REPORT

2023 Annual Groundwater Monitoring and Corrective Action Report

Meramec Energy Center, St. Louis County, Missouri, USA

January 31, 2024

Project Number: 23010

Submitted to:

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EXECUTIVE SUMMARY AND STATUS OF THE MERAMEC SURFACE IMPOUNDMENTS GROUNDWATER MONITORING PROGRAM

This annual report was developed to meet the requirements of United States Environmental Protection Agency (USEPA) 40 CFR Part 257 "Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule" (the CCR Rule). The CCR Rule requires owners or operators of existing CCR units to produce an Annual Groundwater Monitoring and Corrective Action Report (Annual Report) each year (§ 257.90(e)). Ameren Missouri (Ameren) has determined that the Coal Combustion Residuals (CCR) surface impoundments at the Meramec Energy Center (MEC) are subject to the requirements of the CCR Rule. This Annual Report for the MEC Surface Impoundments describes CCR Rule groundwater monitoring activities from January 1, 2023 through December 31, 2023 including verification results related to late 2022 sampling.

Throughout 2023, the multi-unit monitoring well network for the Meramec Surface Impoundments has been in Corrective Action Monitoring with Detection and Assessment Monitoring continuing concurrently. Semi-annual groundwater sampling associated with Detection Monitoring has been ongoing since it was initiated on October 17, 2017 as required by the CCR Rule. As a part of Detection Monitoring, statistical evaluations are completed after each sampling event to determine if there are any values showing a Statistically Significant Increase (SSI) over background. SSIs have been determined for each sampling event and a summary of the SSIs for the past year is provided in **Table 1**.

The Assessment Monitoring program was established for the MEC Surface Impoundments on April 15, 2018. Since that time, groundwater sampling and statistical evaluations have been completed semi-annually to determine if there are any constituent concentrations at a Statistically Significant Level (SSL) over the site-specific Groundwater Protection Standard (GWPS). On October 11, 2018, it was determined that arsenic, lithium, and molybdenum were present at an SSL. A summary of SSLs for the past year is provided in **Table 1**.

Table 1 - Summary of 2023 MEC Sampling Events, Previous Year Verification, and Statistical Evaluations

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt	Parameters Collected	Verified SSIs	SSLs	SSI & SSL Determination Date
November 2022 Sampling Event	Detection & Assessment Monitoring, November 4-8, 2022	December 7, 2022	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions	**Boron:** MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **Calcium:** MW-1, MW-4, MW-5, MW-6, MW-7, MW-8 **Sulfate:** MW-4, MW-5, MW-6, MW-7, MW-8 **TDS:** MW-4, MW-6, MW-7, MW-8	**Arsenic:** MW-4, MW-5 **Lithium:** MW-6, MW-7 **Molybdenum:** MW-6, MW-7, MW-8	February 22, 2023
	Verification Sampling, January 5, 2023	January 18, 2023	Detected Appendix III parameters (See Note 2)			
April 2023 Sampling Event	Detection & Assessment Monitoring, April 17-18, 2023	May 12, 2023	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters	**Boron:** MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 **Calcium:** MW-1, MW-4, MW-6, MW-7, MW-8 **Sulfate:** MW-4, MW-7, MW-8 **TDS:** MW-4, MW-6, MW-7, MW-8	**Arsenic:** MW-4, MW-5 **Lithium:** MW-6, MW-7 **Molybdenum:** MW-6, MW-7, MW-8	August 10, 2023
	No Verification Sampling was required. No new SSIs were observed in the April 2023 sampling event.					
October-November 2023 Sampling Event	Detection & Assessment Monitoring, October 30 – November 2, 2023	November 30, 2023	Appendix III, Detected Appendix IV (See Note 3), & Major Cations and Anions	To be determined after statistical analysis and Verification Sampling are completed in 2024.		

Notes:
1) Testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the April 2022 sampling event.
2) Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.
3) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2023 sampling event.
4) SSI – Statistically Significant Increase.
5) SSL – Statistically Significant Level.
6) TDS – Total Dissolved Solids.
7) MNA – Monitored Natural Attenuation.

On January 9, 2019, Ameren initiated its Corrective Measures Assessment (CMA) and posted the CMA report on May 20, 2019. A public meeting was held on May 30, 2019, and responses to public comments are posted on Ameren's CCR website. On August 30, 2019, Ameren published its "Remedy Selection Report – 40 CFR § 257.97 Rush Island, Labadie, Sioux and Meramec CCR Basins" (Remedy Selection Report) that identified source control through installation of a low permeability cover system, use of Monitored Natural Attenuation (MNA), and installation of Supplemental Corrective Measures as its chosen corrective action remedial plan. The Remedy Selection Report's remedial plan consists of two phases as follows:

1) Source control, stabilization and containment of CCR by installation of a low permeability geomembrane cap (a minimum 1 x 10^{-7} centimeters per second (cm/sec) versus 1 x 10^{-5} cm/sec required by the CCR Rule).

2) Once source control is achieved, monitor the natural attenuation of groundwater concentrations to address limited and localized CCR-related impacts. Ongoing monitoring and modelling evaluations will document that concentrations are decreasing as modelled. MNA occurs due to naturally occurring processes within the aquifer.

Historically, the MEC has managed CCR generated from the facility at 9 surface impoundments, of which 4 were exempt from the CCR Rule. A figure displaying the names and locations of these impoundments is provided in **Figure 1**. Ameren commenced phase 1 of the corrective action remedial plan by initiating closure at each of the 5 non-exempt CCR Rule Surface Impoundments at the MEC between 2018 and 2023. The following provides the status of the different surface impoundments:

- MCPA – Certified Closure on October 15, 2023
- MCPB – Certified Closure on October 15, 2023
- MCPC – Certified Closure on October 15, 2023
- MCPD – Certified Closure on October 7, 2021
- MCPE – Certified Closure on April 11, 2018
- Exempt Surface Impoundments – MOPF, MOPG, MOPH (closed), and MOPI (closed)

As a part of phase 1 of the corrective measures remedial plan as outlined in the Remedy Selection Report, the corrective action monitoring well network was sampled during 2023. These sampling events are summarized in **Table 2**.

Table 2 - Summary of 2023 MEC Sampling Events for Corrective Action Monitoring Well Network

Event Name	Type of Event and Sampling Dates	Laboratory Analytical Data Receipt Date	Parameters Collected
November 2022 Sampling Event	Phase 1 – Corrective Action Sampling November 7-8, 2022	December 7, 2022	Appendix III, Detected Appendix IV (See Note 1), & Major Cations and Anions
April 2023 Sampling Event	Phase 1 – Corrective Action Sampling April 18, 2023	May 11, 2023	Appendix III, Appendix IV, Major Cations and Anions, & selected MNA parameters
November 2023 Sampling Event	Phase 1 – Corrective Action Sampling November 1-2, 2023	November 29, 2023	Appendix III, Detected Appendix IV (See Note 2), & Major Cations and Anions

Notes:

1) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2022 sampling event.
2) Testing was completed for Appendix IV analytes that were detected above the PQL during the April 2023 sampling event.

With the closures of MCPA, MCPB, and MCPC that were completed on October 15, 2023, the MEC Surface Impoundments have transitioned into the post-closure care requirements of the CCR Rule. As outlined in §257.104 (Post-closure Care Requirements) of the CCR Rule, the monitoring system and programs must be maintained for at least 30 years. After 30 years, if the unit is in Detection Monitoring, the unit may cease groundwater sampling activities, otherwise post-closure care must continue until the unit can return to Detection Monitoring in accordance with section §257.95 (Assessment Monitoring Program). Phase 2 of the corrective measures remedial plan as outlined in the Remedy Selection Report will commence in 2024, with the first Phase 2 Corrective Action sampling event and associated statistical analysis planned for the second quarter of 2024.

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1.0 INSTALLATION OR DECOMISSIONING OF MONITORING WELLS

There are currently two different networks used for monitoring the MEC Surface Impoundments. These include the monitoring well network established under §257.91 for Detection and Assessment Monitoring and the network established under §257.98 for Corrective Action Monitoring, see **Figure 1**. No new wells were installed or decommissioned in 2023. A summary of the well construction details for monitoring wells in both networks is provided in **Table 3**. Further details, including well construction diagrams for these wells, are provided in previous Annual Reports for the MEC Surface Impoundments.

2.0 GROUNDWATER SAMPLING RESULTS AND DISCUSSION

The following sections discuss the sampling events completed for the MEC Surface Impoundments in 2023. **Tables 4** and **5** provide a summary of the groundwater samples collected in 2023, including the number of samples, the date of sample collection, and the monitoring program for which the samples were collected. **Appendix A** provides laboratory analytical data for CCR Rule sampling events.

2.1 Detection Monitoring Program

A Detection Monitoring sampling event was completed November 4-8, 2022. Verification sampling and the statistical analysis to evaluate for SSIs for the November 2022 event were not completed until 2023 and are therefore included in this report. New initial exceedances of Appendix III analytes triggered a verification sampling event, which was completed on January 5, 2023. **Table 6** summarizes the results and the statistical analysis of the November 2022 Detection Monitoring event.

Detection Monitoring samples were again collected April 17-18, 2023, and testing was completed for all Appendix III analytes, as well as major cations and anions. As outlined in the Statistical Analysis Plan for the Site, updates to the statistical limits should be completed once four to eight new sample results are available. During the statistical analysis of the April 2023 sampling event, the statistical limits used to determine an SSI were updated according to the Statistical Analysis Plan. There were no new initial exceedances for the April 2023 event, therefore, no verification sampling was necessary. **Table 7** summarizes the results and the statistical analysis of the April 2023 Detection Monitoring event.

A Detection Monitoring sampling event was completed October 30 – November 2, 2023, and testing was performed for all Appendix III analytes, as well as major cations and anions. Statistical analyses to evaluate for SSIs in the October-November 2023 data were not completed in 2023 and will be included in the 2024 Annual Report. **Table 8** summarizes the results of the October-November 2023 Detection Monitoring event.

2.2 Assessment Monitoring Program

An Assessment Monitoring sampling event was completed November 4-8, 2022, and testing was completed for Appendix IV analytes that were detected above the Practical Quantitation Limit (PQL) during the previous sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. The statistical evaluation for this event was completed in 2023 and is included in this report. **Table 9** summarizes the results of the November 2022 Assessment Monitoring event. The results from this analysis and a table that displays the site-specific GWPS for each Appendix IV constituent are provided in **Appendix B.** The statistical evaluation determined there were no new SSLs. The SSLs for the MEC CCR Units continue to be:

- Arsenic at MW-4 and MW-5
- Lithium at MW-6 and MW-7
- Molybdenum at MW-6, MW-7, and MW-8

An Assessment Monitoring sampling event was completed April 17-18, 2023 and testing was completed for all Appendix IV analytes, major cations and anions, and other selected MNA parameters. During the statistical analysis of the April 2023 sampling event, the site-specific GWPSs used to determine SSLs were updated in accordance with the Statistical Analysis Plan. **Table 10** summarizes the results of the April 2023 Assessment Monitoring event. The statistical evaluation for this event was completed in 2023 and is included in this report. The results from this analysis and a table that displays the site-specific GWPS are provided in **Appendix C**. The statistical evaluation determined there were no new SSLs.

An Assessment Monitoring sampling event was completed October 30 – November 2, 2023 and testing was completed for Appendix IV analytes that were detected above the PQL during the April 2023 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. **Table 11** summarizes the results of the October-November 2023 Assessment Monitoring event; however, statistical analysis to evaluate SSLs was not completed in 2023. Results of the statistical evaluation will be included in the 2024 Annual Report.

2.3 Corrective Action Monitoring

A Corrective Action sampling event was completed November 7-8, 2022, and testing was completed for all Appendix III analytes, Appendix IV analytes that were detected above the PQL during the previous sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. A summary of the November 2022 Corrective Action sampling event results is provided in **Table 12**.

A Corrective Action sampling event was completed April 17-18, 2023, and testing was completed for Appendix III analytes, Appendix IV analytes, major cations and anions, and other selected MNA parameters. **Table 13** summarizes the results of the April 2023 Corrective Action sampling event.

A Corrective Action sampling event was completed November 1-2, 2023, and testing was completed for Appendix III analytes, Appendix IV analytes that were detected above the PQL during the April 2023 sampling event from either the Assessment or Corrective Action Groundwater Monitoring Well Networks, as well as major cations and anions. **Table 14** summarizes the results of the October-November 2023 Corrective Action sampling event. This was the first Corrective Action sampling event for phase 2 of Corrective Action (post-closure) and statistical analyses to evaluate statistical exceedances of the GWPS will be completed in 2024. Results of the statistical evaluation will be included in the 2024 Annual Report.

2.4 Groundwater Elevation, Flow Rate and Direction

To meet the requirements of §257.93(c), water level measurements were taken at all monitoring wells prior to the start of groundwater purging and sampling. Static water levels were measured within a 24-hour period in each monitoring well using an electronic water level indicator.

Groundwater elevations were used to generate potentiometric surface maps included in **Appendix D**. As shown on the potentiometric surface maps, groundwater flow within the uppermost aquifer is dynamic and influenced by seasonal changes in the water level in the adjacent Mississippi and Meramec Rivers. Water flows into and out of the alluvial aquifer due to fluctuating river water levels that produce “bank recharge” and “bank discharge” conditions. Overall, based on potentiometric surface maps, a general flow direction from the northeast (bluffs) to the southwest (Mississippi and Meramec Rivers) is expected under normal river conditions. However, during periods of high river levels, groundwater flow can temporarily reverse in localized areas. During these times of high river stage and temporary flow direction changes, horizontal groundwater gradients generally decrease, and little net movement of groundwater occurs. While groundwater levels vary with precipitation and adjacent river water levels, groundwater levels are typically lower than the base of CCR in the Meramec Surface Impoundments based on historical information (CH2MHILL, 1997).

Groundwater flow direction and hydraulic gradient were estimated for the monitoring wells at the MEC using commercially available software to evaluate data since 2016. Results from this assessment indicate that while groundwater flow direction can vary, the overall net groundwater flow at the Meramec Surface Impoundments is from the bluffs toward the rivers. Horizontal gradients calculated by the program for the wells range from 0.0002

to 0.004 feet/foot with an estimated net annual groundwater movement of approximately 81 feet per year in the prevailing downgradient direction.

2.5 Sampling Issues

No notable sampling issues were encountered at the MEC in 2023.

3.0 ACTIVITIES PLANNED FOR 2024

Detection and Assessment Monitoring are scheduled to continue on a semi-annual basis in the second and fourth quarters of 2024. Statistical analysis of the November 2023 Detection and Assessment Monitoring data will be completed in 2023 and will be included in the 2023 Annual Report.

The November 2023 sampling event initiated phase 2 of the Remedy Selection Report's corrective measures remedial plan. Corrective Action sampling is scheduled to continue on a semi-annual basis in the second and fourth quarters of 2024. Statistical analysis of the November 2023 Corrective Action Monitoring data will be completed in 2024 and will be included in the 2024 Annual Report. Monitoring and statistical evaluation of the Corrective Action will be completed in accordance with the corrective measures remedial plan discussed in the Remedy Selection Report.

Tables

Table 3
Summary of Well Construction Details
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Monitoring Well ID	Installation Date	Location[4]		Top of Casing Elevation	Ground Surface Elevation	Top of Screen Elevation	Base of Well	Total Depth
		Northing[1]	Easting[1]	(FT MSL)[2]	(FT MSL)[2]	(FT MSL)[2]	(FT MSL)[2]	(FT BGS)[3]
CCR RULE COMPLIANCE NETWORK								
MW-1	1/23/2016	937676.9	865954.1	406.43	404.1	370.2	365.0	39.1
MW-2	1/23/2016	937325.1	864864.5	398.62	396.1	367.0	361.8	34.3
MW-3	1/22/2016	936750.8	864447.2	397.12	394.6	369.2	364.0	30.6
MW-4	1/22/2016	935618.0	864629.8	404.10	402.0	364.1	358.9	43.1
MW-5	1/22/2016	934874.4	864781.0	402.93	400.8	350.4	340.2	60.6
MW-6	1/21/2016	933905.2	865153.5	418.12	415.8	373.4	363.2	52.7
MW-7	1/24/2016	934334.4	866242.5	417.94	415.7	373.2	363.0	52.7
MW-8	1/24/2016	935303.6	866797.8	423.37	421.0	355.8	345.6	75.4
BMW-1	4/7/2016	935220.4	867989.4	419.08	416.8	366.4	356.2	60.6
BMW-2	1/25/2016	937927.1	866342.2	409.02	406.8	369.3	364.1	42.7
CORRECTIVE ACTION MONITORING WELL NETWORK								
MW-9 (AMW-1)	6/20/2018	935106.5	864425.3	393.71	391.1	369.8	359.5	31.6
MW-10 (AMW-2)	6/19/2018	934137.4	867158.9	405.62	402.8	367.3	357.0	45.8
MW-11D	4/22/2020	933036.7	865914.3	407.07	404.9	319.8	309.6	95.3
MW-11S	4/22/2020	933023.8	865921.8	407.56	405.3	370.4	360.2	45.1
TP-1	6/20/2018	935109.7	864437.0	393.71	390.7	306.1	301.0	89.7
TP-2	6/18/2018	934151.5	867171.1	405.22	402.4	316.9	311.8	90.6

Notes:

1) Horizontal Datum: State Plane Coordinates NAD83 (2000) Missouri East Zone feet.

2) FT MSL- Feet above mean sea level.

3) FT BGS - Feet below ground surface.

4) Vertical Datum: NAVD88 feet.

Prepared By: GTM
Checked By: JSI
Reviewed By: MNH

Table 4
Summary of Detection and Assessment Groundwater Network Sampling Dates
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Groundwater Monitoring Wells	Date of Sample Collection			
	January 2023 Verification Sampling	April 2023 Sampling Event	October-November 2023 Sampling Event	Total Number of Samples
CCR Rule Compliance Monitoring Well Network				
BMW-1	-	4/17/2023	10/30/2023	2
BMW-2	-	4/17/2023	10/30/2023	2
MW-1	-	4/17/2023	10/31/2023	2
MW-2	-	4/17/2023	11/2/2023	2
MW-3	-	4/17/2023	10/31/2023	2
MW-4	-	4/17/2023	10/31/2023	2
MW-5	1/5/2023	4/17/2023	10/31/2023	3
MW-6	-	4/17/2023	10/31/2023	2
MW-7	1/5/2023	4/17/2023	10/31/2023	3
MW-8	-	4/18/2023	10/30/2023	2
Detection or Assessment Monitoring	Detection	Assessment/ Detection	Assessment/ Detection	NA

Notes:

1.) Detection Monitoring results provided in Tables 6-8.

2.) Assessment Monitoring results provided in Tables 9-11.

3.) "-" No sample collected for Detection or Assessment Monitoring programs.

4.) NA - Not Applicable.

Prepared by: ANT
Checked by: GTM
Reviewed by: MNH

Table 5
Summary of Corrective Action Groundwater Network Sampling Dates
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Groundwater Monitoring Wells	Date of Sample Collection		
	April 2023 Sampling Event	November 2023 Sampling Event	Number of Samples
Corrective Action Monitoring Well Network			
MW-9 (AMW-1)	4/18/2023	11/2/2023	2
MW-10 (AMW-2)	4/18/2023	11/1/2023	2
MW-11S	4/18/2023	11/1/2023	2
MW-11D	4/18/2023	11/1/2023	2
TP-1	4/18/2023	11/2/2023	2
TP-2	4/18/2023	11/1/2023	2
Event Type	Corrective Action	Corrective Action	NA

Notes:
1.) Corrective Action sampling results provided in Tables 12-14.
2.) NA - Not Applicable.

Prepared by: ANT
Checked by: GTM
Reviewed by: MNH

Table 6
November 2022 Detection Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
November 2022 Detection Monitoring Event												
DATE	NA	NA	11/7/2022	11/8/2022	11/4/2022	11/4/2022	11/4/2022	11/7/2022	11/7/2022	11/4/2022	11/4/2022	11/4/2022
pH	SU	6.443-7.611	6.98	6.87	6.75	6.49	6.61	6.84	6.96	6.73	7.12	6.79
BORON, TOTAL	µg/L	660.8	122	75.4 J	43.5 J	1,860	2,860	15,100	6,920	4,300	20,300	9,770
CALCIUM, TOTAL	µg/L	127,529	149,000	121,000	139,000	94,400	115,000	214,000	161,000	364,000	385,000	205,000
CHLORIDE, TOTAL	mg/L	248	189	13.9	52.0	23.3	42.4	48.2	45.2	10.2	90.1	34.5
FLUORIDE, TOTAL	mg/L	0.504	ND	ND	0.24	ND	ND	ND	ND	ND	0.58	ND
SULFATE, TOTAL	mg/L	201.4	64.3	50.5	137	166	182	542	307	633	859	495
TOTAL DISSOLVED SOLIDS	mg/L	832	773	550	678	587	647	1,130	849	1,390	1,680	1,440
January 2023 Verification Sampling Event												
DATE	NA	NA							1/5/2023		1/5/2023	
pH	SU	6.443-7.611										
BORON, TOTAL	µg/L	660.8										
CALCIUM, TOTAL	µg/L	127,529							144,000			
CHLORIDE, TOTAL	mg/L	248										
FLUORIDE, TOTAL	mg/L	0.504									ND	
SULFATE, TOTAL	mg/L	201.4							222			
TOTAL DISSOLVED SOLIDS	mg/L	832							394 J			

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Prediction Limits calculated using Sanitas Software.
6. Values highlighted in yellow indicate a Statistically Significant Increase (SSI).
7. Values highlighted in green indicate an initial exceedance above the prediction limit that was not confirmed by Verification Sampling (not an SSI).
8. Only analytes/wells that were detected above the prediction limit and that had not already been verified were tested during Verification Sampling.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 7
April 2023 Detection Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

			BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	PREDICTION LIMITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
April 2023 Detection Monitoring Event												
DATE	NA	NA	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/18/2023
pH	SU	6.421-7.55	6.79	6.46	6.56	6.45	6.56	6.79	7.20	6.66	7.04	6.66
BORON, TOTAL	µg/L	554	114	79.6 J	53.3 J	1,180	3,330	11,600	3,370	10,600	23,100	9,380
CALCIUM, TOTAL	µg/L	132,993	105,000	110,000	136,000	87,600	124,000	206,000	110,000	339,000	377,000	195,000
CHLORIDE, TOTAL	mg/L	248	118	13.6	45.7	27.6	26.7 J	34.5 J	49.3	22.2	78.0	39.3
FLUORIDE, TOTAL	mg/L	0.48	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SULFATE, TOTAL	mg/L	156.2	64.3	34.3	115	149	155 J	466	130	5.0	990	511
TOTAL DISSOLVED SOLIDS	mg/L	832	599	492	720	521	638	1,110	602	1,100	1,960	1,270

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
4. Prediction Limits calculated using Sanitas Software.
5. Values highlighted in yellow indicate a Statistically Significant Increase (SSI).
6. There were no new initial exceedances for the April 2023 event; therefore, no Verification Sampling was necessary.

Prepared By: GTM
Checked By: JSI
Reviewed By: MNH

Table 8
October-November 2023 Detection Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
October-November 2023 Detection Monitoring Event											
DATE	NA	10/30/2023	10/30/2023	10/31/2023	11/2/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/30/2023
pH	SU	7.15	6.90	6.97	6.50	6.60	6.91	7.35	6.80	7.26	7.01
BORON, TOTAL	µg/L	113	62.2 J	34.9 J	589	895	12,000	4,790	7,410	19,300	10,500
CALCIUM, TOTAL	µg/L	130,000	114,000	140,000	84,700	103,000	209,000	132,000	347,000	337,000	176,000
CHLORIDE, TOTAL	mg/L	133	15.7	47.9	23.4	46.2	37.7	49.3	15.9	66.9	24.8
FLUORIDE, TOTAL	mg/L	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND
SULFATE, TOTAL	mg/L	54.6	34.8	113	118	138	460	197	456	676	390
TOTAL DISSOLVED SOLIDS	mg/L	633	524	672	526	609	1,140	730	1,280	1,610	911

NOTES:
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units.
2. J - Result is an estimated value.
3. NA - Not applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 9
November 2022 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD PARAMETERS											
DATE	NA	11/7/2022	11/8/2022	11/4/2022	11/4/2022	11/4/2022	11/7/2022	11/7/2022	11/4/2022	11/4/2022	11/4/2022
DISSOLVED OXYGEN	mg/L	0.63	0.24	0.73	0.10	0.15	0.11	0.12	0.27	2.56	0.46
pH	SU	6.98	6.87	6.75	6.49	6.61	6.84	6.96	6.73	7.12	6.79
REDOX POTENTIAL	mV	62.9	140.2	-118.0	172.6	182.5	-127.0	-146.7	191.1	200.0	-38.3
SPECIFIC CONDUCTIVITY	mS/cm	1.451	1.146	1.183	1.001	1.193	1.794	1.524	1.748	1.978	1.503
TURBIDITY	NTU	4.86	6.37	7.36	4.72	3.94	6.34	3.99	9.49	4.45	9.98
APPENDIX IV PARAMETERS											
ARSENIC, TOTAL	µg/L	4.0	1.5	0.69 J	1.6	8.6	14.5	21.3	1.5	3.3	4.5
BARIUM, TOTAL	µg/L	267	630	377	202	168	188	226	48.1	42.5	118
FLUORIDE, TOTAL	mg/L	ND	ND	0.24	ND	ND	ND	ND	ND	0.58	ND
LITHIUM, TOTAL	µg/L	11.9	8.8 J	ND	ND	ND	22.9	17.5	100	44.4	31.9
MOLYBDENUM, TOTAL	µg/L	3.2 J	ND	ND	ND	ND	96.6	77.3	127	294	218
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	ND	ND	1.596	ND	ND	1.283
SELENIUM, TOTAL	µg/L	6.1	ND	ND	ND	ND	ND	ND	ND	36.4	ND

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeter, and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 10
April 2023 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD PARAMETERS											
DATE	NA	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/17/2023	4/18/2023
DISSOLVED OXYGEN	mg/L	0.83	0.68	1.10	0.14	0.10	0.07	0.09	0.13	1.11	0.62
pH	SU	6.79	6.46	6.56	6.45	6.56	6.79	7.20	6.66	7.04	6.66
REDOX POTENTIAL	mV	-27.8	-16.6	-54.3	-109.9	-114.6	-140.2	-173.2	-72.3	-41.6	58.9
SPECIFIC CONDUCTIVITY	mS/cm	1.027	0.895	1.089	0.848	0.975	1.449	0.947	1.563	2.111	1.471
TURBIDITY	NTU	4.31	4.98	4.25	9.93	8.86	4.92	9.14	9.41	1.00	17.7
APPENDIX IV PARAMETERS											
ANTIMONY, TOTAL	µg/L	0.44 J	ND	ND	ND	ND	ND	ND	ND	0.44 J	ND
ARSENIC, TOTAL	µg/L	3.1	3.0	0.64 J	1.6	7.6	15.3	20.5	6.1	3.0	5.8
BARIUM, TOTAL	µg/L	202	617	371	208	172	173	151	53.4	43.1	86.9
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.12 J	ND	ND	ND	ND
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	0.063 J	0.24 J	0.074 J
CHROMIUM, TOTAL	µg/L	0.60 J	0.64 J	0.54 J	0.52 J	0.36 J	0.49 J	0.30 J	ND	0.38 J	0.43 J
COBALT, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	2.5 J	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	11.5	5.5 J	ND	4.2 J	5.5 J	25.4	13.8	134	43.9	31.5
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	8.1 J	ND	ND	ND	4.9 J	88.1	67.2	113	358	220
RADIUM [226 + 228]	pCi/L	ND	1.594	ND	ND	1.235	ND	2.103	ND	ND	1.188
SELENIUM, TOTAL	µg/L	3.3	ND	ND	ND	ND	ND	ND	ND	14.8	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeter, and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Prepared By: JSI
Checked By: GTM
Reviewed By: MNH

Table 11
October-November 2023 Assessment Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

		BACKGROUND		GROUNDWATER MONITORING WELLS							
ANALYTE	UNITS	BMW-1	BMW-2	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
FIELD PARAMETERS											
DATE	NA	10/30/2023	10/30/2023	10/31/2023	11/2/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/31/2023	10/30/2023
DISSOLVED OXYGEN	mg/L	0.50	0.35	0.52	0.45	0.25	0.59	0.63	0.29	0.99	0.17
pH	SU	7.15	6.90	6.97	6.50	6.60	6.91	7.35	6.80	7.26	7.01
REDOX POTENTIAL	mV	79.0	-79.0	-126.3	-36.7	-86.3	-111.1	-140.2	-38.7	81.7	-58.4
SPECIFIC CONDUCTIVITY	mS/cm	1.120	0.954	0.974	0.867	0.865	1.329	0.983	1.427	1.731	1.255
TURBIDITY	NTU	4.42	1.50	2.22	4.90	4.79	4.57	4.87	4.77	0.93	16.1
APPENDIX IV PARAMETERS											
ARSENIC, TOTAL	µg/L	5.2	1.9	0.70 J	1.5	8.1	15.8	20.2	4.3	3.2	7.1
BARIUM, TOTAL	µg/L	242	592	374	210	164	169	185	45.9	46.3	141
FLUORIDE, TOTAL	mg/L	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	7.3 J	ND	ND	ND	6.8 J	20.9	14.6	130	40.9	25.6
MOLYBDENUM, TOTAL	µg/L	4.1 J	ND	ND	1.7 J	ND	77.0	62.2	117	313	261
RADIUM [226 + 228]	pCi/L	ND	1.122	ND	ND	ND	ND	ND	ND	ND	ND
SELENIUM, TOTAL	µg/L	1.1	ND	ND	ND	ND	ND	ND	ND	39.7	ND

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeter, and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed for but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium [226 + 228] is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 Minimum Detectable Concentrations (MDC) is higher in which case it is displayed as ND.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 12
November 2022 Corrective Action Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

ANALYTE	UNITS	MW-9 (AMW-1)	TP-1	MW-10 (AMW-2)	TP-2	MW-11S	MW-11D
FIELD PARAMETERS							
DATE	NA	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/7/2022	11/8/2022
DISSOLVED OXYGEN	mg/L	0.11	0.12	0.09	0.29	0.17	0.30
REDOX POTENTIAL	mV	-132.7	-129.7	16.2	13.7	-104.6	139.0
SPECIFIC CONDUCTIVITY	mS/cm	1.650	0.860	1.927	2.488	1.879	1.828
TURBIDITY	NTU	2.67	4.24	8.90	5.88	2.37	6.04
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	9,490	305	2,200	2,730	1,450	11,000
CALCIUM, TOTAL	µg/L	173,000	61,100	191,000 J	223,000	236,000	216,000
CHLORIDE, TOTAL	mg/L	43.4	19.8	115 J	243	13.4	45.9
pH	SU	6.91	7.35	6.88	7.02	6.51	7.08
SULFATE, TOTAL	mg/L	518	1.4	398	525	ND	549
TOTAL DISSOLVED SOLIDS	mg/L	959	382	1,120	1,610	996	1,180
APPENDIX IV PARAMETERS							
ARSENIC, TOTAL	µg/L	19.9	21.8	12.3	4.3	4.5	11.7
BARIUM, TOTAL	µg/L	289	285	99.1	62.8	648	145
FLUORIDE, TOTAL	mg/L	ND	0.33	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	21.7 J	16.1 J	38.9	51.7	19.1	41.8
MOLYBDENUM, TOTAL	µg/L	41.9	1.0 J	15.4 J	11.2 J	ND	298
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	2.689	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.19 J	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	294	298	477	370	887	252
IRON, TOTAL	µg/L	20,900	2,800	12,800	16,600	50,400	19,600
MAGNESIUM, TOTAL	µg/L	53,700	25,200	45,700	58,600	66,300	53,200
MANGANESE, TOTAL	µg/L	489	49.8	592	584	1,810	657
POTASSIUM, TOTAL	µg/L	5,210	2,570	8,460	8,580	8,920	6,380
SODIUM, TOTAL	µg/L	45,400	36,700	103,000 J	186,000	24,900	48,700

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 MDC's is higher in which case it is displayed as ND.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Table 13
April 2023 Corrective Action Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

ANALYTE	UNITS	MW-9 (AMW-1)	TP-1	MW-10 (AMW-2)	TP-2	MW-11S	MW-11D
FIELD PARAMETERS							
DATE	NA	4/18/2023	4/18/2023	4/18/2023	4/18/2023	4/18/2023	4/18/2023
DISSOLVED OXYGEN	mg/L	0.12	0.10	0.06	0.03	1.80	1.36
REDOX POTENTIAL	mV	-157.4	-173.1	-119.0	-143.1	49.8	34.6
SPECIFIC CONDUCTIVITY	mS/cm	1.440	0.801	1.670	2.349	1.675	1.598
TURBIDITY	NTU	4.58	2.42	9.88	0.91	1.89	4.12
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	8,430	372	2,240	2,690	1,650	11,500
CALCIUM, TOTAL	µg/L	175,000	68,100	203,000	227,000	222,000 J	218,000
CHLORIDE, TOTAL	mg/L	46.1	36.4	89.8	228	14.7	52.0
pH	SU	6.95	7.48	6.91	7.04	6.53	7.10
SULFATE, TOTAL	mg/L	390	1.5	318	492	42.5 J	551
TOTAL DISSOLVED SOLIDS	mg/L	1,150	470	1,340	2,310	922	1,210
APPENDIX IV PARAMETERS							
ANTIMONY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
ARSENIC, TOTAL	µg/L	19.6	19.0	10.3	4.1	2.1	11.7
BARIUM, TOTAL	µg/L	309	342	106	63.4	692	96.7
BERYLLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.16 J
CADMIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	0.10 J
CHROMIUM, TOTAL	µg/L	0.36 J	0.38 J	ND	ND	0.44 J	0.40 J
COBALT, TOTAL	µg/L	ND	ND	2.7 J	ND	ND	ND
FLUORIDE, TOTAL	mg/L	ND	ND	ND	ND	ND	ND
LEAD, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
LITHIUM, TOTAL	µg/L	19.2	30.7	36.8	44.2	22.5	43.7
MERCURY, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
MOLYBDENUM, TOTAL	µg/L	35.0	2.4 J	10.4 J	13.0 J	2.2 J	310
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	1.037	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
THALLIUM, TOTAL	µg/L	ND	ND	ND	ND	ND	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	320	394	457	406	858	276
IRON, FERRIC, TOTAL	mg/L	22.8	2.7	11.5	17.5	49.4	18.6
IRON, FERROUS, TOTAL	mg/L	ND	0.054 J	ND	0.042 J	0.29 J	0.13 J
IRON, TOTAL	µg/L	22,800	2,730	11,500	17,600	49,700	18,800
MAGNESIUM, TOTAL	µg/L	54,000	29,200	48,700	59,000	68,000	54,000
MANGANESE, TOTAL	µg/L	569	60.6	612	630	1,280	606
POTASSIUM, TOTAL	µg/L	5,110	3,070	8,540	8,710	8,520	6,000
SODIUM, TOTAL	µg/L	45,000	53,200	79,800	184,000	23,400	48,600
SULFIDE, TOTAL	mg/L	0.018 J	0.017 J	ND	0.016 J	0.017 J	0.020 J

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters and NTU - nephelometric turbidity units.
2. J - Result is an estimated value.
3. NA - Not Applicable.
4. ND - Constituent was analyzed but was not detected above the Method Detection Limit (MDL) or the adjusted Practical Quantitation Limit (PQL) based on data validation and is considered a non-detect. Values displayed as ND.
5. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 MDC's is higher in which case it is displayed as ND.

Prepared By: JSI
Checked By: GTM
Reviewed By: MNH

Table 14
November 2023 Corrective Action Monitoring Results
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

ANALYTE	UNITS	MW-9 (AMW-1)	TP-1	MW-10 (AMW-2)	TP-2	MW-11S	MW-11D
FIELD PARAMETERS							
DATE	NA	11/2/2023	11/2/2023	11/1/2023	11/1/2023	11/1/2023	11/1/2023
DISSOLVED OXYGEN	mg/L	0.26	0.33	0.71	5.84	1.73	0.40
REDOX POTENTIAL	mV	-72.1	-92.1	-105.8	-26.3	-100.9	-109.0
SPECIFIC CONDUCTIVITY	mS/cm	1.295	0.766	1.656	2.217	1.640	1.571
TURBIDITY	NTU	2.19	1.19	19.9	4.49	2.29	1.40
APPENDIX III PARAMETERS							
BORON, TOTAL	µg/L	6,110	317	2,960	2,860	2,350	11,700
CALCIUM, TOTAL	µg/L	162,000	66,800	187,000	223,000	224,000	233,000
CHLORIDE, TOTAL	mg/L	29.2	29.4	105	384	17.4	41.2
pH	SU	6.90	7.50	7.06	7.13	6.78	7.10
SULFATE, TOTAL	mg/L	366	2.2	386	567	64.1	500
TOTAL DISSOLVED SOLIDS	mg/L	901	410	1,160	1,560	471	1,220
APPENDIX IV PARAMETERS							
ARSENIC, TOTAL	µg/L	18.1	20.8	15.0	6.3	2.1	12.7
BARIUM, TOTAL	µg/L	273	325	146	60.9	632	116
FLUORIDE, TOTAL	mg/L	0.18 J	0.45	ND	0.16 J	ND	ND
LITHIUM, TOTAL	µg/L	14.6	25.7	32.7	45.9	24.5	41.8
MOLYBDENUM, TOTAL	µg/L	21.9	ND	ND	11.6 J	ND	287
RADIUM [226 + 228]	pCi/L	ND	ND	ND	ND	1.880	ND
SELENIUM, TOTAL	µg/L	ND	ND	ND	ND	0.19 J	ND
ADDITIONAL PARAMETERS							
ALKALINITY	mg/L	334	358	384	354	878	374
IRON, TOTAL	µg/L	23,000	2,710	19,400	14,700	45,900	19,800
MAGNESIUM, TOTAL	µg/L	49,700	28,300	42,400	59,700	70,000	57,600
MANGANESE, TOTAL	µg/L	676	60.8	619	603	1,320	607
POTASSIUM, TOTAL	µg/L	4,460	3,030	8,210	8,490	8,460	6,270
SODIUM, TOTAL	µg/L	36,300	48,200	96,100	178,000	26,300	44,900

NOTES
1. Unit Abbreviations: µg/L - micrograms per liter, mg/L - milligrams per liter, SU - standard units, pCi/L - picocuries per liter, mV - millivolts, mS/cm - millisiemens per centimeters and NTU - nephelometric turbidity units.
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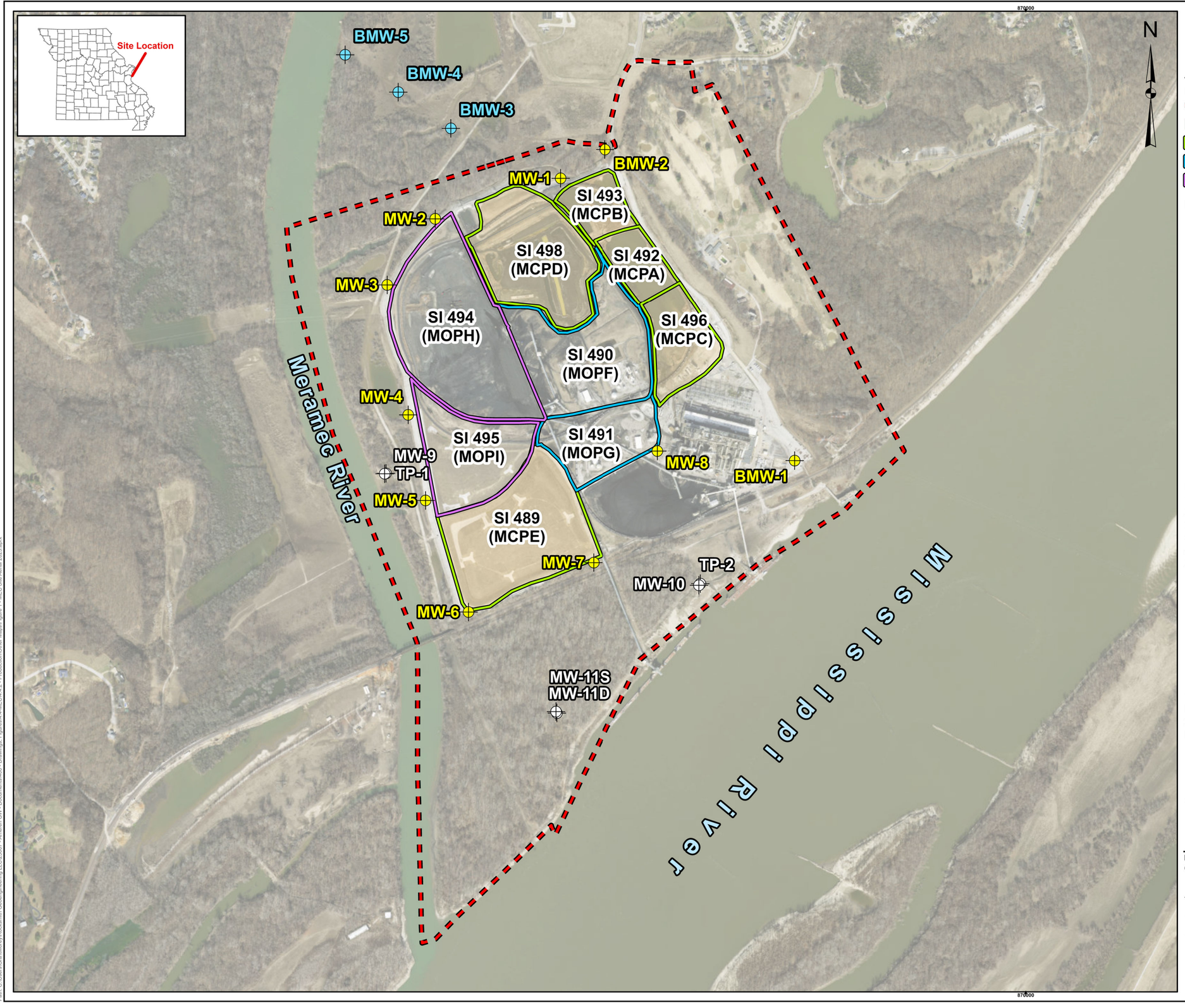
5. Radium (226 + 228) is reported as the sum of the Radium 226 and the Radium 228 activity concentrations unless the sum of the Radium 226 and Radium 228 MDC's is higher in which case it is displayed as ND.

