;</u>	14:17	pl	ang	Fun	nan			3 4 ,	20 14	<u> : 7</u>
	Diang Furmano			00	uRe	~ ~	-	+-			\sim	ļ
RELINQUISHED BY: DATE:TIME RECEIVED BY: DATE:TIME				WQ	\sim	\mathcal{Y}^{2}	$\mathcal{D}\mathcal{HC}$	250	\mathbf{b}	e(JEY	

L57840 Chain of Custod



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 is 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 ACZs 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 is 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







Project ID: Sample ID: MW-6

Inorganic Analytical Results

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 XC) Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.19	В	mg/L	0.05	0.3	09/21/20 15:06	jlw
Arsenic, dissolved	M200.8 ICP-MS	1	0.0009	В	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	В	mg/L	0.00005	0.0003	09/22/20 17:20	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	В	mg/L	0.01	0.05	09/21/20 15:06	jlw
Cobalt, dissolved	M200.7 ICP	1	0.03	В	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	В	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	В	mg/L	0.02	0.05	09/21/20 15:06	jlw
Wet Chemistry									
Parameter	EPA Method	Dilution	Result	Qual XC) 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	В	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	В	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								
рН		1	7.8	Н	units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.0		С	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



Project ID: Sample ID: MW-7

Inorganic Analytical Results

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 X	Q Units	MDL	PQL	Date	Analyst
Aluminum, dissolved	M200.7 ICP	1	0.16	В	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	В	mg/L	0.00005	0.0003	09/22/20 17:22	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	В	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	В	mg/L	0.06	0.2	09/21/20 15:09	jlw
Lead, dissolved	M200.8 ICP-MS	1	0.0002	В	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	В	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	В	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 X	Q 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	В *	f mg/L	0.01	0.05	09/17/20 22:45	pjb
pH (lab)	SM4500H+ B								
pН		1	7.8	Н	units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.1		С	0.1	0.1	09/17/20 0:00	eep

2

4950

mg/L

40

80

09/23/20 19:51

eep

Residue, Filterable

(TDS) @180C

SM2540C



Project ID: Sample ID: MW-2B

Inorganic Analytical Results

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	В	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	В	mg/L	0.00005	0.0003	09/22/20 17:24	bsu
Chromium, dissolved	M200.7 ICP	1	0.01	В	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	В	mg/L	0.06	0.2	09/21/20 15:12	jlw
Lead, dissolved	M200.8 ICP-MS	1	0.0002	В	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	В	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	В	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								
pН		1	7.8	Н	units	0.1	0.1	09/17/20 0:00	eep
pH measured at		1	21.0		С	0.1	0.1	09/17/20 0:00	eep
Residue, Filterable	SM2540C	2	5040	*	mg/L	40	80	09/23/20 12:05	mlh

(TDS) @180C



Inorganic Reference

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 u	nless omitted or ea	qual to the PQL (see comment #5)
	Allows for instrument and annual fluctuations.		1
PCN/SCN	A number assigned to reagents/standards to trace to the mar	ufacturers certifica	ate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term '		
QC	True Value of the Control Sample or the amount added to the		
Rec	Recovered amount of the true value or spike added, in % (ex	•	/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC		
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)		
Sample	Value of the Sample of interest		
C Sample Ty	rpes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
ССВ	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
LCSSD LCSW		PQV SDL	Practical Quantitation Verification standard Serial Dilution
LCSW	Laboratory Control Sample - Soil Duplicate		
LCSW	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water	SDL	
<i>LCSW</i> C Sample Ty	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Verifies that there is no or minimal c	SDL ontamination in the	Serial Dilution e prep method or calibration procedure.
<i>LCSW</i> C Sample Ty Blanks	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Verifies that there is no or minimal c	SDL ontamination in the including the prep	Serial Dilution e prep method or calibration procedure. procedure.
LCSW Sample Ty Blanks Control San Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Pe Explanations Verifies that there is no or minimal control of the method, Werifies the accuracy of the method,	SDL ontamination in the including the prep ent and/or method.	Serial Dilution e prep method or calibration procedure. procedure.
LCSW Sample Ty Blanks Control San Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal control of the method, Verifies the accuracy of the method, Verifies the precision of the instrument	SDL ontamination in the including the prep ent and/or method. nces, if any.	Serial Dilution e prep method or calibration procedure. procedure.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal control of the method, Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration	SDL ontamination in the including the prep ent and/or method. nces, if any.	Serial Dilution e prep method or calibration procedure. procedure.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal control of the method, Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration	SDL ontamination in the including the prep ent and/or method. nces, if any.	Serial Dilution
LCSW Sample Ty Blanks Control San Duplicates Spikes/For Standard	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Type Explanations Merifies that there is no or minimal control of the method, Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration (Qual)	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat	Serial Dilution e prep method or calibration procedure. procedure. e procedure.
LCSW Sample Ty Blanks Control San Duplicates Spikes/For Standard Z Qualifiers B	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t	Serial Dilution e prep method or calibration procedure. procedure. e procedure.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold.	Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations Werifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined negative	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. ie level of the associat	Serial Dilution e prep method or calibration procedure. procedure. e procedure. ed value is an estimated quantity. ime. aciated value.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferer Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and I Analyte response was below the laboratory defined near The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. ie level of the asso the sample detect	Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. In level of the associat the sample detect and Wastes, Marc	Serial Dilution a prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit. h 1983.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Reference (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water EPA 600/R-93-100. Methods for the Determination of Inorgan	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. Is level of the asso the sample detect and Wastes, Marc nic Substances in l	Serial Dilution a prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Reference (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferer Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or EPA 600/R-83-020. Methods for Chemical Analysis of Water EPA 600/R-94-111. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. Is level of the asso the sample detect and Wastes, Marc nic Substances in l	Serial Dilution a prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSW Sample Ty Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Refere (1) (2) (3) (4)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration s (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water EPA 600/R-94-111. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for Evaluating Solid Waste.	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. Including the associate the sample detect and Wastes, Marc nic Substances in I in Environmental S	Serial Dilution a prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Reference (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferer Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or EPA 600/R-83-020. Methods for Chemical Analysis of Water EPA 600/R-94-111. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. Including the associate the sample detect and Wastes, Marc nic Substances in I in Environmental S	Serial Dilution a prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Reference (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration c (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020 . Methods for Chemical Analysis of Water EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. Is level of the asso the sample detect and Wastes, Marc nic Substances in I in Environmental S ater.	Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. iciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Reference (1) (2) (3) (4) (5) Entrol Reference (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration 5 (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or Preces EPA 600/4-83-020. Methods for Chemical Analysis of Water EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slight	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. In level of the associat the sample detect and Wastes, Marc nic Substances in I in Environmental S ater.	Serial Dilution a prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. alues are used in the calculations.
LCSW Blanks Control Sau Duplicates Spikes/For Standard CQUalifiers B H L U U Ethod Reference (1) (2) (3) (4) (5) Comments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration c (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with and Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water EPA 600/R-94-111. Methods for the Determination of Inorgan EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slight Soil, Sludge, and Plant matrices for Inorganic analyses are re	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. In level of the associat the sample detect and Wastes, Marc nic Substances in I in Environmental S ater.	Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. alues are used in the calculations.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Refere (1) (2) (3) (4) (5) D mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferer Verifies the validity of the calibration S (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteway QC results calculated from raw data. Results may vary slight Soil, Sludge, and Plant matrices for Inorganic analyses are re Animal matrices for Inorganic analyses are reported on an "as	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. The sample detect and Wastes, Marc nic Substances in I in Environmental S ater.	Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. iciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. elues are used in the calculations. eight basis.
LCSW Blanks Control Sau Duplicates Spikes/For Standard CQUalifiers B H L U U Ethod Reference (1) (2) (3) (4) (5) Comments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration 6 (Qual) Analyte concentration detected at a value between MDL and I Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined new The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or Proces EPA 600/R-93-100. Methods for Chemical Analysis of Water EPA 600/R-94-111. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa QC results calculated from raw data. Results may vary slightl Soil, Sludge, and Plant matrices for Inorganic analyses are re Animal matrices for Inorganic analyses are reported on an "as An asterisk in the "XQ" column indicates there is an extended	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. The sample detect and Wastes, Marc nic Substances in I in Environmental S ater.	Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. iciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. elues are used in the calculations. eight basis.
LCSW Blanks Control Sau Duplicates Spikes/For Standard Z Qualifiers B H L U U ethod Refere (1) (2) (3) (4) (5) D mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferer Verifies the validity of the calibration S (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water EPA 600/R-93-100. Methods for the Determination of Inorgan EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteway QC results calculated from raw data. Results may vary slight Soil, Sludge, and Plant matrices for Inorganic analyses are re Animal matrices for Inorganic analyses are reported on an "as	SDL ontamination in the including the prep ent and/or method. nces, if any. PQL. The associat n immediate hold t gative threshold. In level of the associat the sample detect and Wastes, Marc nic Substances in I in Environmental S ater. y if the rounded va ported on a dry we s received" basis. qualifier and/or ce	Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. elues are used in the calculations. eight basis. ertification qualifier

