

DATA QUALITY REVIEW SHEET

COGCC Facility ID: 754072
 Station Name: Tompkins MW-1
 Sample Date: 6/8/2022
 Field Sample ID: Tompkins MW-1

Operator: TEP Rocky Mountain LLC
 Drill Pad: Tompkins Pad
 Purpose: Rule 411 March/April 2022
 Lab Sample ID: 2206108-01

Field Sampling Data Review	Yes	No	N/A
1. Well properly purged?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Flow rate reduced prior to sampling?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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)	4.354%	4.19	N/A	2%	<input type="checkbox"/>
Total Dissolved Solids, mg/L (TDS)	285	335	1.20	1.0 – 1.2	<input checked="" type="checkbox"/>
Specific Conductance, $\mu\text{S}/\text{cm}$ (SpC)	500	508	1.00	0.9 – 1.1	<input checked="" type="checkbox"/>
TDS/SpC, calculated	N/A	N/A	0.57	0.55-0.7	<input checked="" type="checkbox"/>
TDS/SpC, lab measured	N/A	N/A	0.66	0.55-0.7	<input checked="" type="checkbox"/>
Anion (meq/L):SpC	N/A	N/A	1.20	0.9 – 1.1	<input type="checkbox"/>
Cation (meq/L):SpC	N/A	N/A	1.10	0.9 – 1.1	<input checked="" type="checkbox"/>

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Comments:

- All sampling procedure followed the TEP SAP as consistent with the COGCC Model SAP (Version 2 – April 2020). No field procedure deviations occurred that were cause for data qualification.
- Laboratory pH analysis exceeded hold time by 2 days and chromium VI analysis exceeded hold time by 6 days. WWL assigned and “H” qualifier to indicate the results are estimated.
- All requested analytical data matched the laboratory reported data results with the exception of Tompkins MW-1 not including chromium IV, arsenic, cadmium, copper, lead, nickel, silver, and zinc.
- WWL reviewed the MB results to ensure that there was no background contamination or other interferences with the analytic instrumentation. Green Analytical Laboratories (GAL) qualifies sample results that exceed the method detection limit (MDL) but are lower than the reporting limit (RL) with a “J” to indicate the result is estimated. All the MBs tested yielded “Not Detected” (ND) results with the exception of alkalinity, bicarbonate as CaCO3 which were “J” qualified. No additional qualifiers were assigned by WWL because of the method blank results.
- The trip blank (Lab ID: 2206108-04) had no detections.
- WWL verified that there were no reported percent recoveries of the spiked analytes or surrogates outside of the control limits without qualification by the lab.
- No qualifiers were assigned to the spiked samples (MB, LCS, LCSD, MS, or MSD) associated with the samples as a result of the percent recovery of an analyte or surrogate being outside of the control limits with the exception of chrysene and naphthalene, qualified with a “QR-04” (RPD for the BS/BSD was outside of historical limits), and ethylbenzene, qualified with “BS-3” (BS recovery outside of lab statistical limits but still within method limits). No additional qualifiers were assigned by WWL because of lab precision.
- GAL did not select any of the field investigation samples for quality control testing; a number of other samples were used for all MS and MSD testing. .
- GAL qualified analytical sample results for the Tompkins MW-1 sample as follows: total alkalinity, as CaCO3, was qualified with a “J”, and sulfate was qualified with an “M5”. GAL assigns the “M5” qualifier when a sample is chosen for MS testing, but the spike recovery did not meet laboratory acceptance criteria (possible matrix interference in sample).
- The CAB for the analysis of the Tompkins MW-1 sample was not within the acceptable range. However, the data was rejected on the basis of CAB. WWL qualified the sample for Tompkins MW-1 with an “O” qualifier and the associated inorganic data is considered estimated.

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"/>
Data Reviewer’s Name: Alex Kubala	Company: Western Water & Land, Inc.
Reviewer’s Signature: 	Date: 1/3/2023