Prepared By: GTM
Checked By: ANT
Reviewed By: MNH

Figures



MERAMEC ENERGY CENTER GROUNDWATER MONITORING PROGRAMS AND MONITORING WELL LOCATION MAP

LEGEND

- Meramec Energy Center Property Boundary
- Regulated Surface Impoundment
- Capped and Closed Surface Impoundment
- Exempt Surface Impoundment
- Capped and Closed Exempt Surface Impoundment

Monitoring Well Networks

- Detection/Assessment Monitoring Well
- Corrective Action Monitoring Well
- Monitoring Well Used for Water Elevation Measurements Only

NOTES

1.) ALL BOUNDARIES AND LOCATIONS ARE APPROXIMATE.
2.) SI - SURFACE IMPOUNDMENT.
3.) EXEMPT SURFACE IMPOUNDMENTS ARE EXCLUDED FROM COAL COMBUSTION RESIDUALS MONITORING.
4.) GROUNDWATER MONITORING WELLS SURVEYED BY ZAHNER AND ASSOCIATES, INC.

REFERENCES

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.

0 500 1,000 1,500 2,000 2,500
Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	GTM	YYYY-MM-DD	2024-01-04
PREPARED	GTM	PROJECT No.	23010
REVIEW	JSI		
APPROVED	MNH		

FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:

Path: C:\Users\GrantMorey\Rocksmith Geoengineering LLC\23007 - Ameren GW - Documents\400 - Drawings, Figures\4.4-MEC\4.4.2 - Production\Other Maps\Figure 1 - MEC Site Aerial 2023.aprx

Appendix A
Laboratory Analytical Data

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

January 18, 2023

Jeffrey Ingram
WSP Golder
701 Emerson Road
Suite 250
Saint Louis, MO 63141

RE: Project: AMEREN MEC
Pace Project No.: 60419381

Dear Jeffrey Ingram:

Enclosed are the analytical results for sample(s) received by the laboratory on January 07, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Lisa Meyer, Ameren
Grant Morey, WSP Golder
Ann Muehlfarth, WSP Golder
Eric Schneider, WSP Golder

Pace Analytical Services, LLC
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CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60419381

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 22-031-0
Illinois Certification #: 2000302021-3
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-21-15
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60419381

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60419381001	**M-MW-5**	Water	01/05/23 15:05	01/07/23 07:00
60419381002	**M-MW-7**	Water	01/05/23 13:44	01/07/23 07:00
60419381003	**M-MEC-DUP-1**	Water	01/05/23 00:00	01/07/23 07:00
60419381004	**M-MEC-FB-1**	Water	01/05/23 13:49	01/07/23 07:00

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60419381

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60419381001	**M-MW-5**	EPA 200.7	MA1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	2	PASI-K
60419381002	**M-MW-7**	EPA 200.7	MA1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	2	PASI-K
60419381003	**M-MEC-DUP-1**	EPA 200.7	MA1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	2	PASI-K
60419381004	**M-MEC-FB-1**	EPA 200.7	MA1	1	PASI-K
		SM 2540C	TML	1	PASI-K
		EPA 300.0	RKA	2	PASI-K

PASI-K = Pace Analytical Services - Kansas City

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60419381

Sample: M-MW-5 **Lab ID: 60419381001** Collected: 01/05/23 15:05 Received: 01/07/23 07:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**144000**	ug/L	200	33.7	1	01/09/23 14:15	01/10/23 10:37	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**394**	mg/L	10.0	10.0	1		01/12/23 10:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**<0.12**	mg/L	0.20	0.12	1		01/09/23 18:54	16984-48-8	
Sulfate	**222**	mg/L	50.0	27.5	50		01/09/23 19:08	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60419381

Sample: M-MW-7 **Lab ID: 60419381002** Collected: 01/05/23 13:44 Received: 01/07/23 07:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**391000**	ug/L	200	33.7	1	01/09/23 14:15	01/10/23 10:39	7440-70-2	M1
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**892**	mg/L	20.0	20.0	1		01/12/23 10:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**<0.12**	mg/L	0.20	0.12	1		01/09/23 19:21	16984-48-8	
Sulfate	**1020**	mg/L	100	55.0	100		01/09/23 20:41	14808-79-8	D6,M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60419381

Sample: M-MEC-DUP-1 **Lab ID: 60419381003** Collected: 01/05/23 00:00 Received: 01/07/23 07:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**136000**	ug/L	200	33.7	1	01/09/23 14:15	01/10/23 10:45	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**491**	mg/L	10.0	10.0	1		01/12/23 10:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**<0.12**	mg/L	0.20	0.12	1		01/09/23 21:35	16984-48-8	
Sulfate	**266**	mg/L	100	55.0	100		01/09/23 21:48	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60419381

Sample: M-MEC-FB-1 **Lab ID: 60419381004** Collected: 01/05/23 13:49 Received: 01/07/23 07:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Calcium	**80.4J**	ug/L	200	33.7	1	01/09/23 14:15	01/10/23 10:47	7440-70-2	
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		01/12/23 10:15		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Fluoride	**<0.12**	mg/L	0.20	0.12	1		01/09/23 22:02	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		01/09/23 22:02	14808-79-8	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60419381

QC Batch: 826478 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

METHOD BLANK: 3283061 Matrix: Water
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Calcium	ug/L	<33.7	200	33.7	01/10/23 10:25	

LABORATORY CONTROL SAMPLE: 3283062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Calcium	ug/L	10000	9760	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3283063 3283064

Parameter	Units	60419381002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Calcium	ug/L	391000	10000	10000	406000	385000	158	-58	70-130	5	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60419381

QC Batch: 827026 — Analysis Method: SM 2540C
QC Batch Method: SM 2540C — Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

METHOD BLANK: 3284904 — Matrix: Water
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	01/12/23 10:14	

LABORATORY CONTROL SAMPLE: 3284905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	994	99	80-120	

SAMPLE DUPLICATE: 3284906

Parameter	Units	60419332002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1340	1310	3	10	

SAMPLE DUPLICATE: 3284907

Parameter	Units	60419381002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	892	892	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60419381

QC Batch: 826414
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

METHOD BLANK: 3282913 Matrix: Water
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	01/09/23 17:34	
Sulfate	mg/L	<0.55	1.0	0.55	01/09/23 17:34	

METHOD BLANK: 3284283 Matrix: Water
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	01/10/23 08:51	
Sulfate	mg/L	<0.55	1.0	0.55	01/10/23 08:51	

METHOD BLANK: 3284437 Matrix: Water
Associated Lab Samples: 60419381001, 60419381002, 60419381003, 60419381004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Fluoride	mg/L	<0.12	0.20	0.12	01/11/23 09:26	
Sulfate	mg/L	<0.55	1.0	0.55	01/11/23 09:26	

LABORATORY CONTROL SAMPLE: 3282914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	100	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

LABORATORY CONTROL SAMPLE: 3284284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.5	99	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60419381

LABORATORY CONTROL SAMPLE: 3284438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3282915 3282916

Parameter	Units	60419381002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	<0.12	2.5	2.5	2.7	2.7	108	106	80-120	2	15	
Sulfate	mg/L	1020	500	500	1390	1390	74	75	80-120	0	15	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3282918 3282919

Parameter	Units	60419382001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Fluoride	mg/L	0.16J	2.5	2.5	2.9	2.9	109	111	80-120	1	15	
Sulfate	mg/L	300	5	5	305	306	95	114	80-120	0	15	E

SAMPLE DUPLICATE: 3282917

Parameter	Units	60419381002 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	1020	851	18	15	D6

SAMPLE DUPLICATE: 3282920

Parameter	Units	60419382001 Result	Dup Result	RPD	Max RPD	Qualifiers
Fluoride	mg/L	0.16J	<0.12		15	
Sulfate	mg/L	300	300	0	15	E

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC
Pace Project No.: 60419381

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60419381

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60419381001	**M-MW-5**	EPA 200.7	826478	EPA 200.7	826514
60419381002	**M-MW-7**	EPA 200.7	826478	EPA 200.7	826514
60419381003	**M-MEC-DUP-1**	EPA 200.7	826478	EPA 200.7	826514
60419381004	**M-MEC-FB-1**	EPA 200.7	826478	EPA 200.7	826514
60419381001	**M-MW-5**	SM 2540C	827026		
60419381002	**M-MW-7**	SM 2540C	827026		
60419381003	**M-MEC-DUP-1**	SM 2540C	827026		
60419381004	**M-MEC-FB-1**	SM 2540C	827026		
60419381001	**M-MW-5**	EPA 300.0	826414		
60419381002	**M-MW-7**	EPA 300.0	826414		
60419381003	**M-MEC-DUP-1**	EPA 300.0	826414		
60419381004	**M-MEC-FB-1**	EPA 300.0	826414		

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Condition	WO# : 60419381
	Revision: 2	Effective Date: 01/12/2

Client Name: Golder Associates USA Inc.

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Airgas ☐ Client ☑ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ zip loc

Thermometer Used: T296 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.7 **Corr. Factor** -0.1 **Corrected** 1.6

Date and initials of person examining contents: JA 1/7/23

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A — Required Client Information:

Company:	Golder Associates USA Inc.
Address:	701 Emerson Rd, Ste 250
	Creve Coeur, MO 63141
Email To:	jeffrey_ingram@golder.com
Phone: 636-724-9191	Fax: 636-724-9323
Requested Due Date/TAT:	Standard

Section B — Required Project Information:

Report To:	Jeffrey Ingram
Copy To:	Eric Schnieder, Grant Morey
Purchase Order No.:	
Project Name:	Ameren - MEC
Project Number:	GL153140604

Section C — Invoice Information:

Attention:	
Company Name:	Golder Associates USA, Inc.
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	9285

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MO

Section D — Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Calcium	Chloride	Fluoride	Sulfate	TDS	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	M-MW-5	WT	G			1/5/23	1505		2	1		1							X		X	X	X		60419381
2	M-MW-7	WT	G				1341		2	1		1							X		X	X	X		
3	M-MEC-DUP-1	WT	G				—		2	1		1							X		X	X	X		
4	M-MEC-FB-1	WT	G				1349		2	1		1							X		X	X	X		
5	M-MEC-MS-1	WT	G				1344		2	1		1							X		X	X	X		MS/MSD collected
6	M-MEC-MSD-1	WT	G				1344																		@ MW-7
7		WT	G																						
8		WT	G																						
9		WT	G																						
10		WT	G																						
11		WT	G																						
12		WT	G																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Golder	1/6/23	1050	Jill Clark	1/6/23	1050				
	Jill Clark	1/6/23	1055		1/7/23	0700	1.6	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Eric Schneider

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 01/06/23

Client: Golder Associates USA Inc. Profile # 9285

Site: Ameren – MEC Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																			1			1									
2	WT																			3			3									
3	WT																			1			1									
4	WT																			1			1									
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60419381

MEMORANDUM

DATE January 23, 2023 **Project No.** 153140604.0004

TO Project File
WSP USA Inc.

CC Amanda Derhake, Jeff Ingram

FROM Rahel Pommerenke **EMAIL rahel.pommerenke@wsp.com**

DATA VALIDATION SUMMARY, MERAMEC ENERGY CENTER – MEC – VERIFICATION SAMPLING - DATA PACKAGE 60419381

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- When duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J, J+ for estimates biased high, and J- for estimates biased low).
- When a compound was detected in a sample result between the MDL and the PQL the results were recorded at the detection value and qualified as estimates (J).

WSP USA Inc.
701 Emerson Road, Suite 250,
Creve Coeur, Missouri, USA 63141
T: +1 314 984-8800 F: +1 314 984-8770

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: WSP USA Inc.
Project Manager: J. Ingram
Project Name: Ameren MEC VS
Project Number: 153140604.0004
Reviewer: R.Pommerenke
Validation Date: 1/23/2023

Laboratory: Pace Analytical Services
SDG #: 60419381
Analytical Method (type and no.): EPA 200.7 (Total Metals); SM2540C (TDS); EPA 300.0 (Anions)
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ _____
Sample Names M-MW-5, M-MW-7, M-MEC-DUP-1, M-MEC-FB-1

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			1/5/2023
b) Sampling team indicated?	x			JAB
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See notes.
g) Field parameters collected (note types)?	x			pH, Sp.Cond, ORP, Temp, DO, Turb
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	

Note Deficiencies: _____

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	x			
b) Was the COC signed by both field and laboratory personnel?	x			
c) Were samples received in good condition?	x			

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?	x			
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See notes.
g) Were any matrix problems noted?	x			

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☒	☐	☐	M-MEC-FB-1 @ M-MW-7
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	☒	☐	☐	
b) Were the proper analytes included in the LCS?	☒	☐	☐	
c) Was the LCS accuracy criteria met?	☒	☐	☐	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	M-MEC-DUP-1 @ M-MW-5
b) Were field dup. precision criteria met (note RPD)?	☐	☒	☐	See notes.
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	
d) Were lab dup. precision criteria met (note RPD)?	☐	☒	☐	See notes.

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	☐	☐	☒	
b) Was the %D within control limits?	☐	☐	☒	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	☐	☒	☐	See notes.
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
b) Was MSD accuracy criteria met?	☐	☒	☐	See notes.
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
c) Were MS/MSD precision criteria met?	☒	☐	☐	

Comments/Notes:

Dilutions:

Sulfate analyzed at a dilution. No qualification necessary.

Blanks:

M-MEC-FB-1 @ M-MW-7: Calcium (80.4J). Associated with M-MW-7. Result > 10 x blank and > RL: no qualification needed.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Duplicates:

Sample Duplicate 3282917: RPD for sulfate (18%) exceeded max RPD (15%): qualified as estimate. Associated with M-MW-7.

Sample Duplicate 3282920: Fluoride detected in parent sample and ND in lab duplicate. Performed on unrelated sample: no qualification needed.

M-MEC-DUP-1 @ M-MW-5: RPD limit for Total Dissolved Solids (21.9%) exceeds max RPD (20%): qualified as estimate.

MS/MSD:

3283063/3283064: MS % recovery high for Calcium. MSD % recovery (<10%) for Calcium: qualified as estimate. Associated with M-MW-7.

3282915/3282916: MS/MSD % recovery low for Sulfate: qualified as estimate. Associated with M-MW-7.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MEC-DUP-1	Total Dissolved Solids	491	J	Dup exceeds RPD limit.
M-MW-5	"	394	J	"
M-MW-7	Calcium	391000	J	MS/MSD % recovery outside control limits.
"	Sulfate	1020	J-	Lab dup exceeded RPD limit; MS/MSD % recovery outside control limits.

Signature: _____ Date: 1/23/2023

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

May 12, 2023

Mark Haddock
Rocksmith Geoengineering, LLC.
5233 Roanoke Drive
Saint Charles, MO 63304

RE: Project: AMEREN MEC
Pace Project No.: 60426605

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60426605

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-22-16
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60426605001	**M-MW-1**	Water	04/17/23 14:32	04/19/23 05:06
60426605002	**M-MW-2**	Water	04/17/23 10:25	04/19/23 05:06
60426605003	**M-MW-3**	Water	04/17/23 11:58	04/19/23 05:06
60426605004	**M-MW-4**	Water	04/17/23 13:38	04/19/23 05:06
60426605005	**M-MW-5**	Water	04/17/23 15:23	04/19/23 05:06
60426605006	**M-MW-6**	Water	04/17/23 17:13	04/19/23 05:06
60426605007	**M-MW-7**	Water	04/17/23 15:33	04/19/23 05:06
60426605008	**M-MW-8**	Water	04/18/23 09:30	04/19/23 05:06
60426605009	**M-BMW-1**	Water	04/17/23 13:32	04/19/23 05:06
60426605010	**M-BMW-2**	Water	04/17/23 12:30	04/19/23 05:06
60426605011	**M-DUP-1**	Water	04/17/23 00:00	04/19/23 05:06
60426605012	**M-FB-1**	Water	04/17/23 17:23	04/19/23 05:06
60426605013	**M-MS-1**	Water	04/17/23 11:58	04/19/23 05:06
60426605014	**M-MSD-1**	Water	04/17/23 11:58	04/19/23 05:06

Pace Analytical Services, LLC
9608 Loiret Blvd.
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60426605001	**M-MW-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605002	**M-MW-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605003	**M-MW-3**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605004	**M-MW-4**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605005	**M-MW-5**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605006	**M-MW-6**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605007	**M-MW-7**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605008	**M-MW-8**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605009	**M-BMW-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605010	**M-BMW-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605011	**M-DUP-1**	EPA 200.7	JXD	13	PASI-K

Pace Analytical Services, LLC
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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605012	**M-FB-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426605013	**M-MS-1**	EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60426605014	**M-MSD-1**	EPA 903.1	JAL	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA

PASI-K = Pace Analytical Services - Kansas City
PASI-PA = Pace Analytical Services - Greensburg

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-1 **Lab ID: 60426605001** Collected: 04/17/23 14:32 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**371**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:11	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:11	7440-41-7	
Boron	**53.3J**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:11	7440-42-8	
Calcium	**136000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:11	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:11	7440-48-4	
Iron	**15700**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:11	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:11	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:11	7439-93-2	
Magnesium	**44400**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:11	7439-95-4	
Manganese	**1970**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:11	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:11	7439-98-7	
Potassium	**1610**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:11	7440-09-7	
Sodium	**29700**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:51	7440-36-0	
Arsenic	**0.64J**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:51	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:51	7440-43-9	
Chromium	**0.54J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:51	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:51	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:51	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 13:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**430**	mg/L	20.0	10.5	1		04/20/23 10:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**720**	mg/L	20.0	20.0	1		04/21/23 10:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**15.7**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.058J**	mg/L	0.20	0.041	1		04/26/23 14:11	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-1 **Lab ID: 60426605001** Collected: 04/17/23 14:32 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		04/22/23 10:07	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**45.7**	mg/L	10.0	5.3	10		05/05/23 16:02	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 16:50	16984-48-8	
Sulfate	**115**	mg/L	10.0	5.5	10		05/05/23 16:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-2 **Lab ID: 60426605002** Collected: 04/17/23 10:25 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**208**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:13	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:13	7440-41-7	
Boron	**1180**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:13	7440-42-8	
Calcium	**87600**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:13	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:13	7440-48-4	
Iron	**41500**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:13	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:13	7439-92-1	
Lithium	**4.2J**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:13	7439-93-2	
Magnesium	**29700**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:13	7439-95-4	
Manganese	**4600**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:13	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:13	7439-98-7	
Potassium	**2090**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:13	7440-09-7	
Sodium	**35000**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:54	7440-36-0	
Arsenic	**1.6**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:54	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:54	7440-43-9	
Chromium	**0.52J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:54	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:54	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:54	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 13:06	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**311**	mg/L	20.0	10.5	1		04/20/23 10:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**521**	mg/L	13.3	13.3	1		04/21/23 10:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**37.3**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**4.3**	mg/L	0.20	0.041	1		04/26/23 14:08	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-2 **Lab ID: 60426605002** Collected: 04/17/23 10:25 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		04/22/23 10:07	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**27.6**	mg/L	10.0	5.3	10		05/05/23 16:15	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 17:04	16984-48-8	
Sulfate	**149**	mg/L	10.0	5.5	10		05/05/23 16:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-3 **Lab ID: 60426605003** Collected: 04/17/23 11:58 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**172**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:25	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:25	7440-41-7	
Boron	**3330**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:25	7440-42-8	
Calcium	**124000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:25	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:25	7440-48-4	
Iron	**29700**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:25	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:25	7439-92-1	
Lithium	**5.5J**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:25	7439-93-2	
Magnesium	**36700**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:25	7439-95-4	
Manganese	**1990**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:25	7439-96-5	
Molybdenum	**4.9J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:25	7439-98-7	
Potassium	**2700**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:25	7440-09-7	
Sodium	**34700**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:25	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:05	7440-36-0	
Arsenic	**7.6**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:05	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:05	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:05	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:05	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:05	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 11:55	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**372**	mg/L	20.0	10.5	1		04/20/23 10:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**638**	mg/L	10.0	10.0	1		04/21/23 10:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**27.3**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.4**	mg/L	0.20	0.041	1		04/26/23 14:08	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-3 **Lab ID: 60426605003** Collected: 04/17/23 11:58 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.021J**	mg/L	0.050	0.016	1		04/22/23 10:08	18496-25-8	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**26.7**	mg/L	5.0	2.6	5		05/02/23 16:45	16887-00-6	B,M1, R1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/01/23 22:47	16984-48-8	
Sulfate	**155**	mg/L	20.0	11.0	20		05/02/23 17:38	14808-79-8	M1,R1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-4 **Lab ID: 60426605004** Collected: 04/17/23 13:38 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**173**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:32	7440-39-3	
Beryllium	**0.12J**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:32	7440-41-7	
Boron	**11600**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:32	7440-42-8	
Calcium	**206000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:32	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:32	7440-48-4	
Iron	**28900**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:32	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:32	7439-92-1	
Lithium	**25.4**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:32	7439-93-2	
Magnesium	**51800**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:32	7439-95-4	
Manganese	**1080**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:32	7439-96-5	
Molybdenum	**88.1**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:32	7439-98-7	
Potassium	**7040**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:32	7440-09-7	
Sodium	**57200**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:32	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:17	7440-36-0	
Arsenic	**15.3**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:17	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:17	7440-43-9	
Chromium	**0.49J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:17	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:17	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:17	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:02	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**344**	mg/L	20.0	10.5	1		04/20/23 11:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1110**	mg/L	13.3	13.3	1		04/21/23 10:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**26.6**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**2.3**	mg/L	0.20	0.041	1		04/26/23 14:10	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-4 **Lab ID: 60426605004** Collected: 04/17/23 13:38 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		04/22/23 10:10	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**34.5**	mg/L	5.0	2.6	5		05/05/23 16:28	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 17:17	16984-48-8	
Sulfate	**466**	mg/L	100	55.0	100		05/03/23 17:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-5 **Lab ID: 60426605005** Collected: 04/17/23 15:23 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**151**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:34	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:34	7440-41-7	
Boron	**3370**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:34	7440-42-8	
Calcium	**110000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:34	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:34	7440-48-4	
Iron	**10800**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:34	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:34	7439-92-1	
Lithium	**13.8**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:34	7439-93-2	
Magnesium	**36300**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:34	7439-95-4	
Manganese	**306**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:34	7439-96-5	
Molybdenum	**67.2**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:34	7439-98-7	
Potassium	**4190**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:34	7440-09-7	
Sodium	**40100**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:34	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:20	7440-36-0	
Arsenic	**20.5**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:20	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:20	7440-43-9	
Chromium	**0.30J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:20	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:20	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:20	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:04	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**342**	mg/L	20.0	10.5	1		04/20/23 11:24		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**602**	mg/L	10.0	10.0	1		04/21/23 10:16		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**10.7**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.066J**	mg/L	0.20	0.041	1		04/26/23 14:14	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-5 **Lab ID: 60426605005** Collected: 04/17/23 15:23 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		04/22/23 10:10	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**49.3**	mg/L	10.0	5.3	10		05/05/23 16:42	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 17:43	16984-48-8	
Sulfate	**130**	mg/L	10.0	5.5	10		05/05/23 16:42	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-6 **Lab ID: 60426605006** Collected: 04/17/23 17:13 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**53.4**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:42	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:42	7440-41-7	
Boron	**10600**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:42	7440-42-8	
Calcium	**339000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:42	7440-70-2	
Cobalt	**2.5J**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:42	7440-48-4	
Iron	**16500**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:42	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:42	7439-92-1	
Lithium	**134**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:42	7439-93-2	
Magnesium	**23000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:42	7439-95-4	
Manganese	**1420**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:42	7439-96-5	
Molybdenum	**113**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:42	7439-98-7	
Potassium	**13300**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:42	7440-09-7	
Sodium	**18200**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:42	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:23	7440-36-0	
Arsenic	**6.1**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:23	7440-38-2	
Cadmium	**0.063J**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:23	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:23	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:23	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:23	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:07	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**469**	mg/L	20.0	10.5	1		04/20/23 11:30		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1100**	mg/L	13.3	13.3	1		04/21/23 10:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**16.2**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.32**	mg/L	0.20	0.041	1		04/26/23 14:16	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-6 **Lab ID: 60426605006** Collected: 04/17/23 17:13 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.028J**	mg/L	0.050	0.016	1		04/22/23 10:11	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**22.2**	mg/L	2.0	1.1	2		05/05/23 16:55	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 17:57	16984-48-8	
Sulfate	**5.0**	mg/L	1.0	0.55	1		05/03/23 17:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-7 **Lab ID: 60426605007** Collected: 04/17/23 15:33 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**43.1**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:44	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:44	7440-41-7	
Boron	**23100**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:44	7440-42-8	
Calcium	**377000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:44	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:44	7440-48-4	
Iron	**14.4J**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:44	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:44	7439-92-1	
Lithium	**43.9**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:44	7439-93-2	
Magnesium	**24300**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:44	7439-95-4	
Manganese	**0.54J**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:44	7439-96-5	
Molybdenum	**358**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:44	7439-98-7	
Potassium	**19800**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:44	7440-09-7	
Sodium	**104000**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.44J**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:26	7440-36-0	
Arsenic	**3.0**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:26	7440-38-2	
Cadmium	**0.24J**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:26	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:26	7440-47-3	
Selenium	**14.8**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:26	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:26	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:09	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**271**	mg/L	20.0	10.5	1		04/20/23 11:37		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1960**	mg/L	20.0	20.0	1		04/21/23 10:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.014J**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:15	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-7 **Lab ID: 60426605007** Collected: 04/17/23 15:33 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		04/22/23 10:12	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**78.0**	mg/L	10.0	5.3	10		05/05/23 17:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 18:50	16984-48-8	
Sulfate	**990**	mg/L	200	110	200		05/03/23 19:04	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-8 **Lab ID: 60426605008** Collected: 04/18/23 09:30 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**86.9**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:46	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:46	7440-41-7	
Boron	**9380**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:46	7440-42-8	
Calcium	**195000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:46	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:46	7440-48-4	
Iron	**7720**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:46	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:46	7439-92-1	
Lithium	**31.5**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:46	7439-93-2	
Magnesium	**40700**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:46	7439-95-4	
Manganese	**1590**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:46	7439-96-5	
Molybdenum	**220**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:46	7439-98-7	
Potassium	**5700**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:46	7440-09-7	
Sodium	**35800**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:46	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:29	7440-36-0	
Arsenic	**5.8**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:29	7440-38-2	
Cadmium	**0.074J**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:29	7440-43-9	
Chromium	**0.43J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:29	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:29	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:29	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:11	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**223**	mg/L	20.0	10.5	1		04/20/23 14:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1270**	mg/L	13.3	13.3	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**7.6**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.086J**	mg/L	0.20	0.041	1		04/26/23 14:18	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-8 **Lab ID: 60426605008** Collected: 04/18/23 09:30 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**<0.016**	mg/L	0.050	0.016	1		04/22/23 10:19	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**39.3**	mg/L	5.0	2.6	5		05/05/23 17:21	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 19:17	16984-48-8	
Sulfate	**511**	mg/L	100	55.0	100		05/03/23 19:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-1 **Lab ID: 60426605009** Collected: 04/17/23 13:32 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**202**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:48	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:48	7440-41-7	
Boron	**114**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:48	7440-42-8	
Calcium	**105000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:48	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:48	7440-48-4	
Iron	**785**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:48	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:48	7439-92-1	
Lithium	**11.5**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:48	7439-93-2	
Magnesium	**27800**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:48	7439-95-4	
Manganese	**349**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:48	7439-96-5	
Molybdenum	**8.1J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:48	7439-98-7	
Potassium	**2630**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:48	7440-09-7	
Sodium	**67000**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:48	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**0.44J**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:35	7440-36-0	
Arsenic	**3.1**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:35	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:35	7440-43-9	
Chromium	**0.60J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:35	7440-47-3	
Selenium	**3.3**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:35	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:35	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:18	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**308**	mg/L	20.0	10.5	1		04/20/23 11:43		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**599**	mg/L	10.0	10.0	1		04/21/23 10:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.78**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:10	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-1 **Lab ID: 60426605009** Collected: 04/17/23 13:32 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		04/22/23 10:12	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**118**	mg/L	10.0	5.3	10		05/05/23 18:01	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 19:44	16984-48-8	
Sulfate	**64.3**	mg/L	10.0	5.5	10		05/05/23 18:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-2 **Lab ID: 60426605010** Collected: 04/17/23 12:30 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**617**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:50	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:50	7440-41-7	
Boron	**79.6J**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:50	7440-42-8	
Calcium	**110000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:50	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:50	7440-48-4	
Iron	**17000**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:50	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:50	7439-92-1	
Lithium	**5.5J**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:50	7439-93-2	
Magnesium	**36000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:50	7439-95-4	
Manganese	**4620**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:50	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:50	7439-98-7	
Potassium	**1480**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:50	7440-09-7	
Sodium	**21300**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:50	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:38	7440-36-0	
Arsenic	**3.0**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:38	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:38	7440-43-9	
Chromium	**0.64J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:38	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:38	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:38	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:20	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**445**	mg/L	20.0	10.5	1		04/20/23 11:50		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**492**	mg/L	10.0	10.0	1		04/21/23 10:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.0**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.056J**	mg/L	0.20	0.041	1		04/26/23 14:09	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-2 **Lab ID: 60426605010** Collected: 04/17/23 12:30 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		04/22/23 10:12	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**13.6**	mg/L	1.0	0.53	1		05/03/23 19:57	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 19:57	16984-48-8	
Sulfate	**34.3**	mg/L	5.0	2.8	5		05/05/23 18:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-DUP-1 **Lab ID: 60426605011** Collected: 04/17/23 00:00 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**169**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:52	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:52	7440-41-7	
Boron	**11200**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:52	7440-42-8	
Calcium	**197000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:52	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:52	7440-48-4	
Iron	**28800**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:52	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:52	7439-92-1	
Lithium	**24.3**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:52	7439-93-2	
Magnesium	**49500**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:52	7439-95-4	
Manganese	**1060**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:52	7439-96-5	
Molybdenum	**85.2**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:52	7439-98-7	
Potassium	**6790**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:52	7440-09-7	
Sodium	**55600**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:52	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:42	7440-36-0	
Arsenic	**15.0**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:42	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:42	7440-43-9	
Chromium	**0.50J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:42	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:42	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:42	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:23	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**347**	mg/L	20.0	10.5	1		04/20/23 11:57		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1090**	mg/L	13.3	13.3	1		04/21/23 10:17		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**27.5**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**1.4**	mg/L	0.20	0.041	1		04/26/23 14:07	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-DUP-1 **Lab ID: 60426605011** Collected: 04/17/23 00:00 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.021J**	mg/L	0.050	0.016	1		04/22/23 10:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**44.6**	mg/L	20.0	10.5	20		04/28/23 17:32	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		05/03/23 20:10	16984-48-8	
Sulfate	**479**	mg/L	50.0	27.5	50		05/03/23 20:24	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-FB-1 **Lab ID: 60426605012** Collected: 04/17/23 17:23 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**0.68J**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:54	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:54	7440-41-7	
Boron	**24.4J**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:54	7440-42-8	
Calcium	**38.8J**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:54	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:54	7440-48-4	
Iron	**10J**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:54	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:54	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:54	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:54	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:54	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:54	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:54	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 11:45	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 11:45	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 11:45	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 11:45	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 11:45	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 11:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:25	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		04/20/23 12:03		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**5.5**	mg/L	5.0	5.0	1		04/21/23 10:18		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.010J**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:16	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-FB-1 **Lab ID: 60426605012** Collected: 04/17/23 17:23 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.041J**	mg/L	0.050	0.016	1		04/22/23 10:13	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		04/28/23 17:45	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 17:45	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		04/28/23 17:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 846174
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002

METHOD BLANK: 3352935 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/10/23 12:32	

LABORATORY CONTROL SAMPLE: 3352936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3352937 3352938

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	3.8	3.8	77	75	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 846175
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3352944 Matrix: Water
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/10/23 11:51	

LABORATORY CONTROL SAMPLE: 3352945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3352946 3352947

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	4.1	3.7	82	75	75-125	9	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843663
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002

METHOD BLANK: 3343528 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	0.82J	5.0	0.64	05/03/23 17:40	
Beryllium	ug/L	<0.12	1.0	0.12	05/03/23 17:40	
Boron	ug/L	<6.4	100	6.4	05/03/23 17:40	
Calcium	ug/L	<26.9	200	26.9	05/03/23 17:40	
Cobalt	ug/L	<1.2	5.0	1.2	05/03/23 17:40	
Iron	ug/L	<9.1	50.0	9.1	05/03/23 17:40	
Lead	ug/L	<3.8	10.0	3.8	05/03/23 17:40	
Lithium	ug/L	<3.7	10.0	3.7	05/03/23 17:40	
Magnesium	ug/L	<20.1	50.0	20.1	05/03/23 17:40	
Manganese	ug/L	<0.39	5.0	0.39	05/03/23 17:40	
Molybdenum	ug/L	<1.0	20.0	1.0	05/03/23 17:40	
Potassium	ug/L	<69.7	500	69.7	05/03/23 17:40	
Sodium	ug/L	<115	500	115	05/03/23 17:40	

LABORATORY CONTROL SAMPLE: 3343529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	989	99	85-115	
Boron	ug/L	1000	960	96	85-115	
Calcium	ug/L	10000	9850	99	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	9720	97	85-115	
Lead	ug/L	1000	989	99	85-115	
Lithium	ug/L	1000	998	100	85-115	
Magnesium	ug/L	10000	9740	97	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9830	98	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343530 3343531

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	692	1000	1000	1670	1640	97	95	70-130	2	20	
Beryllium	ug/L	<0.12	1000	1000	994	989	99	99	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343530 3343531

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	1650	1000	1000	2540	2540	90	90	70-130	0	20	
Calcium	ug/L	222000	10000	10000	224000	225000	25	28	70-130	0	20	M1
Cobalt	ug/L	<1.2	1000	1000	990	971	99	97	70-130	2	20	
Iron	ug/L	49700	10000	10000	60400	59300	108	96	70-130	2	20	
Lead	ug/L	<3.8	1000	1000	973	965	97	96	70-130	1	20	
Lithium	ug/L	22.5	1000	1000	1040	1020	101	99	70-130	2	20	
Magnesium	ug/L	68000	10000	10000	74400	75600	64	76	70-130	2	20	M1
Manganese	ug/L	1280	1000	1000	2240	2230	96	95	70-130	1	20	
Molybdenum	ug/L	2.2J	1000	1000	1020	1010	102	101	70-130	1	20	
Potassium	ug/L	8520	10000	10000	18300	18100	98	96	70-130	1	20	
Sodium	ug/L	23400	10000	10000	32900	32500	95	91	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843665
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3343536 Matrix: Water
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	05/03/23 18:21	
Beryllium	ug/L	<0.12	1.0	0.12	05/03/23 18:21	
Boron	ug/L	<6.4	100	6.4	05/03/23 18:21	
Calcium	ug/L	<26.9	200	26.9	05/03/23 18:21	
Cobalt	ug/L	<1.2	5.0	1.2	05/03/23 18:21	
Iron	ug/L	<9.1	50.0	9.1	05/03/23 18:21	
Lead	ug/L	<3.8	10.0	3.8	05/03/23 18:21	
Lithium	ug/L	<3.7	10.0	3.7	05/03/23 18:21	
Magnesium	ug/L	<20.1	50.0	20.1	05/03/23 18:21	
Manganese	ug/L	<0.39	5.0	0.39	05/03/23 18:21	
Molybdenum	ug/L	<1.0	20.0	1.0	05/03/23 18:21	
Potassium	ug/L	<69.7	500	69.7	05/03/23 18:21	
Sodium	ug/L	<115	500	115	05/03/23 18:21	

LABORATORY CONTROL SAMPLE: 3343537

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	983	98	85-115	
Calcium	ug/L	10000	10200	102	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lead	ug/L	1000	1030	103	85-115	
Lithium	ug/L	1000	1030	103	85-115	
Magnesium	ug/L	10000	9930	99	85-115	
Manganese	ug/L	1000	1030	103	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10200	102	85-115	
Sodium	ug/L	10000	10400	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343538 3343539

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	172	1000	1000	1190	1180	102	100	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343538 3343539

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.12	1000	1000	1000	1010	100	101	70-130	1	20	
Boron	ug/L	3330	1000	1000	4440	4270	111	94	70-130	4	20	
Calcium	ug/L	124000	10000	10000	137000	133000	136	90	70-130	3	20	M1
Cobalt	ug/L	<1.2	1000	1000	1010	1010	101	101	70-130	0	20	
Iron	ug/L	29700	10000	10000	40600	38800	109	91	70-130	5	20	
Lead	ug/L	<3.8	1000	1000	1020	1010	102	101	70-130	1	20	
Lithium	ug/L	5.5J	1000	1000	1050	1020	104	102	70-130	2	20	
Magnesium	ug/L	36700	10000	10000	48000	46300	113	95	70-130	4	20	
Manganese	ug/L	1990	1000	1000	3010	2950	102	95	70-130	2	20	
Molybdenum	ug/L	4.9J	1000	1000	1040	1040	104	104	70-130	0	20	
Potassium	ug/L	2700	10000	10000	13100	12700	104	100	70-130	3	20	
Sodium	ug/L	34700	10000	10000	45800	44500	111	98	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843664
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002

METHOD BLANK: 3343532 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/27/23 10:10	
Arsenic	ug/L	<0.13	1.0	0.13	04/27/23 10:10	
Cadmium	ug/L	<0.050	0.50	0.050	04/27/23 10:10	
Chromium	ug/L	<0.30	1.0	0.30	04/27/23 10:10	
Selenium	ug/L	<0.18	1.0	0.18	04/27/23 10:10	
Thallium	ug/L	<0.14	1.0	0.14	04/27/23 10:10	

LABORATORY CONTROL SAMPLE: 3343533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.3	101	85-115	
Arsenic	ug/L	40	40.0	100	85-115	
Cadmium	ug/L	40	41.0	103	85-115	
Chromium	ug/L	40	40.0	100	85-115	
Selenium	ug/L	40	41.3	103	85-115	
Thallium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343534 3343535