https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

ACZ Project ID: L61534

Aluminum, diss	olved		M200.7 IC	P									
ACZ ID	Туре	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, dissolv	ved		M200.8 IC	P-MS									
ACZ ID	Туре	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, diss	olved		M200.7 IC	;P									
ACZ ID	Туре	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	1200020 1	-		U	mg/L	00	-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	11200911-3	.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, dissolve	h		M200.7 IC	:P									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
	Type	Analyzeu	I ON/OON	40	Campie	Tound	Onito	Neo //	Lower	Opper		Linin	Guui
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, diss	olved		M200.8 IC	P-MS									
ACZ ID	Туре	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	
	AS	09/22/20 17:35	MS200803-2	.05005	.00011	.044523	mg/L	89	70	130			
L61541-03AS	70	00/22/20 11.00	1013200003-2	.00000	.00011	.044525	mg/L	09	10	130			

ACZ Project ID: L61534

	ec.												
Chromium, diss	olved		M200.7 I	CP									
ACZ ID	Туре	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, dissolve	d		M200.7 I	CP									
ACZ ID	Туре	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, dissolve	ed		M200.7 I	CP									
ACZ ID	Туре	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	Туре	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	1102000100	2.002		2.02 U	mg/L	101	-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 I	CP									
ACZ ID	Туре	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			
	ICB	09/21/20 14:13				U	mg/L		-0.18	0.18			
WG505583ICB													
WG505583ICB WG505583LFB	LFB	09/21/20 14:26	II200911-3	1.0018		1.037	mg/L	104	85	115			
		09/21/20 14:26 09/21/20 14:53	II200911-3 II200911-3	1.0018 1.0018	U		mg/L mg/L	104 101	85 85	115 115			

ACZ Project ID: L61534

				00.140									
Lead, dissolved			M200.8 I										
ACZ ID	Туре	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, dissolv	ved		M200.7 I	СР									
ACZ ID	Туре	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, dis	solved		M200.7 I	СР									
ACZ ID	Туре	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, dissol	ved		M245.1 C	CVAA									
ACZ ID	Туре	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													
		00/04/00 44:00					ma/l		0.00044	0.00044			
WG505548LRB	LRB	09/21/20 14:03	LC200049.2	000000		U	mg/L	00	-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 HG200918-3	.002002	U	.00179	mg/L	89	85	115	4	20	
L61486-04LFMD	LFMD	09/21/20 14:22	HG200918-3	.002002	U	.00177	mg/L	88	85	115	1	20	
Nickel, dissolve	d		M200.7 I	СР									
ACZ ID	Туре	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			
		00/04/00 44.50	II200911-3	.501	U	.4837	mg/L	97	85	115			
L61507-03AS	AS	09/21/20 14:53	11200911-5	.501	0	.4037	ing/L	51	05	115			

ACZ Project ID: L61534

Nitrate/Nitrite as	N, disse	olved	M353.2 - A	utomate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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, disso	olved		M353.2 - A	utomate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG505414	21.												
		00/17/20 20:16	PCN60577	C		c	units	100	5.0	6.1			
WG505414LCSW1	LCSW	09/17/20 20:16	FCINOUSIT	6	- 4	6		100	5.9	6.1	0	00	
L61550-01DUP	DUP	09/17/20 22:12	DOMOSTZ		5.4	5.3	units	100			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		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, Filterab	le (TDS) @180C	SM2540C										
ACZ ID	Туре	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			
			DONIGOAL	1000		070		00					
WG505843LCSW	LCSW	09/23/20 19:48	PCN62154	1000		976	mg/L	98	80	120			

ACZ Project ID: L61534

Selenium, disso	olved		M200.8 I	CP-MS									
ACZ ID	Туре	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, diss	olved		M200.7 I	СР									
ACZ ID	Туре	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 I	CP									
ACZ ID	Туре	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	



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

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).



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

NO

Х

NA

Х

Х

YES

Х

Х

Х

Х

Receipt Verification

- 1) Is a foreign soil permit included for applicable samples?
- 2) Is the Chain of Custody form or other directive shipping papers present?
- 3) Does this project require special handling procedures such as CLP protocol?
- 4) Are any samples NRC licensable material?
- 5) If samples are received past hold time, proceed with requested short hold time analyses?
- 6) Is the Chain of Custody form complete and accurate?
- 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?

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.

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.

Samples/Containers

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

NA indicates Not Applicable

Chain of Custody Related Remarks
Client Contact Remarks
Shipping Containers
Cooler Id Temp(°C) Temp Rad(µR/Hr) Custody Seal Intact?

