

DATA QUALITY REVIEW SHEET

COGCC Facility ID: 753790
 Station Name: Revell Spr
 Sample Date: 3/8/2022
 Field Sample ID: Parachute 2 (Revell Spr Dup)

Operator: TEP Rocky Mountain LLC
 Drill Pad: Tompkins Pad
 Purpose: Rule 411 Nov/Dec 2021
 Lab Sample ID: 2203088-01

Field Sampling Data Review	Yes	No	N/A
1. Well properly purged?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Flow rate reduced prior to sampling?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Water quality parameters stable prior to sampling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Field instruments calibrated properly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Sampling methods performed according to SAP procedures?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Procedures consistent with obtaining a representative sample?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lab Data Report Review			
7. Proper sample custody maintained until laboratory receipt?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Receipt form is without discrepancies?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Samples received at the recommended water temperature of $\leq 6^{\circ}\text{C}$?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. All samples analyzed for the requested analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Proper laboratory methods used?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. All sample holding times met besides pH?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
13. Lab QC samples (LCS, LCSD, MB, MS, and MSD) collected and analyzed according to lab method and results within method acceptance limits?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14. Was the field investigation sample matrix used by the lab for matrix QC for all analyses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Laboratory qualifiers for sample results (other than non-detect)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Additional qualifiers assigned by WWL to the sample results?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Were submitted trip blanks acceptable?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
18. Are corrective actions required? <i>If yes, list actions and dates to be completed by:</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<i>Corrective Action</i>	<i>Date to be completed</i>		
None	N/A		

Calculated Parameters	Calculated Value	Measured Lab Value	Ratio/Percent Difference	Acceptable Limit	Meets QC Criteria?
Cation/Anion Balance, % (CAB)	11.388%	N/A	N/A	2%	<input type="checkbox"/>
Total Dissolved Solids, mg/L (TDS)	323	330	1.02	1.0 – 1.2	<input checked="" type="checkbox"/>
Specific Conductance, $\mu\text{S}/\text{cm}$ (SpC)	493	570	0.86	0.9 – 1.1	<input checked="" type="checkbox"/>
TDS/SpC, calculated	N/A	N/A	0.66	0.55-0.7	<input checked="" type="checkbox"/>
TDS/SpC, lab measured	N/A	N/A	0.58	0.55-0.7	<input checked="" type="checkbox"/>
Anion (meq/L):SpC	N/A	N/A	1.23	0.9 – 1.1	<input type="checkbox"/>
Cation (meq/L):SpC	N/A	N/A	0.98	0.9 – 1.1	<input checked="" type="checkbox"/>


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Comments:

All sampling procedures followed the COGCC SAP (Version 2 – April 2020) for Rule 411. Dissolved metals were filtered by the laboratory upon arrival. The Parachute 2 sample was filled ex-situ from a 5-gallon bucket that was filled from the pipe in the Revell Spring pump house. No other field procedure deviations occurred that were cause for data qualification. A field duplicate was collected at Revell Spr as Parachute 2, therefore RPDs were calculated. Revell Spr was sent to ALS and Parachute 2 was sent to Green Analytical Laboratories.

- All RPD calculations were within acceptable limits except for the results of: total alkalinity with Revell Spr equaling 240 mg/l and Parachute 2 equaling 315 mg/l (RPD = 27.0%); bicarbonate with Revell Spr equaling 240 mg/l and Parachute 2 equaling 315 mg/l (RPD = 27.0%); total dissolved solids with Revell Spr equaling 0 mg/l and Parachute 2 equaling 330 mg/l; calcium with Revell Spr equaling 37 mg/l and Parachute 2 equaling 29.8 mg/l (RPD = 21.6%). WWL has qualified the results as appropriate due to the results of the RPD calculations.
- The TDS result of ND (not detected) by ALS for the Revell Spr sample was qualified as rejected by WWL, as some individual inorganic constituents were comparable with sample Parachute 2 duplicate sample analyzed by Green.

The sample, Parachute 2, was shipped to Green Analytical Laboratories on March 8, 2022 and received by ALS in one cooler on March 9, 2022. The cooler was within the temperature range criteria (0-6°C), measuring 2.4°C. There were no trip blanks sent with the duplicate sample, Parachute 2, to Green Analytical Laboratories. For sample Parachute 2, laboratory pH associated with the sample was analyzed 1 day out of holding time; WWL assigned an “H” qualifier to indicate the results are estimated. The CAB was not within the acceptable limit and is above 10%. **Therefore, WWL has taken the cautionary measure to reject the inorganic** data for these samples. A “J” qualifier was assigned for the analysis for bromide, total phosphorus, and manganese. Green reports samples that have arrived with exceeded holding times as “HI”. A “HI” qualifier was assigned for the analysis for chromium VI. Green reports samples that are detected but below the reporting limit as “J” meaning the result is an estimated concentration. No qualifiers were assigned, by Green, to any of the duplicate laboratory samples (DUP, LCSD, or MSD) associated with the samples as a result of the RPDs being outside of the RPD limits, with the exception to 2-Methylnaphthalene, Acenaphthylene, Benzo[a]anthracene, and Chrysene. No additional qualifiers were assigned by WWL because of lab precision or accuracy.

Data Suitability Statement			
Based upon this data quality review and your professional judgement, have the data been collected and analyzed in general accordance with the COGCC Model Sampling and Analysis Plan?			<input checked="" type="checkbox"/>
Are the data suitable for release for incorporation into the COGCC Environmental Database?			<input checked="" type="checkbox"/>
The inorganic data are qualified due to QC criteria not being met; data are considered estimated and released for incorporation into the COGCC Environmental Database.			<input checked="" type="checkbox"/>
The inorganic data are qualified due to QC criteria not being met; the data are considered rejected but are released for incorporation into the COGCC Environmental Database. The data should not be used in data comparisons, to calculate statistics, or make decisions or conclusions on the status of water chemistry at the source.			<input type="checkbox"/>
Data Reviewer's Name:	Charles Jones	Company:	Western Water & Land, Inc.
Reviewer's Signature:		Date:	8/10/2022