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.6	39.2	99	98	70-130	1	20	
Arsenic	ug/L	2.1	40	40	41.8	41.5	99	98	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	38.1	38.0	95	95	70-130	0	20	
Chromium	ug/L	0.44J	40	40	40.9	40.2	101	99	70-130	2	20	
Selenium	ug/L	<0.18	40	40	39.1	39.2	97	98	70-130	0	20	
Thallium	ug/L	<0.14	40	40	41.3	40.8	103	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843669
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3343553 Matrix: Water
Associated Lab Samples: 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/27/23 11:00	
Arsenic	ug/L	<0.13	1.0	0.13	04/27/23 11:00	
Cadmium	ug/L	<0.050	0.50	0.050	04/27/23 11:00	
Chromium	ug/L	<0.30	1.0	0.30	04/27/23 11:00	
Selenium	ug/L	<0.18	1.0	0.18	04/27/23 11:00	
Thallium	ug/L	<0.14	1.0	0.14	04/27/23 11:00	

LABORATORY CONTROL SAMPLE: 3343554

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	39.3	98	85-115	
Arsenic	ug/L	40	39.7	99	85-115	
Cadmium	ug/L	40	40.0	100	85-115	
Chromium	ug/L	40	39.4	99	85-115	
Selenium	ug/L	40	41.7	104	85-115	
Thallium	ug/L	40	38.4	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343555 3343556

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	38.6	39.1	97	98	70-130	1	20	
Arsenic	ug/L	7.6	40	40	47.2	46.7	99	98	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	37.8	37.6	94	94	70-130	1	20	
Chromium	ug/L	0.36J	40	40	39.0	38.7	97	96	70-130	1	20	
Selenium	ug/L	<0.18	40	40	39.5	39.3	99	98	70-130	1	20	
Thallium	ug/L	<0.14	40	40	39.5	39.1	99	98	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 842587 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3339435 — Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	04/20/23 10:12	

LABORATORY CONTROL SAMPLE: 3339436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	500	100	90-110	

SAMPLE DUPLICATE: 3339437

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	372	361	3	10	

SAMPLE DUPLICATE: 3339438

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	858	875	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 842588
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605008

METHOD BLANK: 3339439 Matrix: Water
Associated Lab Samples: 60426605008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	04/20/23 13:08	

LABORATORY CONTROL SAMPLE: 3339440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	504	101	90-110	

SAMPLE DUPLICATE: 3339441

Parameter	Units	60426601005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	320	314	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 842883 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3340618 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/21/23 10:15	

LABORATORY CONTROL SAMPLE: 3340619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	961	96	80-120	

SAMPLE DUPLICATE: 3340620

Parameter	Units	60425253001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	124	126	2	10	H1

SAMPLE DUPLICATE: 3340621

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	638	641	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843197
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60426605008

METHOD BLANK: 3342040 Matrix: Water
Associated Lab Samples: 60426605008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/24/23 10:50	

LABORATORY CONTROL SAMPLE: 3342041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1010	101	80-120	

SAMPLE DUPLICATE: 3342042

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	922	978	6	10	

SAMPLE DUPLICATE: 3342043

Parameter	Units	60426605008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1270	1270	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843505 | Analysis Method: SM 3500-Fe B#4
QC Batch Method: SM 3500-Fe B#4 | Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3343183 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	04/26/23 14:05	H6

LABORATORY CONTROL SAMPLE: 3343184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	104	90-110	H6

SAMPLE DUPLICATE: 3343185

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	2.4	2.4	0	20	H6

SAMPLE DUPLICATE: 3343186

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.29	0.29	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843012
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3341203 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	04/22/23 09:27	

LABORATORY CONTROL SAMPLE: 3341204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341205 3341206

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.021J	0.5	0.5	0.32	0.32	59	59	75-125	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341208 3341209

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.017J	0.5	0.5	0.52	0.52	101	101	75-125	0	20	

SAMPLE DUPLICATE: 3341207

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.021J	0.018J		20	

SAMPLE DUPLICATE: 3341210

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.017J	0.016J		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 843013
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605008

METHOD BLANK: 3341211 Matrix: Water
Associated Lab Samples: 60426605008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	04/22/23 10:17	

LABORATORY CONTROL SAMPLE: 3341212

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341213 3341214

Parameter	Units	60426601008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.016J	0.5	0.5	0.77	0.77	150	150	75-125	0	20	M1

SAMPLE DUPLICATE: 3341215

Parameter	Units	60426605008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 844104
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426605001, 60426605002, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

METHOD BLANK: 3345452 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/28/23 07:36	
Fluoride	mg/L	<0.12	0.20	0.12	04/28/23 07:36	
Sulfate	mg/L	<0.55	1.0	0.55	04/28/23 07:36	

LABORATORY CONTROL SAMPLE: 3345453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3345454 3345455

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14.7	5	5	18.1	18.3	69	74	80-120	1	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	0.94	1.0	38	41	80-120	10	15	M1
Sulfate	mg/L	42.5	100	100	232	178	189	135	80-120	26	15	M1,R1

SAMPLE DUPLICATE: 3345456

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	14.7	14.6	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	42.5	41.3	3	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 844319
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60426605003

METHOD BLANK: 3346274 Matrix: Water
Associated Lab Samples: 60426605003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	0.56J	1.0	0.53	05/01/23 18:48	
Fluoride	mg/L	<0.12	0.20	0.12	05/01/23 18:48	
Sulfate	mg/L	<0.55	1.0	0.55	05/01/23 18:48	

LABORATORY CONTROL SAMPLE: 3346275

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	93	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.2	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3346276 3346277

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	26.7	25	25	52.3	61.2	102	138	80-120	16	15	M1,R1
Fluoride	mg/L	<0.12	2.5	2.5	2.2	2.2	89	88	80-120	2	15	
Sulfate	mg/L	155	100	100	329	256	175	101	80-120	25	15	M1,R1

SAMPLE DUPLICATE: 3346278

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	26.7	26.3	1	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	155	168	8	15	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-1 **Lab ID: 60426605001** Collected: 04/17/23 14:32 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0722 ± 0.425 (0.867) C:NA T:86%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.992 ± 0.484 (0.850) C:70% T:87%**	pCi/L	05/04/23 11:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-2 **Lab ID: 60426605002** Collected: 04/17/23 10:25 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.324 ± 0.551 (0.972) C:NA T:81%**	pCi/L	05/11/23 13:16	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.18 ± 0.563 (0.989) C:68% T:83%**	pCi/L	05/04/23 11:50	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-3 **Lab ID: 60426605003** Collected: 04/17/23 11:58 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.507 ± 0.319 (0.137) C:NA T:89%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.728 ± 0.512 (0.998) C:62% T:83%**	pCi/L	05/04/23 11:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-4 **Lab ID: 60426605004** Collected: 04/17/23 13:38 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.792 ± 0.557 (0.711) C:NA T:89%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.392 ± 0.408 (0.849) C:66% T:90%**	pCi/L	05/04/23 11:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-5 **Lab ID: 60426605005** Collected: 04/17/23 15:23 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.773 ± 0.466 (0.191) C:NA T:86%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**1.33 ± 0.514 (0.795) C:72% T:85%**	pCi/L	05/04/23 11:51	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-6 **Lab ID: 60426605006** Collected: 04/17/23 17:13 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.332 ± 0.568 (0.995) C:NA T:86%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.358 ± 0.415 (0.877) C:74% T:87%**	pCi/L	05/04/23 11:52	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-7 **Lab ID: 60426605007** Collected: 04/17/23 15:33 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.0717 ± 0.327 (0.665) C:NA T:93%**	pCi/L	05/11/23 13:16	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.688 ± 0.460 (0.888) C:67% T:87%**	pCi/L	05/04/23 11:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MW-8 **Lab ID: 60426605008** Collected: 04/18/23 09:30 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.295 ± 0.338 (0.200) C:NA T:89%**	pCi/L	05/11/23 13:30	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.893 ± 0.515 (0.957) C:65% T:85%**	pCi/L	05/04/23 11:52	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-1 **Lab ID: 60426605009** Collected: 04/17/23 13:32 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.371 ± 0.342 (0.201) C:NA T:89%**	pCi/L	05/11/23 13:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.03 ± 0.691 (1.35) C:72% T:86%**	pCi/L	05/04/23 15:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-BMW-2 **Lab ID: 60426605010** Collected: 04/17/23 12:30 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.514 ± 0.440 (0.597) C:NA T:90%**	pCi/L	05/11/23 13:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.08 ± 0.511 (0.893) C:77% T:85%**	pCi/L	05/04/23 15:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-DUP-1 **Lab ID: 60426605011** Collected: 04/17/23 00:00 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.440 ± 0.480 (0.754) C:NA T:93%**	pCi/L	05/11/23 13:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.70 ± 0.617 (0.930) C:81% T:74%**	pCi/L	05/04/23 15:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-FB-1 **Lab ID: 60426605012** Collected: 04/17/23 17:23 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0728 ± 0.622 (1.27) C:NA T:89%**	pCi/L	05/11/23 13:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.575 ± 0.425 (0.842) C:80% T:88%**	pCi/L	05/04/23 15:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MS-1 **Lab ID: 60426605013** Collected: 04/17/23 11:58 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**97.43 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/11/23 13:30	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**88.60 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/04/23 15:15	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

Sample: M-MSD-1 **Lab ID: 60426605014** Collected: 04/17/23 11:58 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**89.13 %REC 8.90RPD ± NA (NA) C:NA T:NA**	pCi/L	05/11/23 13:30	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**104.94 %REC 16.88RPD ± NA (NA) C:NA T:NA**	pCi/L	05/04/23 15:15	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 583215
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012, 60426605013, 60426605014

METHOD BLANK: 2832312
Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012, 60426605013, 60426605014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.187 ± 0.260 (0.434) C:NA T:96%	pCi/L	05/11/23 13:16	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60426605

QC Batch: 583216 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012, 60426605013, 60426605014

METHOD BLANK: 2832314 Matrix: Water
Associated Lab Samples: 60426605001, 60426605002, 60426605003, 60426605004, 60426605005, 60426605006, 60426605007, 60426605008, 60426605009, 60426605010, 60426605011, 60426605012, 60426605013, 60426605014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.209 ± 0.350 (0.761) C:70% T:91%	pCi/L	05/04/23 11:50	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC
Pace Project No.: 60426605

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426605001	**M-MW-1**	EPA 200.7	843663	EPA 200.7	843697
60426605002	**M-MW-2**	EPA 200.7	843663	EPA 200.7	843697
60426605003	**M-MW-3**	EPA 200.7	843665	EPA 200.7	843699
60426605004	**M-MW-4**	EPA 200.7	843665	EPA 200.7	843699
60426605005	**M-MW-5**	EPA 200.7	843665	EPA 200.7	843699
60426605006	**M-MW-6**	EPA 200.7	843665	EPA 200.7	843699
60426605007	**M-MW-7**	EPA 200.7	843665	EPA 200.7	843699
60426605008	**M-MW-8**	EPA 200.7	843665	EPA 200.7	843699
60426605009	**M-BMW-1**	EPA 200.7	843665	EPA 200.7	843699
60426605010	**M-BMW-2**	EPA 200.7	843665	EPA 200.7	843699
60426605011	**M-DUP-1**	EPA 200.7	843665	EPA 200.7	843699
60426605012	**M-FB-1**	EPA 200.7	843665	EPA 200.7	843699
60426605001	**M-MW-1**	EPA 200.8	843664	EPA 200.8	843698
60426605002	**M-MW-2**	EPA 200.8	843664	EPA 200.8	843698
60426605003	**M-MW-3**	EPA 200.8	843669	EPA 200.8	843700
60426605004	**M-MW-4**	EPA 200.8	843669	EPA 200.8	843700
60426605005	**M-MW-5**	EPA 200.8	843669	EPA 200.8	843700
60426605006	**M-MW-6**	EPA 200.8	843669	EPA 200.8	843700
60426605007	**M-MW-7**	EPA 200.8	843669	EPA 200.8	843700
60426605008	**M-MW-8**	EPA 200.8	843669	EPA 200.8	843700
60426605009	**M-BMW-1**	EPA 200.8	843669	EPA 200.8	843700
60426605010	**M-BMW-2**	EPA 200.8	843669	EPA 200.8	843700
60426605011	**M-DUP-1**	EPA 200.8	843669	EPA 200.8	843700
60426605012	**M-FB-1**	EPA 200.8	843669	EPA 200.8	843700
60426605001	**M-MW-1**	EPA 7470	846174	EPA 7470	846314
60426605002	**M-MW-2**	EPA 7470	846174	EPA 7470	846314
60426605003	**M-MW-3**	EPA 7470	846175	EPA 7470	846312
60426605004	**M-MW-4**	EPA 7470	846175	EPA 7470	846312
60426605005	**M-MW-5**	EPA 7470	846175	EPA 7470	846312
60426605006	**M-MW-6**	EPA 7470	846175	EPA 7470	846312
60426605007	**M-MW-7**	EPA 7470	846175	EPA 7470	846312
60426605008	**M-MW-8**	EPA 7470	846175	EPA 7470	846312
60426605009	**M-BMW-1**	EPA 7470	846175	EPA 7470	846312
60426605010	**M-BMW-2**	EPA 7470	846175	EPA 7470	846312
60426605011	**M-DUP-1**	EPA 7470	846175	EPA 7470	846312
60426605012	**M-FB-1**	EPA 7470	846175	EPA 7470	846312
60426605001	**M-MW-1**	EPA 903.1	583215		
60426605002	**M-MW-2**	EPA 903.1	583215		
60426605003	**M-MW-3**	EPA 903.1	583215		
60426605004	**M-MW-4**	EPA 903.1	583215		
60426605005	**M-MW-5**	EPA 903.1	583215		
60426605006	**M-MW-6**	EPA 903.1	583215		
60426605007	**M-MW-7**	EPA 903.1	583215		
60426605008	**M-MW-8**	EPA 903.1	583215		
60426605009	**M-BMW-1**	EPA 903.1	583215		
60426605010	**M-BMW-2**	EPA 903.1	583215		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426605011	M-DUP-1	EPA 903.1	583215		
60426605012	M-FB-1	EPA 903.1	583215		
60426605013	M-MS-1	EPA 903.1	583215		
60426605014	M-MSD-1	EPA 903.1	583215		
60426605001	M-MW-1	EPA 904.0	583216		
60426605002	M-MW-2	EPA 904.0	583216		
60426605003	M-MW-3	EPA 904.0	583216		
60426605004	M-MW-4	EPA 904.0	583216		
60426605005	M-MW-5	EPA 904.0	583216		
60426605006	M-MW-6	EPA 904.0	583216		
60426605007	M-MW-7	EPA 904.0	583216		
60426605008	M-MW-8	EPA 904.0	583216		
60426605009	M-BMW-1	EPA 904.0	583216		
60426605010	M-BMW-2	EPA 904.0	583216		
60426605011	M-DUP-1	EPA 904.0	583216		
60426605012	M-FB-1	EPA 904.0	583216		
60426605013	M-MS-1	EPA 904.0	583216		
60426605014	M-MSD-1	EPA 904.0	583216		
60426605001	M-MW-1	SM 2320B	842587		
60426605002	M-MW-2	SM 2320B	842587		
60426605003	M-MW-3	SM 2320B	842587		
60426605004	M-MW-4	SM 2320B	842587		
60426605005	M-MW-5	SM 2320B	842587		
60426605006	M-MW-6	SM 2320B	842587		
60426605007	M-MW-7	SM 2320B	842587		
60426605008	M-MW-8	SM 2320B	842588		
60426605009	M-BMW-1	SM 2320B	842587		
60426605010	M-BMW-2	SM 2320B	842587		
60426605011	M-DUP-1	SM 2320B	842587		
60426605012	M-FB-1	SM 2320B	842587		
60426605001	M-MW-1	SM 2540C	842883		
60426605002	M-MW-2	SM 2540C	842883		
60426605003	M-MW-3	SM 2540C	842883		
60426605004	M-MW-4	SM 2540C	842883		
60426605005	M-MW-5	SM 2540C	842883		
60426605006	M-MW-6	SM 2540C	842883		
60426605007	M-MW-7	SM 2540C	842883		
60426605008	M-MW-8	SM 2540C	843197		
60426605009	M-BMW-1	SM 2540C	842883		
60426605010	M-BMW-2	SM 2540C	842883		
60426605011	M-DUP-1	SM 2540C	842883		
60426605012	M-FB-1	SM 2540C	842883		
60426605001	M-MW-1	SM 3500-Fe B#4	846084		
60426605002	M-MW-2	SM 3500-Fe B#4	846084		
60426605003	M-MW-3	SM 3500-Fe B#4	846084		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60426605

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426605004	M-MW-4	SM 3500-Fe B#4	846084		
60426605005	M-MW-5	SM 3500-Fe B#4	846084		
60426605006	M-MW-6	SM 3500-Fe B#4	846084		
60426605007	M-MW-7	SM 3500-Fe B#4	846084		
60426605008	M-MW-8	SM 3500-Fe B#4	846084		
60426605009	M-BMW-1	SM 3500-Fe B#4	846084		
60426605010	M-BMW-2	SM 3500-Fe B#4	846084		
60426605011	M-DUP-1	SM 3500-Fe B#4	846084		
60426605012	M-FB-1	SM 3500-Fe B#4	846084		
60426605001	M-MW-1	SM 3500-Fe B#4	843505		
60426605002	M-MW-2	SM 3500-Fe B#4	843505		
60426605003	M-MW-3	SM 3500-Fe B#4	843505		
60426605004	M-MW-4	SM 3500-Fe B#4	843505		
60426605005	M-MW-5	SM 3500-Fe B#4	843505		
60426605006	M-MW-6	SM 3500-Fe B#4	843505		
60426605007	M-MW-7	SM 3500-Fe B#4	843505		
60426605008	M-MW-8	SM 3500-Fe B#4	843505		
60426605009	M-BMW-1	SM 3500-Fe B#4	843505		
60426605010	M-BMW-2	SM 3500-Fe B#4	843505		
60426605011	M-DUP-1	SM 3500-Fe B#4	843505		
60426605012	M-FB-1	SM 3500-Fe B#4	843505		
60426605001	M-MW-1	SM 4500-S-2 D	843012		
60426605002	M-MW-2	SM 4500-S-2 D	843012		
60426605003	M-MW-3	SM 4500-S-2 D	843012		
60426605004	M-MW-4	SM 4500-S-2 D	843012		
60426605005	M-MW-5	SM 4500-S-2 D	843012		
60426605006	M-MW-6	SM 4500-S-2 D	843012		
60426605007	M-MW-7	SM 4500-S-2 D	843012		
60426605008	M-MW-8	SM 4500-S-2 D	843013		
60426605009	M-BMW-1	SM 4500-S-2 D	843012		
60426605010	M-BMW-2	SM 4500-S-2 D	843012		
60426605011	M-DUP-1	SM 4500-S-2 D	843012		
60426605012	M-FB-1	SM 4500-S-2 D	843012		
60426605001	M-MW-1	EPA 300.0	844104		
60426605002	M-MW-2	EPA 300.0	844104		
60426605003	M-MW-3	EPA 300.0	844319		
60426605004	M-MW-4	EPA 300.0	844104		
60426605005	M-MW-5	EPA 300.0	844104		
60426605006	M-MW-6	EPA 300.0	844104		
60426605007	M-MW-7	EPA 300.0	844104		
60426605008	M-MW-8	EPA 300.0	844104		
60426605009	M-BMW-1	EPA 300.0	844104		
60426605010	M-BMW-2	EPA 300.0	844104		
60426605011	M-DUP-1	EPA 300.0	844104		
60426605012	M-FB-1	EPA 300.0	844104		

WO# : 60426605

60426605

DC#_Title: ENV-FRM-LENE-0009_Sample Co		
Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Rocksmith Geoengineers

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☐ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☐ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T299 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 0.3/1.5/2.6 **Corr. Factor** +0.2 **Corrected** 0.5/1.7/2.2 / 14.3/13.4

Temperature should be above freezing to 6°C 14.1/13.2

Date and initials of person examining contents: 4/19/23

Chain of Custody present:	☐Yes ☐No ☐N/A	
Chain of Custody relinquished:	☐Yes ☐No ☐N/A	
Samples arrived within holding time:	☐Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☐No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☐No ☐N/A	
Sufficient volume:	☐Yes ☐No ☐N/A	
Correct containers used:	☐Yes ☐No ☐N/A	
Pace containers used:	☐Yes ☐No ☐N/A	
Containers intact:	☐Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☐N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☐Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☐No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67187/62071	☐Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☐N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☐N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☐N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☐N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 2

Section A Required Client Information:

Company:	Rocksmith Geoengineers, LLC.
Address:	5233 Roanoke Drive
	St. Charles, MO 63304
Email To:	mark.haddock@rocksmithgeo.com
Phone: 314-974-6578	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Mark Haddock
Copy To:	Jeffrey Ingram
Purchase Order No.:	1025926
Project Name:	AMEREN MEC
Project Number:	COC #13

Section C Invoice Information:

Attention:	
Company Name:	Rocksmith
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	15852, line 1

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		N	N	N	N	N	N	N	N	N	N	
1	M-MW-1	WT	G			4-17-23	1432		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	60496605
2	M-MW-2	WT	G			4-17-23	1025		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
3	M-MW-3	WT	G			4-17-23	1158		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
4	M-MW-4	WT	G			4-17-23	1338		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
5	M-MW-5	WT	G			4-17-23	1523		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
6	M-MW-6	WT	G			4-17-23	1713		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
7	M-MW-7	WT	G			4-17-23	1533		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
8	M-MW-8	WT	G			4-18-23	0930		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
9	M-BMW-1	WT	G			4-17-23	1332		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
10	M-BMW-2	WT	G			4-17-23	1230		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11	M-DUP-1	WT	G			4-17-23	—		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
12	M-FB-1	WT	G			4-17-23	1723		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na					4/19/23	0506
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl						
Radium 226/228 to Pace PA						

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.5	X	N	Y
1.7	↓		
2.2	↓		
14.3	N		
13.4	↓		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Pace Analytical
www.pacelabs.com

Section A Required Client Information:

Company:	Rocksmith Geoengineers, LLC.
Address:	5233 Roanoke Drive
	St. Charles, MO 63304
Email To:	mark.haddock@rocksmithgeo.com
Phone: 314-974-6578	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Mark Haddock
Copy To:	Jeffrey Ingram
Purchase Order No.:	1025926
Project Name:	AMEREN MEC
Project Number:	COC #13

Section C Invoice Information:

Attention:	
Company Name:	Rocksmith
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	15852, line 1

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER _____

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	Section D: SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Y/N ↓ Analysis Test ↓	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Y/N ↓	N	N	N	N	N	N	N	N	N	N				60426605
1	M-MS-1	WT	G			4-17-23	1158		6	2		3		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				collected @ M-MW-3
2	M-MSD-1	WT	G			4-17-23	1158		6	2		3		1					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				1
3		WT	G																													
4		WT	G																													
5		WT	G																													
6		WT	G																													
7		WT	G																													
8		WT	G																													
9		WT	G																													
10		WT	G																													
11		WT	G																													
12		WT	G																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na						
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl						
Radium 226/228 to Pace PA					4/19	0506

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
0.5	Y	N	Y
1.7			
2.2			
14.3	N		
13.4			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

Client: Rocksmith Geoengineers Profile # 15852-1

Site: Ameren MEC COC#13 Notes Follow Container Sheet

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																		1		1	2	1				1					
2																			1		1	2	1				1					
3																			3		3	2	3				3					
4																			1		1	2	1				1					
5																			1													
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60426605

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

Client: Rocksmith Geoengineers Profile # 15852-1

Site: Ameren MEC COC #13 Notes Follow Container Sheet

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																					2		only log Radium								
2	↓																					2		only log Radium								
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60426605

Memorandum

June 6, 2023

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23010
CC:	Mark Haddock, Jeffrey Ingram		
From:	Grant Morey	**Email:**	Grant.Morey@Rocksmithgeo.com
RE:	**Data Validation Summary, Meramec Energy Center – MEC – Data Package 60426605**		

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- When a compound was analyzed outside of hold time, the sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a compound was detected in a sample result between the Method Detection Limit (MDL) and Practical Quantification Limit (PQL), the results were recorded at the detection value and qualified as estimates (J).
- When a duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J, J+ for estimates based high, and J- for estimates based low).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren MEC
Project Number: 23010
Reviewer: G. Morey
Validation Date: 6/6/2023

Laboratory: Pace Analytical
SDG #: 60426605
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names M-MW-1, M-MW-2, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8, M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/17/2023 - 4/18/2023
b) Sampling team indicated?	x			JSI, GTM
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes.
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	x			
b) Was the COC signed by both field and laboratory personnel?		x		Missing signature from field personnel.
c) Were samples received in good condition?	x			

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?		x		See Notes
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See Notes
g) Were any matrix problems noted?		x		

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	x			See Notes
b) Were analytes detected in the field blank(s)?	x			See Notes
c) Were analytes detected in the equipment blank(s)?			x	
d) Were analytes detected in the trip blank(s)?			x	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	x			
b) Were the proper analytes included in the LCS?	x			
c) Was the LCS accuracy criteria met?	x			

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-DUP-1 collected @ M-MW-4
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			See Notes
d) Were lab dup. precision criteria met (note RPD)?	x			See Notes

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?			x	
b) Was the %D within control limits?			x	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?		x		See Notes
Recovery could not be calculated since sample contained high concentration of analyte?			x	
b) Was MSD accuracy criteria met?		x		See Notes
Recovery could not be calculated since sample contained high concentration of analyte?			x	
c) Were MS/MSD precision criteria met?		x		See Notes

Comments/Notes:

General:

Ferrous iron samples were all analyzed outside of hold time. Results qualified as estimates.

Lab duplicate for TDS (3340620) analyzed outside of hold time, no qualification necessary.

Chloride and sulfate were diluted in many samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

3343528: Barium (0.82J). Associated with samples -001 and -002. Sample results > RL and 10x blank: no qualification.

3346274: Chloride (0.56J). Associated with sample -003. Sample result > RL and 10x blank: no qualification.

Field Blanks:

M-FB-1 @ M-MW-6: Barium (0.68J), Boron (24.4J), Calcium (38.8J), Iron (10J), Chromium (0.36J), TDS (5.5), Ferric iron (0.010J), Sulfide (0.041J). Chromium and sulfide results < PQL, reported at PQL and qualified as non-detect.

Duplicates:

M-DUP-1 @ M-MW-4: DUP RPD exceeds limit (20%) for Chloride (25.5%) and Ferrous Iron (48.6%); Beryllium and Radium-226 detected in sample, non-detected in duplicate; Radium-228 and Sulfide non-detected in sample, detected in duplicate.

Lab duplicate max RPD: 10%: Alkalinity, TDS; 15%: Chloride, Fluoride, Sulfate; 20%: Ferrous Iron, Sulfide

MS/MSD:

3343530/3343531: MS/MSD recovery low for Calcium, MS recovery low for Magnesium. MS/MSD performed on unrelated sample; no qualification necessary.

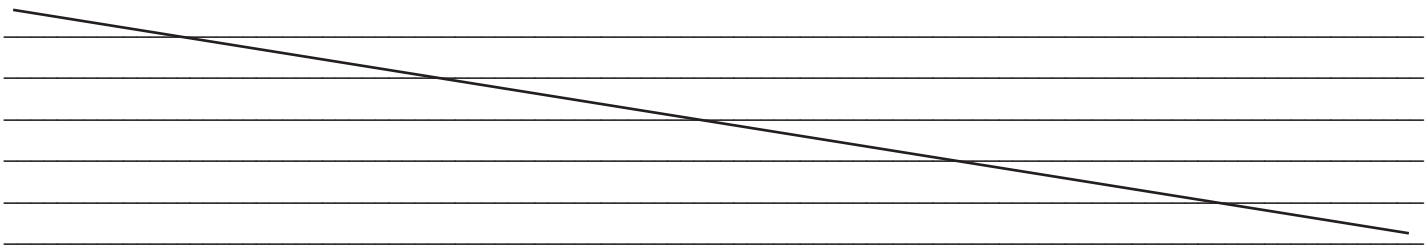
3343538/3343539: MS recovery high for Calcium. Associated with sample -003. Only 1 QC indicator out, no qualification necessary.

3341205/3341206: MS/MSD recovery low for Sulfide. Associated with sample -003. Result qualified as estimate.

3341213/3341214: MS/MSD recovery high for Sulfide. MS/MSD performed on unrelated sample; no qualification necessary.

3345454/3345455: MS/MSD recovery low for Chloride and Fluoride. MS/MSD recovery high and RPD outside of control limits for Sulfate. MS/MSD performed on unrelated sample; no qualification necessary.

3346276/3346277: MSD recovery high and RPD outside of control limits for Chloride; MS recovery high and RPD outside of control limits for Sulfate. Associated with sample -003. Results qualified as estimates.



QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-1	Ferrous Iron	0.058	J	Analyzed outside of hold time
M-MW-2	"	4.3	J	"
M-MW-3	"	2.4	J	"
M-MW-4	"	2.3	J	Analyzed outside of hold time; DUP RPD exceeds limit
M-MW-5	"	0.066	J	Analyzed outside of hold time
M-MW-6	"	0.32	J	"
M-MW-7	"	0.41	UJ	"
M-MW-8	"	0.086	J	"
M-BMW-1	"	0.041	UJ	"
M-BMW-2	"	0.056	J	"
M-DUP-1	"	1.4	J	Analyzed outside of hold time; DUP RPD exceeds limit
M-FB-1	"	0.041	J	Analyzed outside of hold time
M-MW-6	Chromium	1.0	U	Detected in blank, PQL>sample>MDL
"	Sulfide	0.050	U	"
M-DUP-1	Beryllium	0.12	UJ	Detected in sample, ND in duplicate
M-MW-4	"	0.12	J	"
M-DUP-1	Chloride	44.6	J	DUP RPD exceeds limit
M-MW-4	"	34.5	J	"
M-DUP-1	Radium-226	0.754	UJ	Detected in sample, ND in duplicate
M-MW-4	"	0.792 ± 0.557	J	"
M-DUP-1	Radium-228	1.7 ± 0.617	J	ND in sample, detected in duplicate
M-MW-4	"	0.849	UJ	"
M-DUP-1	Sulfide	0.021	J	"
M-MW-4	"	0.016	UJ	"
M-MW-3	Sulfide	0.021	J-	MS/MSD % recovery low
"	Chloride	26.7	J	MSD % recovery high, RPD outside control limits
"	Sulfate	155	J	MS % recovery high, RPD outside control limits

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Grant Morey Date: 06/06/2023

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

May 11, 2023

Mark Haddock
Rocksmith Geoengineering, LLC.
5233 Roanoke Drive
Saint Charles, MO 63304

RE: Project: AMEREN MEC-CA
Pace Project No.: 60426601

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on April 19, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-22-16
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60426601001	**M-MW-11S**	Water	04/18/23 10:22	04/19/23 05:06
60426601002	**M-MW-11D**	Water	04/18/23 11:47	04/19/23 05:06
60426601003	**M-TP-1**	Water	04/18/23 10:18	04/19/23 05:06
60426601004	**M-TP-2**	Water	04/18/23 11:41	04/19/23 05:06
60426601005	**M-MW-9**	Water	04/18/23 09:06	04/19/23 05:06
60426601006	**M-MW-10**	Water	04/18/23 13:40	04/19/23 05:06
60426601007	**M-CA-DUP-1**	Water	04/18/23 00:00	04/19/23 05:06
60426601008	**M-CA-FB-1**	Water	04/18/23 13:50	04/19/23 05:06
60426601009	**M-CA-MS-1**	Water	04/18/23 10:22	04/19/23 05:06
60426601010	**M-CA-MSD-1**	Water	04/18/23 10:22	04/19/23 05:06

Pace Analytical Services, LLC
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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60426601001	**M-MW-11S**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601002	**M-MW-11D**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601003	**M-TP-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601004	**M-TP-2**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601005	**M-MW-9**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601006	**M-MW-10**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601007	**M-CA-DUP-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601008	**M-CA-FB-1**	EPA 200.7	JXD	13	PASI-K
		EPA 200.8	JGP	6	PASI-K
		EPA 7470	ALH	1	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	JS2	1	PASI-K
		SM 2540C	MLD	1	PASI-K
		SM 3500-Fe B#4	BLA	1	PASI-K
		SM 3500-Fe B#4	MLD	1	PASI-K
		SM 4500-S-2 D	BLA	1	PASI-K
		EPA 300.0	CRN2	3	PASI-K
60426601009	**M-CA-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
60426601010	**M-CA-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA

PASI-K = Pace Analytical Services - Kansas City
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11S **Lab ID: 60426601001** Collected: 04/18/23 10:22 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**692**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 17:44	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 17:44	7440-41-7	
Boron	**1650**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 17:44	7440-42-8	
Calcium	**222000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 17:44	7440-70-2	M1
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 17:44	7440-48-4	
Iron	**49700**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 17:44	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 17:44	7439-92-1	
Lithium	**22.5**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 17:44	7439-93-2	
Magnesium	**68000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 17:44	7439-95-4	M1
Manganese	**1280**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 17:44	7439-96-5	
Molybdenum	**2.2J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 17:44	7439-98-7	
Potassium	**8520**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 17:44	7440-09-7	
Sodium	**23400**	ug/L	500	115	1	04/26/23 08:53	05/03/23 17:44	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:15	7440-36-0	
Arsenic	**2.1**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:15	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:15	7440-43-9	
Chromium	**0.44J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:15	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:15	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:15	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:36	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**858**	mg/L	20.0	10.5	1		04/20/23 12:20		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**922**	mg/L	20.0	20.0	1		04/24/23 10:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**49.4**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.29**	mg/L	0.20	0.041	1		04/26/23 14:22	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11S **Lab ID: 60426601001** Collected: 04/18/23 10:22 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.017J**	mg/L	0.050	0.016	1		04/22/23 10:14	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**14.7**	mg/L	1.0	0.53	1		04/28/23 09:59	16887-00-6	M1
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 09:59	16984-48-8	M1
Sulfate	**42.5**	mg/L	20.0	11.0	20		04/28/23 10:49	14808-79-8	M1,R1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11D **Lab ID: 60426601002** Collected: 04/18/23 11:47 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**96.7**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 17:50	7440-39-3	
Beryllium	**0.16J**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 17:50	7440-41-7	
Boron	**11500**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 17:50	7440-42-8	
Calcium	**218000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 17:50	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 17:50	7440-48-4	
Iron	**18800**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 17:50	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 17:50	7439-92-1	
Lithium	**43.7**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 17:50	7439-93-2	
Magnesium	**54000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 17:50	7439-95-4	
Manganese	**606**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 17:50	7439-96-5	
Molybdenum	**310**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 17:50	7439-98-7	
Potassium	**6000**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 17:50	7440-09-7	
Sodium	**48600**	ug/L	500	115	1	04/26/23 08:53	05/03/23 17:50	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:27	7440-36-0	
Arsenic	**11.7**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:27	7440-38-2	
Cadmium	**0.10J**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:27	7440-43-9	
Chromium	**0.40J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:27	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:27	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:27	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:43	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**276**	mg/L	20.0	10.5	1		04/20/23 12:48		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1210**	mg/L	20.0	20.0	1		04/24/23 10:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**18.6**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.13J**	mg/L	0.20	0.041	1		04/26/23 14:24	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11D **Lab ID: 60426601002** Collected: 04/18/23 11:47 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.020J**	mg/L	0.050	0.016	1		04/22/23 10:15	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**52.0**	mg/L	20.0	10.5	20		04/28/23 12:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 12:05	16984-48-8	
Sulfate	**551**	mg/L	100	55.0	100		05/03/23 15:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-1 **Lab ID: 60426601003** Collected: 04/18/23 10:18 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**342**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 17:52	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 17:52	7440-41-7	
Boron	**372**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 17:52	7440-42-8	
Calcium	**68100**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 17:52	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 17:52	7440-48-4	
Iron	**2730**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 17:52	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 17:52	7439-92-1	
Lithium	**30.7**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 17:52	7439-93-2	
Magnesium	**29200**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 17:52	7439-95-4	
Manganese	**60.6**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 17:52	7439-96-5	
Molybdenum	**2.4J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 17:52	7439-98-7	
Potassium	**3070**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 17:52	7440-09-7	
Sodium	**53200**	ug/L	500	115	1	04/26/23 08:53	05/03/23 17:52	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:30	7440-36-0	
Arsenic	**19.0**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:30	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:30	7440-43-9	
Chromium	**0.38J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:30	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:30	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:30	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:46	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**394**	mg/L	20.0	10.5	1		04/20/23 12:55		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**470**	mg/L	10.0	10.0	1		04/24/23 10:51		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**2.7**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.054J**	mg/L	0.20	0.041	1		04/26/23 14:19	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-1 **Lab ID: 60426601003** Collected: 04/18/23 10:18 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.017J**	mg/L	0.050	0.016	1		04/22/23 10:16	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**36.4**	mg/L	20.0	10.5	20		04/28/23 12:42	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 12:30	16984-48-8	
Sulfate	**1.5**	mg/L	1.0	0.55	1		04/28/23 12:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-2 **Lab ID: 60426601004** Collected: 04/18/23 11:41 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**63.4**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 17:54	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 17:54	7440-41-7	
Boron	**2690**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 17:54	7440-42-8	
Calcium	**227000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 17:54	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 17:54	7440-48-4	
Iron	**17600**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 17:54	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 17:54	7439-92-1	
Lithium	**44.2**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 17:54	7439-93-2	
Magnesium	**59000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 17:54	7439-95-4	
Manganese	**630**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 17:54	7439-96-5	
Molybdenum	**13.0J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 17:54	7439-98-7	
Potassium	**8710**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 17:54	7440-09-7	
Sodium	**184000**	ug/L	500	115	1	04/26/23 08:53	05/03/23 17:54	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:33	7440-36-0	
Arsenic	**4.1**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:33	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:33	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:33	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:33	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:33	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:48	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**406**	mg/L	20.0	10.5	1		04/20/23 13:01		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**2310**	mg/L	40.0	40.0	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**17.5**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.042J**	mg/L	0.20	0.041	1		04/26/23 14:24	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-2 **Lab ID: 60426601004** Collected: 04/18/23 11:41 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.016J**	mg/L	0.050	0.016	1		04/22/23 10:16	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**228**	mg/L	20.0	10.5	20		04/28/23 13:08	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 12:55	16984-48-8	
Sulfate	**492**	mg/L	50.0	27.5	50		05/03/23 16:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-9 **Lab ID: 60426601005** Collected: 04/18/23 09:06 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**309**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 17:56	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 17:56	7440-41-7	
Boron	**8430**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 17:56	7440-42-8	
Calcium	**175000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 17:56	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 17:56	7440-48-4	
Iron	**22800**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 17:56	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 17:56	7439-92-1	
Lithium	**19.2**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 17:56	7439-93-2	
Magnesium	**54000**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 17:56	7439-95-4	
Manganese	**569**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 17:56	7439-96-5	
Molybdenum	**35.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 17:56	7439-98-7	
Potassium	**5110**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 17:56	7440-09-7	
Sodium	**45000**	ug/L	500	115	1	04/26/23 08:53	05/03/23 17:56	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:36	7440-36-0	
Arsenic	**19.6**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:36	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:36	7440-43-9	
Chromium	**0.36J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:36	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:36	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:36	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:50	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**320**	mg/L	20.0	10.5	1		04/20/23 13:19		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1150**	mg/L	13.3	13.3	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**22.8**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:17	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-9 **Lab ID: 60426601005** Collected: 04/18/23 09:06 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.018J**	mg/L	0.050	0.016	1		04/22/23 10:16	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**46.1**	mg/L	20.0	10.5	20		04/28/23 13:33	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 13:20	16984-48-8	
Sulfate	**390**	mg/L	50.0	27.5	50		05/03/23 16:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-10 **Lab ID: 60426601006** Collected: 04/18/23 13:40 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**106**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:05	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:05	7440-41-7	
Boron	**2240**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:05	7440-42-8	
Calcium	**203000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:05	7440-70-2	
Cobalt	**2.7J**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:05	7440-48-4	
Iron	**11500**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:05	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:05	7439-92-1	
Lithium	**36.8**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:05	7439-93-2	
Magnesium	**48700**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:05	7439-95-4	
Manganese	**612**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:05	7439-96-5	
Molybdenum	**10.4J**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:05	7439-98-7	
Potassium	**8540**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:05	7440-09-7	
Sodium	**79800**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:05	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:39	7440-36-0	
Arsenic	**10.3**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:39	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:39	7440-43-9	
Chromium	**0.46J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:39	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:39	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:39	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:52	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**457**	mg/L	20.0	10.5	1		04/20/23 13:32		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1340**	mg/L	20.0	20.0	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**11.5**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:25	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-10 **Lab ID: 60426601006** Collected: 04/18/23 13:40 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.016J**	mg/L	0.050	0.016	1		04/22/23 10:17	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**89.8**	mg/L	20.0	10.5	20		04/28/23 14:23	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 13:46	16984-48-8	
Sulfate	**318**	mg/L	20.0	11.0	20		04/28/23 14:23	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-DUP-1 **Lab ID: 60426601007** Collected: 04/18/23 00:00 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**95.7**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:07	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:07	7440-41-7	
Boron	**11400**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:07	7440-42-8	
Calcium	**216000**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:07	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:07	7440-48-4	
Iron	**18600**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:07	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:07	7439-92-1	
Lithium	**41.4**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:07	7439-93-2	
Magnesium	**53500**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:07	7439-95-4	
Manganese	**608**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:07	7439-96-5	
Molybdenum	**309**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:07	7439-98-7	
Potassium	**5920**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:07	7440-09-7	
Sodium	**48200**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:07	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:45	7440-36-0	
Arsenic	**11.5**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:45	7440-38-2	
Cadmium	**0.10J**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:45	7440-43-9	
Chromium	**<0.30**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:45	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:45	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:45	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 12:59	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**269**	mg/L	20.0	10.5	1		04/20/23 13:40		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1240**	mg/L	20.0	20.0	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**18.4**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**0.14J**	mg/L	0.20	0.041	1		04/26/23 14:17	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-DUP-1 **Lab ID: 60426601007** Collected: 04/18/23 00:00 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.019J**	mg/L	0.050	0.016	1		04/22/23 10:17	18496-25-8	
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**57.3**	mg/L	20.0	10.5	20		04/28/23 14:49	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 14:36	16984-48-8	
Sulfate	**539**	mg/L	100	55.0	100		05/03/23 16:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-FB-1 **Lab ID: 60426601008** Collected: 04/18/23 13:50 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	04/26/23 08:53	05/03/23 18:09	7440-39-3	
Beryllium	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	05/03/23 18:09	7440-41-7	
Boron	**23.1J**	ug/L	100	6.4	1	04/26/23 08:53	05/03/23 18:09	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	04/26/23 08:53	05/03/23 18:09	7440-70-2	
Cobalt	**<1.2**	ug/L	5.0	1.2	1	04/26/23 08:53	05/03/23 18:09	7440-48-4	
Iron	**<9.1**	ug/L	50.0	9.1	1	04/26/23 08:53	05/03/23 18:09	7439-89-6	
Lead	**<3.8**	ug/L	10.0	3.8	1	04/26/23 08:53	05/03/23 18:09	7439-92-1	
Lithium	**<3.7**	ug/L	10.0	3.7	1	04/26/23 08:53	05/03/23 18:09	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	04/26/23 08:53	05/03/23 18:09	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	04/26/23 08:53	05/03/23 18:09	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	04/26/23 08:53	05/03/23 18:09	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	04/26/23 08:53	05/03/23 18:09	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	04/26/23 08:53	05/03/23 18:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Antimony	**<0.12**	ug/L	1.0	0.12	1	04/26/23 08:53	04/27/23 10:48	7440-36-0	
Arsenic	**<0.13**	ug/L	1.0	0.13	1	04/26/23 08:53	04/27/23 10:48	7440-38-2	
Cadmium	**<0.050**	ug/L	0.50	0.050	1	04/26/23 08:53	04/27/23 10:48	7440-43-9	
Chromium	**0.31J**	ug/L	1.0	0.30	1	04/26/23 08:53	04/27/23 10:48	7440-47-3	
Selenium	**<0.18**	ug/L	1.0	0.18	1	04/26/23 08:53	04/27/23 10:48	7782-49-2	
Thallium	**<0.14**	ug/L	1.0	0.14	1	04/26/23 08:53	04/27/23 10:48	7440-28-0	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Pace Analytical Services - Kansas City								
Mercury	**<0.096**	ug/L	0.20	0.096	1	05/09/23 14:38	05/10/23 13:02	7439-97-6	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		04/20/23 13:58		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**8.5**	mg/L	5.0	5.0	1		04/24/23 10:52		
Iron, Ferric (Calculation)	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferric	**0.0066J**	mg/L	0.050		1		05/09/23 08:20	20074-52-6	
Iron, Ferrous	Analytical Method: SM 3500-Fe B#4 Pace Analytical Services - Kansas City								
Iron, Ferrous	**<0.041**	mg/L	0.20	0.041	1		04/26/23 14:25	15438-31-0	H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-FB-1 **Lab ID: 60426601008** Collected: 04/18/23 13:50 Received: 04/19/23 05:06 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
4500S2D Sulfide, Total	Analytical Method: SM 4500-S-2 D Pace Analytical Services - Kansas City								
Sulfide, Total	**0.016J**	mg/L	0.050	0.016	1		04/22/23 10:18	18496-25-8	M1
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		04/28/23 15:01	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		04/28/23 15:01	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		04/28/23 15:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 846174
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3352935 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	<0.096	0.20	0.096	05/10/23 12:32	