REPAD LPII 2012-03

ACZ Labor 2773 Downhill Drive Steamboat	ratorie _{Springs, CO}			Sample Receipt		
GCC Rio Grande					ACZ Project ID: Date Received: Received By:	09/17/2020 11:48
					Date Printed:	9/18/2020
NA33644	0.6	<=6.0	15	N/A		
Was ice present in the ship Yes - Wet ice was				<i>(</i>)		

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), HCI preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

	aboratories	s, Inc.	1	415	24		С	HAI	N of	CUS	STO	ΟY
2773 Downhill Drive Steambo	at Springs, CO 8048	7 (800) 334-	-5493	7								
Report to:												
Name: Diana Furman				Addre	ess: 3	372 L	ime F	Road,	Pueb	lo, CC	810	04
Company: GCC Rio Gr												
E-mail: dfurman@gcc.o	com			Telep	hone:	(719)	647-6	861				
Copy of Report to:												
Name:				E-ma	1:							
Company:				Telep	hone:				·	1		
nvoice to:												
_{Name:} Diana Furman				Addre	ss: 33	372 L	ime R	oad, I	Pueble	o, CO	8100)4
Company: GCC Rio Gra	ande Inc.											
E-mail: dfurman@gcc.c	om			Telep	hone:	(719)	647-6	861				
f sample(s) received past ho										YES	×	
Inalysis before expiration, sl							ses, even if	HT is expire	ed, and data	NO will be qua		
Are samples for SDWA Comp	bliance Monitoring?			Yes			No			20 444		
f yes, please include state fo				or Colo	rado.				· · ·			
Sampler's Name: D: Falm	11 11 1	ite Informat *I attest to th	ion	State_	CO	ample		de <u>81</u>			one_N	
Sampler's Signature:	AL Lext	tampering wi	th the same	ole in anyw	ay, is consid	ered fraud a	and punishal	ble by State	Law.			ion or
PROJECT INFORMATION					ANAI	YSES RE	EQUESTE	D (attach i	list or use	quote nu	mber)	
Quote #: GW-COMPLIA	NCE 03/27/2019)		lers	e but							
<u>po#: N/A</u>	Colorada			Itair	quote							
Reporting state for compliance			F 7	of Containers	Per attached quote but no pH							
Check box if samples include N SAMPLE IDENTIFICATIO			<u> </u>	# of	eratta opH							
MW-6	plu loo'		GW	3	a z		Π	I		1 1		
MW-7	GIUINA	<u> </u>	GW	3	X							
MW-2B	9/11/10		GW	3	X							
		1200	GW	3		-	П					
								Π				
								Town of the local division of the local divi				
	1				Last							

FRMAD050.06.14.14

Le1534 Chain of Custod

1.00



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 is 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 ACZs 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 is 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





Cadmium Reduction

10

7900

mg/L

200

400

09/29/20 16:05

scd

SM2540C

GCC Rio Grande

Project ID: Sample ID: MW-8

Inorganic Analytical Results

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 XC) 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	l 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	l jlw
Manganese, dissolved	M200.7 ICP	5	0.299		mg/L	0.05	0.25	10/07/20 20:12	l 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	l jlw
Selenium, dissolved	M200.8 ICP-MS	5	0.00075	В	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	l jlw
Zinc, dissolved	M200.7 ICP	5	<0.1	U	mg/L	0.1	0.25	10/07/20 20:12	l jlw
Wet Chemistry									
Parameter	EPA Method	Dilution	Result	Qual XC	Q Units	MDL	PQL	Date	Analyst
Fluoride	SM4500F-C	1	0.9		mg/L	0.1	0.4	10/06/20 19:33	еер
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	1	<0.01	U *	mg/L	0.01	0.05	09/30/20 1:33	pjb

Residue, Filterable

(TDS) @180C



Inorganic Reference

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 e	qual to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.		
PCN/SCN	A number assigned to reagents/standards to trace to the ma	anufacturers certific	ate of analysis
PQL	Practical Quantitation Limit. Synonymous with the EPA term	ı "minimum level".	
QC	True Value of the Control Sample or the amount added to th	e Spike	
Rec	Recovered amount of the true value or spike added, in % (ex	xcept for LCSS, mg	/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate C	QC Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)		
Sample	Value of the Sample of interest		
Sample Ty	pes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
ССВ	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
10040	Inter classest Consisting Oten dead . A also D colutions	PBS	Prep Blank - Soil
ICSAB	Inter-element Correction Standard - A plus B solutions	1 03	
LCSAB	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
			•
LCSS	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSS LCSSD LCSW	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water	PBW PQV	Prep Blank - Water Practical Quantitation Verification standard
LCSS LCSSD LCSW	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations	PBW PQV SDL	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Verifies that there is no or minimal	PBW PQV SDL contamination in the	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Verifies that there is no or minimal mples Verifies the accuracy of the method	PBW PQV SDL contamination in the	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Nerifies that there is no or minimal Verifies the accuracy of the method Verifies the precision of the instrum	PBW PQV SDL contamination in the d, including the prep nent and/or method.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Nerifies that there is no or minimal Verifies the accuracy of the method Verifies the precision of the instrum	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Verifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfered Verifies the validity of the calibration	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations werifies that there is no or minimal working the precision of the method Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfered Verifies the validity of the calibration	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations weifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations weifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations weifies that there is no or minimal mples Verifies that there is no or minimal Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with a Target analyte response was below the laboratory defined method	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations weifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. I PQL. The associat an immediate hold t egative threshold. the level of the associat	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined no The material was analyzed for, but was not detected above to The associated value is either the sample quantitation limit of	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. I PQL. The associat an immediate hold t egative threshold. the level of the associat	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations werifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analyte response was below the laboratory defined method Target analyte response was below the laboratory defined method The material was analyzed for, but was not detected above to The associated value is either the sample quantitation limit of nces	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. eted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations mples Verifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analyte response was below the laboratory defined method The material was analyzed for, but was not detected above for The associated value is either the sample quantitation limit of nces EPA 600/4-83-020. Methods for Chemical Analysis of Wate	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat r the sample detect	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Tyr Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water PEExplanations Verifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined no The material was analyzed for, but was not detected above of The associated value is either the sample quantitation limit of nces EPA 600/4-83-020. Methods for Chemical Analysis of Wate EPA 600/R-93-100. Methods for the Determination of Inorgan	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat or the sample detect r and Wastes, Marc anic Substances in l	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined method The material was analyzed for, but was not detected above of The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-94-111. Methods for the Determination of Inorga	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat or the sample detect r and Wastes, Marc anic Substances in l	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Tyr Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water PEExplanations Verifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined no The material was analyzed for, but was not detected above of The associated value is either the sample quantitation limit of nces EPA 600/4-83-020. Methods for Chemical Analysis of Wate EPA 600/R-93-100. Methods for the Determination of Inorgan	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat in the sample detect r and Wastes, Marc anic Substances in l s in Environmental S	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Merifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analyte concentration detected at a value between MDL and Analyte response was below the laboratory defined in The material was analyzed for, but was not detected above for The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-94-111. Methods for the Determination of Inorga EPA 600/R-94-111. Methods for Evaluating Solid Waste.	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat in the sample detect r and Wastes, Marc anic Substances in l s in Environmental S	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ted value is an estimated quantity. ime. ciated value. ion limit.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Merifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined no The material was analyzed for, but was not detected above of The associated value is either the sample quantitation limit of nces EPA 600/A-83-020. Methods for Chemical Analysis of Wate EPA 600/R-93-100. Methods for the Determination of Inorga EPA 600/R-94-111. Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastew	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat r the sample detect r and Wastes, Marc anic Substances in l s in Environmental s water.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. e procedure. eted value is an estimated quantity. ime. iciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5) mments (1)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Nerifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined method The material was analyzed for, but was not detected above to The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-94-111. Methods for the Determination of Inorga EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastev	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat an ithe sample detect r and Wastes, Marco anic Substances in l s in Environmental S water.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. et value is an estimated quantity. ime. et value is an estimated quantity. ime. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Nerfies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined method The material was analyzed for, but was not detected above for The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-93-100. Methods for the Determination of Inorga EPA 600/R-94-111. Methods for the Determination of Metal EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastev QC results calculated from raw data. Results may vary sligh Soil, Sludge, and Plant matrices for Inorganic analyses are results	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associated and water hold the associated and water.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. e dvalue is an estimated quantity. ime. e dvalue is an estimated quantity. ime. ime. e dvalue is an estimated quantity. ime. ime. ime. ime. ime. ime. ime.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments (1) (2) (3)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water PE Explanations Nerifies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with a Target analyte response was below the laboratory defined no The material was analyzed for, but was not detected above for The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-94-111. Methods for the Determination of Inorga EPA 600/R-94-111. Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastev QC results calculated from raw data. Results may vary slight Soil, Sludge, and Plant matrices for Inorganic analyses are re- Animal matrices for Inorganic analyses are reported on an "a	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat an immediate hold t egative threshold. the level of the associat anic Substances in l s in Environmental S water.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. e procedure. e d value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSS LCSSD LCSW Sample Typ Blanks Control Sar Duplicates Spikes/Fort Standard Z Qualifiers B H L U U thod Refere (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Nerfies that there is no or minimal mples Verifies the accuracy of the method Verifies the precision of the instrum ified Matrix Determines sample matrix interfere Verifies the validity of the calibration (Qual) Analyte concentration detected at a value between MDL and Analysis exceeded method hold time. pH is a field test with Target analyte response was below the laboratory defined method The material was analyzed for, but was not detected above for The associated value is either the sample quantitation limit of nces EPA 600/R-93-100. Methods for Chemical Analysis of Wate EPA 600/R-93-100. Methods for the Determination of Inorga EPA 600/R-94-111. Methods for the Determination of Metal EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastev QC results calculated from raw data. Results may vary sligh Soil, Sludge, and Plant matrices for Inorganic analyses are results	PBW PQV SDL contamination in the d, including the prep nent and/or method. ences, if any. n. d PQL. The associat an immediate hold t egative threshold. the level of the associat an immediate hold t egative threshold. the level of the associat anic Substances in l s in Environmental S water.	Prep Blank - Water Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. e procedure. e d value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.