LABORATORY CONTROL SAMPLE: 3352936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3352937 3352938

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	<0.096	5	5	3.8	3.8	77	75	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843663
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3343528 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	0.82J	5.0	0.64	05/03/23 17:40	
Beryllium	ug/L	<0.12	1.0	0.12	05/03/23 17:40	
Boron	ug/L	<6.4	100	6.4	05/03/23 17:40	
Calcium	ug/L	<26.9	200	26.9	05/03/23 17:40	
Cobalt	ug/L	<1.2	5.0	1.2	05/03/23 17:40	
Iron	ug/L	<9.1	50.0	9.1	05/03/23 17:40	
Lead	ug/L	<3.8	10.0	3.8	05/03/23 17:40	
Lithium	ug/L	<3.7	10.0	3.7	05/03/23 17:40	
Magnesium	ug/L	<20.1	50.0	20.1	05/03/23 17:40	
Manganese	ug/L	<0.39	5.0	0.39	05/03/23 17:40	
Molybdenum	ug/L	<1.0	20.0	1.0	05/03/23 17:40	
Potassium	ug/L	<69.7	500	69.7	05/03/23 17:40	
Sodium	ug/L	<115	500	115	05/03/23 17:40	

LABORATORY CONTROL SAMPLE: 3343529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	989	99	85-115	
Boron	ug/L	1000	960	96	85-115	
Calcium	ug/L	10000	9850	99	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	9720	97	85-115	
Lead	ug/L	1000	989	99	85-115	
Lithium	ug/L	1000	998	100	85-115	
Magnesium	ug/L	10000	9740	97	85-115	
Manganese	ug/L	1000	1000	100	85-115	
Molybdenum	ug/L	1000	1010	101	85-115	
Potassium	ug/L	10000	9830	98	85-115	
Sodium	ug/L	10000	10000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343530 3343531

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	692	1000	1000	1670	1640	97	95	70-130	2	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343530 3343531

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Beryllium	ug/L	<0.12	1000	1000	994	989	99	99	70-130	1	20	
Boron	ug/L	1650	1000	1000	2540	2540	90	90	70-130	0	20	
Calcium	ug/L	222000	10000	10000	224000	225000	25	28	70-130	0	20	M1
Cobalt	ug/L	<1.2	1000	1000	990	971	99	97	70-130	2	20	
Iron	ug/L	49700	10000	10000	60400	59300	108	96	70-130	2	20	
Lead	ug/L	<3.8	1000	1000	973	965	97	96	70-130	1	20	
Lithium	ug/L	22.5	1000	1000	1040	1020	101	99	70-130	2	20	
Magnesium	ug/L	68000	10000	10000	74400	75600	64	76	70-130	2	20	M1
Manganese	ug/L	1280	1000	1000	2240	2230	96	95	70-130	1	20	
Molybdenum	ug/L	2.2J	1000	1000	1020	1010	102	101	70-130	1	20	
Potassium	ug/L	8520	10000	10000	18300	18100	98	96	70-130	1	20	
Sodium	ug/L	23400	10000	10000	32900	32500	95	91	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843664
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3343532 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	<0.12	1.0	0.12	04/27/23 10:10	
Arsenic	ug/L	<0.13	1.0	0.13	04/27/23 10:10	
Cadmium	ug/L	<0.050	0.50	0.050	04/27/23 10:10	
Chromium	ug/L	<0.30	1.0	0.30	04/27/23 10:10	
Selenium	ug/L	<0.18	1.0	0.18	04/27/23 10:10	
Thallium	ug/L	<0.14	1.0	0.14	04/27/23 10:10	

LABORATORY CONTROL SAMPLE: 3343533

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	40	40.3	101	85-115	
Arsenic	ug/L	40	40.0	100	85-115	
Cadmium	ug/L	40	41.0	103	85-115	
Chromium	ug/L	40	40.0	100	85-115	
Selenium	ug/L	40	41.3	103	85-115	
Thallium	ug/L	40	38.7	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3343534 3343535

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.12	40	40	39.6	39.2	99	98	70-130	1	20	
Arsenic	ug/L	2.1	40	40	41.8	41.5	99	98	70-130	1	20	
Cadmium	ug/L	<0.050	40	40	38.1	38.0	95	95	70-130	0	20	
Chromium	ug/L	0.44J	40	40	40.9	40.2	101	99	70-130	2	20	
Selenium	ug/L	<0.18	40	40	39.1	39.2	97	98	70-130	0	20	
Thallium	ug/L	<0.14	40	40	41.3	40.8	103	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 842587 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004

METHOD BLANK: 3339435 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	04/20/23 10:12	

LABORATORY CONTROL SAMPLE: 3339436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	500	100	90-110	

SAMPLE DUPLICATE: 3339437

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	372	361	3	10	

SAMPLE DUPLICATE: 3339438

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	858	875	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 842588 | Analysis Method: SM 2320B
QC Batch Method: SM 2320B | Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3339439 Matrix: Water
Associated Lab Samples: 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	04/20/23 13:08	

LABORATORY CONTROL SAMPLE: 3339440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	504	101	90-110	

SAMPLE DUPLICATE: 3339441

Parameter	Units	60426601005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	320	314	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843197
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3342040 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	04/24/23 10:50	

LABORATORY CONTROL SAMPLE: 3342041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1010	101	80-120	

SAMPLE DUPLICATE: 3342042

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	922	978	6	10	

SAMPLE DUPLICATE: 3342043

Parameter	Units	60426605008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1270	1270	0	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843505 Analysis Method: SM 3500-Fe B#4
QC Batch Method: SM 3500-Fe B#4 Analysis Description: Iron, Ferrous
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3343183 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Iron, Ferrous	mg/L	<0.041	0.20	0.041	04/26/23 14:05	H6

LABORATORY CONTROL SAMPLE: 3343184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Ferrous	mg/L	2	2.1	104	90-110	H6

SAMPLE DUPLICATE: 3343185

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	2.4	2.4	0	20	H6

SAMPLE DUPLICATE: 3343186

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Iron, Ferrous	mg/L	0.29	0.29	0	20	H6

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843012
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007

METHOD BLANK: 3341203 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	04/22/23 09:27	

LABORATORY CONTROL SAMPLE: 3341204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.50	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341205 3341206

Parameter	Units	60426605003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.021J	0.5	0.5	0.32	0.32	59	59	75-125	0	20	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341208 3341209

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.017J	0.5	0.5	0.52	0.52	101	101	75-125	0	20	

SAMPLE DUPLICATE: 3341207

Parameter	Units	60426605003 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.021J	0.018J		20	

SAMPLE DUPLICATE: 3341210

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	0.017J	0.016J		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 843013
QC Batch Method: SM 4500-S-2 D
Analysis Method: SM 4500-S-2 D
Analysis Description: 4500S2D Sulfide, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601008

METHOD BLANK: 3341211 Matrix: Water
Associated Lab Samples: 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfide, Total	mg/L	<0.016	0.050	0.016	04/22/23 10:17	

LABORATORY CONTROL SAMPLE: 3341212

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Total	mg/L	0.5	0.51	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3341213 3341214

Parameter	Units	60426601008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide, Total	mg/L	0.016J	0.5	0.5	0.77	0.77	150	150	75-125	0	20	M1

SAMPLE DUPLICATE: 3341215

Parameter	Units	60426605008 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Total	mg/L	<0.016	<0.016		20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 844104
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

METHOD BLANK: 3345452 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	04/28/23 07:36	
Fluoride	mg/L	<0.12	0.20	0.12	04/28/23 07:36	
Sulfate	mg/L	<0.55	1.0	0.55	04/28/23 07:36	

LABORATORY CONTROL SAMPLE: 3345453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	97	90-110	
Fluoride	mg/L	2.5	2.7	107	90-110	
Sulfate	mg/L	5	5.1	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3345454 3345455

Parameter	Units	60426601001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14.7	5	5	18.1	18.3	69	74	80-120	1	15	M1
Fluoride	mg/L	<0.12	2.5	2.5	0.94	1.0	38	41	80-120	10	15	M1
Sulfate	mg/L	42.5	100	100	232	178	189	135	80-120	26	15	M1,R1

SAMPLE DUPLICATE: 3345456

Parameter	Units	60426601001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	14.7	14.6	0	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	42.5	41.3	3	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11S **Lab ID: 60426601001** Collected: 04/18/23 10:22 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.444 ± 0.311 (0.375) C:NA T:97%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.593 ± 0.330 (0.587) C:83% T:91%**	pCi/L	05/04/23 11:38	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-11D **Lab ID: 60426601002** Collected: 04/18/23 11:47 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.360 ± 0.442 (0.721) C:NA T:95%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.630 ± 0.366 (0.665) C:83% T:84%**	pCi/L	05/04/23 11:38	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-1 **Lab ID: 60426601003** Collected: 04/18/23 10:18 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.641 ± 0.518 (0.753) C:NA T:95%**	pCi/L	05/10/23 13:24	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.658 ± 0.353 (0.620) C:82% T:85%**	pCi/L	05/04/23 11:39	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-TP-2 **Lab ID: 60426601004** Collected: 04/18/23 11:41 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.582 ± 0.462 (0.600) C:NA T:88%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.378 ± 0.288 (0.557) C:85% T:87%**	pCi/L	05/04/23 11:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-9 **Lab ID: 60426601005** Collected: 04/18/23 09:06 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.388 ± 0.622 (1.08) C:NA T:89%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.449 ± 0.332 (0.640) C:78% T:86%**	pCi/L	05/04/23 11:39	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-MW-10 **Lab ID: 60426601006** Collected: 04/18/23 13:40 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.388 ± 0.568 (0.970) C:NA T:93%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.404 ± 0.358 (0.723) C:81% T:81%**	pCi/L	05/04/23 11:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-DUP-1 **Lab ID: 60426601007** Collected: 04/18/23 00:00 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.345 ± 0.506 (0.864) C:NA T:92%**	pCi/L	05/10/23 13:24	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.131 ± 0.336 (0.750) C:84% T:78%**	pCi/L	05/04/23 11:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-FB-1 **Lab ID: 60426601008** Collected: 04/18/23 13:50 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.292 ± 0.305 (0.430) C:NA T:92%**	pCi/L	05/10/23 13:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.0565 ± 0.291 (0.665) C:82% T:89%**	pCi/L	05/04/23 11:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-MS-1 **Lab ID: 60426601009** Collected: 04/18/23 10:22 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**96.59 %REC ± (NA) C:NA T:NA**	pCi/L	05/10/23 13:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**89.30 %REC ± NA (NA) C:NA T:NA**	pCi/L	05/04/23 11:39	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Sample: M-CA-MSD-1 **Lab ID: 60426601010** Collected: 04/18/23 10:22 Received: 04/19/23 05:06 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**107.86 %REC 11.02RPD ± (NA) C:NA T:NA**	pCi/L	05/10/23 13:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**95.15 %REC 6.35RPD ± NA (NA) C:NA T:NA**	pCi/L	05/04/23 11:39	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 583663
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008, 60426601009, 60426601010

METHOD BLANK: 2834521 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008, 60426601009, 60426601010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.216 ± 0.225 (0.318) C:NA T:89%	pCi/L	05/10/23 13:24	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60426601

QC Batch: 583665
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008, 60426601009, 60426601010

METHOD BLANK: 2834522 Matrix: Water
Associated Lab Samples: 60426601001, 60426601002, 60426601003, 60426601004, 60426601005, 60426601006, 60426601007, 60426601008, 60426601009, 60426601010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.335 ± 0.279 (0.553) C:84% T:91%	pCi/L	05/04/23 11:38	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: AMEREN MEC-CA
Pace Project No.: 60426601

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA required holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426601001	M-MW-11S	EPA 200.7	843663	EPA 200.7	843697
60426601002	M-MW-11D	EPA 200.7	843663	EPA 200.7	843697
60426601003	M-TP-1	EPA 200.7	843663	EPA 200.7	843697
60426601004	M-TP-2	EPA 200.7	843663	EPA 200.7	843697
60426601005	M-MW-9	EPA 200.7	843663	EPA 200.7	843697
60426601006	M-MW-10	EPA 200.7	843663	EPA 200.7	843697
60426601007	M-CA-DUP-1	EPA 200.7	843663	EPA 200.7	843697
60426601008	M-CA-FB-1	EPA 200.7	843663	EPA 200.7	843697
60426601001	M-MW-11S	EPA 200.8	843664	EPA 200.8	843698
60426601002	M-MW-11D	EPA 200.8	843664	EPA 200.8	843698
60426601003	M-TP-1	EPA 200.8	843664	EPA 200.8	843698
60426601004	M-TP-2	EPA 200.8	843664	EPA 200.8	843698
60426601005	M-MW-9	EPA 200.8	843664	EPA 200.8	843698
60426601006	M-MW-10	EPA 200.8	843664	EPA 200.8	843698
60426601007	M-CA-DUP-1	EPA 200.8	843664	EPA 200.8	843698
60426601008	M-CA-FB-1	EPA 200.8	843664	EPA 200.8	843698
60426601001	M-MW-11S	EPA 7470	846174	EPA 7470	846314
60426601002	M-MW-11D	EPA 7470	846174	EPA 7470	846314
60426601003	M-TP-1	EPA 7470	846174	EPA 7470	846314
60426601004	M-TP-2	EPA 7470	846174	EPA 7470	846314
60426601005	M-MW-9	EPA 7470	846174	EPA 7470	846314
60426601006	M-MW-10	EPA 7470	846174	EPA 7470	846314
60426601007	M-CA-DUP-1	EPA 7470	846174	EPA 7470	846314
60426601008	M-CA-FB-1	EPA 7470	846174	EPA 7470	846314
60426601001	M-MW-11S	EPA 903.1	583663		
60426601002	M-MW-11D	EPA 903.1	583663		
60426601003	M-TP-1	EPA 903.1	583663		
60426601004	M-TP-2	EPA 903.1	583663		
60426601005	M-MW-9	EPA 903.1	583663		
60426601006	M-MW-10	EPA 903.1	583663		
60426601007	M-CA-DUP-1	EPA 903.1	583663		
60426601008	M-CA-FB-1	EPA 903.1	583663		
60426601009	M-CA-MS-1	EPA 903.1	583663		
60426601010	M-CA-MSD-1	EPA 903.1	583663		
60426601001	M-MW-11S	EPA 904.0	583665		
60426601002	M-MW-11D	EPA 904.0	583665		
60426601003	M-TP-1	EPA 904.0	583665		
60426601004	M-TP-2	EPA 904.0	583665		
60426601005	M-MW-9	EPA 904.0	583665		
60426601006	M-MW-10	EPA 904.0	583665		
60426601007	M-CA-DUP-1	EPA 904.0	583665		
60426601008	M-CA-FB-1	EPA 904.0	583665		
60426601009	M-CA-MS-1	EPA 904.0	583665		
60426601010	M-CA-MSD-1	EPA 904.0	583665		
60426601001	M-MW-11S	SM 2320B	842587		
60426601002	M-MW-11D	SM 2320B	842587		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426601003	**M-TP-1**	SM 2320B	842587		
60426601004	**M-TP-2**	SM 2320B	842587		
60426601005	**M-MW-9**	SM 2320B	842588		
60426601006	**M-MW-10**	SM 2320B	842588		
60426601007	**M-CA-DUP-1**	SM 2320B	842588		
60426601008	**M-CA-FB-1**	SM 2320B	842588		
60426601001	**M-MW-11S**	SM 2540C	843197		
60426601002	**M-MW-11D**	SM 2540C	843197		
60426601003	**M-TP-1**	SM 2540C	843197		
60426601004	**M-TP-2**	SM 2540C	843197		
60426601005	**M-MW-9**	SM 2540C	843197		
60426601006	**M-MW-10**	SM 2540C	843197		
60426601007	**M-CA-DUP-1**	SM 2540C	843197		
60426601008	**M-CA-FB-1**	SM 2540C	843197		
60426601001	**M-MW-11S**	SM 3500-Fe B#4	846084		
60426601002	**M-MW-11D**	SM 3500-Fe B#4	846084		
60426601003	**M-TP-1**	SM 3500-Fe B#4	846084		
60426601004	**M-TP-2**	SM 3500-Fe B#4	846084		
60426601005	**M-MW-9**	SM 3500-Fe B#4	846084		
60426601006	**M-MW-10**	SM 3500-Fe B#4	846084		
60426601007	**M-CA-DUP-1**	SM 3500-Fe B#4	846084		
60426601008	**M-CA-FB-1**	SM 3500-Fe B#4	846084		
60426601001	**M-MW-11S**	SM 3500-Fe B#4	843505		
60426601002	**M-MW-11D**	SM 3500-Fe B#4	843505		
60426601003	**M-TP-1**	SM 3500-Fe B#4	843505		
60426601004	**M-TP-2**	SM 3500-Fe B#4	843505		
60426601005	**M-MW-9**	SM 3500-Fe B#4	843505		
60426601006	**M-MW-10**	SM 3500-Fe B#4	843505		
60426601007	**M-CA-DUP-1**	SM 3500-Fe B#4	843505		
60426601008	**M-CA-FB-1**	SM 3500-Fe B#4	843505		
60426601001	**M-MW-11S**	SM 4500-S-2 D	843012		
60426601002	**M-MW-11D**	SM 4500-S-2 D	843012		
60426601003	**M-TP-1**	SM 4500-S-2 D	843012		
60426601004	**M-TP-2**	SM 4500-S-2 D	843012		
60426601005	**M-MW-9**	SM 4500-S-2 D	843012		
60426601006	**M-MW-10**	SM 4500-S-2 D	843012		
60426601007	**M-CA-DUP-1**	SM 4500-S-2 D	843012		
60426601008	**M-CA-FB-1**	SM 4500-S-2 D	843013		
60426601001	**M-MW-11S**	EPA 300.0	844104		
60426601002	**M-MW-11D**	EPA 300.0	844104		
60426601003	**M-TP-1**	EPA 300.0	844104		
60426601004	**M-TP-2**	EPA 300.0	844104		
60426601005	**M-MW-9**	EPA 300.0	844104		
60426601006	**M-MW-10**	EPA 300.0	844104		
60426601007	**M-CA-DUP-1**	EPA 300.0	844104		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60426601

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60426601008	**M-CA-FB-1**	EPA 300.0	844104		

WO# : 60426601

60426601

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sampl		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Rocksmith Geoengineers

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☑ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T299 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): **As-read** 1.4/1.5/0.9 **Corr. Factor** +0.2 **Corrected** 1.6/1.7/1.1 12.9/13.4

Temperature should be above freezing to 6°C 12.7/13.2

Date and initials of person examining contents: PV 4/19/23

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187/62071	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:

Company:	Rocksmith Geoengineers, LLC.
Address:	5233 Roanoke Drive
	St. Charles, MO 63304
Email To:	mark.haddock@rocksmithgeo.com
Phone: 314-974-6578	Fax:
Requested Due Date/TAT:	Standard

Section B Required Project Information:

Report To:	Mark Haddock
Copy To:	Jeffrey Ingram
Purchase Order No.:	1025926
Project Name:	AMEREN MEC-CA
Project Number:	COC #14

Section C Invoice Information:

Attention:	
Company Name:	Rocksmith
Address:	
Pace Quote Reference:	
Pace Project Manager:	Jamie Church
Pace Profile #:	15852, line 1

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
	WP
	AR
	OT
	TS

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	Chloride/Fluoride/Sulfate	App III and Cat/An Metals	Alkalinity	TDS	Appendix IV Metals **	Mercury	Radium 226	Radium 228	Ferrous/Ferric Iron	SM4500-S2D Sulfide			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																			N	N	N	N	N	N	N	N	N	N				
1	M-MW-11S	WT	G			4-18-23	1022		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2	M-MW-11D	WT	G			4-18-23	1147		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3	M-TP-1	WT	G			4-18-23	1018		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4	M-TP-2	WT	G			4-18-23	1141		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5	M-MW-9	WT	G			4-18-23	0906		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6	M-MW-10	WT	G			4/18/23	1340		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
7	M-CA-DUP-1	WT	G			4-18-23	—		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8	M-CA-FB-1	WT	G			4-18-23	1350		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
9	M-CA-MS-1	WT	G			4-18-23	1022		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		Collected @ M-MW-11S		
10	M-CA-MSD-1	WT	G			4-18-23	1022		6	2		3		1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
11		WT	G																												
12		WT	G																												

60426601
Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
App III and Cat/An Metals - EPA 200.7: B, Ca, Fe, Mg, Mn, K, Na						
**- App IV Metals - EPA 200.7 - Ba, Be, Co, Pb, Li, Mo 200.8 Metals - Sb, As, Cd, Cr, Se, Tl						
Radium 226/228 to Pace PA					4/19	0506

SAMPLE CONDITIONS

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1-6	Y	N	Y
1-7			
1-1			
12-9	N		

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Client: Rocksmith Geoengineers Profile # 15852-1

Site: Ameren MEC-CA COC#14 Notes Follow Container Sheet.

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																		3		3	2	3				3					
2																			1		1		1				1					
3																																
4																																
5																																
6																																
7																																
8																																
9																								only 1	09		Radium					
10																								only 1	09		Radium					
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number:

Memorandum

June 6, 2023

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23010
CC:	Mark Haddock, Jeffrey Ingram		
From:	Grant Morey	**Email:**	Grant.Morey@Rocksmithgeo.com
RE:	**Data Validation Summary, Meramec Energy Center – MEC-CA – Data Package 60426601**		

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- When a compound was analyzed outside of hold time, the sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a compound was detected in a sample result between the Method Detection Limit (MDL) and Practical Quantification Limit (PQL), the results were recorded at the detection value and qualified as estimates (J).
- When a duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J, J+ for estimates based high, and J- for estimates based low).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren MEC-CA
Project Number: 23010
Reviewer: G. Morey
Validation Date: 6/6/2023

Laboratory: Pace Analytical
SDG #: 60426601
Analytical Method (type and no.): EPA 200.7/200.8/7470 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ SM 3500-FE (Ferric Iron); SM 4500-S-2 (Sulfide); EPA 903.1/904.0 (Radium 226+228)
Sample Names M-MW-11S, M-MW-11D, M-TP-1, M-TP-2, M-MW-9, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-CA-MS-1, M-CA-MSD-1

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			4/18/2023
b) Sampling team indicated?	x			JSI, GTM
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	x			
b) Was the COC signed by both field and laboratory personnel?		x		Missing signature from field personnel.
c) Were samples received in good condition?	x			

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?		x		See Notes
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See Notes
g) Were any matrix problems noted?		x		

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	x			See Notes
b) Were analytes detected in the field blank(s)?	x			See Notes
c) Were analytes detected in the equipment blank(s)?			x	
d) Were analytes detected in the trip blank(s)?			x	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	x			
b) Were the proper analytes included in the LCS?	x			
c) Was the LCS accuracy criteria met?	x			

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	x			M-CA-DUP-1 collected @ M-MW-11D
b) Were field dup. precision criteria met (note RPD)?		x		See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	x			See Notes
d) Were lab dup. precision criteria met (note RPD)?	x			See Notes

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?			x	
b) Was the %D within control limits?			x	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?		x		See Notes
Recovery could not be calculated since sample contained high concentration of analyte?			x	
b) Was MSD accuracy criteria met?		x		See Notes
Recovery could not be calculated since sample contained high concentration of analyte?			x	
c) Were MS/MSD precision criteria met?		x		See Notes

Comments/Notes:

General:

Ferrous iron samples were all analyzed outside of hold time. Results qualified as estimates.

Chloride and Sulfate were diluted in many samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Method Blanks:

3343528: Barium (0.82J). Associated with samples -001 though -008. Sample results > RL and 10x blank: no qualification.

Field Blanks:

M-CA-FB-1 @ M-MW-10: Boron (23.1J), Chromium (0.31J), TDS (8.5), Ferric Iron (0.0066J), Sulfide (0.016J). Chromium and Sulfide results < PQL, reported at PQL and qualified as non-detect.

Duplicates:

M-CA-DUP-1 @ M-MW-11D: Beryllium and Chromium detected in sample, non-detected in duplicate; results qualified as estimates.

Lab duplicate max RPD: 10%: Alkalinity, TDS; 15%: Chloride, Fluoride, Sulfate; 20%: Ferrous Iron, Sulfide

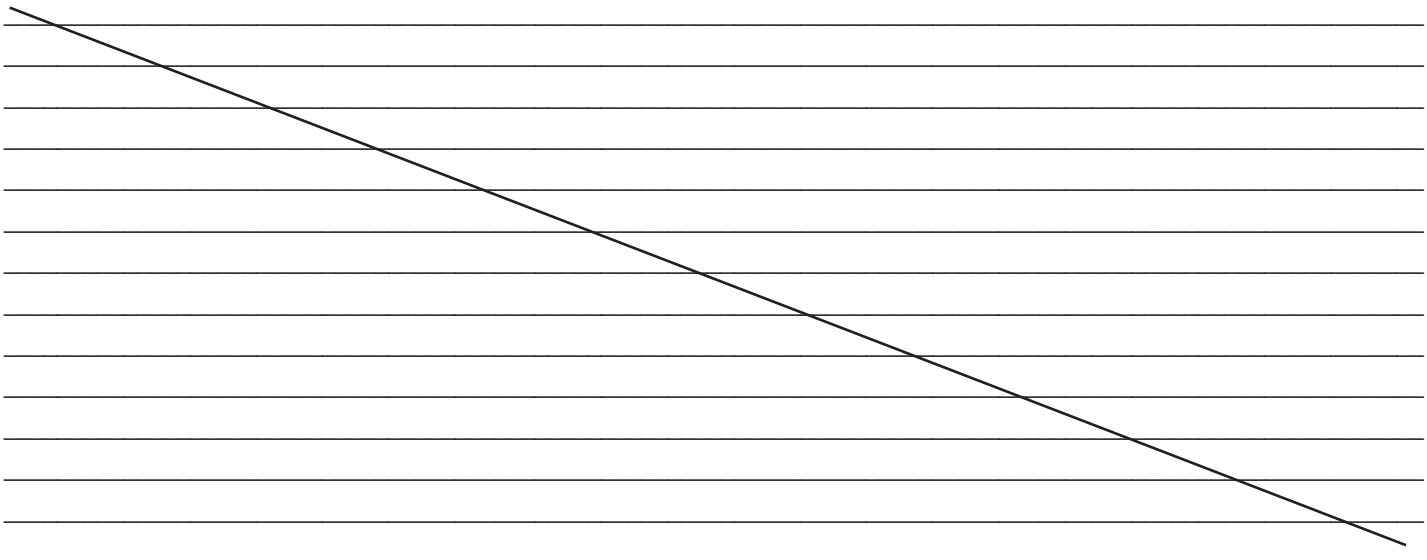
MS/MSD:

3343530/3343531: MS/MSD recovery low for Calcium, MS recovery low for Magnesium. Associated with sample -001. Calcium result qualified as estimate. Only 1 QC indicator out, no qualification necessary for Magnesium.

3341205/3341206: MS/MSD recovery low for Sulfide, MS/MSD performed on unrelated sample; no qualification necessary.

3341213/3341214: MS/MSD recovery high for Sulfide. Associated with sample -008. Result qualified as estimate.

3345454/3345455: MS recovery low for Calcium, no qualification necessary. MS/MSD recovery low for Fluoride. Associated with sample -001. Result qualified as estimate. MS/MSD recovery high and RPD exceeds control limit for Sulfate; result qualified as estimate.



QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-11S	Ferrous Iron	0.29	J	Analyzed outside of hold time
M-MW-11D	"	0.13	J	"
M-TP-1	"	0.054	J	"
M-TP-2	"	0.042	J	"
M-MW-9	"	0.041	UJ	"
M-MW-10	"	0.041	UJ	"
M-CA-DUP-1	"	0.14	J	"
M-CA-FB-1	"	0.041	UJ	"
M-MW-10	Chromium	1.0	U	Detected in blank, PQL>sample>MDL
"	Sulfide	0.050	U	"
M-CA-DUP-1	Beryllium	0.12	UJ	Detected in sample, ND in duplicate
M-MW-11D	"	0.16	J	"
M-CA-DUP-1	Chromium	0.30	UJ	"
M-MW-11D	"	0.40	J	"
M-MW-11S	Calcium	222,000	J-	MS/MSD % recovery low
M-CA-FB-1	Sulfide	0.016	J+	MS/MSD % recovery high
M-MW-11S	Fluoride	0.12	UJ	MS/MSD % recovery low
"	Sulfate	42.5	J	MS/MSD % recovery high, RPD outside control limits

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Grant Morey Date: 06/06/2023

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

November 30, 2023

Mark Haddock
Rocksmith Geoengineering, LLC.
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: Project: AMEREN MEC
Pace Project No.: 60441238

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory between November 02, 2023 and November 03, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.
Grant Morey, Rocksmith Geoengineering, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: AMEREN MEC
Pace Project No.: 60441238

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-22-16
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services, LLC
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Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60441238001	**M-MW-1**	Water	10/31/23 11:20	11/02/23 05:09
60441238002	**M-MW-3**	Water	10/31/23 16:10	11/02/23 05:09
60441238003	**M-MW-4**	Water	10/31/23 15:28	11/02/23 05:09
60441238004	**M-MW-5**	Water	10/31/23 14:38	11/02/23 05:09
60441238005	**M-MW-6**	Water	10/31/23 13:23	11/02/23 05:09
60441238006	**M-MW-7**	Water	10/31/23 12:10	11/02/23 05:09
60441238007	**M-MW-8**	Water	10/30/23 17:55	11/02/23 05:09
60441238008	**M-BMW-1**	Water	10/30/23 14:05	11/02/23 05:09
60441238009	**M-BMW-2**	Water	10/30/23 15:47	11/02/23 05:09
60441238010	**M-DUP-1**	Water	10/31/23 08:00	11/02/23 05:09
60441238011	**M-FB-1**	Water	10/31/23 13:00	11/02/23 05:09
60441238012	**M-MS-1**	Water	10/30/23 14:05	11/02/23 05:09
60441238013	**M-MSD-1**	Water	10/30/23 14:05	11/02/23 05:09
60441238014	**M-MW-2**	Water	11/02/23 08:48	11/03/23 08:27

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60441238001	**M-MW-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238002	**M-MW-3**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238003	**M-MW-4**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238004	**M-MW-5**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238005	**M-MW-6**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238006	**M-MW-7**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
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(913)599-5665

SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238007	**M-MW-8**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238008	**M-BMW-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238009	**M-BMW-2**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238010	**M-DUP-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238011	**M-FB-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441238012	**M-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60441238013	**M-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60441238014	**M-MW-2**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	MAR1	1	PASI-PA
		EPA 904.0	JJS1	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K