https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

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

GCC Rio Grande

ACZ Project ID: L61811

Aluminum, diss	solved		M200.7 IC	P									
ACZ ID	Туре	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, dissol	ved		M200.8 IC	P-MS									
ACZ ID	Туре	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, diss	olved		M200.7 IC	P									
ACZ ID	Туре	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, dissolve	ed		M200.7 IC	P									
ACZ ID	Туре	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, diss	olved		M200.8 IC	P-MS									
ACZ ID	Туре	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			
		10/13/20 12:50	MS200926-3	2.5025	.0211	2.524386		100	70	130			
L61795-03AS	AS	10/10/20 12:00	1013200920-3	2.0020	.0211	2.024000	mg/L	100	70	100			

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

GCC Rio Grande

ACZ Project ID: L61811

Chromium, diss	olved		M200.7 I	CP									
ACZ ID	Туре	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, dissolve	ed		M200.7 I	CP									
ACZ ID	Туре	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, dissolv	ed		M200.7 I	CP									
ACZ ID	Туре	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	Туре	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 I	CP									
ACZ ID	Туре	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			
	ICB	10/07/20 18:41		-		U	mg/L		-0.18	0.18			
WG506664ICB													
	LFB	10/07/20 18:54	II201002-6	1.0018		1.012	mg/L	101	85	115			
WG506664ICB WG506664LFB L61810-15AS	LFB AS	10/07/20 18:54 10/07/20 19:59	II201002-6 II201002-6	1.0018 1.0018	U	1.012 1.038	mg/L mg/L	101 104	85 85	115 115			

ACZ Project ID: L61811

Lead, dissolved			M200.8 I	CP-MS									
ACZ ID	Туре	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, dissolv	ved		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG506664													
NG506664ICV	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, dis	solved		M200.7 I	CP									
ACZ ID	Туре	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, dissol	ved		M245.1 C	VAA									
ACZ ID	Туре	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, dissolve	d		M200.7 I	CP									
	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
ACZ ID	Type												
	туре												
WG506664	ICV	10/07/20 18:35	ll200921-1	2		1.9232	mg/L	96	95	105			
WG506664 WG506664ICV			II200921-1	2		1.9232 U	mg/L mg/L	96	95 -0.024	105 0.024			
WG506664 WG506664ICV WG506664ICB	ICV ICB	10/07/20 18:35 10/07/20 18:41	II200921-1 II201002-6					96 98	-0.024	0.024			
ACZ ID WG506664 WG506664ICV WG506664ICB WG506664LFB L61810-15AS	ICV	10/07/20 18:35		2 .501 .501	U	U	mg/L						

ACZ Project ID: L61811

Nitrate/Nitrite as	N, disse	olved	M353.2 - A	Automate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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, diss	solved		M353.2 - A	Automate	d Cadmiur	n Reduc	tion						
ACZ ID	Туре	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, Filteral	ble (TDS) @180C	SM2540C										
ACZ ID	Туре	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, disso	lved		M200.8 IC	P-MS									
ACZ ID	Туре	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		100		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			
_61795-03ASD	ASD	10/13/20 12:56	MS200926-3	2.5	U	2.35962	mg/L	94	70	130	0	20	
Vanadium, disso	olved		M200.7 IC	Р									
ACZ ID	Туре	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			
	AS	10/07/20 19:59	II201002-6	.4995	U	.5115	mg/L	102	85	115			
L61810-15AS	AS	10/01/20 13.33	11201002 0	.4000	0	.5115	mg/L	102	00	110			



ACZ Project ID: L61811

Zinc, dissolved			M200.7 I	СР									
ACZ ID	Туре	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	



(800) 334-5493

GCC Rio Grande

ACZ Project ID: L61811

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61811-01	NG506253	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.