PASI-K = Pace Analytical Services - Kansas City
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-1 **Lab ID: 60441238001** Collected: 10/31/23 11:20 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**374**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 12:58	7440-39-3	
Boron	**34.9J**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 12:58	7440-42-8	
Calcium	**140000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 12:58	7440-70-2	
Iron	**15500**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 12:58	7439-89-6	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 12:58	7439-93-2	
Magnesium	**45800**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 12:58	7439-95-4	
Manganese	**2020**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 12:58	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 12:58	7439-98-7	
Potassium	**1820**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 12:58	7440-09-7	
Sodium	**31300**	ug/L	500	115	1	11/08/23 09:57	11/13/23 12:58	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**0.70J**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 16:54	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 16:54	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**412**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**672**	mg/L	13.3	13.3	1		11/07/23 11:47		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**47.9**	mg/L	10.0	5.3	10		11/16/23 19:20	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 19:07	16984-48-8	
Sulfate	**113**	mg/L	10.0	5.5	10		11/16/23 19:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-3 **Lab ID: 60441238002** Collected: 10/31/23 16:10 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**164**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:00	7440-39-3	
Boron	**895**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:00	7440-42-8	
Calcium	**103000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:00	7440-70-2	
Iron	**37100**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:00	7439-89-6	
Lithium	**6.8J**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:00	7439-93-2	
Magnesium	**31800**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:00	7439-95-4	
Manganese	**3000**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:00	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:00	7439-98-7	
Potassium	**3370**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:00	7440-09-7	
Sodium	**46300**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:00	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**8.1**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 16:57	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 16:57	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**286**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**609**	mg/L	10.0	10.0	1		11/07/23 11:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**46.2**	mg/L	5.0	2.6	5		11/16/23 19:47	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 19:33	16984-48-8	
Sulfate	**138**	mg/L	20.0	11.0	20		11/16/23 20:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-4 **Lab ID: 60441238003** Collected: 10/31/23 15:28 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**169**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:02	7440-39-3	
Boron	**12000**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:02	7440-42-8	
Calcium	**209000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:02	7440-70-2	
Iron	**30300**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:02	7439-89-6	
Lithium	**20.9**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:02	7439-93-2	
Magnesium	**52500**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:02	7439-95-4	
Manganese	**1190**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:02	7439-96-5	
Molybdenum	**77.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:02	7439-98-7	
Potassium	**7240**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:02	7440-09-7	
Sodium	**55200**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:02	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**15.8**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 17:06	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 17:06	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**320**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1140**	mg/L	13.3	13.3	1		11/07/23 11:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**37.7**	mg/L	5.0	2.6	5		11/16/23 20:27	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 20:13	16984-48-8	
Sulfate	**460**	mg/L	100	55.0	100		11/16/23 20:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-5 **Lab ID: 60441238004** Collected: 10/31/23 14:38 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**185**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:11	7440-39-3	
Boron	**4790**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:11	7440-42-8	
Calcium	**132000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:11	7440-70-2	
Iron	**12100**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:11	7439-89-6	
Lithium	**14.6**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:11	7439-93-2	
Magnesium	**44600**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:11	7439-95-4	
Manganese	**349**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:11	7439-96-5	
Molybdenum	**62.2**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:11	7439-98-7	
Potassium	**4530**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:11	7440-09-7	
Sodium	**43500**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**20.2**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 17:09	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 17:09	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**330**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**730**	mg/L	10.0	10.0	1		11/07/23 11:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**49.3**	mg/L	10.0	5.3	10		11/16/23 21:33	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 20:53	16984-48-8	
Sulfate	**197**	mg/L	20.0	11.0	20		11/17/23 21:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-6 **Lab ID: 60441238005** Collected: 10/31/23 13:23 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**45.9**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:13	7440-39-3	
Boron	**7410**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:13	7440-42-8	
Calcium	**347000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:13	7440-70-2	
Iron	**7030**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:13	7439-89-6	
Lithium	**130**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:13	7439-93-2	
Magnesium	**25200**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:13	7439-95-4	
Manganese	**1400**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:13	7439-96-5	
Molybdenum	**117**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:13	7439-98-7	
Potassium	**14100**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:13	7440-09-7	
Sodium	**16100**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:13	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**4.3**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 17:12	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 17:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**510**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1280**	mg/L	13.3	13.3	1		11/07/23 11:48		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.9**	mg/L	1.0	0.53	1		11/16/23 21:47	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 21:47	16984-48-8	
Sulfate	**456**	mg/L	100	55.0	100		11/17/23 21:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-7 **Lab ID: 60441238006** Collected: 10/31/23 12:10 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**46.3**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:15	7440-39-3	
Boron	**19300**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:15	7440-42-8	
Calcium	**337000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:15	7440-70-2	
Iron	**9.8J**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:15	7439-89-6	
Lithium	**40.9**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:15	7439-93-2	
Magnesium	**22000**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:15	7439-95-4	
Manganese	**3.4J**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:15	7439-96-5	
Molybdenum	**313**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:15	7439-98-7	
Potassium	**18100**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:15	7440-09-7	
Sodium	**93400**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:15	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**3.2**	ug/L	1.0	0.13	1	11/06/23 16:25	11/09/23 17:15	7440-38-2	
Selenium	**39.7**	ug/L	1.0	0.18	1	11/06/23 16:25	11/09/23 17:15	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**346**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1610**	mg/L	20.0	20.0	1		11/07/23 11:49		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**66.9**	mg/L	10.0	5.3	10		11/16/23 22:27	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 22:13	16984-48-8	
Sulfate	**676**	mg/L	200	110	200		11/16/23 22:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-8 **Lab ID: 60441238007** Collected: 10/30/23 17:55 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**141**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:19	7440-39-3	
Boron	**10500**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:19	7440-42-8	
Calcium	**176000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:19	7440-70-2	
Iron	**9330**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:19	7439-89-6	
Lithium	**25.6**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:19	7439-93-2	
Magnesium	**35600**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:19	7439-95-4	
Manganese	**2060**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:19	7439-96-5	
Molybdenum	**261**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:19	7439-98-7	
Potassium	**7200**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:19	7440-09-7	
Sodium	**33300**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:19	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**7.1**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 13:43	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 13:43	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**142**	mg/L	20.0	10.5	1		11/13/23 16:23		L2
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**911**	mg/L	13.3	13.3	1		11/06/23 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**24.8**	mg/L	5.0	2.6	5		11/16/23 23:07	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 22:54	16984-48-8	
Sulfate	**390**	mg/L	100	55.0	100		11/16/23 23:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-BMW-1 **Lab ID: 60441238008** Collected: 10/30/23 14:05 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**242**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:21	7440-39-3	
Boron	**113**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:21	7440-42-8	
Calcium	**130000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:21	7440-70-2	
Iron	**2290**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:21	7439-89-6	
Lithium	**7.3J**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:21	7439-93-2	
Magnesium	**34600**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:21	7439-95-4	
Manganese	**511**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:21	7439-96-5	
Molybdenum	**4.1J**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:21	7439-98-7	
Potassium	**2930**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:21	7440-09-7	
Sodium	**59500**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:21	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**5.2**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 13:46	7440-38-2	
Selenium	**1.1**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 13:46	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**258**	mg/L	20.0	10.5	1		11/13/23 16:23		D6,L2
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**633**	mg/L	10.0	10.0	1		11/06/23 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**133**	mg/L	10.0	5.3	10		11/17/23 00:54	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 23:34	16984-48-8	
Sulfate	**54.6**	mg/L	10.0	5.5	10		11/17/23 00:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-BMW-2 **Lab ID: 60441238009** Collected: 10/30/23 15:47 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**592**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:28	7440-39-3	
Boron	**62.2J**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:28	7440-42-8	
Calcium	**114000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:28	7440-70-2	
Iron	**15800**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:28	7439-89-6	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:28	7439-93-2	
Magnesium	**37300**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:28	7439-95-4	
Manganese	**4630**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:28	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:28	7439-98-7	
Potassium	**1590**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:28	7440-09-7	
Sodium	**22100**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:28	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**1.9**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 13:54	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 13:54	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**428**	mg/L	20.0	10.5	1		11/13/23 16:24		L2
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**524**	mg/L	10.0	10.0	1		11/06/23 12:10		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**15.7**	mg/L	1.0	0.53	1		11/17/23 01:47	16887-00-6	
Fluoride	**0.32**	mg/L	0.20	0.12	1		11/17/23 01:47	16984-48-8	
Sulfate	**34.8**	mg/L	5.0	2.8	5		11/17/23 02:00	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-DUP-1 **Lab ID: 60441238010** Collected: 10/31/23 08:00 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**47.0**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:36	7440-39-3	
Boron	**19600**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:36	7440-42-8	
Calcium	**344000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:36	7440-70-2	
Iron	**10.1J**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:36	7439-89-6	
Lithium	**41.1**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:36	7439-93-2	
Magnesium	**22400**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:36	7439-95-4	
Manganese	**3.5J**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:36	7439-96-5	
Molybdenum	**316**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:36	7439-98-7	
Potassium	**18300**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:36	7440-09-7	
Sodium	**95400**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:36	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**3.3**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 13:57	7440-38-2	
Selenium	**39.2**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 13:57	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**348**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1590**	mg/L	20.0	20.0	1		11/07/23 11:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**62.5**	mg/L	20.0	10.5	20		11/17/23 02:54	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/17/23 02:14	16984-48-8	
Sulfate	**695**	mg/L	50.0	27.5	50		11/17/23 03:07	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-FB-1 **Lab ID: 60441238011** Collected: 10/31/23 13:00 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:38	7440-39-3	
Boron	**11.5J**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:38	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:38	7440-70-2	
Iron	**<9.1**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:38	7439-89-6	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:38	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:38	7439-95-4	
Manganese	**<0.39**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:38	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:38	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:38	7440-09-7	
Sodium	**182J**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:38	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 13:59	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 13:59	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/14/23 11:26		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/07/23 11:50		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/17/23 03:21	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/17/23 03:21	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/17/23 03:21	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-2 **Lab ID: 60441238014** Collected: 11/02/23 08:48 Received: 11/03/23 08:27 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**210**	ug/L	5.0	0.64	1	11/08/23 16:26	11/14/23 09:47	7440-39-3	
Boron	**589**	ug/L	100	6.4	1	11/08/23 16:26	11/14/23 09:47	7440-42-8	
Calcium	**84700**	ug/L	200	26.9	1	11/08/23 16:26	11/14/23 09:47	7440-70-2	
Iron	**41300**	ug/L	50.0	9.1	1	11/08/23 16:26	11/14/23 09:47	7439-89-6	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/08/23 16:26	11/14/23 09:47	7439-93-2	
Magnesium	**28500**	ug/L	50.0	20.1	1	11/08/23 16:26	11/14/23 09:47	7439-95-4	
Manganese	**4630**	ug/L	5.0	0.39	1	11/08/23 16:26	11/14/23 09:47	7439-96-5	
Molybdenum	**1.7J**	ug/L	20.0	1.0	1	11/08/23 16:26	11/14/23 09:47	7439-98-7	
Potassium	**2110**	ug/L	500	69.7	1	11/08/23 16:26	11/14/23 09:47	7440-09-7	
Sodium	**33300**	ug/L	500	115	1	11/08/23 16:26	11/14/23 09:47	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**1.5**	ug/L	1.0	0.13	1	11/08/23 11:27	11/14/23 14:15	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/08/23 11:27	11/14/23 14:15	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**238**	mg/L	20.0	10.5	1		11/16/23 16:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**526**	mg/L	10.0	10.0	1		11/09/23 12:12		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**23.4**	mg/L	5.0	2.6	5		11/23/23 12:39	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/21/23 18:44	16984-48-8	
Sulfate	**118**	mg/L	10.0	5.5	10		11/21/23 18:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872592
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

METHOD BLANK: 3456069 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/13/23 12:45	
Boron	ug/L	<6.4	100	6.4	11/13/23 12:45	
Calcium	ug/L	<26.9	200	26.9	11/13/23 12:45	
Iron	ug/L	<9.1	50.0	9.1	11/13/23 12:45	
Lithium	ug/L	<3.7	10.0	3.7	11/13/23 12:45	
Magnesium	ug/L	<20.1	50.0	20.1	11/13/23 12:45	
Manganese	ug/L	<0.39	5.0	0.39	11/13/23 12:45	
Molybdenum	ug/L	<1.0	20.0	1.0	11/13/23 12:45	
Potassium	ug/L	<69.7	500	69.7	11/13/23 12:45	
Sodium	ug/L	<115	500	115	11/13/23 12:45	

LABORATORY CONTROL SAMPLE: 3456070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	953	95	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lithium	ug/L	1000	1080	108	85-115	
Magnesium	ug/L	10000	10500	105	85-115	
Manganese	ug/L	1000	1070	107	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10400	104	85-115	
Sodium	ug/L	10000	10800	108	85-115	

MATRIX SPIKE SAMPLE: 3456071

Parameter	Units	60441238006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	46.3	1000	1060	101	70-130	
Boron	ug/L	19300	1000	20400	108	70-130	
Calcium	ug/L	337000	10000	346000	93	70-130	
Iron	ug/L	9.8J	10000	10400	104	70-130	
Lithium	ug/L	40.9	1000	1100	106	70-130	
Magnesium	ug/L	22000	10000	31900	99	70-130	
Manganese	ug/L	3.4J	1000	1040	104	70-130	
Molybdenum	ug/L	313	1000	1360	105	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

MATRIX SPIKE SAMPLE: 3456071

Parameter	Units	60441238006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Potassium	ug/L	18100	10000	28800	106	70-130	
Sodium	ug/L	93400	10000	103000	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456072 3456073

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	242	1000	1000	1260	1280	102	104	70-130	1	20	
Boron	ug/L	113	1000	1000	1060	1080	95	96	70-130	2	20	
Calcium	ug/L	130000	10000	10000	137000	137000	73	80	70-130	1	20	
Iron	ug/L	2290	10000	10000	12900	12800	106	105	70-130	1	20	
Lithium	ug/L	7.3J	1000	1000	1070	1090	106	108	70-130	2	20	
Magnesium	ug/L	34600	10000	10000	44000	44200	94	96	70-130	0	20	
Manganese	ug/L	511	1000	1000	1540	1540	103	103	70-130	0	20	
Molybdenum	ug/L	4.1J	1000	1000	1040	1050	104	104	70-130	1	20	
Potassium	ug/L	2930	10000	10000	13100	13500	102	105	70-130	3	20	
Sodium	ug/L	59500	10000	10000	67700	68300	82	88	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872696
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60441238014

METHOD BLANK: 3456533 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/14/23 09:14	
Boron	ug/L	<6.4	100	6.4	11/14/23 09:14	
Calcium	ug/L	<26.9	200	26.9	11/14/23 09:14	
Iron	ug/L	<9.1	50.0	9.1	11/14/23 09:14	
Lithium	ug/L	<3.7	10.0	3.7	11/14/23 09:14	
Magnesium	ug/L	<20.1	50.0	20.1	11/14/23 09:14	
Manganese	ug/L	<0.39	5.0	0.39	11/14/23 09:14	
Molybdenum	ug/L	<1.0	20.0	1.0	11/14/23 09:14	
Potassium	ug/L	<69.7	500	69.7	11/14/23 09:14	
Sodium	ug/L	<115	500	115	11/14/23 09:14	

LABORATORY CONTROL SAMPLE: 3456534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1050	105	85-115	
Boron	ug/L	1000	999	100	85-115	
Calcium	ug/L	10000	10700	107	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1080	108	85-115	
Molybdenum	ug/L	1000	1050	105	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456535 3456536

Parameter	Units	60441301004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	15.9	1000	1000	1020	1030	100	101	70-130	1	20	
Boron	ug/L	315	1000	1000	1250	1290	94	97	70-130	3	20	
Calcium	ug/L	909000	10000	10000	894000	935000	-149	263	70-130	5	20	M1
Iron	ug/L	993	10000	10000	11000	11200	100	102	70-130	1	20	
Lithium	ug/L	81.2	1000	1000	1170	1200	109	112	70-130	2	20	
Magnesium	ug/L	149000	10000	10000	155000	163000	60	135	70-130	5	20	M1
Manganese	ug/L	2250	1000	1000	3220	3270	97	102	70-130	1	20	
Molybdenum	ug/L	ND	1000	1000	1030	1040	101	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456535 3456536

Parameter	Units	60441301004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	55200	10000	10000	64400	68200	92	130	70-130	6	20	
Sodium	ug/L	3520000	10000	10000	3540000	3510000	210	-92	70-130	1	20	E,M1

MATRIX SPIKE SAMPLE: 3456537

Parameter	Units	60441344003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	276	1000	1360J	108	70-130	
Boron	ug/L	ND	1000	<3210	-177	70-130	M1
Calcium	ug/L	1450000	10000	1460000	174	70-130	M1
Iron	ug/L	4290	10000	15800J	116	70-130	
Lithium	ug/L	587	1000	<1860	-3	70-130	M1
Magnesium	ug/L	231000	10000	244000	131	70-130	M1
Manganese	ug/L	3720	1000	4800	108	70-130	
Molybdenum	ug/L	ND	1000	1330J	124	70-130	
Potassium	ug/L	224000	10000	226000J	15	70-130	M1
Sodium	ug/L	91100000	10000	92200000	10900	70-130	M1

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872266
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006

METHOD BLANK: 3454825 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/09/23 16:03	
Selenium	ug/L	<0.18	1.0	0.18	11/09/23 16:03	

LABORATORY CONTROL SAMPLE: 3454826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.4	103	85-115	
Selenium	ug/L	40	41.8	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3454827 3454828

Parameter	Units	60441063002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	1.4	40	40	42.7	42.4	103	102	70-130	1	20	
Selenium	ug/L	ND	40	40	40.8	41.2	101	102	70-130	1	20	

MATRIX SPIKE SAMPLE: 3454829

Parameter	Units	60441238002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	8.1	40	48.2	100	70-130	
Selenium	ug/L	<0.18	40	39.8	99	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872439
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

METHOD BLANK: 3455467 Matrix: Water
Associated Lab Samples: 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/10/23 13:39	
Selenium	ug/L	<0.18	1.0	0.18	11/10/23 13:39	

LABORATORY CONTROL SAMPLE: 3455468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.7	104	85-115	
Selenium	ug/L	40	42.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3455469 3455470

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	5.2	40	40	46.8	47.2	104	105	70-130	1	20	
Selenium	ug/L	1.1	40	40	40.6	41.1	99	100	70-130	1	20	

MATRIX SPIKE SAMPLE: 3455471

Parameter	Units	60441241006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	<0.13	40	41.4	104	70-130	
Selenium	ug/L	<0.18	40	40.2	100	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872590
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238014

METHOD BLANK: 3456054 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/14/23 12:39	
Selenium	ug/L	<0.18	1.0	0.18	11/14/23 12:39	

LABORATORY CONTROL SAMPLE: 3456055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	42.5	106	85-115	
Selenium	ug/L	40	42.9	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456056 3456057

Parameter	Units	60441241008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	18.1	40	40	60.3	61.2	105	108	70-130	1	20	
Selenium	ug/L	<0.18	40	40	40.9	40.9	102	102	70-130	0	20	

MATRIX SPIKE SAMPLE: 3456058

Parameter	Units	60441422001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1.2	40	44.5	108	70-130	
Selenium	ug/L	ND	40	42.5	106	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872970
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238007, 60441238008, 60441238009

METHOD BLANK: 3457514 Matrix: Water
Associated Lab Samples: 60441238007, 60441238008, 60441238009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/13/23 16:22	

LABORATORY CONTROL SAMPLE: 3457515

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	414	83	90-110	L2

SAMPLE DUPLICATE: 3457516

Parameter	Units	60441238008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	258	292	12	10	D6

SAMPLE DUPLICATE: 3457517

Parameter	Units	60441249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	196	202	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 873293 — Analysis Method: SM 2320B
QC Batch Method: SM 2320B — Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238010, 60441238011

METHOD BLANK: 3458897 — Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/14/23 11:26	

LABORATORY CONTROL SAMPLE: 3458898

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	476	95	90-110	

SAMPLE DUPLICATE: 3458899

Parameter	Units	60441748001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	520	524	1	10	H1

SAMPLE DUPLICATE: 3458900

Parameter	Units	60441154002 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	442	450	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 873725
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60441238014

METHOD BLANK: 3460480 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/16/23 16:07	

LABORATORY CONTROL SAMPLE: 3460481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 3460482

Parameter	Units	60441241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	334	310	7	10	

SAMPLE DUPLICATE: 3460483

Parameter	Units	60441238014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	238	234	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872085
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238007, 60441238008, 60441238009

METHOD BLANK: 3454146 Matrix: Water
Associated Lab Samples: 60441238007, 60441238008, 60441238009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/06/23 12:07	

LABORATORY CONTROL SAMPLE: 3454147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1050	105	80-120	

SAMPLE DUPLICATE: 3454148

Parameter	Units	60441238008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	633	646	2	10	

SAMPLE DUPLICATE: 3454149

Parameter	Units	60441249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2180	2100	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872380
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238010, 60441238011

METHOD BLANK: 3455231 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/07/23 11:47	

LABORATORY CONTROL SAMPLE: 3455232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 3455233

Parameter	Units	60441238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	672	673	0	10	

SAMPLE DUPLICATE: 3455234

Parameter	Units	60441249004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1130	1120	1	10	1e

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 872743
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238014

METHOD BLANK: 3456662 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/09/23 12:10	

LABORATORY CONTROL SAMPLE: 3456663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 3456664

Parameter	Units	60441300002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	837	847	1	10	

SAMPLE DUPLICATE: 3456665

Parameter	Units	60441241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	901	925	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 873631 | Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 | Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

METHOD BLANK: 3460193 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/16/23 13:58	
Fluoride	mg/L	<0.12	0.20	0.12	11/16/23 13:58	
Sulfate	mg/L	<0.55	1.0	0.55	11/16/23 13:58	

METHOD BLANK: 3461958 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/17/23 20:09	
Fluoride	mg/L	<0.12	0.20	0.12	11/17/23 20:09	
Sulfate	mg/L	<0.55	1.0	0.55	11/17/23 20:09	

LABORATORY CONTROL SAMPLE: 3460194

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.8	95	90-110	
Fluoride	mg/L	2.5	2.6	105	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

LABORATORY CONTROL SAMPLE: 3461959

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.6	104	90-110	
Sulfate	mg/L	5	4.7	94	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460195 3460196

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	133	50	50	182	181	99	97	80-120	0	15	
Fluoride	mg/L	<0.12	2.5	2.5	2.6	2.6	100	103	80-120	3	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460195 3460196

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	54.6	50	50	103	103	97	96	80-120	0	15	

SAMPLE DUPLICATE: 3460197

Parameter	Units	60441238008 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	133	129	3	15	
Fluoride	mg/L	<0.12	<0.12		15	
Sulfate	mg/L	54.6	52.1	5	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 873866
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60441238014

METHOD BLANK: 3460993 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/21/23 09:05	
Fluoride	mg/L	<0.12	0.20	0.12	11/21/23 09:05	
Sulfate	mg/L	<0.55	1.0	0.55	11/21/23 09:05	

METHOD BLANK: 3465484 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/23/23 10:38	
Fluoride	mg/L	<0.12	0.20	0.12	11/23/23 10:38	
Sulfate	mg/L	<0.55	1.0	0.55	11/23/23 10:38	

LABORATORY CONTROL SAMPLE: 3460994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	
Fluoride	mg/L	2.5	2.3	91	90-110	
Sulfate	mg/L	5	4.7	95	90-110	

LABORATORY CONTROL SAMPLE: 3465485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	5.1	101	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.9	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460995 3460996

Parameter	Units	60439933046 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	67.6	50	50	109	111	83	86	80-120	1	15	
Fluoride	mg/L	ND	2.5	2.5	2.0	2.0	81	82	80-120	1	15	
Sulfate	mg/L	67.0	50	50	110	115	87	96	80-120	4	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC
Pace Project No.: 60441238

SAMPLE DUPLICATE: 3460997

Parameter	Units	60439933046 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	67.6	64.4	5	15	
Fluoride	mg/L	ND	<0.12		15	
Sulfate	mg/L	67.0	62.4	7	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-1 **Lab ID: 60441238001** Collected: 10/31/23 11:20 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.398 ± 0.373 (0.528) C:NA T:89%**	pCi/L	11/28/23 13:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.165 ± 0.302 (0.661) C:86% T:87%**	pCi/L	11/20/23 15:10	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-3 **Lab ID: 60441238002** Collected: 10/31/23 16:10 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.0584 ± 0.525 (1.02) C:NA T:92%**	pCi/L	11/28/23 13:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.169 ± 0.266 (0.575) C:86% T:90%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-4 **Lab ID: 60441238003** Collected: 10/31/23 15:28 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.523 ± 0.347 (0.157) C:NA T:98%**	pCi/L	11/28/23 13:15	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.122 ± 0.273 (0.609) C:84% T:90%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-5 **Lab ID: 60441238004** Collected: 10/31/23 14:38 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.555 ± 0.503 (0.741) C:NA T:88%**	pCi/L	11/28/23 13:15	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.404 ± 0.319 (0.630) C:85% T:88%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-6 **Lab ID: 60441238005** Collected: 10/31/23 13:23 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.114 ± 0.315 (0.612) C:NA T:89%**	pCi/L	11/28/23 13:15	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.362 ± 0.348 (0.714) C:85% T:84%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-7 **Lab ID: 60441238006** Collected: 10/31/23 12:10 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.224 ± 0.604 (1.12) C:NA T:80%**	pCi/L	11/28/23 13:15	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.629 ± 0.383 (0.706) C:84% T:84%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-8 **Lab ID: 60441238007** Collected: 10/30/23 17:55 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.107 ± 0.391 (0.846) C:NA T:91%**	pCi/L	11/28/23 13:40	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.378 ± 0.356 (0.728) C:82% T:84%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-BMW-1 **Lab ID: 60441238008** Collected: 10/30/23 14:05 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.463 ± 0.409 (0.606) C:NA T:94%**	pCi/L	11/28/23 13:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.189 ± 0.377 (0.831) C:79% T:72%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-BMW-2 **Lab ID: 60441238009** Collected: 10/30/23 15:47 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.570 ± 0.378 (0.172) C:NA T:88%**	pCi/L	11/28/23 13:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.552 ± 0.355 (0.663) C:82% T:83%**	pCi/L	11/20/23 15:10	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-DUP-1 **Lab ID: 60441238010** Collected: 10/31/23 08:00 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
		Pace Analytical Services - Greensburg				
Radium-226	EPA 903.1	**0.430 ± 0.337 (0.396) C:NA T:90%**	pCi/L	11/28/23 13:27	13982-63-3	
		Pace Analytical Services - Greensburg				
Radium-228	EPA 904.0	**0.466 ± 0.350 (0.682) C:85% T:84%**	pCi/L	11/20/23 15:11	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-FB-1 **Lab ID: 60441238011** Collected: 10/31/23 13:00 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.573 ± 0.361 (0.155) C:NA T:81%**	pCi/L	11/28/23 13:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.127 ± 0.279 (0.620) C:85% T:89%**	pCi/L	11/20/23 15:11	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MS-1 **Lab ID: 60441238012** Collected: 10/30/23 14:05 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**90.09 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 13:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**76.93 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/20/23 15:11	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MSD-1 **Lab ID: 60441238013** Collected: 10/30/23 14:05 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**117.07 %REC 26.05RPD ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 13:27	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**75.28 %REC 2.17RPD ± NA (NA) C:NA T:NA**	pCi/L	11/20/23 15:11	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

Sample: M-MW-2 **Lab ID: 60441238014** Collected: 11/02/23 08:48 Received: 11/03/23 08:27 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0517 ± 0.546 (1.07) C:NA T:93%**	pCi/L	11/29/23 12:43	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.776 ± 0.543 (1.07) C:81% T:80%**	pCi/L	11/27/23 16:31	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 628304 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011, 60441238012, 60441238013

METHOD BLANK: 3062813 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011, 60441238012, 60441238013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.192 ± 0.220 (0.130) C:NA T:91%	pCi/L	11/28/23 13:15	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 629058
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441238014

METHOD BLANK: 3066687 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0425 ± 0.194 (0.458) C:NA T:94%	pCi/L	11/29/23 12:31	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 628305 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011, 60441238012, 60441238013

METHOD BLANK: 3062814 Matrix: Water
Associated Lab Samples: 60441238001, 60441238002, 60441238003, 60441238004, 60441238005, 60441238006, 60441238007, 60441238008, 60441238009, 60441238010, 60441238011, 60441238012, 60441238013

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.354 ± 0.279 (0.540) C:86% T:87%	pCi/L	11/20/23 15:11	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC
Pace Project No.: 60441238

QC Batch: 629059
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441238014

METHOD BLANK: 3066691 Matrix: Water
Associated Lab Samples: 60441238014

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.194 ± 0.348 (0.762) C:80% T:84%	pCi/L	11/27/23 16:27	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALIFIERS

Project: AMEREN MEC
Pace Project No.: 60441238

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	Achieving a constant weight was not met with this sample.
D6	The precision between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H1	Analysis conducted outside the EPA method holding time.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60441238001	**M-MW-1**	EPA 200.7	872592	EPA 200.7	872604
60441238002	**M-MW-3**	EPA 200.7	872592	EPA 200.7	872604
60441238003	**M-MW-4**	EPA 200.7	872592	EPA 200.7	872604
60441238004	**M-MW-5**	EPA 200.7	872592	EPA 200.7	872604
60441238005	**M-MW-6**	EPA 200.7	872592	EPA 200.7	872604
60441238006	**M-MW-7**	EPA 200.7	872592	EPA 200.7	872604
60441238007	**M-MW-8**	EPA 200.7	872592	EPA 200.7	872604
60441238008	**M-BMW-1**	EPA 200.7	872592	EPA 200.7	872604
60441238009	**M-BMW-2**	EPA 200.7	872592	EPA 200.7	872604
60441238010	**M-DUP-1**	EPA 200.7	872592	EPA 200.7	872604
60441238011	**M-FB-1**	EPA 200.7	872592	EPA 200.7	872604
60441238014	**M-MW-2**	EPA 200.7	872696	EPA 200.7	872801
60441238001	**M-MW-1**	EPA 200.8	872266	EPA 200.8	872373
60441238002	**M-MW-3**	EPA 200.8	872266	EPA 200.8	872373
60441238003	**M-MW-4**	EPA 200.8	872266	EPA 200.8	872373
60441238004	**M-MW-5**	EPA 200.8	872266	EPA 200.8	872373
60441238005	**M-MW-6**	EPA 200.8	872266	EPA 200.8	872373
60441238006	**M-MW-7**	EPA 200.8	872266	EPA 200.8	872373
60441238007	**M-MW-8**	EPA 200.8	872439	EPA 200.8	872501
60441238008	**M-BMW-1**	EPA 200.8	872439	EPA 200.8	872501
60441238009	**M-BMW-2**	EPA 200.8	872439	EPA 200.8	872501
60441238010	**M-DUP-1**	EPA 200.8	872439	EPA 200.8	872501
60441238011	**M-FB-1**	EPA 200.8	872439	EPA 200.8	872501
60441238014	**M-MW-2**	EPA 200.8	872590	EPA 200.8	872690
60441238001	**M-MW-1**	EPA 903.1	628304		
60441238002	**M-MW-3**	EPA 903.1	628304		
60441238003	**M-MW-4**	EPA 903.1	628304		
60441238004	**M-MW-5**	EPA 903.1	628304		
60441238005	**M-MW-6**	EPA 903.1	628304		
60441238006	**M-MW-7**	EPA 903.1	628304		
60441238007	**M-MW-8**	EPA 903.1	628304		
60441238008	**M-BMW-1**	EPA 903.1	628304		
60441238009	**M-BMW-2**	EPA 903.1	628304		
60441238010	**M-DUP-1**	EPA 903.1	628304		
60441238011	**M-FB-1**	EPA 903.1	628304		
60441238012	**M-MS-1**	EPA 903.1	628304		
60441238013	**M-MSD-1**	EPA 903.1	628304		
60441238014	**M-MW-2**	EPA 903.1	629058		
60441238001	**M-MW-1**	EPA 904.0	628305		
60441238002	**M-MW-3**	EPA 904.0	628305		
60441238003	**M-MW-4**	EPA 904.0	628305		
60441238004	**M-MW-5**	EPA 904.0	628305		
60441238005	**M-MW-6**	EPA 904.0	628305		
60441238006	**M-MW-7**	EPA 904.0	628305		
60441238007	**M-MW-8**	EPA 904.0	628305		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC
Pace Project No.: 60441238

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60441238008	**M-BMW-1**	EPA 904.0	628305		
60441238009	**M-BMW-2**	EPA 904.0	628305		
60441238010	**M-DUP-1**	EPA 904.0	628305		
60441238011	**M-FB-1**	EPA 904.0	628305		
60441238012	**M-MS-1**	EPA 904.0	628305		
60441238013	**M-MSD-1**	EPA 904.0	628305		
60441238014	**M-MW-2**	EPA 904.0	629059		
60441238001	**M-MW-1**	SM 2320B	873293		
60441238002	**M-MW-3**	SM 2320B	873293		
60441238003	**M-MW-4**	SM 2320B	873293		
60441238004	**M-MW-5**	SM 2320B	873293		
60441238005	**M-MW-6**	SM 2320B	873293		
60441238006	**M-MW-7**	SM 2320B	873293		
60441238007	**M-MW-8**	SM 2320B	872970		
60441238008	**M-BMW-1**	SM 2320B	872970		
60441238009	**M-BMW-2**	SM 2320B	872970		
60441238010	**M-DUP-1**	SM 2320B	873293		
60441238011	**M-FB-1**	SM 2320B	873293		
60441238014	**M-MW-2**	SM 2320B	873725		
60441238001	**M-MW-1**	SM 2540C	872380		
60441238002	**M-MW-3**	SM 2540C	872380		
60441238003	**M-MW-4**	SM 2540C	872380		
60441238004	**M-MW-5**	SM 2540C	872380		
60441238005	**M-MW-6**	SM 2540C	872380		
60441238006	**M-MW-7**	SM 2540C	872380		
60441238007	**M-MW-8**	SM 2540C	872085		
60441238008	**M-BMW-1**	SM 2540C	872085		
60441238009	**M-BMW-2**	SM 2540C	872085		
60441238010	**M-DUP-1**	SM 2540C	872380		
60441238011	**M-FB-1**	SM 2540C	872380		
60441238014	**M-MW-2**	SM 2540C	872743		
60441238001	**M-MW-1**	EPA 300.0	873631		
60441238002	**M-MW-3**	EPA 300.0	873631		
60441238003	**M-MW-4**	EPA 300.0	873631		
60441238004	**M-MW-5**	EPA 300.0	873631		
60441238005	**M-MW-6**	EPA 300.0	873631		
60441238006	**M-MW-7**	EPA 300.0	873631		
60441238007	**M-MW-8**	EPA 300.0	873631		
60441238008	**M-BMW-1**	EPA 300.0	873631		
60441238009	**M-BMW-2**	EPA 300.0	873631		
60441238010	**M-DUP-1**	EPA 300.0	873631		
60441238011	**M-FB-1**	EPA 300.0	873631		
60441238014	**M-MW-2**	EPA 300.0	873866		

WO# : 60441238

60441238

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Co	
	Revision: 2	Effective Date: 01/12/2022

Client Name: Rocksmith Groups

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☑ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): As-read 1.6 / 17.7 **Corr. Factor** -0.3 **Corrected** 1.3 / 17.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PM 11/2/23

PM 11/2/23

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Page 1 of 1

Pace® Location Requested (City/State):
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

6044/238

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	Jeff Ingram, jeff.ingram@rocksmithgeo.com
Customer Project #:		Invoice To:	Mark Haddock
Project Name:	AMEREN MEC	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other_____

Regulatory Program (DW, RCRA, etc.) as applicable:

Rush (Pre-approval required):
[ ] 2 Day [ ] 3 day [ ] 5 day [ ] Other_____
Date Results Requested:

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [X] No
Analysis:

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852
Prelog / Bottle Ord. ID: EZ 3009277

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Other (OT), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res. Cl2	Number & Type of Containers Plastic	Number & Type of Containers Glass	Chloride/Fluoride/Sulfate	Alkalinity	TDS	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8)**	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample.
M-MW-1	WT	G	10/31/23	1120				4	-	1	1	1	1	1	1		
M-MW-2	WT																
M-MW-3	WT	G	10/31/23	1610				4	-	1	1	1	1	1	1		
M-MW-4	WT	G	10/31/23	1528				4	-	1	1	1	1	1	1		
M-MW-5	WT	G	10/31/23	~~1346~~	1438			4	-	1	1	1	1	1	1		
M-MW-6	WT	G	10/31/23	1923				4	✓	1	1	1	1	1	1		
M-MW-7	WT	G	10/31/23	1210				4	-	1	1	1	1	1	1		
M-MW-8	WT	G	10/30/23	1755				4	~~X~~	1	1	1	1	1	1		
M-BMW-1	WT	G	10/30/23	1405				4	~~X~~	1	1	1	1	1	1		
M-BMW-2	WT	G	10/30/23	1547				4	~~X~~	1	1	1	1	1	1		

Customer Remarks / Special Conditions / Possible Hazards:
* - App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
** - App IV Metals - EPA 200.7 - Ba, Li, Mo and 200.8 Metals - As, Se

Collected By:
Printed Name: Jeff Ingram
Signature:

Additional Instructions from Pace®:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)
2	T298	-0.3	1.6/17.7	1.3/17.4

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
	11/1/23/16:00		11/2/23 0509
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

Tracking Number:

Delivered by: [ ] In- Person [ ] Courier
[ ] FedEX [ ] UPS [ ] Other

Pace® Location Requested (City/State):
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

60441238

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	Jeff Ingram, jeff.ingram@rocksmithgeo.com
Customer Project #:		Invoice To:	Mark Haddock
Project Name:	AMEREN MEC	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other_____

Regulatory Program (DW, RCRA, etc.) as applicable:

Rush (Pre-approval required):
[ ] 2 Day [ ] 3 day [ ] 5 day [ ] Other_____
Date Results Requested:

DW PWSID # or WW Permit # as applicable:
Field Filtered (if applicable): [ ] Yes [X] No
Analysis:

Specify Container Size **

Identify Container Preservative Type***

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852
Prelog / Bottle Ord. ID: EZ 3009277

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Other (OT), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res. Cl2	Number & Type of Containers Plastic	Number & Type of Containers Glass	Chloride/Fluoride/Sulfate	Alkalinity	TDS	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8)**	Radium 226 & Radium 228	Sample Comment	Preservation non-conformance identified for sample
M-DUP-1	WT	G	~~10/31/23~~ 10/30/23	-				4	-	1	1	1	1	1	1		
M-FB-1	WT	G	10/31/23	1300				4	-	1	1	1	1	1	1		
M-MS-1	WT	G	10/30/23	1405				4	-	1	1	1	1	1	1	BMW-1-Parent	
M-MSD-1	WT	G	10/30/23	1405				4	-	1	1	1	1	1	1	BMW-1-Parent	

Customer Remarks / Special Conditions / Possible Hazards:
* - App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
** - App IV Metals - EPA 200.7 - Ba, Li, Mo and 200.8 Metals - As, Se

Collected By:
Printed Name:
Signature:

Additional Instructions from Pace®:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)
2	T298	-0.3	1-6/17.7	1.3/17.4

Relinquished by/Company: (Signature)	Date/Time: 11/1/23/1600	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 2 of 2

Page 56 of 69

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

Client: Rocksmith Geoeng Profile #

Site: Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																		1			2	1									
2																																
3	↓																		↓			↓	↓									
4																																
5																																
6																																
7																																
8																			↓			↓	↓									
9																			3			2	3									
10	↓																		1			2	1									
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60441238

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

Client: Rocksmith Geoeng Profile #

Site: Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																		1			2	1									
2	↓																		1			↓	1									
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60441238

WO# : 60441238

60441238

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Co		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Rocksmith Geoeng

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☑ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T298 **Type of Ice:** Wet Blue None

Cooler Temperature (°C): As-read 4/17.5 Corr. Factor -0.3 Corrected 17.2

Date and initials of person examining contents: PV 11/3/23

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace® Lab Requested (City/State):
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

60441238

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	Jeff Ingram, jeff.ingram@rocksmithgeo.com
Customer Project #:		Invoice To:	Mark Haddock
Project Name:	AMEREN MEC	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other_____

Regulatory Program (DW, RCRA, etc.) as applicable:

Rush (Pre-approval required):
[ ] 2 Day [ ] 3 day [ ] 5 day [ ] Other_____
Date Results Requested:

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Other (OT), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk

Specify Container Size **

Identify Container Preservative Type***

Analysis Requested

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res. Cl2	Number & Type of Containers Plastic	Number & Type of Containers Glass	Chloride/Fluoride/Sulfate	Alkalinity	TDS	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8)**	Radium 226 & Radium 228	Sample Comment
M-MW-1	WT															
M-MW-2	WT	G	11/2/31	0848				4	-	1	1	1	1	1	1	
M-MW-3	WT															
M-MW-4	WT															
M-MW-5	WT															
M-MW-6	WT															
M-MW-7	WT															
M-MW-8	WT															
M-BMW-1	WT															
M-BMW-2	WT															

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852
Prelog / Bottle Ord. ID: ~~[illegible]~~

Preservation non-conformance identified for sample.

Customer Remarks / Special Conditions / Possible Hazards:
* - App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**- App IV Metals - EPA 200.7 - Ba, Li, Mo and 200.8 Metals - As, Se

Collected By:
Printed Name: Jeff Ingram
Signature:

Additional Instructions from Pace®:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)
2	T298	-0.3	1.4 / 17.5	1.1 / 17.2

Relinquished by/Company: (Signature)	Date/Time: 11/2 : 1200	Received by/Company: (Signature)	Date/Time: 11/3/23 0527	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of

Page 93 of 167

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

ENV-FRM-CORQ-0019_v01_082123 ©

Client: Rocksmith Geoeng

Profile # BP1N = RAD

Site:

Notes Append to 60441238

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1																																
2	WT																		1			2	1									
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Container Codes

Glass				Plastic		Misc.	
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar	BP1C	1L NAOH plastic	I	Wipe/Swab
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar	BP1N	1L HNO3 plastic	SP5T	120mL Coliform Na Thiosulfate
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar	BP1S	1L H2SO4 plastic	ZPLC	Ziploc Bag
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide	BP1U	1L unpreserved plastic	AF	Air Filter
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass	BP1Z	1L NaOH, Zn Acetate	C	Air Cassettes
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass	BP2C	500mL NAOH plastic	R	Terracore Kit
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass	BP2N	500mL HNO3 plastic	U	Summa Can
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass	BP2S	500mL H2SO4 plastic		
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass	BP2U	500mL unpreserved plastic		
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass	BP2Z	500mL NaOH, Zn Acetate	Matrix	
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass	BP3C	250mL NaOH plastic		
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass	BP3F	250mL HNO3 plastic - field filtered	WT	Water
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass	BP3N	250mL HNO3 plastic	SL	Solid
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass	BP3U	250mL unpreserved plastic	NAL	Non-aqueous Liquid
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass	BP3S	250mL H2SO4 plastic	OL	OIL
		AG5U	100mL unpres amber glass	BP3Z	250mL NaOH, Zn Acetate	WP	Wipe
				BP4U	125mL unpreserved plastic	DW	Drinking Water
				BP4N	125mL HNO3 plastic		
				BP4S	125mL H2SO4 plastic		
				WPDU	16oz unpresserved plstic		

Work Order Number: 60441238

Internal Transfer Chain of Custody

☐ Rush Multiplier_____X

☒ Samples Pre-Logged into eCOC

State Of Origin: MO

Cert. Needed: ☐ Yes ☒ No

Workorder: 60441238 **Workorder Name:** AMEREN MEC

Owner Received Date: 11/2/2023 Results Requested By: 11/16/2023

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	HNO3						Radium 226	Radium 228											LAB USE ONLY
1	M-MW-1	PS	10/31/2023 11:20	60441238001	Water	2						X	X											
2	M-MW-3	PS	10/31/2023 16:10	60441238002	Water	2						X	X											
3	M-MW-4	PS	10/31/2023 15:28	60441238003	Water	2						X	X											
4	M-MW-5	PS	10/31/2023 14:38	60441238004	Water	2						X	X											
5	M-MW-6	PS	10/31/2023 13:23	60441238005	Water	2						X	X											
6	M-MW-7	PS	10/31/2023 12:10	60441238006	Water	2						X	X											
7	M-MW-8	PS	10/30/2023 17:55	60441238007	Water	2						X	X											
8	M-BMW-1	RQS	10/30/2023 14:05	60441238008	Water	2						X	X											
9	M-BMW-2	PS	10/30/2023 15:47	60441238009	Water	2						X	X											
10	M-DUP-1	PS	10/31/2023 08:00	60441238010	Water	2						X	X											
11	M-FB-1	PS	10/31/2023 13:00	60441238011	Water	2						X	X											
12	M-MS-1	PS	10/30/2023 14:05	60441238012	Water	2						X	X											
13	M-MSD-1	PS	10/30/2023 14:05	60441238013	Water	2						X	X											
	M-MW-2	PS	11/02/23 08:48	60441238014	Water	2						X	X											

WO# : 30636919

30636919

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	11-6-23 1700	[signature]	11/7/23 910	Note: Sample 008 is parent sample for MS/MSD (012/013) Sample location: Receivng
2					
3					

Cooler Temperature on Receipt — °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 30636919
PM: MAR Due Date: 11/30/23
CLIENT: PACE_60_LEKS

DC#_Title: ENV-FRM-GBUR-0088 v06_S... Condition Upon Receipt-Pittsburgh

Effective Date: 09/20/2023

WO# : 30636919

PM: MAR Due Date: 11/30/23

CLIENT: PACE_60_LEKS

Client Name: Pace-KS

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 6432 1394 5141

Initial / Date

Examined By: PS 11/7/23

Labeled By: PS 11/7/23

Temped By: —

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals Intact:** ☐ Yes ☑ No

Thermometer Used: — **Type of Ice:** Wet Blue None

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 1000831 | D.P.D. Residual Chlorine Lot # —

Comments:	Yes	No	NA	
Chain of Custody Present	✓			1.
Chain of Custody Filled Out:	✓			2.
-Were client corrections present on COC		✓		
Chain of Custody Relinquished	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix:	WT			
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used	✓			
Containers Intact:	✓			11.
Orthophosphate field filtered:			✓	12.
Hex Cr Aqueous samples field filtered:			✓	13.
Organic Samples checked for dechlorination			✓	14:
Filtered volume received for dissolved tests:			✓	15:
All containers checked for preservation: exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix	✓			16. PH<2
All containers meet method preservation requirements:	✓			Initial when completed PS; Date/Time of Preservation; Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			✓	17.
624.1: Headspace in VOA Vials (0mm)			✓	18.
Trip Blank Present:			✓	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	✓			Initial when completed PS; Date: 11/7/23; Survey Meter SN: 25014380

Comments:

*Received 2x BPN bottles for sample 014, not on COC.