ACZ Project ID: L61811

No certification qualifiers associated with this analysis

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

21/3 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

GCC Rio Grande	ACZ Projec	ct ID:		L61811
	Date Rece	ived: 09	9/29/202	0 11:28
	Receive	d By:		
	Date Pri	nted:	9/3	30/2020
Receipt Verification)/E0	NO	
1) Is a foreign soil permit included for applicable samples?		YES	NO	NA X
2) Is the Chain of Custody form or other directive shipping papers present?	Ĺ	Х		
3) Does this project require special handling procedures such as CLP protocol?			Х	
4) Are any samples NRC licensable material?				Х
5) If samples are received past hold time, proceed with requested short hold time an	nalyses?	Х		
6) Is the Chain of Custody form complete and accurate?		Х		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the	samples?		Х	
Samples/Containers				
	ŀ	YES	NO	NA
8) Are all containers intact and with no leaks?		Х		
9) Are all labels on containers and are they intact and legible?		Х		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, an	nd Time?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1		Х		
12) Is there sufficient sample volume to perform all requested work?		Х		
13) Is the custody seal intact on all containers?				Х
14) Are samples that require zero headspace acceptable?				Х
15) Are all sample containers appropriate for analytical requirements?		Х		
16) Is there an Hg-1631 trip blank present?				Х
17) Is there a VOA trip blank present?				Х
	-	Х		

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.



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).
2773 Downhill		oratories, l Springs, CO 80487 (8			,							
Report to:											0100	
_{Name:} Dia				Addre	ss: 33	372 Li	me R	oad, I	Pueble	o, CO	8100	94
	GCC Rio Gran					740	17.0	204				
E-mail: dfui	rman@gcc.co	<u>m</u>		Telep	none:	(719)6	547-68	561				
Copy of Rep	ort to:											
Name:				E-mai	l:							
Company:				Telep	hone:							
Invoice to:												
_{Name:} Diar	na Furman			Addre	ss: 33	72 Li	me Ro	oad, F	Pueblo	o, CO	81004	4
Company: C	GCC Rio Gran	de Inc.										
	rman@gcc.co				hone:		647-6	861				
If sample(s) r	eceived past hold	ing time (HT), or if ins	ufficient HT re	emains t	o comp	lete				YES NO		
analysis befor	re expiration, shall contact client for further ins	II ACZ proceed with re truction. If neither "YES" nor "NO	Aquested shot is indicated, ACZ with a shot is indicated.	THI and Il proceed wi	th the reque	sted analys	es, even if l	HT is expire	d, and data		lified	
Are samples f	for SDWA Complia	ance Monitoring?		Yes			No	×				
		ns. Results will be rep						04	20.4			DТ
-		Sampler's Site I	Information *1 attest to the auther		CO idity of this s	ample. I uno		de <u>81</u>	JU4 Ily mislabel		one_M	
*Sampler's Si		A prox	tampering with the sa	mple in anyw	ay, is consid	ered fraud a	nd punishat	le by State	Law.	quote nu		
	NFORMATION	05 00/07/0040			ANA	1323 K			ist or use	quote na	inberty	
	V-COMPLIAN	CE 03/27/2019		of Containers	e but							
PO#: N/A				ntair –	quote							
Reporting stat	e for compliance te	esting: Colorado		- 3	Iched							
		C licensed material? DATE:TIME	E Matri		Per attached quote but no pH							
		DATE: HW		^	а е Х							П
-	MW-6		GW GW									
	MW-7 /W-2B		GW		×							
	MW-8	-0/00/201			X	-			П			Π
	10100-0	09/28/20!	<u>10.10 80</u>						П		m	
											П	П
												Π
				+					m		F	Π
											П	
Matrix S		SW (Ground Wayer) · WW	(Waste Water) ·	DW (Drin	king Wate	ar) · SL (Sludae) ·	SO (Soi	I) · OL (C)il) · Othe	r (Specify	/)
	W (Sunace Water) (, 1		, .			
REMARKS												
Ser	vice Cent	er										
		refer to ACZ's terms		located					COC.	-		
R	ELINQUISHED E	BY: D	ATE:TIME			RECEI	VED B	Y:	A A	D	ATE:TI	WE
1 Sca	H Lex	2 9/2	8/20:13	15	Ch	li	Can	phe	L/	19/2	<u>8/W</u>	13:

Cel811 Chain of Custod

L61811-2010131527



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 is project number, L63033. Please reference this number in all future inquiries.

All analyses were performed according to ACZ[®] 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 is 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 ACZs 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.

re giphin

Sue Webber has reviewed and approved this report.







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 is 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.



Project ID: Sample ID: MW-6

Inorganic Analytical Results

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	В		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	В		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	В		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	еер
Nitrate as N, dissolved	Calculation: NO3NO2 minus NO2		1.62	Н		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	Н	*	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									
pН		1	8.1	Н		units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.0			С	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	еер



Project ID: Sample ID: MW-7

Inorganic Analytical Results

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 X	(Q 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	В	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 X	(Q 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	Н	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	Н	* 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								
рН		1	8.1	Н	* units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	20.9		С	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



Project ID: Sample ID: MW-8

Inorganic Analytical Results

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	В	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	В	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	Н	units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.0		С	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



Project ID: Sample ID: MW-2B

Inorganic Analytical Results

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 XC	Q 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	В	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 XC	Q 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								
рН		1	8.1	н	units	0.1	0.1	12/02/20 0:00	jck
pH measured at		1	21.1		С	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



Inorganic Reference

oort Heade	•		
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 un	nless omitted or ea	qual to the PQL (see comment #5).
	Allows for instrument and annual fluctuations.		
PCN/SCN	A number assigned to reagents/standards to trace to the man	ufacturers certifica	ate 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 % (exc	cept for LCSS, mg	/Kg)
RPD	Relative Percent Difference, calculation used for Duplicate QC	C Types	
Upper	Upper Recovery Limit, in % (except for LCSS, mg/Kg)		
Sample	Value of the Sample of interest		
Sample Ty	rpes		
AS	Analytical Spike (Post Digestion)	LCSWD	Laboratory Control Sample - Water Duplicate
ASD	Analytical Spike (Post Digestion) Duplicate	LFB	Laboratory Fortified Blank
ССВ	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
1000	Laboratory Control Sample - Soil	PBW	Prep Blank - Water
LCSS	Laboratory Control Sample - Soli	1 0 11	
LCSS	Laboratory Control Sample - Soil Laboratory Control Sample - Soil Duplicate	PQV	Practical Quantitation Verification standard
			•
LCSSD LCSW	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water	PQV	Practical Quantitation Verification standard
LCSSD LCSW Sample Ty	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water ype Explanations	PQV SDL	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water ype Explanations Verifies that there is no or minimal co	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Pe Explanations Verifies that there is no or minimal control of the method, Verifies the accuracy of the method,	PQV SDL ontamination in the including the prep	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal construction Werifies the accuracy of the method, Verifies the precision of the instrume	PQV SDL ontamination in the including the prep nt and/or method.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations Werifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal construction Werifies the accuracy of the method, Verifies the precision of the instrume	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water The Explanations The Ex	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water The Explanations The Ex	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations weifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual)	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples verifies the accuracy of the method, verifies the precision of the instrume tified Matrix Determines sample matrix interferent verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F	PQV SDL ontamination in the including the prep nt and/or method. ces, if any.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Ppe Explanations Werifies that there is no or minimal comples Werifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and R Analysis exceeded method hold time. pH is a field test with an	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold t gative threshold.	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined negotiation	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the associat	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the associat	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U U	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water and P A Analysis of Water and P A Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg T Analysis exceeded nethod hold time. P A Analysis of Water and P A Analysis exceeded nethod hold time. P A Analysis of Water and P A Analysis exceeded nethod hold time. P A Analysis exceeded nethod hold time and P A Analysis exceeded nethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time. P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A Analysis exceeded hethod hold time and P A A A A A A A A A A A A A A A A A A	PQV SDL	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Reference (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water Imples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/4-83-020. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgan	PQV SDL	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Reference (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-94-111. Methods for the Determination of Inorgan	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the asso the sample detect and Wastes, Marc nic Substances in F in Environmental S	Practical Quantitation Verification standard Serial Dilution proper method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and R Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-94-111. Methods for the Determination of Inorgar EPA 600/R-94-111. Methods for Evaluating Solid Waste.	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the asso the sample detect and Wastes, Marc nic Substances in F in Environmental S	Practical Quantitation Verification standard Serial Dilution procedure. et value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with ar Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or Ences EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U U thod Reference (1) (2) (3) (4) (5) mments (1)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with and Target analyte response was below the laboratory defined nego The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or PICES EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slightly	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. Hues are used in the calculations.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Reference (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water pe Explanations Werifies that there is no or minimal of mples Verifies the accuracy of the method, Verifies the precision of the instrument tified Matrix Determines sample matrix interferent Verifies the validity of the calibration. 5 (Qual) Analyte concentration detected at a value between MDL and F Analysis exceeded method hold time. pH is a field test with and Target analyte response was below the laboratory defined negrets The material was analyzed for, but was not detected above the The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water and EPA 600/R-94-111. Methods for the Determination of Inorgand EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slightly Soil, Sludge, and Plant matrices for Inorganic analyses are reported.	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associate n immediate hold to gative threshold. e level of the associate the sample detect and Wastes, Marc the Substances in B in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. Hues are used in the calculations.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument of the Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgant EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slighth Soil, Sludge, and Plant matrices for Inorganic analyses are reported on an "as	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the asso the sample detect and Wastes, Marc nic Substances in R in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. liues are used in the calculations. ight basis.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Reference (1) (2) (3) (4) (5) mments (1) (2)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water rpe Explanations Werifies that there is no or minimal or mples Verifies the accuracy of the method, Verifies the precision of the instrume tified Matrix Determines sample matrix interferen Verifies the validity of the calibration. 6 (Qual) Analyte concentration detected at a value between MDL and F Analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water a EPA 600/R-93-100. Methods for the Determination of Inorgar EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wastewa QC results calculated from raw data. Results may vary slighth Soil, Sludge, and Plant matrices for Inorganic analyses are reported on an "as An asterisk in the "XQ" column indicates there is an extended	PQV SDL ontamination in the including the prep nt and/or method. ces, if any. PQL. The associat n immediate hold to gative threshold. e level of the asso the sample detect and Wastes, Marc nic Substances in R in Environmental S ater.	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. liues are used in the calculations. ight basis.
LCSSD LCSW Sample Ty Blanks Control Sa Duplicates Spikes/For Standard Z Qualifiers B H L U thod Refere (1) (2) (3) (4) (5) mments (1) (2) (3)	Laboratory Control Sample - Soil Duplicate Laboratory Control Sample - Water mples Verifies that there is no or minimal comples Verifies the accuracy of the method, Verifies the precision of the instrument of the Matrix Determines sample matrix interferent Verifies the validity of the calibration. s (Qual) Analyte concentration detected at a value between MDL and P Analysis exceeded method hold time. pH is a field test with an Target analyte response was below the laboratory defined neg The material was analyzed for, but was not detected above th The associated value is either the sample quantitation limit or ences EPA 600/R-93-100. Methods for Chemical Analysis of Water at EPA 600/R-93-100. Methods for the Determination of Inorgant EPA 600/R-94-111. Methods for the Determination of Metals EPA SW-846. Test Methods for Evaluating Solid Waste. Standard Methods for the Examination of Water and Wasteward QC results calculated from raw data. Results may vary slighth Soil, Sludge, and Plant matrices for Inorganic analyses are reported on an "as	PQV SDL	Practical Quantitation Verification standard Serial Dilution e prep method or calibration procedure. procedure. ed value is an estimated quantity. ime. ciated value. ion limit. h 1983. Environmental Samples, August 1993. Samples - Supplement I, May 1994. Hues are used in the calculations. ight basis. rtification qualifier

https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

REP001.03.15.02

GCC Rio Grande

ACZ Project ID: L63033

Aluminum, disso	olved		M200.7	ICP									
ACZ ID	Туре	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	ССВ	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	ССВ	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	ССВ	12/04/20 20:16				U	mg/L		-0.15	0.15			
Arsenic, dissolve	ed		M200.8	ICP-MS									
ACZ ID	Туре	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	ССВ	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	ССВ	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	ССВ	12/02/20 14:41				U	mg/L		-0.0006	0.0006			
Beryllium, disso	lved		M200.7	ICP									
ACZ ID	Туре	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			
	ASD	12/04/20 19:45	II201123-3	.5	U	.474	mg/L	95	85	115	2	20	
L63025-07ASD		12/04/20 19:51	II201112-4	1	-	.98	mg/L	98	90	110		-	
	CCV	12/04/20 19.01							-	-			
	CCV CCB					U	mg/L		-0.03	0.03			
L63025-07ASD WG510680CCV2 WG510680CCB2 WG510680CCV3		12/04/20 19:54 12/04/20 20:13	II201112-4	1		U .986	mg/L mg/L	99	-0.03 90	0.03 110			

GCC Rio Grande

ACZ Project ID: L63033

Boron, dissolved			M200.7 I	CP									
ACZ ID	Туре	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, dissolv	/ed		M200.8 I	CP-MS									
ACZ ID	Туре	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	ССВ	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	ССВ	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	ССВ	12/02/20 14:41				U	mg/L		-0.00015	0.00015			
Chromium, dissol	lved		M200.7 I	CP									
ACZ ID	Туре	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	ССВ	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	ССВ	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			