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Memorandum

December 4, 2023

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23010
CC:	Mark Haddock, Jeffrey Ingram		
From:	Grant Morey	**Email:**	Grant.Morey@Rocksmithgeo.com
RE:	**Data Validation Summary, Meramec Energy Center – MEC – Data Package 60441238**		

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- When a duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a laboratory control sample (LCS) criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren MEC
Project Number: 23010
Reviewer: G. Morey
Validation Date: 12/4/2023

Laboratory: Pace Analytical
SDG #: 60441238
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ EPA 903.1/904.0 (Radium 226+228)
Sample Names M-MW-1, M-MW-3, M-MW-4, M-MW-5, M-MW-6, M-MW-7, M-MW-8, M-BMW-1, M-BMW-2, M-DUP-1, M-FB-1, M-MS-1, M-MSD-1, M-MW-2

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			10/30/2023 - 11/2/2023
b) Sampling team indicated?	x			JSI
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes.
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	x			
b) Was the COC signed by both field and laboratory personnel?	x			
c) Were samples received in good condition?	x			

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?	x	x		
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See Notes
g) Were any matrix problems noted?		x		

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☒	☐	☐	See Notes
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	☒	☐	☐	
b) Were the proper analytes included in the LCS?	☒	☐	☐	
c) Was the LCS accuracy criteria met?	☐	☒	☐	See Notes

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	M-DUP-1 collected @ M-MW-7
b) Were field dup. precision criteria met (note RPD)?	☐	☒	☐	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	See Notes
d) Were lab dup. precision criteria met (note RPD)?	☐	☒	☐	See Notes

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	☐	☐	☒	
b) Was the %D within control limits?	☐	☐	☒	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	☐	☒	☐	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
b) Was MSD accuracy criteria met?	☐	☒	☐	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
c) Were MS/MSD precision criteria met?	☐	☒	☐	See Notes

Comments/Notes:

General:

Lab duplicate for Alkalinity (3458899) analyzed outside of hold time, no qualification necessary.

Chloride and sulfate were diluted in many samples; no qualification necessary.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Field Blanks:

M-FB-1 @ M-MW-6: Boron (11.5J) and Sodium (182J). Sample results > RL and 10x blank: no qualification.

Laboratory Control Sample:

3457515: LCS recovery low for Alkalinity, associated with samples -007 to -009. Results qualified as estimates.

Duplicates:

M-DUP-1 @ M-MW-7: Radium-226 detected in DUP and not in parent sample, results qualified as estimates.

Lab duplicate max RPD: 10%: Alkalinity, TDS; 15%: Chloride, Fluoride, Sulfate; 20%: Ferrous Iron, Sulfide

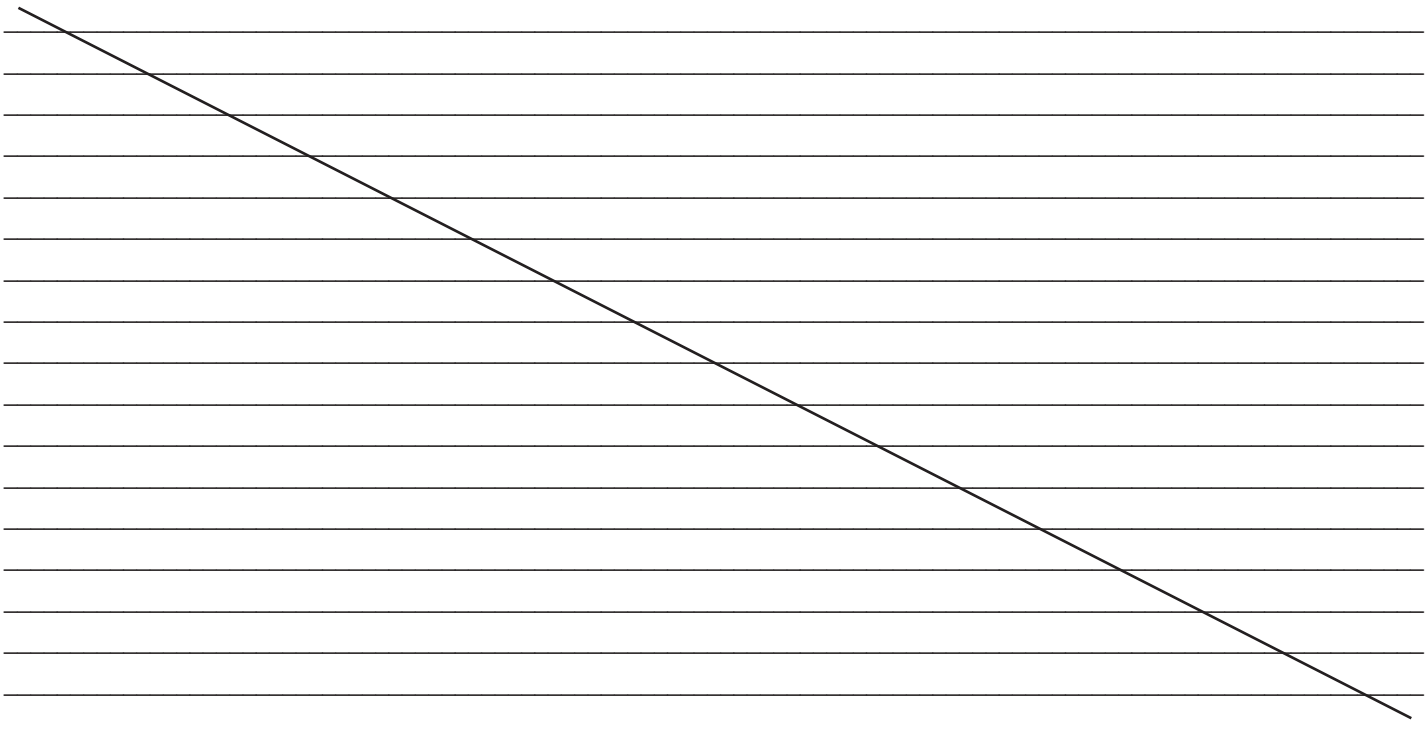
3457516: Lab duplicate RPD exceeds limit for Alkalinity, associated with samples -008. Result qualified as estimate.

3458899: Lab duplicate analyzed outside of hold time, RPD within control limits. No qualification necessary.

MS/MSD:

3456535/3456536: MS recovery low for Calcium and Magnesium, MSD recovery high for Calcium and Magnesium, MS recovery high and MSD recovery low for Sodium. Associated with unrelated sample, no qualification necessary.

3456537: MS recovery low for Boron, Lithium, and Potassium. MS recovery high for Calcium, Magnesium, and Sodium. Associated with unrelated sample, no qualification necessary.



QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-8	Alkalinity	142	J-	LCS recovery low
M-BMW-1	"	258	J-	"
M-BMW-2	"	428	J-	"
M-DUP-1	Radium-226	0.43	J	Result detected in DUP and not in parent sample
M-MW-7	"	1.12	UJ	"
M-BMW-1	Alkalinity	258	J+	Lab duplicate RPD exceeds limit

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Grant Morey Date: 12/04/2023

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

November 29, 2023

Mark Haddock
Rocksmith Geoengineering, LLC.
2320 Creve Coeur Mill Road
Maryland Heights, MO 63043

RE: Project: AMEREN MEC-CA
Pace Project No.: 60441241

Dear Mark Haddock:

Enclosed are the analytical results for sample(s) received by the laboratory on November 02, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Kansas City
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jamie Church
jamie.church@pacelabs.com
314-838-7223
Project Manager

Enclosures

cc: Jeffrey Ingram, Rocksmith Geoengineering, LLC.
Grant Morey, Rocksmith Geoengineering, LLC.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Pace Analytical Services Pennsylvania

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
ANABISO/IEC 17025:2017 Rad Cert#: L24170
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 2950
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA010
Louisiana DEQ/TNI Certification #: 04086
Maine Certification #: 2023021
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572023-03
New Hampshire/TNI Certification #: 297622
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-015
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN02867
Texas/TNI Certification #: T104704188-22-18
Utah/TNI Certification #: PA014572223-14
USDA Soil Permit #: 525-23-67-77263
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad

Pace Analytical Services Kansas

9608 Loiret Boulevard, Lenexa, KS 66219
Missouri Inorganic Drinking Water Certification #: 10090
Arkansas Drinking Water
Arkansas Certification #: 88-00679
Illinois Certification #: 2000302023-5
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212023-1
Oklahoma Certification #: 2022-057
Florida: Cert E871149 SEKS WET
Texas Certification #: T104704407-22-16
Utah Certification #: KS000212022-12
Illinois Certification #: 004592
Kansas Field Laboratory Accreditation: # E-92587
Missouri SEKS Micro Certification: 10070

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60441241001	**M-MW-11S**	Water	11/01/23 09:10	11/02/23 05:09
60441241002	**M-MW-11D**	Water	11/01/23 08:30	11/02/23 05:09
60441241003	**M-TP-2**	Water	11/01/23 13:30	11/02/23 05:09
60441241004	**M-MW-10**	Water	11/01/23 12:25	11/02/23 05:09
60441241005	**M-CA-DUP-1**	Water	11/01/23 08:00	11/02/23 05:09
60441241006	**M-CA-FB-1**	Water	11/01/23 09:50	11/02/23 05:09
60441241007	**M-TP-1**	Water	11/02/23 10:20	11/02/23 12:00
60441241008	**M-MW-9**	Water	11/02/23 09:35	11/02/23 12:00
60441241009	**M-CA-MS-1**	Water	11/02/23 09:35	11/02/23 12:00
60441241010	**M-CA-MSD-1**	Water	11/02/23 09:35	11/02/23 12:00

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60441241001	**M-MW-11S**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241002	**M-MW-11D**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241003	**M-TP-2**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241004	**M-MW-10**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241005	**M-CA-DUP-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241006	**M-CA-FB-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241007	**M-TP-1**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	LL1	1	PASI-PA
		EPA 904.0	ZPC	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241008	**M-MW-9**	EPA 200.7	JXD	10	PASI-K
		EPA 200.8	JGP	2	PASI-K
		EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2320B	BMT	1	PASI-K
		SM 2540C	BDH1	1	PASI-K
		EPA 300.0	RKA	3	PASI-K
60441241009	**M-CA-MS-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
60441241010	**M-CA-MSD-1**	EPA 903.1	CLM	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA

PASI-K = Pace Analytical Services - Kansas City
PASI-PA = Pace Analytical Services - Greensburg

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-11S **Lab ID: 60441241001** Collected: 11/01/23 09:10 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**632**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:41	7440-39-3	
Boron	**2350**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:41	7440-42-8	
Calcium	**224000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:41	7440-70-2	
Iron	**45900**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:41	7439-89-6	
Lithium	**24.5**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:41	7439-93-2	
Magnesium	**70000**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:41	7439-95-4	
Manganese	**1320**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:41	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:41	7439-98-7	
Potassium	**8460**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:41	7440-09-7	
Sodium	**26300**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:41	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**2.1**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:01	7440-38-2	
Selenium	**0.19J**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:01	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**878**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**471**	mg/L	13.3	13.3	1		11/07/23 11:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**17.4**	mg/L	1.0	0.53	1		11/16/23 12:50	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 12:50	16984-48-8	
Sulfate	**64.1**	mg/L	10.0	5.5	10		11/18/23 11:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-11D **Lab ID: 60441241002** Collected: 11/01/23 08:30 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**116**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:43	7440-39-3	
Boron	**11700**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:43	7440-42-8	
Calcium	**233000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:43	7440-70-2	
Iron	**19800**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:43	7439-89-6	
Lithium	**41.8**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:43	7439-93-2	
Magnesium	**57600**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:43	7439-95-4	
Manganese	**607**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:43	7439-96-5	
Molybdenum	**287**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:43	7439-98-7	
Potassium	**6270**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:43	7440-09-7	
Sodium	**44900**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:43	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**12.7**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:03	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:03	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**374**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1220**	mg/L	13.3	13.3	1		11/07/23 11:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**41.2**	mg/L	20.0	10.5	20		11/16/23 13:30	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 13:16	16984-48-8	
Sulfate	**500**	mg/L	100	55.0	100		11/16/23 14:10	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-TP-2 **Lab ID: 60441241003** Collected: 11/01/23 13:30 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**60.9**	ug/L	5.0	0.64	1	11/08/23 09:57	11/13/23 13:45	7440-39-3	
Boron	**2860**	ug/L	100	6.4	1	11/08/23 09:57	11/13/23 13:45	7440-42-8	
Calcium	**223000**	ug/L	200	26.9	1	11/08/23 09:57	11/13/23 13:45	7440-70-2	
Iron	**14700**	ug/L	50.0	9.1	1	11/08/23 09:57	11/13/23 13:45	7439-89-6	
Lithium	**45.9**	ug/L	10.0	3.7	1	11/08/23 09:57	11/13/23 13:45	7439-93-2	
Magnesium	**59700**	ug/L	50.0	20.1	1	11/08/23 09:57	11/13/23 13:45	7439-95-4	
Manganese	**603**	ug/L	5.0	0.39	1	11/08/23 09:57	11/13/23 13:45	7439-96-5	
Molybdenum	**11.6J**	ug/L	20.0	1.0	1	11/08/23 09:57	11/13/23 13:45	7439-98-7	
Potassium	**8490**	ug/L	500	69.7	1	11/08/23 09:57	11/13/23 13:45	7440-09-7	
Sodium	**178000**	ug/L	500	115	1	11/08/23 09:57	11/13/23 13:45	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**6.3**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:08	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:08	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**354**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1560**	mg/L	20.0	20.0	1		11/07/23 11:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**384**	mg/L	20.0	10.5	20		11/16/23 14:37	16887-00-6	
Fluoride	**0.16J**	mg/L	0.20	0.12	1		11/16/23 14:23	16984-48-8	
Sulfate	**567**	mg/L	50.0	27.5	50		11/16/23 14:50	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-10 **Lab ID: 60441241004** Collected: 11/01/23 12:25 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**146**	ug/L	5.0	0.64	1	11/08/23 12:17	11/13/23 10:09	7440-39-3	
Boron	**2960**	ug/L	100	6.4	1	11/08/23 12:17	11/13/23 10:09	7440-42-8	
Calcium	**187000**	ug/L	200	26.9	1	11/08/23 12:17	11/13/23 10:09	7440-70-2	
Iron	**19400**	ug/L	50.0	9.1	1	11/08/23 12:17	11/13/23 10:09	7439-89-6	
Lithium	**32.7**	ug/L	10.0	3.7	1	11/08/23 12:17	11/13/23 10:09	7439-93-2	
Magnesium	**42400**	ug/L	50.0	20.1	1	11/08/23 12:17	11/13/23 10:09	7439-95-4	
Manganese	**619**	ug/L	5.0	0.39	1	11/08/23 12:17	11/13/23 10:09	7439-96-5	
Molybdenum	**17.9J**	ug/L	20.0	1.0	1	11/08/23 12:17	11/13/23 10:09	7439-98-7	
Potassium	**8210**	ug/L	500	69.7	1	11/08/23 12:17	11/13/23 10:09	7440-09-7	
Sodium	**96100**	ug/L	500	115	1	11/08/23 12:17	11/13/23 10:09	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**15.0**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:10	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:10	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**384**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1160**	mg/L	13.3	13.3	1		11/07/23 11:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**105**	mg/L	20.0	10.5	20		11/16/23 15:17	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 15:03	16984-48-8	
Sulfate	**386**	mg/L	50.0	27.5	50		11/18/23 11:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-DUP-1 **Lab ID: 60441241005** Collected: 11/01/23 08:00 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**109**	ug/L	5.0	0.64	1	11/08/23 12:17	11/13/23 10:11	7440-39-3	
Boron	**11400**	ug/L	100	6.4	1	11/08/23 12:17	11/13/23 10:11	7440-42-8	
Calcium	**217000**	ug/L	200	26.9	1	11/08/23 12:17	11/13/23 10:11	7440-70-2	
Iron	**18300**	ug/L	50.0	9.1	1	11/08/23 12:17	11/13/23 10:11	7439-89-6	
Lithium	**40.6**	ug/L	10.0	3.7	1	11/08/23 12:17	11/13/23 10:11	7439-93-2	
Magnesium	**54900**	ug/L	50.0	20.1	1	11/08/23 12:17	11/13/23 10:11	7439-95-4	
Manganese	**569**	ug/L	5.0	0.39	1	11/08/23 12:17	11/13/23 10:11	7439-96-5	
Molybdenum	**270**	ug/L	20.0	1.0	1	11/08/23 12:17	11/13/23 10:11	7439-98-7	
Potassium	**5780**	ug/L	500	69.7	1	11/08/23 12:17	11/13/23 10:11	7440-09-7	
Sodium	**42400**	ug/L	500	115	1	11/08/23 12:17	11/13/23 10:11	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**12.6**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:12	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:12	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**372**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**1190**	mg/L	13.3	13.3	1		11/07/23 11:52		2e
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**47.4**	mg/L	20.0	10.5	20		11/16/23 15:43	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 15:30	16984-48-8	
Sulfate	**512**	mg/L	100	55.0	100		11/16/23 15:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-FB-1 **Lab ID: 60441241006** Collected: 11/01/23 09:50 Received: 11/02/23 05:09 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**<0.64**	ug/L	5.0	0.64	1	11/08/23 16:26	11/14/23 09:18	7440-39-3	
Boron	**<6.4**	ug/L	100	6.4	1	11/08/23 16:26	11/14/23 09:18	7440-42-8	
Calcium	**<26.9**	ug/L	200	26.9	1	11/08/23 16:26	11/14/23 09:18	7440-70-2	
Iron	**<9.1**	ug/L	50.0	9.1	1	11/08/23 16:26	11/14/23 09:18	7439-89-6	
Lithium	**<3.7**	ug/L	10.0	3.7	1	11/08/23 16:26	11/14/23 09:18	7439-93-2	
Magnesium	**<20.1**	ug/L	50.0	20.1	1	11/08/23 16:26	11/14/23 09:18	7439-95-4	
Manganese	**0.42J**	ug/L	5.0	0.39	1	11/08/23 16:26	11/14/23 09:18	7439-96-5	
Molybdenum	**1.2J**	ug/L	20.0	1.0	1	11/08/23 16:26	11/14/23 09:18	7439-98-7	
Potassium	**<69.7**	ug/L	500	69.7	1	11/08/23 16:26	11/14/23 09:18	7440-09-7	
Sodium	**<115**	ug/L	500	115	1	11/08/23 16:26	11/14/23 09:18	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**<0.13**	ug/L	1.0	0.13	1	11/07/23 14:53	11/10/23 14:14	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/07/23 14:53	11/10/23 14:14	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**<10.5**	mg/L	20.0	10.5	1		11/15/23 08:49		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**<5.0**	mg/L	5.0	5.0	1		11/07/23 11:52		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**<0.53**	mg/L	1.0	0.53	1		11/16/23 16:10	16887-00-6	
Fluoride	**<0.12**	mg/L	0.20	0.12	1		11/16/23 16:10	16984-48-8	
Sulfate	**<0.55**	mg/L	1.0	0.55	1		11/16/23 16:10	14808-79-8	

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ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-TP-1 **Lab ID: 60441241007** Collected: 11/02/23 10:20 Received: 11/02/23 12:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7								
	Pace Analytical Services - Kansas City								
Barium	**325**	ug/L	5.0	0.64	1	11/08/23 12:17	11/13/23 10:17	7440-39-3	
Boron	**317**	ug/L	100	6.4	1	11/08/23 12:17	11/13/23 10:17	7440-42-8	
Calcium	**66800**	ug/L	200	26.9	1	11/08/23 12:17	11/13/23 10:17	7440-70-2	
Iron	**2710**	ug/L	50.0	9.1	1	11/08/23 12:17	11/13/23 10:17	7439-89-6	
Lithium	**25.7**	ug/L	10.0	3.7	1	11/08/23 12:17	11/13/23 10:17	7439-93-2	
Magnesium	**28300**	ug/L	50.0	20.1	1	11/08/23 12:17	11/13/23 10:17	7439-95-4	
Manganese	**60.8**	ug/L	5.0	0.39	1	11/08/23 12:17	11/13/23 10:17	7439-96-5	
Molybdenum	**<1.0**	ug/L	20.0	1.0	1	11/08/23 12:17	11/13/23 10:17	7439-98-7	
Potassium	**3030**	ug/L	500	69.7	1	11/08/23 12:17	11/13/23 10:17	7440-09-7	
Sodium	**48200**	ug/L	500	115	1	11/08/23 12:17	11/13/23 10:17	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
	Pace Analytical Services - Kansas City								
Arsenic	**20.8**	ug/L	1.0	0.13	1	11/08/23 11:27	11/14/23 13:01	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/08/23 11:27	11/14/23 13:01	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B								
	Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**358**	mg/L	20.0	10.5	1		11/16/23 16:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C								
	Pace Analytical Services - Kansas City								
Total Dissolved Solids	**410**	mg/L	10.0	10.0	1		11/09/23 12:11		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0								
	Pace Analytical Services - Kansas City								
Chloride	**29.4**	mg/L	10.0	5.3	10		11/18/23 02:36	16887-00-6	
Fluoride	**0.45**	mg/L	0.20	0.12	1		11/16/23 23:30	16984-48-8	
Sulfate	**2.2**	mg/L	1.0	0.55	1		11/16/23 23:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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(913)599-5665

ANALYTICAL RESULTS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-9 **Lab ID: 60441241008** Collected: 11/02/23 09:35 Received: 11/02/23 12:00 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7 Pace Analytical Services - Kansas City								
Barium	**273**	ug/L	5.0	0.64	1	11/08/23 12:17	11/13/23 10:19	7440-39-3	
Boron	**6110**	ug/L	100	6.4	1	11/08/23 12:17	11/13/23 10:19	7440-42-8	
Calcium	**162000**	ug/L	200	26.9	1	11/08/23 12:17	11/13/23 10:19	7440-70-2	M1
Iron	**23000**	ug/L	50.0	9.1	1	11/08/23 12:17	11/13/23 10:19	7439-89-6	
Lithium	**14.6**	ug/L	10.0	3.7	1	11/08/23 12:17	11/13/23 10:19	7439-93-2	
Magnesium	**49700**	ug/L	50.0	20.1	1	11/08/23 12:17	11/13/23 10:19	7439-95-4	
Manganese	**676**	ug/L	5.0	0.39	1	11/08/23 12:17	11/13/23 10:19	7439-96-5	
Molybdenum	**21.9**	ug/L	20.0	1.0	1	11/08/23 12:17	11/13/23 10:19	7439-98-7	
Potassium	**4460**	ug/L	500	69.7	1	11/08/23 12:17	11/13/23 10:19	7440-09-7	
Sodium	**36300**	ug/L	500	115	1	11/08/23 12:17	11/13/23 10:19	7440-23-5	
200.8 MET ICPMS	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8 Pace Analytical Services - Kansas City								
Arsenic	**18.1**	ug/L	1.0	0.13	1	11/08/23 11:27	11/14/23 13:04	7440-38-2	
Selenium	**<0.18**	ug/L	1.0	0.18	1	11/08/23 11:27	11/14/23 13:04	7782-49-2	
2320B Alkalinity	Analytical Method: SM 2320B Pace Analytical Services - Kansas City								
Alkalinity, Total as CaCO3	**334**	mg/L	20.0	10.5	1		11/16/23 16:07		
2540C Total Dissolved Solids	Analytical Method: SM 2540C Pace Analytical Services - Kansas City								
Total Dissolved Solids	**901**	mg/L	13.3	13.3	1		11/09/23 12:11		1e
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Pace Analytical Services - Kansas City								
Chloride	**29.2**	mg/L	10.0	5.3	10		11/18/23 02:49	16887-00-6	
Fluoride	**0.18J**	mg/L	0.20	0.12	1		11/16/23 23:57	16984-48-8	M1
Sulfate	**366**	mg/L	20.0	11.0	20		11/17/23 01:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872592
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241001, 60441241002, 60441241003

METHOD BLANK: 3456069 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/13/23 12:45	
Boron	ug/L	<6.4	100	6.4	11/13/23 12:45	
Calcium	ug/L	<26.9	200	26.9	11/13/23 12:45	
Iron	ug/L	<9.1	50.0	9.1	11/13/23 12:45	
Lithium	ug/L	<3.7	10.0	3.7	11/13/23 12:45	
Magnesium	ug/L	<20.1	50.0	20.1	11/13/23 12:45	
Manganese	ug/L	<0.39	5.0	0.39	11/13/23 12:45	
Molybdenum	ug/L	<1.0	20.0	1.0	11/13/23 12:45	
Potassium	ug/L	<69.7	500	69.7	11/13/23 12:45	
Sodium	ug/L	<115	500	115	11/13/23 12:45	

LABORATORY CONTROL SAMPLE: 3456070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1030	103	85-115	
Boron	ug/L	1000	953	95	85-115	
Calcium	ug/L	10000	10300	103	85-115	
Iron	ug/L	10000	10500	105	85-115	
Lithium	ug/L	1000	1080	108	85-115	
Magnesium	ug/L	10000	10500	105	85-115	
Manganese	ug/L	1000	1070	107	85-115	
Molybdenum	ug/L	1000	1020	102	85-115	
Potassium	ug/L	10000	10400	104	85-115	
Sodium	ug/L	10000	10800	108	85-115	

MATRIX SPIKE SAMPLE: 3456071

Parameter	Units	60441238006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	46.3	1000	1060	101	70-130	
Boron	ug/L	19300	1000	20400	108	70-130	
Calcium	ug/L	337000	10000	346000	93	70-130	
Iron	ug/L	9.8J	10000	10400	104	70-130	
Lithium	ug/L	40.9	1000	1100	106	70-130	
Magnesium	ug/L	22000	10000	31900	99	70-130	
Manganese	ug/L	3.4J	1000	1040	104	70-130	
Molybdenum	ug/L	313	1000	1360	105	70-130	
Potassium	ug/L	18100	10000	28800	106	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

MATRIX SPIKE SAMPLE: 3456071

Parameter	Units	60441238006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sodium	ug/L	93400	10000	103000	97	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456072 3456073

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	242	1000	1000	1260	1280	102	104	70-130	1	20	
Boron	ug/L	113	1000	1000	1060	1080	95	96	70-130	2	20	
Calcium	ug/L	130000	10000	10000	137000	137000	73	80	70-130	1	20	
Iron	ug/L	2290	10000	10000	12900	12800	106	105	70-130	1	20	
Lithium	ug/L	7.3J	1000	1000	1070	1090	106	108	70-130	2	20	
Magnesium	ug/L	34600	10000	10000	44000	44200	94	96	70-130	0	20	
Manganese	ug/L	511	1000	1000	1540	1540	103	103	70-130	0	20	
Molybdenum	ug/L	4.1J	1000	1000	1040	1050	104	104	70-130	1	20	
Potassium	ug/L	2930	10000	10000	13100	13500	102	105	70-130	3	20	
Sodium	ug/L	59500	10000	10000	67700	68300	82	88	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872639
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241004, 60441241005, 60441241007, 60441241008

METHOD BLANK: 3456315 Matrix: Water
Associated Lab Samples: 60441241004, 60441241005, 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/13/23 10:05	
Boron	ug/L	<6.4	100	6.4	11/13/23 10:05	
Calcium	ug/L	<26.9	200	26.9	11/13/23 10:05	
Iron	ug/L	<9.1	50.0	9.1	11/13/23 10:05	
Lithium	ug/L	<3.7	10.0	3.7	11/13/23 10:05	
Magnesium	ug/L	<20.1	50.0	20.1	11/13/23 10:05	
Manganese	ug/L	<0.39	5.0	0.39	11/13/23 10:05	
Molybdenum	ug/L	<1.0	20.0	1.0	11/13/23 10:05	
Potassium	ug/L	<69.7	500	69.7	11/13/23 10:05	
Sodium	ug/L	<115	500	115	11/13/23 10:05	

LABORATORY CONTROL SAMPLE: 3456316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	935	93	85-115	
Boron	ug/L	1000	900	90	85-115	
Calcium	ug/L	10000	9480	95	85-115	
Iron	ug/L	10000	9400	94	85-115	
Lithium	ug/L	1000	938	94	85-115	
Magnesium	ug/L	10000	9300	93	85-115	
Manganese	ug/L	1000	966	97	85-115	
Molybdenum	ug/L	1000	941	94	85-115	
Potassium	ug/L	10000	9250	92	85-115	
Sodium	ug/L	10000	9430	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456317 3456318

Parameter	Units	60441241008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	273	1000	1000	1270	1230	99	96	70-130	3	20	
Boron	ug/L	6110	1000	1000	7180	6900	106	78	70-130	4	20	
Calcium	ug/L	162000	10000	10000	173000	165000	109	26	70-130	5	20	M1
Iron	ug/L	23000	10000	10000	33000	32100	101	91	70-130	3	20	
Lithium	ug/L	14.6	1000	1000	1050	1020	103	101	70-130	2	20	
Magnesium	ug/L	49700	10000	10000	60100	57300	104	76	70-130	5	20	
Manganese	ug/L	676	1000	1000	1680	1630	101	96	70-130	3	20	
Molybdenum	ug/L	21.9	1000	1000	1020	995	100	97	70-130	3	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456317 3456318

Parameter	Units	60441241008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	4460	10000	10000	14700	14300	103	98	70-130	3	20	
Sodium	ug/L	36300	10000	10000	46700	45000	104	87	70-130	4	20	

MATRIX SPIKE SAMPLE: 3456319

Parameter	Units	60441265004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	247	1000	1190	95	70-130	
Boron	ug/L	ND	1000	952	92	70-130	
Calcium	ug/L	62000	10000	69800	78	70-130	
Iron	ug/L	ND	10000	9720	97	70-130	
Lithium	ug/L	14.7	1000	989	97	70-130	
Magnesium	ug/L	9510	10000	18600	91	70-130	
Manganese	ug/L	210	1000	1190	98	70-130	
Molybdenum	ug/L	ND	1000	978	98	70-130	
Potassium	ug/L	2260	10000	11800	95	70-130	
Sodium	ug/L	24000	10000	33200	92	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872696
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Laboratory: Pace Analytical Services - Kansas City

Associated Lab Samples: 60441241006

METHOD BLANK: 3456533 Matrix: Water
Associated Lab Samples: 60441241006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	<0.64	5.0	0.64	11/14/23 09:14	
Boron	ug/L	<6.4	100	6.4	11/14/23 09:14	
Calcium	ug/L	<26.9	200	26.9	11/14/23 09:14	
Iron	ug/L	<9.1	50.0	9.1	11/14/23 09:14	
Lithium	ug/L	<3.7	10.0	3.7	11/14/23 09:14	
Magnesium	ug/L	<20.1	50.0	20.1	11/14/23 09:14	
Manganese	ug/L	<0.39	5.0	0.39	11/14/23 09:14	
Molybdenum	ug/L	<1.0	20.0	1.0	11/14/23 09:14	
Potassium	ug/L	<69.7	500	69.7	11/14/23 09:14	
Sodium	ug/L	<115	500	115	11/14/23 09:14	

LABORATORY CONTROL SAMPLE: 3456534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	1000	1050	105	85-115	
Boron	ug/L	1000	999	100	85-115	
Calcium	ug/L	10000	10700	107	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lithium	ug/L	1000	1050	105	85-115	
Magnesium	ug/L	10000	10300	103	85-115	
Manganese	ug/L	1000	1080	108	85-115	
Molybdenum	ug/L	1000	1050	105	85-115	
Potassium	ug/L	10000	10300	103	85-115	
Sodium	ug/L	10000	10300	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456535 3456536

Parameter	Units	60441301004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	15.9	1000	1000	1020	1030	100	101	70-130	1	20	
Boron	ug/L	315	1000	1000	1250	1290	94	97	70-130	3	20	
Calcium	ug/L	909000	10000	10000	894000	935000	-149	263	70-130	5	20	M1
Iron	ug/L	993	10000	10000	11000	11200	100	102	70-130	1	20	
Lithium	ug/L	81.2	1000	1000	1170	1200	109	112	70-130	2	20	
Magnesium	ug/L	149000	10000	10000	155000	163000	60	135	70-130	5	20	M1
Manganese	ug/L	2250	1000	1000	3220	3270	97	102	70-130	1	20	
Molybdenum	ug/L	ND	1000	1000	1030	1040	101	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456535 3456536

Parameter	Units	60441301004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Potassium	ug/L	55200	10000	10000	64400	68200	92	130	70-130	6	20	
Sodium	ug/L	3520000	10000	10000	3540000	3510000	210	-92	70-130	1	20	E,M1

MATRIX SPIKE SAMPLE: 3456537

Parameter	Units	60441344003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	276	1000	1360J	108	70-130	
Boron	ug/L	ND	1000	<3210	-177	70-130	M1
Calcium	ug/L	1450000	10000	1460000	174	70-130	M1
Iron	ug/L	4290	10000	15800J	116	70-130	
Lithium	ug/L	587	1000	<1860	-3	70-130	M1
Magnesium	ug/L	231000	10000	244000	131	70-130	M1
Manganese	ug/L	3720	1000	4800	108	70-130	
Molybdenum	ug/L	ND	1000	1330J	124	70-130	
Potassium	ug/L	224000	10000	226000J	15	70-130	M1
Sodium	ug/L	91100000	10000	92200000	10900	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872439
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

METHOD BLANK: 3455467 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/10/23 13:39	
Selenium	ug/L	<0.18	1.0	0.18	11/10/23 13:39	

LABORATORY CONTROL SAMPLE: 3455468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	41.7	104	85-115	
Selenium	ug/L	40	42.0	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3455469 3455470

Parameter	Units	60441238008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	5.2	40	40	46.8	47.2	104	105	70-130	1	20	
Selenium	ug/L	1.1	40	40	40.6	41.1	99	100	70-130	1	20	

MATRIX SPIKE SAMPLE: 3455471

Parameter	Units	60441241006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	<0.13	40	41.4	104	70-130	
Selenium	ug/L	<0.18	40	40.2	100	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872590
QC Batch Method: EPA 200.8
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241007, 60441241008

METHOD BLANK: 3456054 Matrix: Water
Associated Lab Samples: 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Arsenic	ug/L	<0.13	1.0	0.13	11/14/23 12:39	
Selenium	ug/L	<0.18	1.0	0.18	11/14/23 12:39	

LABORATORY CONTROL SAMPLE: 3456055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	40	42.5	106	85-115	
Selenium	ug/L	40	42.9	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3456056 3456057

Parameter	Units	60441241008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	ug/L	18.1	40	40	60.3	61.2	105	108	70-130	1	20	
Selenium	ug/L	<0.18	40	40	40.9	40.9	102	102	70-130	0	20	

MATRIX SPIKE SAMPLE: 3456058

Parameter	Units	60441422001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	1.2	40	44.5	108	70-130	
Selenium	ug/L	ND	40	42.5	106	70-130	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 873543 Analysis Method: SM 2320B
QC Batch Method: SM 2320B Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

METHOD BLANK: 3459830 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/15/23 08:49	

LABORATORY CONTROL SAMPLE: 3459831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	498	100	90-110	

SAMPLE DUPLICATE: 3459832

Parameter	Units	60441241001 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	878	856	3	10	

SAMPLE DUPLICATE: 3459833

Parameter	Units	60441344005 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	156	154	1	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 873725
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241007, 60441241008

METHOD BLANK: 3460480 Matrix: Water
Associated Lab Samples: 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	<10.5	20.0	10.5	11/16/23 16:07	

LABORATORY CONTROL SAMPLE: 3460481

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	500	496	99	90-110	

SAMPLE DUPLICATE: 3460482

Parameter	Units	60441241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	334	310	7	10	

SAMPLE DUPLICATE: 3460483

Parameter	Units	60441238014 Result	Dup Result	RPD	Max RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	238	234	2	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872380 | Analysis Method: SM 2540C
QC Batch Method: SM 2540C | Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

METHOD BLANK: 3455231 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/07/23 11:47	

LABORATORY CONTROL SAMPLE: 3455232

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 3455233

Parameter	Units	60441238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	672	673	0	10	

SAMPLE DUPLICATE: 3455234

Parameter	Units	60441249004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1130	1120	1	10	2e

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 872743
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241007, 60441241008

METHOD BLANK: 3456662 Matrix: Water
Associated Lab Samples: 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	<5.0	5.0	5.0	11/09/23 12:10	

LABORATORY CONTROL SAMPLE: 3456663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 3456664

Parameter	Units	60441300002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	837	847	1	10	

SAMPLE DUPLICATE: 3456665

Parameter	Units	60441241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	901	925	3	10	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 873645
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Laboratory: Pace Analytical Services - Kansas City
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007, 60441241008

METHOD BLANK: 3460216 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/16/23 10:09	
Fluoride	mg/L	<0.12	0.20	0.12	11/16/23 10:09	
Sulfate	mg/L	<0.55	1.0	0.55	11/16/23 10:09	

METHOD BLANK: 3461960 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/17/23 21:29	
Fluoride	mg/L	<0.12	0.20	0.12	11/17/23 21:29	
Sulfate	mg/L	<0.55	1.0	0.55	11/17/23 21:29	

METHOD BLANK: 3462050 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007, 60441241008

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	<0.53	1.0	0.53	11/18/23 09:29	
Fluoride	mg/L	<0.12	0.20	0.12	11/18/23 09:29	
Sulfate	mg/L	<0.55	1.0	0.55	11/18/23 09:29	

LABORATORY CONTROL SAMPLE: 3460217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.6	92	90-110	
Fluoride	mg/L	2.5	2.4	95	90-110	
Sulfate	mg/L	5	4.8	95	90-110	

LABORATORY CONTROL SAMPLE: 3461961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	95	90-110	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

LABORATORY CONTROL SAMPLE: 3461961

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Fluoride	mg/L	2.5	2.6	103	90-110	
Sulfate	mg/L	5	4.6	92	90-110	

LABORATORY CONTROL SAMPLE: 3462051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.7	94	90-110	
Fluoride	mg/L	2.5	2.6	106	90-110	
Sulfate	mg/L	5	4.8	95	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460218 3460219

Parameter	Units	60441249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.4	5	5	6.1	6.2	95	97	80-120	2	15	
Fluoride	mg/L	10.4	5	5	13.8	14.9	67	90	80-120	8	15	M1
Sulfate	mg/L	1300	500	500	1800	1840	100	108	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460221 3460222

Parameter	Units	60441249004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.1	5	5	5.9	5.9	96	97	80-120	1	15	
Fluoride	mg/L	0.68	2.5	2.5	3.2	3.1	102	99	80-120	2	15	
Sulfate	mg/L	576	500	500	996	1020	84	89	80-120	2	15	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3460224 3460225

Parameter	Units	60441241008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	29.2	50	50	75.5	75.3	93	92	80-120	0	15	
Fluoride	mg/L	0.18J	2.5	2.5	2.0	2.1	74	78	80-120	5	15	M1
Sulfate	mg/L	366	100	100	476	472	110	106	80-120	1	15	

SAMPLE DUPLICATE: 3460220

Parameter	Units	60441249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	1.4	1.3	2	15	
Fluoride	mg/L	10.4	10.7	2	15	

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QUALITY CONTROL DATA

Project: AMEREN MEC-CA
Pace Project No.: 60441241

SAMPLE DUPLICATE: 3460220

Parameter	Units	60441249001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfate	mg/L	1300	1270	2	15	

SAMPLE DUPLICATE: 3460223

Parameter	Units	60441249004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	1.1	1.1	0	15	
Fluoride	mg/L	0.68	0.69	1	15	
Sulfate	mg/L	576	522	10	15	

SAMPLE DUPLICATE: 3460226

Parameter	Units	60441241008 Result	Dup Result	RPD	Max RPD	Qualifiers
Chloride	mg/L	29.2	31.3	7	15	
Fluoride	mg/L	0.18J	0.18J		15	
Sulfate	mg/L	366	355	3	15	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-11S **Lab ID: 60441241001** Collected: 11/01/23 09:10 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.490 ± 0.379 (0.535) C:NA T:85%**	pCi/L	11/28/23 14:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.39 ± 0.485 (0.654) C:80% T:85%**	pCi/L	11/17/23 15:43	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-11D **Lab ID: 60441241002** Collected: 11/01/23 08:30 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.0782 ± 0.287 (0.620) C:NA T:79%**	pCi/L	11/28/23 14:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.574 ± 0.398 (0.757) C:79% T:79%**	pCi/L	11/17/23 15:43	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-TP-2 **Lab ID: 60441241003** Collected: 11/01/23 13:30 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.303 ± 0.425 (0.721) C:NA T:80%**	pCi/L	11/28/23 14:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.655 ± 0.502 (1.000) C:79% T:80%**	pCi/L	11/17/23 15:43	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-10 **Lab ID: 60441241004** Collected: 11/01/23 12:25 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.312 ± 0.362 (0.584) C:NA T:83%**	pCi/L	11/28/23 14:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.00 ± 0.538 (0.975) C:76% T:83%**	pCi/L	11/17/23 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-DUP-1 **Lab ID: 60441241005** Collected: 11/01/23 08:00 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.485 ± 0.363 (0.520) C:NA T:88%**	pCi/L	11/28/23 14:39	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.03 ± 0.463 (0.784) C:87% T:88%**	pCi/L	11/17/23 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-FB-1 **Lab ID: 60441241006** Collected: 11/01/23 09:50 Received: 11/02/23 05:09 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**-0.292 ± 0.319 (0.757) C:NA T:81%**	pCi/L	11/28/23 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.689 ± 0.510 (1.01) C:79% T:81%**	pCi/L	11/17/23 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-TP-1 **Lab ID: 60441241007** Collected: 11/02/23 10:20 Received: 11/02/23 12:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.235 ± 0.326 (0.552) C:NA T:80%**	pCi/L	11/28/23 14:52	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**1.08 ± 0.473 (0.769) C:82% T:80%**	pCi/L	11/17/23 15:44	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-MW-9 **Lab ID: 60441241008** Collected: 11/02/23 09:35 Received: 11/02/23 12:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**0.180 ± 0.659 (1.27) C:NA T:88%**	pCi/L	11/28/23 12:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**0.999 ± 0.428 (0.690) C:81% T:83%**	pCi/L	11/28/23 12:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-MS-1 **Lab ID: 60441241009** Collected: 11/02/23 09:35 Received: 11/02/23 12:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**111.46 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 12:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**81.87 %REC ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 12:32	15262-20-1	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Sample: M-CA-MSD-1 **Lab ID: 60441241010** Collected: 11/02/23 09:35 Received: 11/02/23 12:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
	Pace Analytical Services - Greensburg					
Radium-226	EPA 903.1	**95.07 %REC 15.86RPD ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 12:31	13982-63-3	
	Pace Analytical Services - Greensburg					
Radium-228	EPA 904.0	**89.12 %REC 8.48RPD ± NA (NA) C:NA T:NA**	pCi/L	11/28/23 12:32	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 631041
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441241008, 60441241009, 60441241010

METHOD BLANK: 3076765 Matrix: Water
Associated Lab Samples: 60441241008, 60441241009, 60441241010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.403 ± 0.389 (0.796) C:74% T:81%	pCi/L	11/28/23 12:32	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 628313
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007

METHOD BLANK: 3062829 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	-0.0359 ± 0.164 (0.387) C:NA T:85%	pCi/L	11/28/23 14:39	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 631040
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441241008, 60441241009, 60441241010

METHOD BLANK: 3076762 Matrix: Water
Associated Lab Samples: 60441241008, 60441241009, 60441241010

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.115 ± 0.262 (0.155) C:NA T:84%	pCi/L	11/28/23 12:31	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL - RADIOCHEMISTRY

Project: AMEREN MEC-CA
Pace Project No.: 60441241

QC Batch: 628314
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007

METHOD BLANK: 3062830 Matrix: Water
Associated Lab Samples: 60441241001, 60441241002, 60441241003, 60441241004, 60441241005, 60441241006, 60441241007

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.110 ± 0.278 (0.626) C:87% T:85%	pCi/L	11/17/23 15:42	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: AMEREN MEC-CA
Pace Project No.: 60441241

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval). Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	Achieving a constant weight was not met for this sample.
2e	Achieving a constant weight was not met with this sample.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60441241001	**M-MW-11S**	EPA 200.7	872592	EPA 200.7	872604
60441241002	**M-MW-11D**	EPA 200.7	872592	EPA 200.7	872604
60441241003	**M-TP-2**	EPA 200.7	872592	EPA 200.7	872604
60441241004	**M-MW-10**	EPA 200.7	872639	EPA 200.7	872647
60441241005	**M-CA-DUP-1**	EPA 200.7	872639	EPA 200.7	872647
60441241006	**M-CA-FB-1**	EPA 200.7	872696	EPA 200.7	872801
60441241007	**M-TP-1**	EPA 200.7	872639	EPA 200.7	872647
60441241008	**M-MW-9**	EPA 200.7	872639	EPA 200.7	872647
60441241001	**M-MW-11S**	EPA 200.8	872439	EPA 200.8	872501
60441241002	**M-MW-11D**	EPA 200.8	872439	EPA 200.8	872501
60441241003	**M-TP-2**	EPA 200.8	872439	EPA 200.8	872501
60441241004	**M-MW-10**	EPA 200.8	872439	EPA 200.8	872501
60441241005	**M-CA-DUP-1**	EPA 200.8	872439	EPA 200.8	872501
60441241006	**M-CA-FB-1**	EPA 200.8	872439	EPA 200.8	872501
60441241007	**M-TP-1**	EPA 200.8	872590	EPA 200.8	872690
60441241008	**M-MW-9**	EPA 200.8	872590	EPA 200.8	872690
60441241001	**M-MW-11S**	EPA 903.1	628313		
60441241002	**M-MW-11D**	EPA 903.1	628313		
60441241003	**M-TP-2**	EPA 903.1	628313		
60441241004	**M-MW-10**	EPA 903.1	628313		
60441241005	**M-CA-DUP-1**	EPA 903.1	628313		
60441241006	**M-CA-FB-1**	EPA 903.1	628313		
60441241007	**M-TP-1**	EPA 903.1	628313		
60441241008	**M-MW-9**	EPA 903.1	631040		
60441241009	**M-CA-MS-1**	EPA 903.1	631040		
60441241010	**M-CA-MSD-1**	EPA 903.1	631040		
60441241001	**M-MW-11S**	EPA 904.0	628314		
60441241002	**M-MW-11D**	EPA 904.0	628314		
60441241003	**M-TP-2**	EPA 904.0	628314		
60441241004	**M-MW-10**	EPA 904.0	628314		
60441241005	**M-CA-DUP-1**	EPA 904.0	628314		
60441241006	**M-CA-FB-1**	EPA 904.0	628314		
60441241007	**M-TP-1**	EPA 904.0	628314		
60441241008	**M-MW-9**	EPA 904.0	631041		
60441241009	**M-CA-MS-1**	EPA 904.0	631041		
60441241010	**M-CA-MSD-1**	EPA 904.0	631041		
60441241001	**M-MW-11S**	SM 2320B	873543		
60441241002	**M-MW-11D**	SM 2320B	873543		
60441241003	**M-TP-2**	SM 2320B	873543		
60441241004	**M-MW-10**	SM 2320B	873543		
60441241005	**M-CA-DUP-1**	SM 2320B	873543		
60441241006	**M-CA-FB-1**	SM 2320B	873543		
60441241007	**M-TP-1**	SM 2320B	873725		

Pace Analytical Services, LLC
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: AMEREN MEC-CA
Pace Project No.: 60441241

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60441241008	**M-MW-9**	SM 2320B	873725		
60441241001	**M-MW-11S**	SM 2540C	872380		
60441241002	**M-MW-11D**	SM 2540C	872380		
60441241003	**M-TP-2**	SM 2540C	872380		
60441241004	**M-MW-10**	SM 2540C	872380		
60441241005	**M-CA-DUP-1**	SM 2540C	872380		
60441241006	**M-CA-FB-1**	SM 2540C	872380		
60441241007	**M-TP-1**	SM 2540C	872743		
60441241008	**M-MW-9**	SM 2540C	872743		
60441241001	**M-MW-11S**	EPA 300.0	873645		
60441241002	**M-MW-11D**	EPA 300.0	873645		
60441241003	**M-TP-2**	EPA 300.0	873645		
60441241004	**M-MW-10**	EPA 300.0	873645		
60441241005	**M-CA-DUP-1**	EPA 300.0	873645		
60441241006	**M-CA-FB-1**	EPA 300.0	873645		
60441241007	**M-TP-1**	EPA 300.0	873645		
60441241008	**M-MW-9**	EPA 300.0	873645		

WO# : 60441241

60441241

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Con		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Rocksmith Geoeng

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☑ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T298 **Type of Ice:** (Wet) Blue None

Cooler Temperature (°C): **As-read** 1.4/16.8 **Corr. Factor** -0.3 **Corrected** 1.1/16.5

Date and initials of person examining contents: PM 11/2/23

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) **LOT#:** 67181	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Qualtrax Document ID: 30468

Pace® Location Requested (City/State):
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

60441241

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	Jeff Ingram, jeff.ingram@rocksmithgeo.com
Customer Project #:		Invoice To:	Mark Haddock
Project Name:	AMEREN MEC-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other

Regulatory Program (DW, RCRA, etc.) as applicable:

Rush (Pre-approval required):
[ ] 2 Day [ ] 3 day [ ] 5 day [ ] Other
Date Results Requested:

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [X] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Other (OT), Surface Water (SW), Sediment (SED), Sludge (SL), Caulk

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res. CL2	Number & Type of Containers Plastic	Number & Type of Containers Glass	Chloride/Fluoride/Sulfate	Alkalinity	TDS	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8)**	Radium 226 & Radium 228	Sample Comment
M-MW-11S	WT	G	11/1/23	~~0830~~ 0910				4	-	1	1	1	1	1	1	
M-MW-11D	WT	G	11/1/23	0830				4	-	1	1	1	1	1	1	
M-TP-1	WT															
M-TP-2	WT	G	11/1/23	1330				4	-	1	1	1	1	1	1	
M-MW-9	WT															
M-MW-10	WT	G	11/1/23	~~0950~~ 0945	1225			4	-	1	1	1	1	1	1	
M-CA-DUP-1	WT	G	11/1/23	-				4	-	1	1	1	1	1	1	
M-CA-FB-1	WT	G	11/1/23	0950				4	-	1	1	1	1	1	1	
M-CA-MS-1	WT															
M-CA-MSD-1	WT															

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852, Line 1
Prelog / Bottle Ord. ID: EZ 3011906

Preservation non-conformance identified for sample.

Customer Remarks / Special Conditions / Possible Hazards:
* - App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**- App IV Metals - EPA 200.7 - Ba, Li, Mo and 200.8 Metals - As, Se

Collected By:
Printed Name: JCH Ingram
Signature:

Additional Instructions from Pace®:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)
2	T298	-0.3	1.4/16.8	1.1/16.5

Relinquished by/Company: (Signature)	Date/Time: 11/1/23 16:00	Received by/Company: (Signature)	Date/Time: 11/2/23 0509	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In-Person [ ] Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: 1 of 1

Page 41 of 57

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

Client: Rocksmith Geoeng Profile #

Site: Notes

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1	WT																		1			2	1								
2	↓																		↓			↓	↓								
3																																
4	↓																		↓			↓	↓								
5																																
6	↓																		↓			↓	↓								
7	↓																		↓			↓	↓								
8	↓																		↓			↓	↓								
9																																
10																																
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60441241

WO#: 60441241

60441241

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-LENE-0009_Sample Cc		
	Revision: 2	Effective Date: 01/12/2022	Issued By: Lenexa

Client Name: Rocksmith Geoeng

Courier: FedEx ☐ UPS ☐ VIA ☐ Clay ☐ PEX ☐ ECI ☐ Pace ☐ Xroads ☑ Client ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☑ Seals intact: Yes ☐ No ☑

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☑ Other ☐

Thermometer Used: T298 **Type of Ice:** Wet ☑ Blue None

Cooler Temperature (°C): As-read 1.4/17.5 **Corr. Factor** -0.3 **Corrected** 1.1/17.2

Date and initials of person examining contents: PV 11/3/23

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	
Sufficient volume:	☑Yes ☐No ☐N/A	
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	
Containers intact:	☑Yes ☐No ☐N/A	
Unpreserved 5035A / TX1005/1006 soils frozen in 48hrs?	☐Yes ☐No ☑N/A	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	
Sample labels match COC: Date / time / ID / analyses	☑Yes ☐No ☐N/A	
Samples contain multiple phases? Matrix: WT	☐Yes ☑No ☐N/A	
Containers requiring pH preservation in compliance? (HNO3, H2SO4, HCl<2; NaOH>9 Sulfide, NaOH>10 Cyanide) (Exceptions: VOA, Micro, O&G, KS TPH, OK-DRO) LOT#: 67187	☑Yes ☐No ☐N/A	List sample IDs, volumes, lot #'s of preservative and the date/time added.
Cyanide water sample checks: Lead acetate strip turns dark? (Record only)	☐Yes ☐No	
Potassium iodide test strip turns blue/purple? (Preserve)	☐Yes ☐No	
Trip Blank present:	☐Yes ☐No ☑N/A	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	
Samples from USDA Regulated Area: State:	☐Yes ☐No ☑N/A	
Additional labels attached to 5035A / TX1005 vials in the field?	☐Yes ☐No ☑N/A	

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace® Lab Requested (City/State):
Pace Analytical Kansas
9608 Loiret Blvd., Lenexa, KS 66219

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR Code for instructions

60414241

Company Name:	Rocksmith Geoengineering, LLC.	Contact/Report To:	Mark Haddock
Street Address:	2320 Creve Coeur Mill Road, Maryland Heights, MO 63043	Phone #:	314-974-6578
		E-Mail:	mark.haddock@rocksmithgeo.com
		Cc E-Mail:	Jeff Ingram, jeff.ingram@rocksmithgeo.com
Customer Project #:		Invoice To:	Mark Haddock
Project Name:	AMEREN MEC-CA	Invoice E-Mail:	mark.haddock@rocksmithgeo.com
Site Collection Info/Facility ID (as applicable):		Purchase Order # (if applicable):	
		Quote #:	

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

County / State origin of sample(s): Missouri

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other_____

Regulatory Program (DW, RCRA, etc.) as applicable:

Rush (Pre-approval required):
[ ] 2 Day [ ] 3 day [ ] 5 day [ ] Other_____
Date Results Requested:

DW PWSID # or WW Permit # as applicable:

Field Filtered (if applicable): [ ] Yes [ ] No
Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Waste Water (WW), Product (P), Soil/Solid (SS), Oil (OL), Wipe (WP), Tissue (TS), Bioassay (B), Vapor (V), Other (OT), Surface Water (SW),Sediment (SED), Sludge (SL), Caulk

**Container Size: (1) 1L, (2) 500mL, (3) 250mL, (4) 125mL, (5) 100mL, (6) 40mL vial, (7) EnCore, (8) TerraCore, (9) Other

*** Preservative Types: (1) None, (2) HNO3, (3) H2SO4, (4) HCl, (5) NaOH, (6) Zn Acetate, (7) NaHSO4, (8) Sod. Thiosulfate, (9) Ascorbic Acid, (10) MeOH, (11) Other

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res. Cl2	Number & Type of Containers Plastic	Number & Type of Containers Glass	Chloride/Fluoride/Sulfate	Alkalinity	TDS	App III and Cat/An Metals (200.7)*	Appendix IV Metals (200.7/200.8)**	Radium 226 & Radium 228	Sample Comment
Specify Container Size **																
Identify Container Preservative Type***																
M-MW-11S	WT	G														
M-MW-11D	WT	G														
M-TP-1	WT	G	11/2/23	1020				4	-	1	1	1	1	1	1	
M-TP-2	WT	G														
M-MW-9	WT	G	11/2/23	0935				4	-	1	1	1	1	1	1	
M-MW-10	WT	G														
M-CA-DUP-1	WT	G														
M-CA-FB-1	WT	G														
M-CA-MS-1	WT	G	11/2/23	0935				4	-	1	1	1	1	1	1	Parent IS
M-CA-MSD-1	WT	G	11/2/23	0935				4	-	1	1	1	1	1	1	MW-9

Lab Use Only
Proj. Mgr: Jamie Church
AcctNum / Client ID:
Table #:
Profile / Template: 15852, Line 1
Prelog / Bottle Ord. ID: EZ 3011906

Preservation non-conformance identified for sample.

Customer Remarks / Special Conditions / Possible Hazards:
* - App III and Cat/An Metals* - EPA 200.7: Fe, Mg, Mn, K, Na, Ca, B
**- App IV Metals - EPA 200.7 - Ba, Li, Mo and 200.8 Metals - As, Se

Collected By:
Printed Name: Jeff Ingram
Signature:

Additional Instructions from Pace®:

# Coolers:	Thermometer ID:	Correction Factor (°C):	Obs. Temp. (°C)	Corrected Temp. (°C)
2	T298	-0.3	1.4 / 1.1	17.5 / 17.2

Relinquished by/Company: (Signature)	Date/Time: 11/2 @ 12:55	Received by/Company: (Signature)	Date/Time:	Tracking Number:	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Delivered by: [ ] In- Person [ ] Courier	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	[ ] FedEX [ ] UPS [ ] Other	
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: of	

Page 50 of 54

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

BP1N = RAD

DC#_Title: ENV-FRM-LENE-0001_Sample Container Count
Revision: 3 | Effective Date: | Issued by: Lenexa

Client: Rocksmith Geoeng

Profile #

Site:

Notes Append to 60441241

COC Line Item	Matrix	VG9H	DG9H	DG9Q	VG9U	DG9U	DG9M	DG9B	BG1U	AG1H	AG1U	AG2U	AG3S	AG4U	AG5U	JGFU	WGKU	WGDU	BP1U	BP2U	BP3U	BP1N	BP3N	BP3F	BP3S	BP3C	BP3Z	WPDU	ZPLC	Other		
1																																
2																																
3	WT																		1			2	1										
4																																
5	WT																		3			2	3										
6																																
7																																
8																																
9	WT																					2		(only log RAD sub out)								
10	WT																					2						↓				
11																																
12																																

Container Codes

Glass			
DG9B	40mL bisulfate clear vial	WGKU	8oz clear soil jar
DG9H	40mL HCl amber voa vial	WGFU	4oz clear soil jar
DG9M	40mL MeOH clear vial	WG2U	2oz clear soil jar
DG9Q	40mL TSP amber vial	JGFU	4oz unpreserved amber wide
DG9S	40mL H2SO4 amber vial	AG0U	100mL unores amber glass
DG9T	40mL Na Thio amber vial	AG1H	1L HCl amber glass
DG9U	40mL amber unpreserved	AG1S	1L H2SO4 amber glass
VG9H	40mL HCl clear vial	AG1T	1L Na Thiosulfate clear/amber glass
VG9T	40mL Na Thio. clear vial	AG1U	1liter unpres amber glass
VG9U	40mL unpreserved clear vial	AG2N	500mL HNO3 amber glass
BG1S	1liter H2SO4 clear glass	AG2S	500mL H2SO4 amber glass
BG1U	1liter unpres glass	AG3S	250mL H2SO4 amber glass
BG3H	250mL HCL Clear glass	AG2U	500mL unpres amber glass
BG3U	250mL Unpres Clear glass	AG3U	250mL unpres amber glass
WGDU	16oz clear soil jar	AG4U	125mL unpres amber glass
		AG5U	100mL unpres amber glass

Plastic	
BP1C	1L NAOH plastic
BP1N	1L HNO3 plastic
BP1S	1L H2SO4 plastic
BP1U	1L unpreserved plastic
BP1Z	1L NaOH, Zn Acetate
BP2C	500mL NAOH plastic
BP2N	500mL HNO3 plastic
BP2S	500mL H2SO4 plastic
BP2U	500mL unpreserved plastic
BP2Z	500mL NaOH, Zn Acetate
BP3C	250mL NaOH plastic
BP3F	250mL HNO3 plastic - field filtered
BP3N	250mL HNO3 plastic
BP3U	250mL unpreserved plastic
BP3S	250mL H2SO4 plastic
BP3Z	250mL NaOH, Zn Acetate
BP4U	125mL unpreserved plastic
BP4N	125mL HNO3 plastic
BP4S	125mL H2SO4 plastic
WPDU	16oz unpresserved plstic

Misc.	
I	Wipe/Swab
SP5T	120mL Coliform Na Thiosulfate
ZPLC	Ziploc Bag
AF	Air Filter
C	Air Cassettes
R	Terracore Kit
U	Summa Can

Matrix	
WT	Water
SL	Solid
NAL	Non-aqueous Liquid
OL	OIL
WP	Wipe
DW	Drinking Water

Work Order Number: 60441241

Updated COC received via email: 11-8-23

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☐ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☐ No

Workorder: 60441241 **Workorder Name:** AMEREN MEC-CA

Owner Received Date: 11/2/2023 **Results Requested By:** 11/16/2023

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
1	M-MW-11S	PS	11/1/2023 09:10	60441241001	Water	2						X	X											
2	M-MW-11D	PS	11/1/2023 08:30	60441241002	Water	2						X	X											
3	M-TP-2	PS	11/1/2023 13:30	60441241003	Water	2						X	X											
4	M-MW-10	PS	11/1/2023 12:25	60441241004	Water	2						X	X											
5	M-CA-DUP-1	PS	11/1/2023 08:00	60441241005	Water	2						X	X											
6	M-CA-FB-1	PS	11/1/2023 09:50	60441241006	Water	2						X	X											
7	M-TP-1	PS	11/2/2023 10:20	60441241007	Water	2						X	X											
8	M-MW-9	RQS	11/2/2023 09:35	60441241008	Water	2						X	X											
9	M-CA-MS-1	PS	11/2/2023 09:35	60441241009	Water	2						X	X											
10	M-CA-MSD-1	PS	11/2/2023 09:35	60441241010	Water	2						X	X											

Transfers	Released By	Date/Time	Received By	Date/Time
1			Lucy Brown Pace	11-7-23 9:10
2				
3				

Comments: Note: Sample 008 is primary sample for MS/MSD samples 009/010.

Cooler Temperature on Receipt ~ °C | Custody Seal Y or (N) | Received on Ice Y or (N) | Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO# : 30637454

30637454

DC#_Title: ENV-FRM-GBUR-0088 v06_Sample Condition Upon Receipt-Pittsburgh

Effective Date: 09/20/2023

WO# : 30637454

PM: MAR Due Date: 11/30/23

CLIENT: PACE_GO_LEKS

Client Name: Pace-KS

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Tracking Number: 6432 1394 5163

Initial / Date

Examined By: LB 11-8-23

Labeled By: LB 11-8-23

Temped By: —

Custody Seal on Cooler/Box Present: ☐ Yes ☒ No **Seals Intact:** ☐ Yes ☒ No

Thermometer Used: — **Type of Ice:** Wet Blue (None)

Cooler Temperature: Observed Temp — °C Correction Factor: — °C Final Temp: — °C

Temp should be above freezing to 6°C

pH paper Lot# 10D0831 | D.P.D. Residual Chlorine Lot #

Comments:	Yes	No	NA	
Chain of Custody Present	X			1.
Chain of Custody Filled Out:	X			2.
-Were client corrections present on COC		X		
Chain of Custody Relinquished	X			3.
Sampler Name & Signature on COC:		X		4.
Sample Labels match COC:	X			5.
-Includes date/time/ID				
Matrix: WT				
Samples Arrived within Hold Time:	X			6.
Short Hold Time Analysis (<72hr remaining):		X		7.
Rush Turn Around Time Requested:		X		8.
Sufficient Volume:	X			9.
Correct Containers Used:	X			10.
-Pace Containers Used	X			
Containers Intact:	X			11.
Orthophosphate field filtered:			X	12.
Hex Cr Aqueous samples field filtered:			X	13.
Organic Samples checked for dechlorination			X	14:
Filtered volume received for dissolved tests:			X	15:
All containers checked for preservation:	X			16.
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, non-aqueous matrix				pH<2
All containers meet method preservation requirements:	X			Initial when completed LB / Date/Time of Preservation
				Lot# of added Preservative
8260C/D: Headspace in VOA Vials (> 6mm)			X	17.
624.1: Headspace in VOA Vials (0mm)			X	18.
Trip Blank Present:			X	Trip blank custody seal present? YES or NO
Rad Samples Screened <.05 mrem/hr.	X			Initial when completed LB / Date: 11-7-23 / Survey Meter SN: 2501478

Comments: *Samples 006-010 not included on ~~original~~ original CoC. Updated CoC received via email on 11-8-23. LB 11-8-23

Note: For NC compliance samples with discrepancies, a copy of this form must be sent to the DEHNR Certification office.
PM Review is documented electronically in LIMS through the SRF Review schedule in the Workorder Edit Screen.

Internal Transfer Chain of Custody

Pace

☐ Rush Multiplier_____X
☒ Samples Pre-Logged into eCOC

State Of Origin: MO
Cert. Needed: ☐ Yes ☒ No

Workorder: 60441241 **Workorder Name:** AMEREN MEC-CA

Owner Received Date: 11/2/2023 Results Requested By: 11/16/2023

Report To	Subcontract To
Jamie Church Pace Analytical Kansas 9608 Loiret Blvd. Lenexa, KS 66219 Phone 314-838-7223	Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3, & 4 Greensburg, PA 15601 Phone (724)850-5600

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers HNO3						Requested Analysis Radium 226	Radium 228											LAB USE ONLY
1	M-MW-11S	PS	11/1/2023 09:10	60441241001	Water	2						X	X											001
2	M-MW-11D	PS	11/1/2023 08:30	60441241002	Water	2						X	X											002
3	M-TP-2	PS	11/1/2023 13:30	60441241003	Water	2						X	X											003
4	M-MW-10	PS	11/1/2023 12:25	60441241004	Water	2						X	X											004
5	M-CA-DUP-1	PS	11/1/2023 08:00	60441241005	Water	2						X	X											005
6	M-CA-FB-1	PS	11/1/2023 09:50	60441241006	Water	2						X	X											006

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	11-6-23 1700	Amy Bowen Pace	11-7-23 9:10
2				
3				

Comments: Sample location: Receiving

Cooler Temperature on Receipt ____ °C | **Custody Seal** Y or (N) | **Received on Ice** Y or (N) | **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

WO#: 30637454
PM: MAR Due Date: 11/30/23
CLIENT: PACE_60_LEKS

Memorandum

January 15, 2024

To:	Project File Rocksmith Geoengineering, LLC	**Project Number:**	23010
CC:	Mark Haddock, Jeffrey Ingram		
From:	Grant Morey	**Email:**	Grant.Morey@Rocksmithgeo.com
RE:	**Data Validation Summary, Meramec Energy Center – MEC-CA – Data Package 60441241**		

The following is a summary of instances where quality control criteria in the functional guidelines were not met and data qualification was required:

- When a compound was detected in a blank (i.e. method, field), and the blank comparison criterion was not met, associated sample results were qualified as estimates (J) or non-detects (U).
- When a compound was detected in a sample result between the Method Detection Limit (MDL) and Practical Quantification Limit (PQL), the results were recorded at the detection value and qualified as estimates (J).
- When a duplicate criterion was not met, the associated sample result was qualified as an estimate (J for detects, UJ for non-detects).
- When a matrix spike/matrix spike duplicate (MS/MSD) criterion was not met, the associated sample result was qualified as an estimate (J, J+ for estimates based high, and J- for estimates based low).

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Company Name: Rocksmith Geoengineering
Project Manager: J. Ingram
Project Name: Ameren MEC-CA
Project Number: 23010
Reviewer: G. Morey
Validation Date: 1/15/2024

Laboratory: Pace Analytical
SDG #: 60441241
Analytical Method (type and no.): EPA 200.7/200.8 (Total Metals); SM 2320B (Alkalinity); SM 2540C (TDS); EPA 300.0 (Anions);
Matrix: ☐ Air ☐ Soil/Sed. ■ Water ☐ Waste ☐ EPA 903.1/904.0 (Radium 226+228)
Sample Names M-MW-11S, M-MW-11D, M-TP-2, M-MW-10, M-CA-DUP-1, M-CA-FB-1, M-TP-1, M-MW-9, M-CA-MS-1, M-CA-MSD-1

NOTE: Please provide calculation in Comment areas or on the back (if on the back please indicate in comment areas).

Field Information	YES	NO	NA	COMMENTS
a) Sampling dates noted?	x			11/1/2023 - 11/2/2023
b) Sampling team indicated?	x			JSI
c) Sample location noted?	x			
d) Sample depth indicated (Soils)?			x	
e) Sample type indicated (grab/composite)?	x			Grab
f) Field QC noted?	x			See Notes
g) Field parameters collected (note types)?	x			pH, Spec Cond, Turb, Temp, DO, ORP
h) Field Calibration within control limits?	x			
i) Notations of unacceptable field conditions/performances from field logs or field notes?		x		
j) Does the laboratory narrative indicate deficiencies?			x	No lab narrative.

Note Deficiencies:

Chain-of-Custody (COC)	YES	NO	NA	COMMENTS
a) Was the COC properly completed?	x			
b) Was the COC signed by both field and laboratory personnel?	x			
c) Were samples received in good condition?	x			

General (reference QAPP or Method)	YES	NO	NA	COMMENTS
a) Were hold times met for sample pretreatment?	x			
b) Were hold times met for sample analysis?	x			
c) Were the correct preservatives used?	x			
d) Was the correct method used?	x			
e) Were appropriate reporting limits achieved?	x			
f) Were any sample dilutions noted?	x			See Notes
g) Were any matrix problems noted?		x		

QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Blanks	YES	NO	NA	COMMENTS
a) Were analytes detected in the method blank(s)?	☐	☒	☐	
b) Were analytes detected in the field blank(s)?	☒	☐	☐	See Notes
c) Were analytes detected in the equipment blank(s)?	☐	☐	☒	
d) Were analytes detected in the trip blank(s)?	☐	☐	☒	

Laboratory Control Sample (LCS)	YES	NO	NA	COMMENTS
a) Was a LCS analyzed once per SDG?	☒	☐	☐	
b) Were the proper analytes included in the LCS?	☒	☐	☐	
c) Was the LCS accuracy criteria met?	☒	☐	☐	

Duplicates	YES	NO	NA	COMMENTS
a) Were field duplicates collected (note original and duplicate sample names)?	☒	☐	☐	M-CA-DUP-1 collected @ M-MW-11D
b) Were field dup. precision criteria met (note RPD)?	☐	☒	☐	See Notes
c) Were lab duplicates analyzed (note original and duplicate samples)?	☒	☐	☐	See Notes
d) Were lab dup. precision criteria met (note RPD)?	☒	☐	☐	See Notes

Blind Standards	YES	NO	NA	COMMENTS
a) Was a blind standard used (indicate name, analytes included and concentrations)?	☐	☐	☒	
b) Was the %D within control limits?	☐	☐	☒	

Matrix Spike/Matrix Spike Duplicate (MS/MSD)	YES	NO	NA	COMMENTS
a) Was MS accuracy criteria met?	☐	☒	☐	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
b) Was MSD accuracy criteria met?	☐	☒	☐	See Notes
Recovery could not be calculated since sample contained high concentration of analyte?	☐	☐	☒	
c) Were MS/MSD precision criteria met?	☒	☐	☐	

Comments/Notes:

General:

Chloride and Sulfate were diluted in many samples; no qualification necessary.

Field Blanks:

M-CA-FB-1 @ M-MW-10: Manganese (0.42J) and Molybdenum (1.2J). Manganese result > RL and 10x blank, no qualification necessary. Molybdenum result < RL, result qualified as non-detect.

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Comments/Notes:

Duplicates:

M-CA-DUP-1 @ M-MW-11D: Radium-228 detected in field duplicate and not in parent sample; results qualified as estimates.

Lab duplicate max RPD: 10%: Alkalinity, TDS; 15%: Chloride, Fluoride, Sulfate.

MS/MSD:

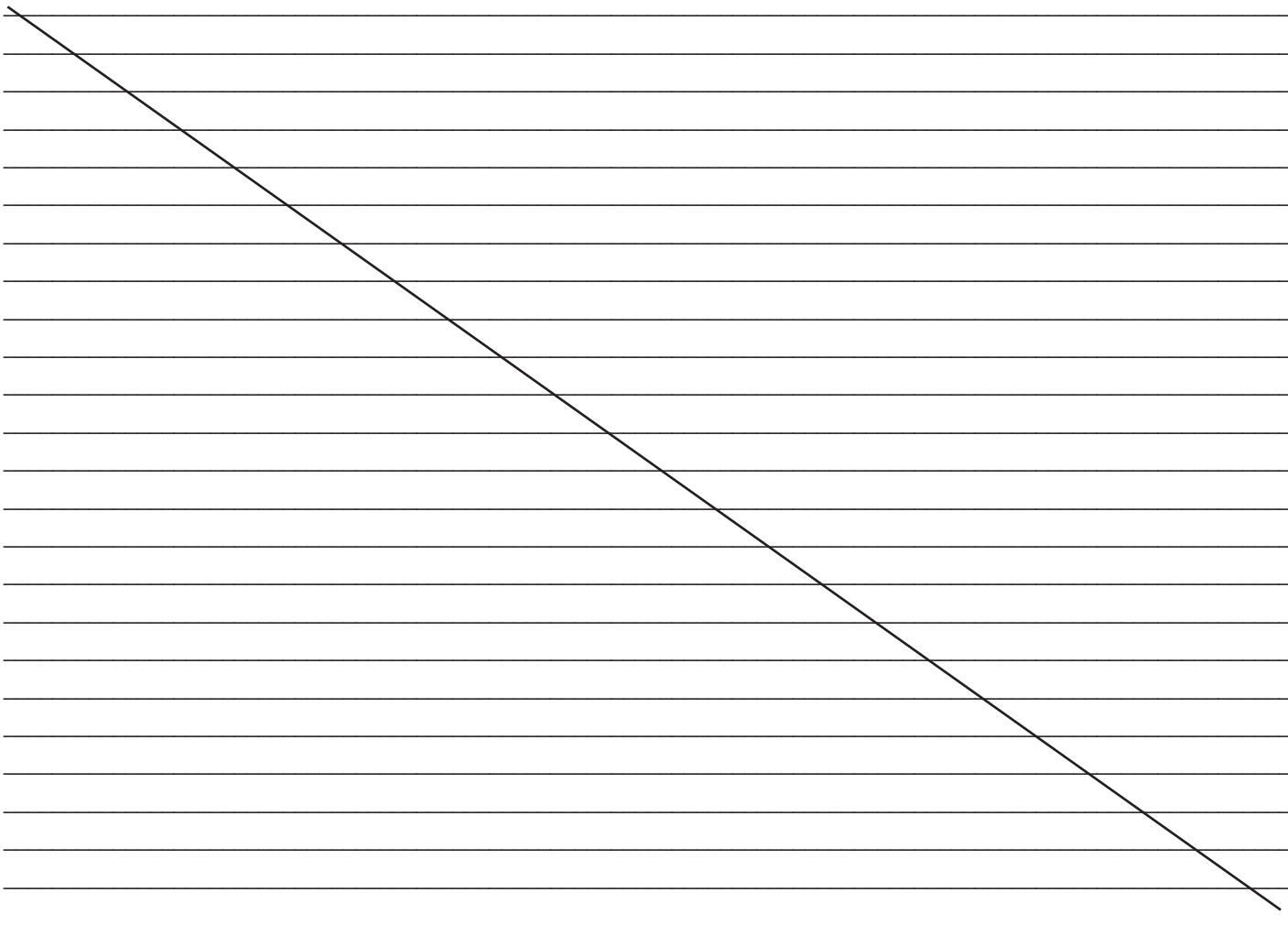
3456317/3456318: MSD recovery low for calcium, MS recovery and RPD within control limits. No qualification necessary.

3456535/3456536: MS recovery low and MSD recovery high for calcium and magnesium. MS recovery hight and MSD recovery low for sodium. Associated with unrelated sample, no qualification necessary.

3456537: MS recoveries low for boron, lithium, and potassium. MSD recoveries high for calcium, magnesium, and sodium. Associated with unrelated sample, no qualification necessary.

3460218/3460219: MS recovery low for fluoride, MSD recovery and RPD within control limits. No qualification necessary.

3460224/3460225: MS and MSD recoveries low for fluoride. Associated with sample -008. Result qualified as estimate.



QA LEVEL II - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason
M-MW-10	Molybdenum	20	U	Detected in field blank, result < RL
M-MW-11D	Radium-228	0.757	UJ	Detected in field duplicate, ND in parent sample
M-CA-DUP-1	"	1.03	J	"
M-MW-9	Fluoride	0.18	J-	MS/MSD recoveries low

QA LEVEL IV - INORGANIC DATA EVALUATION CHECKLIST

Data Qualification:

Sample Name	Constituent(s)	Result	Qualifier	Reason

Signature: Grant Morey Date: 1/15/2024

Appendix B

November 2022 Assessment Monitoring Statistical Evaluation

TECHNICAL MEMORANDUM

DATE February 22, 2023 **Project No.** 153140604

TO Bill Kutosky
Ameren Missouri

CC Susan Knowles, Craig Giesmann, Charlie Henderson

FROM Jeffrey Ingram (WSP), Mark Haddock (Rocksmith Geoengineering, LLC), Mark Sandfort (WSP) **EMAIL Jeffrey.Ingram@wsp.com**

ASSESSMENT MONITORING STATISTICAL EVALUATION, MULTI-UNIT SURFACE IMPOUNDMENT NETWORKMERAMEC ENERGY CENTER, ST. LOUIS COUNTY, MISSOURI

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the November 2022 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). The following outliers were removed prior to the calculation of confidence limits:

- Cobalt
  - MW-8 at Non-Detect (ND) on 11/15/2021: Value is statistically higher than other results at the same well. Analysis of the November 2021 sampling event revealed that the cobalt results were significantly higher than historical results and were re-analyzed in February 2022. Through data validation of the re-analyzed data, cobalt was detected in the duplicate and not detected in the parent sample causing the data to be considered a non-detect. The resultant value after data validation (1/2 the practical quantitation limit) is not consistent with historical results at the well and is an outlier.
- Lithium
  - MW-1 at 5.3 J Micrograms per liter (µg/L) on 11/20/2018: Value is statistically higher than other values at the same well. The high results are not consistent with previous sampling events and the result is an outlier.

An analysis of the outliers removed to date was completed and the following statistical outliers that were previously removed were added back into the dataset prior to the calculation of confidence limits.