ACZ Project ID: L63033

Cobalt, dissolve	d		M200.7 I	CP									
ACZ ID	Туре	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, dissolv	ed		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680													
	ICV	12/04/20 18:24	II201113-1	2		1.999	mg/L	100	95	105			
WG510680ICV	ICV ICB	12/04/20 18:24 12/04/20 18:30	II201113-1	2		1.999 U	mg/L mg/L	100	95 -0.03	105 0.03			
WG510680ICV WG510680ICB			II201113-1 II201203-5	2 .0501				100 90					
WG510680ICV WG510680ICB WG510680PQV	ICB	12/04/20 18:30				U	mg/L		-0.03	0.03			
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680LFB	ICB PQV	12/04/20 18:30 12/04/20 18:33	II201203-5	.0501		U .045	mg/L mg/L	90	-0.03 70	0.03 130			
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680LFB	ICB PQV SIC	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36	II201203-5 II201104-2	.0501 .1002		U .045 .09	mg/L mg/L mg/L	90 90	-0.03 70 80	0.03 130 120			
WG510680ICV WG510680ICB WG510680PQV WG510680SIC	ICB PQV SIC LFB	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42	II201203-5 II201104-2 II201123-3	.0501 .1002 .5015		U .045 .09 .484	mg/L mg/L mg/L mg/L	90 90 97	-0.03 70 80 85	0.03 130 120 115			
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680LFB WG510680CCV1 WG510680CCB1	ICB PQV SIC LFB CCV	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42 12/04/20 19:14	II201203-5 II201104-2 II201123-3	.0501 .1002 .5015	U	U .045 .09 .484 .973	mg/L mg/L mg/L mg/L	90 90 97	-0.03 70 80 85 90	0.03 130 120 115 110			
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680LFB WG510680CCV1 WG510680CCB1 L63025-07AS	ICB PQV SIC LFB CCV CCB	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42 12/04/20 19:14 12/04/20 19:17	II201203-5 II201104-2 II201123-3 II201112-4	.0501 .1002 .5015 1	U U	U .045 .09 .484 .973 U	mg/L mg/L mg/L mg/L mg/L	90 90 97 97	-0.03 70 80 85 90 -0.03	0.03 130 120 115 110 0.03	2	20	
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680LFB WG510680CCV1	ICB PQV SIC LFB CCV CCB AS	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42 12/04/20 19:14 12/04/20 19:17 12/04/20 19:42	II201203-5 II201104-2 II201123-3 II201112-4 II201123-3	.0501 .1002 .5015 1 .5015		U .045 .09 .484 .973 U .491	mg/L mg/L mg/L mg/L mg/L mg/L	90 90 97 97 98	-0.03 70 80 85 90 -0.03 85	0.03 130 120 115 110 0.03 115	2	20	
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680CFB WG510680CCV1 WG510680CCB1 L63025-07AS L63025-07ASD	ICB PQV SIC LFB CCV CCB AS ASD	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42 12/04/20 19:14 12/04/20 19:17 12/04/20 19:42 12/04/20 19:45	II201203-5 II201104-2 II201123-3 II201112-4 II201123-3 II201123-3	.0501 .1002 .5015 1 .5015 .5015		U .045 .09 .484 .973 U .491 .483	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	90 90 97 97 97 98 96	-0.03 70 80 85 90 -0.03 85 85	0.03 130 120 115 110 0.03 115 115	2	20	
WG510680ICV WG510680ICB WG510680PQV WG510680SIC WG510680CFB WG510680CCV1 WG510680CCB1 L63025-07AS L63025-07ASD WG510680CCV2	ICB PQV SIC LFB CCV CCB AS ASD CCV	12/04/20 18:30 12/04/20 18:33 12/04/20 18:36 12/04/20 18:42 12/04/20 19:14 12/04/20 19:17 12/04/20 19:42 12/04/20 19:45 12/04/20 19:51	II201203-5 II201104-2 II201123-3 II201112-4 II201123-3 II201123-3	.0501 .1002 .5015 1 .5015 .5015		U .045 .09 .484 .973 U .491 .483 .961	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	90 90 97 97 97 98 96	-0.03 70 80 85 90 -0.03 85 85 90	0.03 130 120 115 110 0.03 115 115 110	2	20	

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			SM4500	F-C									
ACZ ID	Туре	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	ma/l	101	90	110			
	ICV		WC201124-2	2.002		2.02 U	mg/L	101					
WG510656ICB		12/03/20 14:25	WC201104-9	25			mg/L	00	-0.33	0.33			
WG510656PQV	PQV	12/03/20 14:29		.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 I	СР									
ACZ ID	Туре	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		2		U	mg/L	50	-0.18	0.18			
WG510823PQV	PQV	12/07/20 17:00	II201203-5	.15027		.149	mg/L	99	70	130			
WG510823FQV WG510823SIC	SIC	12/07/20 17:04	11201203-3	200.51027		199.3	mg/L	99 99	1	200			
			li201203-7				mg/L						
WG510823LFB	LFB	12/07/20 17:10		1.0018		.961	-	96 00	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	11004455			U	mg/L	0.7	-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			
	0.05	10/07/00 10 15							0.40	0.40			

U

mg/L

-0.18

0.18

WG510823CCB3 CCB 12/07/20 18:40

GCC Rio Grande

ACZ Project ID: L63033

Lead, dissolved			M200.8 I	CP-MS									
ACZ ID	Туре	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	ССВ	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	ССВ	12/02/20 14:41				U	mg/L		-0.0003	0.0003			
Lithium, dissolv	ed		M200.7 I	СР									
ACZ ID	Туре	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			
WG510680IC8	ICB	12/04/20 18:30	112011101	2		2.0000 U	mg/L	100	-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	11201123-3	.997		.969	mg/L	97	85	120			
WG510680CCV1	CCV	12/04/20 19:14	11201112-4			.9744	mg/L	97	90	110			
WG510680CCB1	CCB	12/04/20 19:17		I		.5744 U	mg/L	51	-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	11201123-3	.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.	-0.024	0.024			
Manganese, dis	solved		M200.7 I	CP									
ACZ ID	Туре	Analyzed	PCN/SCN	QC	Sample	Found	Units	Rec%	Lower	Upper	RPD	Limit	Qual
WG510680	21.												
WG510680ICV	ICV	12/04/20 18:24	II201113-1	2		2.003	mg/L	100	95	105			
WG510680ICB	ICB	12/04/20 18:30	112011101	2		2.005 U	mg/L	100	-0.03	0.03			
WG510680PQV	PQV	12/04/20 18:33	II201203-5	.0501		.046	mg/L	92	-0.03	130			
WG510680SIC	SIC	12/04/20 18:36	11201200 0	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	50	-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	5.	-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				.07 T	mg/L		-0.03	0.03			
	200					~	~		5.00	5.00			

GCC Rio Grande

ACZ Project ID: L63033

Mercury, dissol ^y	ved		M245.1 C	VAA									
ACZ ID	Туре	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			
NG510801CCB1	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, dissolve	d		M200.7 I	CP									
ACZ ID	Туре	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			
1 62025 074 C	AS	12/04/20 19:42	II201123-3	.502	U	.4902	mg/L	98	85	115			
_63025-07AS			11004400.0	.502	U	.4828	mg/L	96	85	115	2	20	
	ASD	12/04/20 19:45	II201123-3	.502									
_63025-07AS _63025-07ASD WG510680CCV2	ASD CCV	12/04/20 19:45 12/04/20 19:51	li201123-3 li201112-4	1		.9973	mg/L	100	90	110			
_63025-07ASD						.9973 U	mg/L mg/L	100	90 -0.024	110 0.024			
_63025-07ASD WG510680CCV2	CCV	12/04/20 19:51						100 100					

GCC Rio Grande

ACZ Project ID: L63033

Nitrate/Nitrite as	N, diss	olved	M353.2 - /	Automated	d Cadmiun	n Reduc	tion						
ACZ ID	Туре	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, diss	olved		M353.2 - /	Automated	d Cadmiun	n Reduc	tion						
ACZ ID	Туре	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)			SM4500F	l+ B									
ACZ ID	Туре	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			



ACZ Project ID: L63033

Residue, Filteral	ole (TDS) @180C	SM2540C										
ACZ ID	Туре	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, disso	lved		M200.8 IC	P-MS									
ACZ ID	Туре	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	ССВ	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	ССВ	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	ССВ	12/02/20 14:41				U	mg/L		-0.0003	0.0003			
Vanadium, disso	lved		M200.7 IC	Р									
ACZ ID	Туре	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	ССВ	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	ССВ	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	ССВ	12/04/20 20:16				U	mg/L		-0.03	0.03			



ACZ Project ID: L63033

Zinc, dissolved			M200.7 I	CP									
ACZ ID	Туре	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			



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

GCC Rio Grande

ACZ Project ID: L63033

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L63033-01	NG510534	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 ACZs 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 ACZs 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	NG510534	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 ACZs 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	рН	SM4500H+ B	ZW	Method deviation. The sample was centrifuged prior to analysis due to high solid content.
L63033-03	NG510534	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	NG510534	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.

REPAD.15.06.05.01



ACZ Project ID: L63033

No certification qualifiers associated with this analysis

REPAD.05.06.05.01

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

Sample <u>Rec</u>eipt

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

Receipt Verification

1) Is a foreign soil permit included for applicable samples?	
--	--

- 2) Is the Chain of Custody form or other directive shipping papers present?
- 3) Does this project require special handling procedures such as CLP protocol?
- 4) Are any samples NRC licensable material?

5) If samples are received past hold time, proceed with requested short hold time analyses?

- 6) Is the Chain of Custody form complete and accurate?
- 7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?

A change was made in the Address and Sample ID: Date:Time Line3 section prior to ACZ custody.A change was made in the Address and Sample ID: Date:Time Line3 section prior to ACZ custody.A change was made in the Address and Sample ID: Date:Time Line3 section prior to ACZ custody.

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

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?	Х		
9) Are all labels on containers and are they intact and legible?	Х		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	Х		
11) For preserved bottle types, was the pH checked and within limits? 1	Х		
12) Is there sufficient sample volume to perform all requested work?	Х		
13) Is the custody seal intact on all containers?			Х
14) Are samples that require zero headspace acceptable?			Х
15) Are all sample containers appropriate for analytical requirements?	Х		
16) Is there an Hg-1631 trip blank present?			Х
17) Is there a VOA trip blank present?			Х
18) Were all samples received within hold time?	Х		
	NA indica	tes Not Ap	oplicable

Chain of Custody Related Remarks

Client Contact Remarks

REPAD LPII 2012-03

L63033-2012091411

YES	NO	NA
		Х
Х		
	Х	
		Х
Х		
Х		
Х		

ACZ 2773 Downhill Du	Labora	atories, prings, CO 804	Inc. 487 (800) 334-5493				Sample Receipt
GCC Rio Gra	nde						L63033 11/25/2020 11:11
					Date	Printed:	11/30/2020
Shipping Cont	tainers						
	Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Sea Intact?	1	
	NA34154	0.8	<=6.0	15	N/A		
Was ice pres	ent in the shipm	ent 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), HCI preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

Name: Diana F											
	is Grandle 1	~	Ad	dress	s: 3	377	. la	ika	Rd		F 6
		the			Jack	U.M.	10	<u> </u>		100	6
	<u>nega-com</u>		lei	epho	one:		<u>а (</u>	647-	<u>laSl</u>		
Copy of Report to:											
	1/4			nail:							
Company:			Tel	ephc	one:						
Invoice to:											
Name: Same			Ad	dress	s:	60	me				
Company:											
E-mail:				epho		1-4-				YES	
If sample(s) received past he analysis before expiration, s						iete				NO	
If "NO" then ACZ will contact client for furthe	r instruction. If neither "YES" nor "NC		CZ will proce	ed with t				f HT is expir	ed, and dat	a will be qua	lified
Are samples for SDWA Com If yes, please include state for		norted to F	Yes Ol for C	- L.,	ohe		No	K	1		
Sampler's Name: <u>Scott</u>					Ó		Zip co	de À i	no 4	Time Z	one 7
	Sand Lack	*I attest to the tampering with	authenticity a	nd valid	lity of this ay, is cons	sample, l	understan	d that inten	tionally mis	labeling the	time/date/
PROJECT INFORMATION						· ···· ·· ·· ·· · · · · · · · · · · ·	Constant of the local division of the			e quote nu	mber)
Quote #: GLU- COME			(n							
PO#: 1/A											
Reporting state for compliance	testing:										
Check box if samples include											
SAMPLE IDENTIFICATIO	ON DATE:TIM	E M	atrix								
MW-6	11/23/20: 12	15 6	ω	22		·					
MW -7	11/23/23 1	. 1205 C	ω :	3							
MUSAR	11/23/201	1015 9		3							
MW-2B	11/23/203 1	1030 0	rw i	3				ļ			
a				_				<u> </u>			
<u> </u>								-			
<u> </u>								-			
3				rinkin		4.61/6	ludgo)			Nil) - Othor	(Specif
	. avv (Ground voaler) - vvvv			A HANNA	g vvalei) 52 (5	idage)				(opeon
Matrix SW (Surface Water)											
Matrix SW (Surface Water)											
REMARKS	se refer to ACZ's terms										

LEB305322092091411

Page 21 of 21



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, 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: Dia	ane Short & Associates, Inc. INITIALS/DATE: DLS02/10/2021							
Telephone Logs includ Contractual Violations								

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, nitrite 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 <u>No X</u>

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 $\pm 10\%$ 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	В	mg/L	0.01	0.05	UCB0.01	UB
MW-7	L61534-02	Chromium, dissolved	0.01	В	mg/L	0.01	0.05	UCB0.01	UB
MW-2B	L61534-03	Chromium, dissolved	0.01	В	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%	0.

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 <u>X</u> No <u>N/A</u> 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 $\leq 35\%$ 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 ($\pm 1x$ RL for water samples or $\pm 2x$ 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 $\pm 1x$ RL or the soil limit is $\pm 2x$ 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 <u>No</u> <u>N/A</u> <u>X</u> Analyte concentrations are too low to require serial dilutions.

B. The percent difference (% D) criteria of $\pm 10\%$ 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 $\overline{25\%}$ 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 $\overline{63033}$: 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, nitrite 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.

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

TABLE OF QUALIFIED DATA

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