- Arsenic
  - MW-1 at ND on 6/14/2017: Value was originally removed as part of the August 2018 event statistical analysis because the value was statistically lower than other results at the same well. Additional sampling events have displayed a larger variability in this well and the value is no longer considered an outlier.
  - MW-8 at 7.9 µg/L on 5/5/2020: Value was originally removed as part of the November 2021 event statistical analysis because the value was statistically higher than other results at the same well. Additional sampling results have displayed a larger variability in this well and the value is no longer considered an outlier.
- Chromium
  - MW-2 at ND on 6/14/2017: Value was originally removed as part of the November 2021 event statistical analysis because the value was statistically lower than other results at the same well. Additional sampling events have displayed a larger variability in this well and the value is no longer considered an outlier.
- Lithium
  - MW-6 at 164 µg/L on 5/13/2016. Value was originally removed as part of the August 2018 event statistical analysis because the value was statistically higher than other results at the same well. Additional sampling results have displayed a larger variability in this well and the value is no longer considered an outlier.

No new SSLs were noted, and a summary of the SSLs for November 2022 continues to be:

- Arsenic at MW-4 and MW-5
- Lithium at MW-6 and MW-7
- Molybdenum at MW-6, MW-7, and MW-8

WSP appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please call our office at (314) 984-8800.

WSP USA Inc.

Jeffrey Ingram
Senior Consultant, Geologist

Mark Sandfort, P.E., R.G.
Senior Engineering Principal

Attachments: Table 1 – MEC Groundwater Protection Standards
Appendix A – Sanitas Confidence Interval Statistical Output
Appendix B – Sanitas Trending Confidence Bands Statistical Output

Table 1 - MEC Groundwater Protection Standards
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring [6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	9.6
Barium	µg/L	2000	2000	598
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	2.344
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.5182
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	18.71
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.676
Selenium	µg/L	50	50	1.3
Thallium	µg/L	2	2	DQR

Notes:

Prepared by: JSI
Checked by: EMS
Reviewed by: MNH

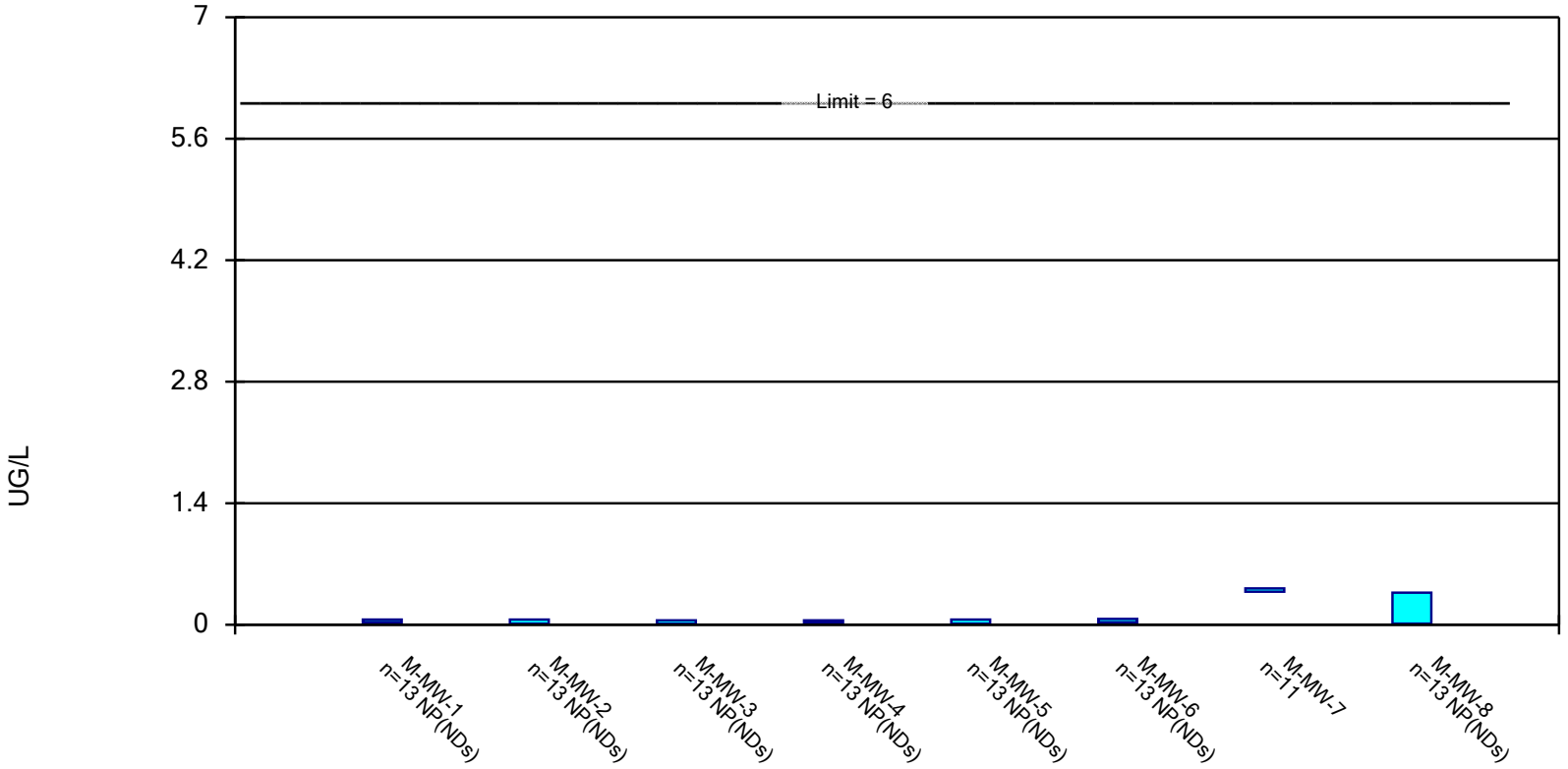
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA)Drinking Water Standards and Health Advisories. http://water.epa.gov/drink/contaminants/index.cfm.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring).
9. GWPS and background values calculated using results up through April 2021 from monitoring wells BMW-1 and BMW-2.

APPENDIX A

Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

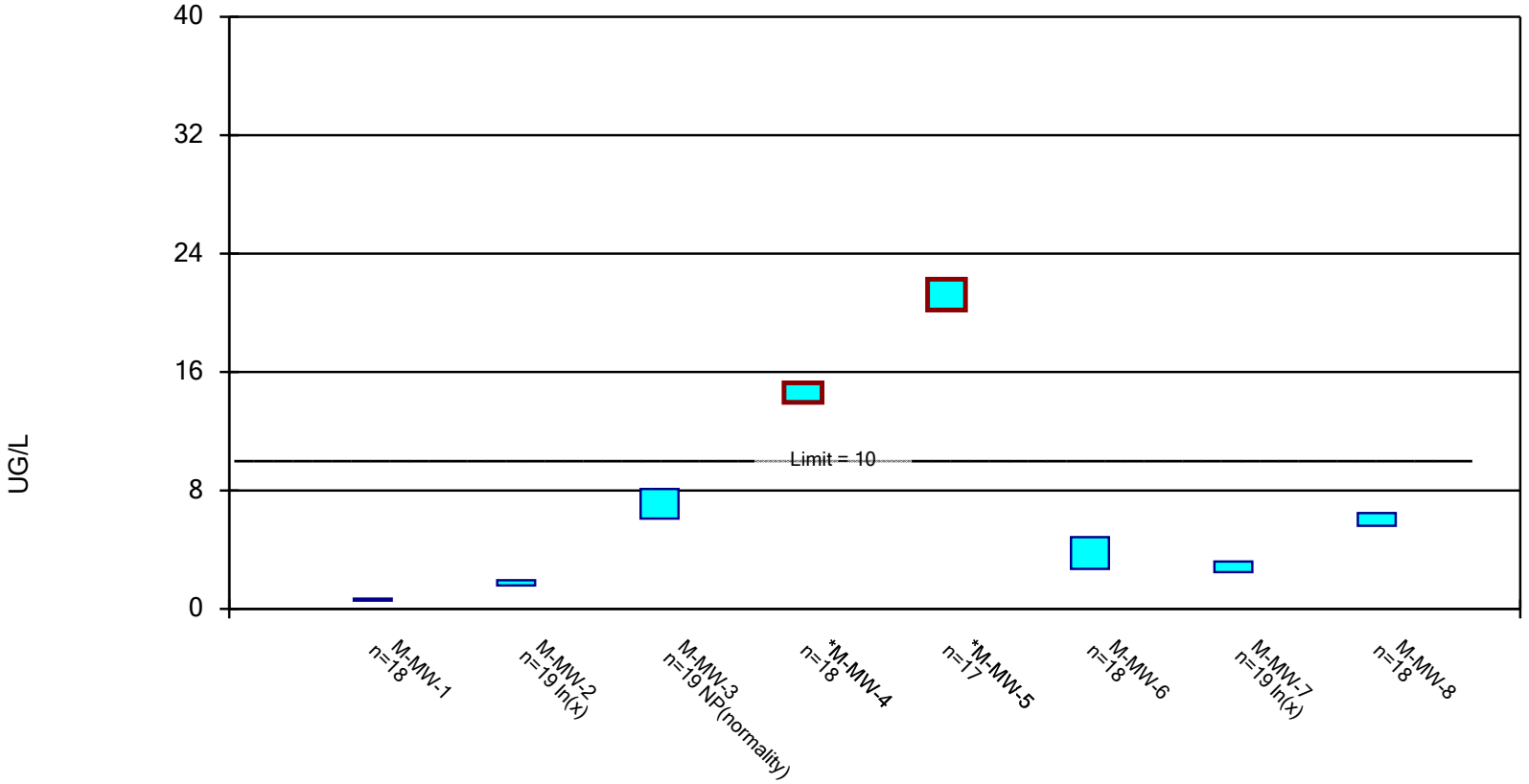


Constituent: ANTIMONY, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

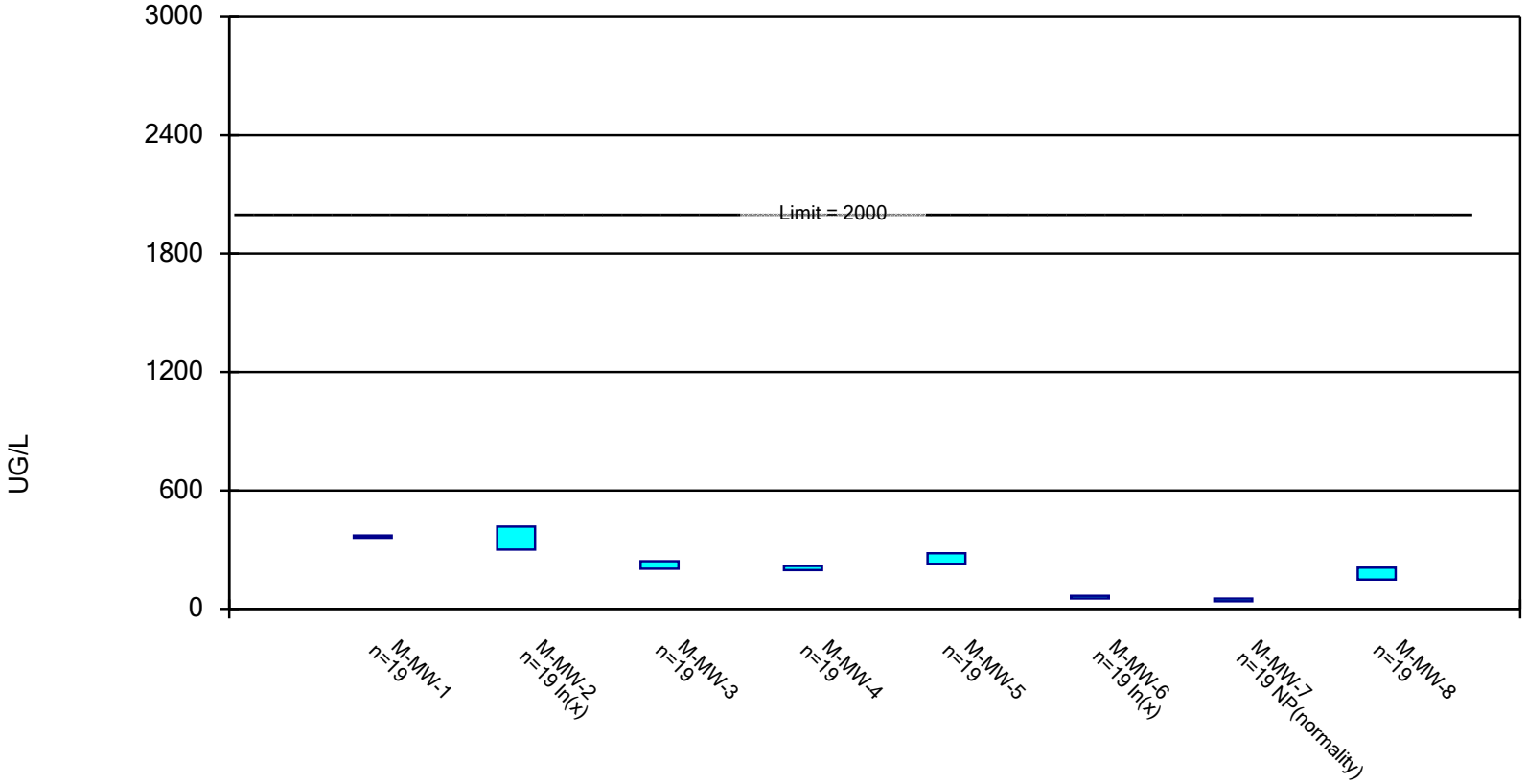


Constituent: ARSENIC, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

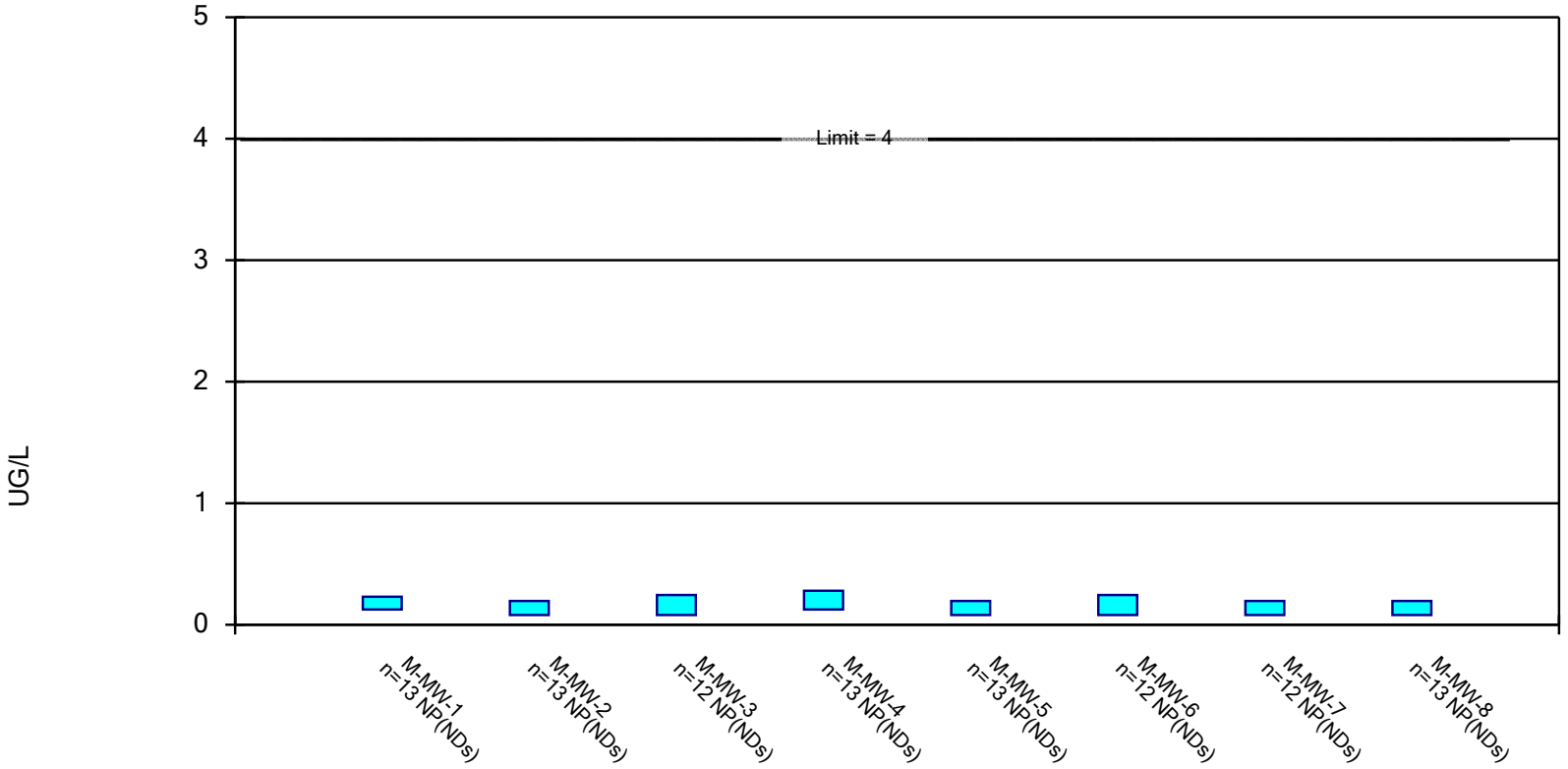


Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

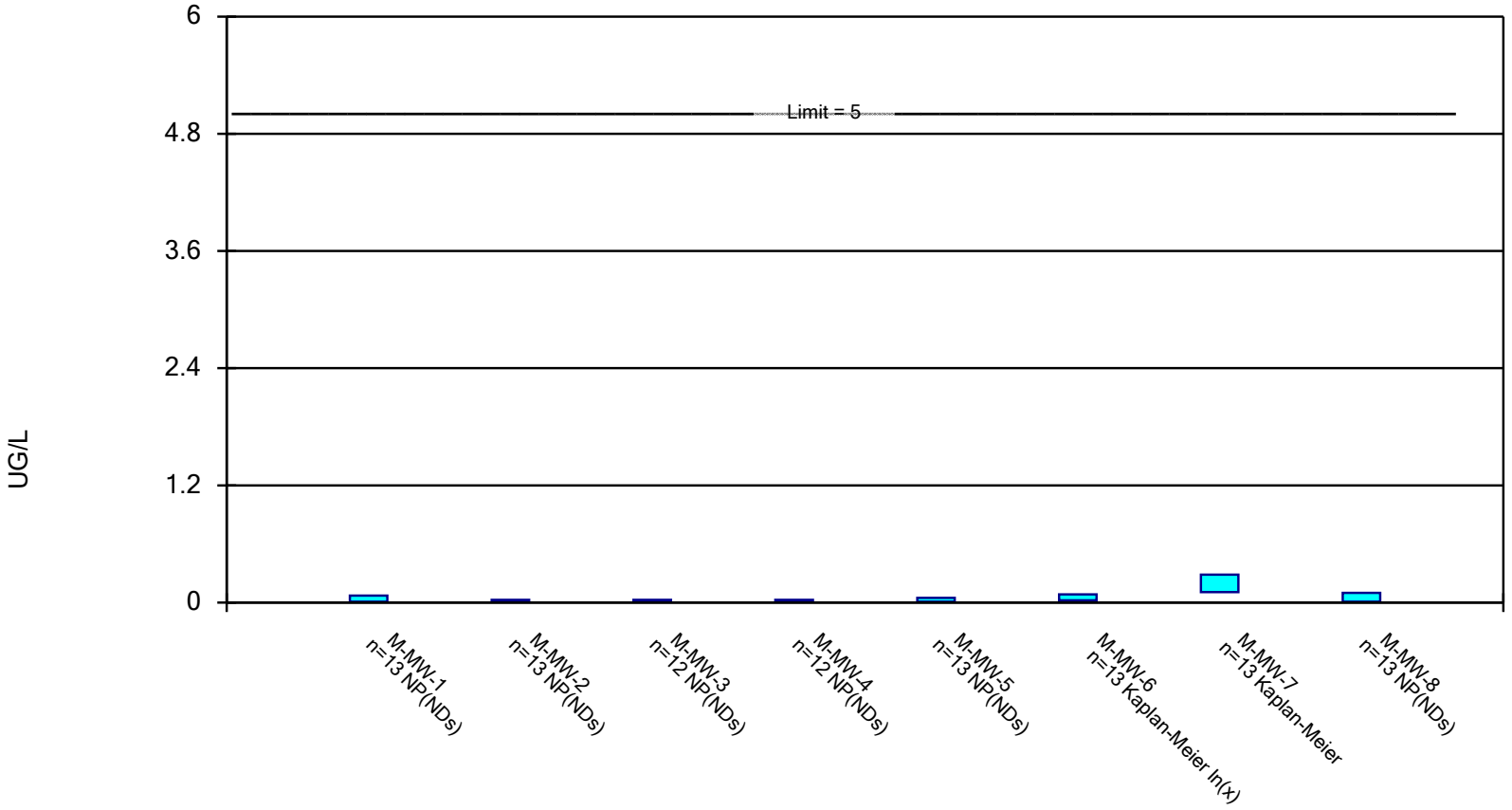


Constituent: BERYLLIUM, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

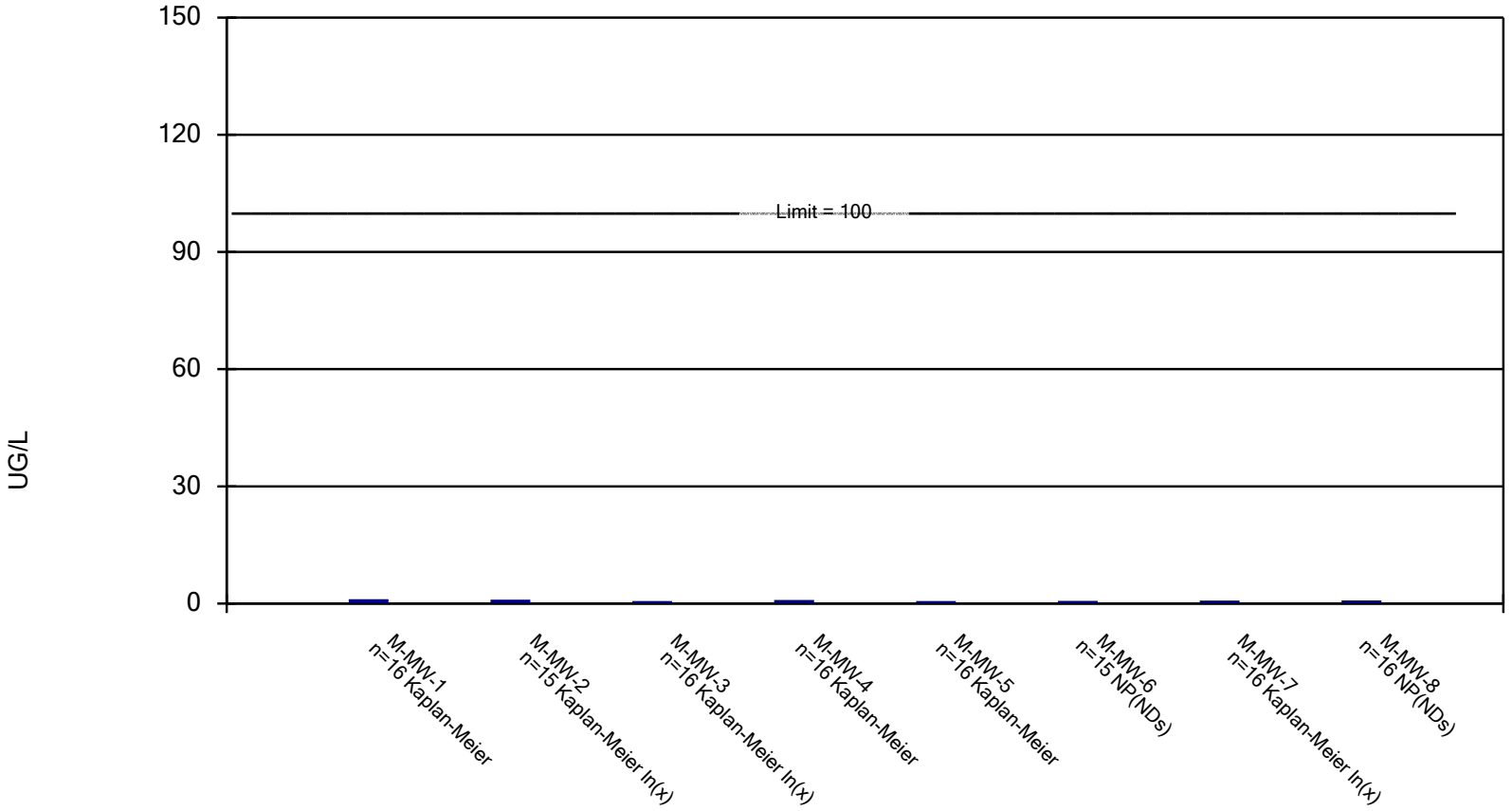


Constituent: CADMIUM, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

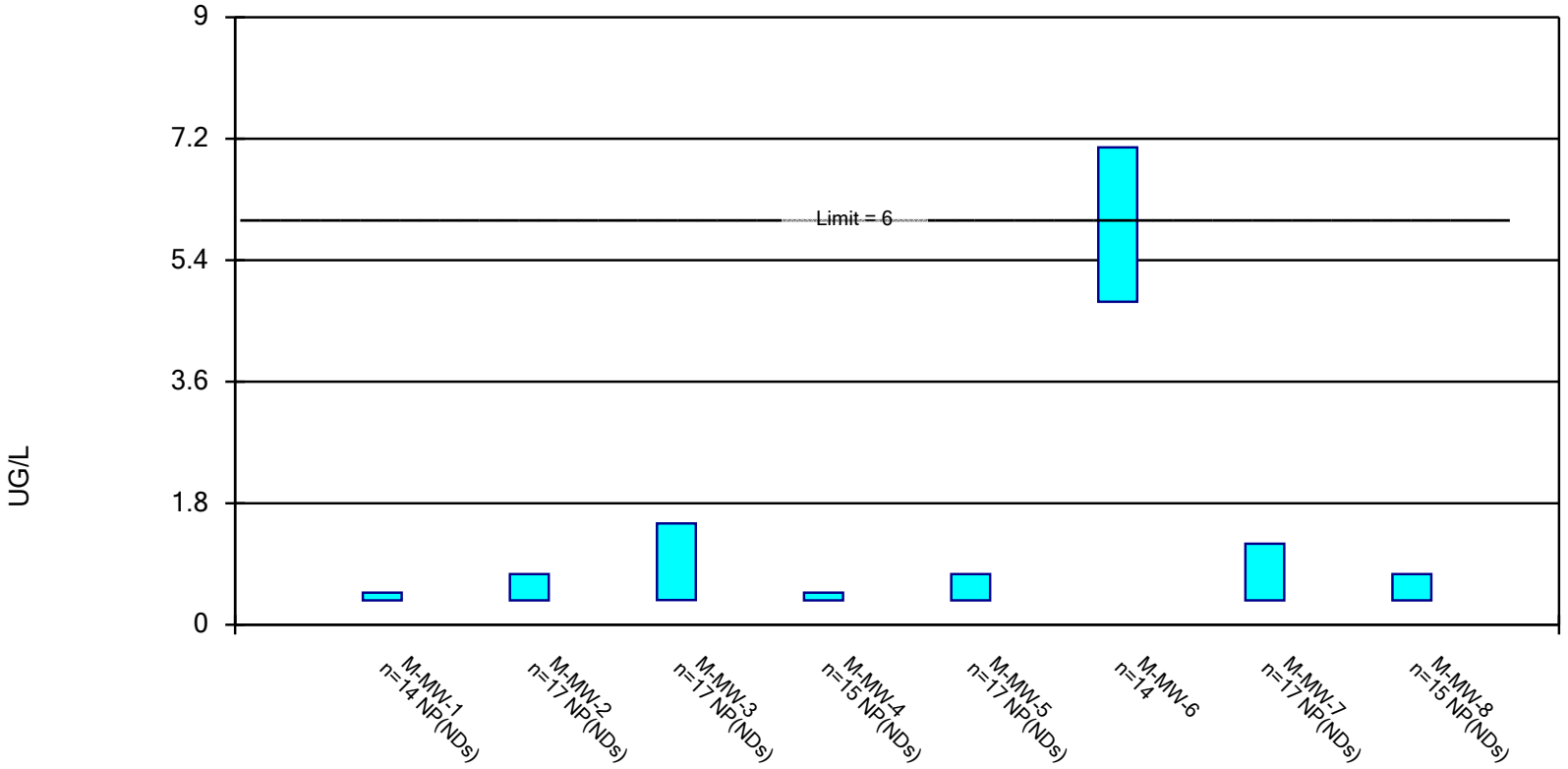


Constituent: CHROMIUM, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

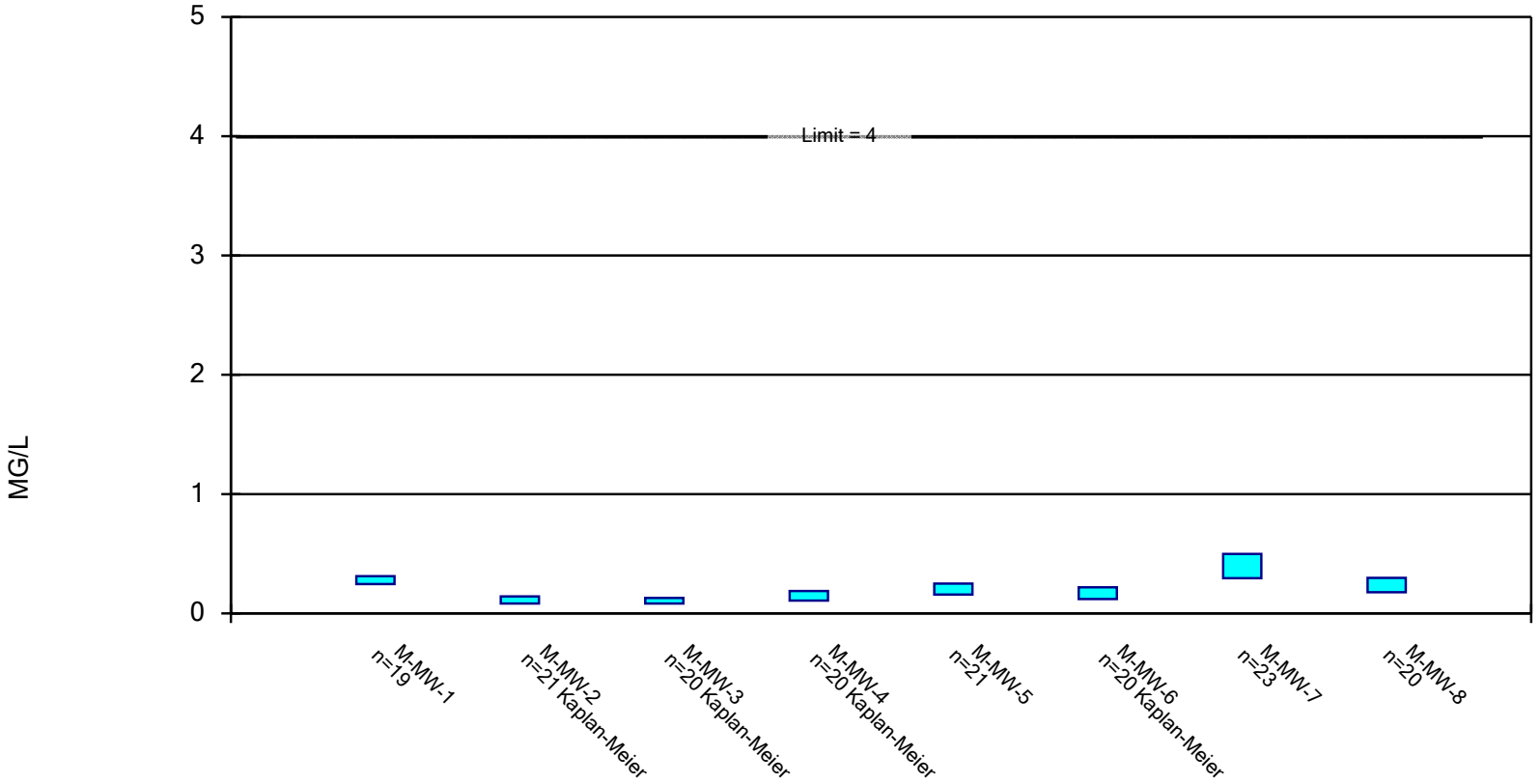


Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

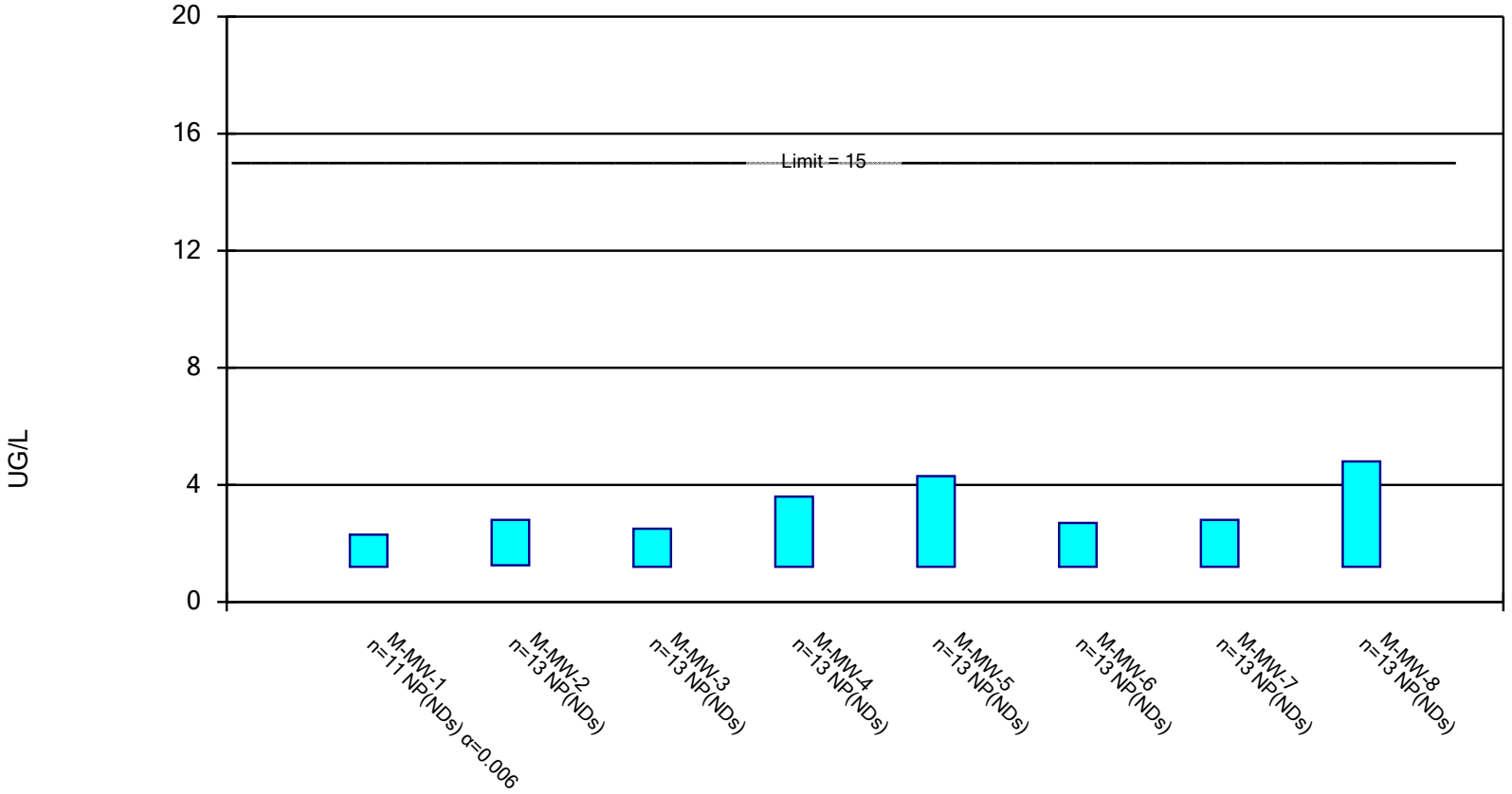


Constituent: FLUORIDE, TOTAL Analysis Run 2/14/2023 2:38 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

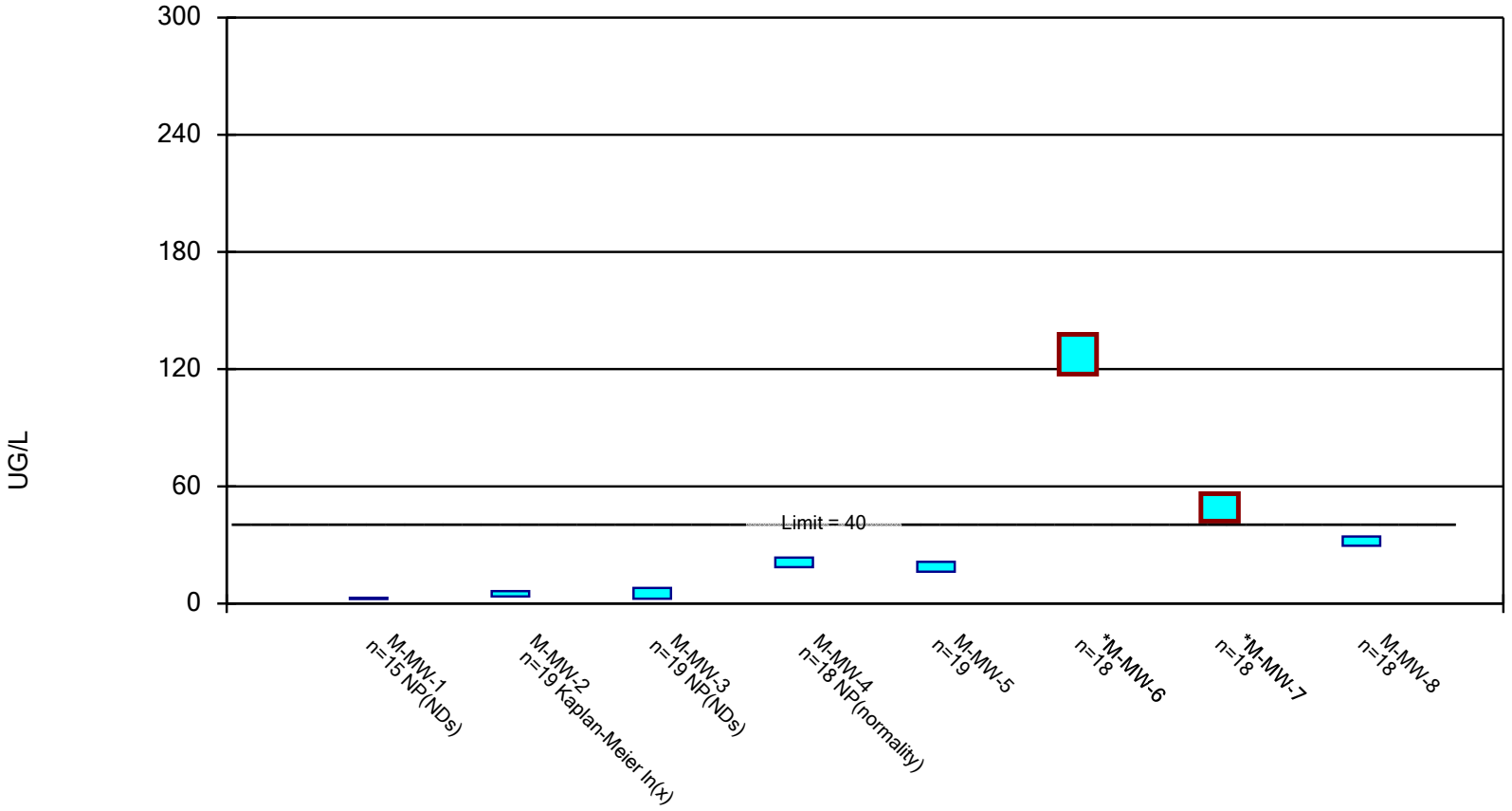


Constituent: LEAD, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

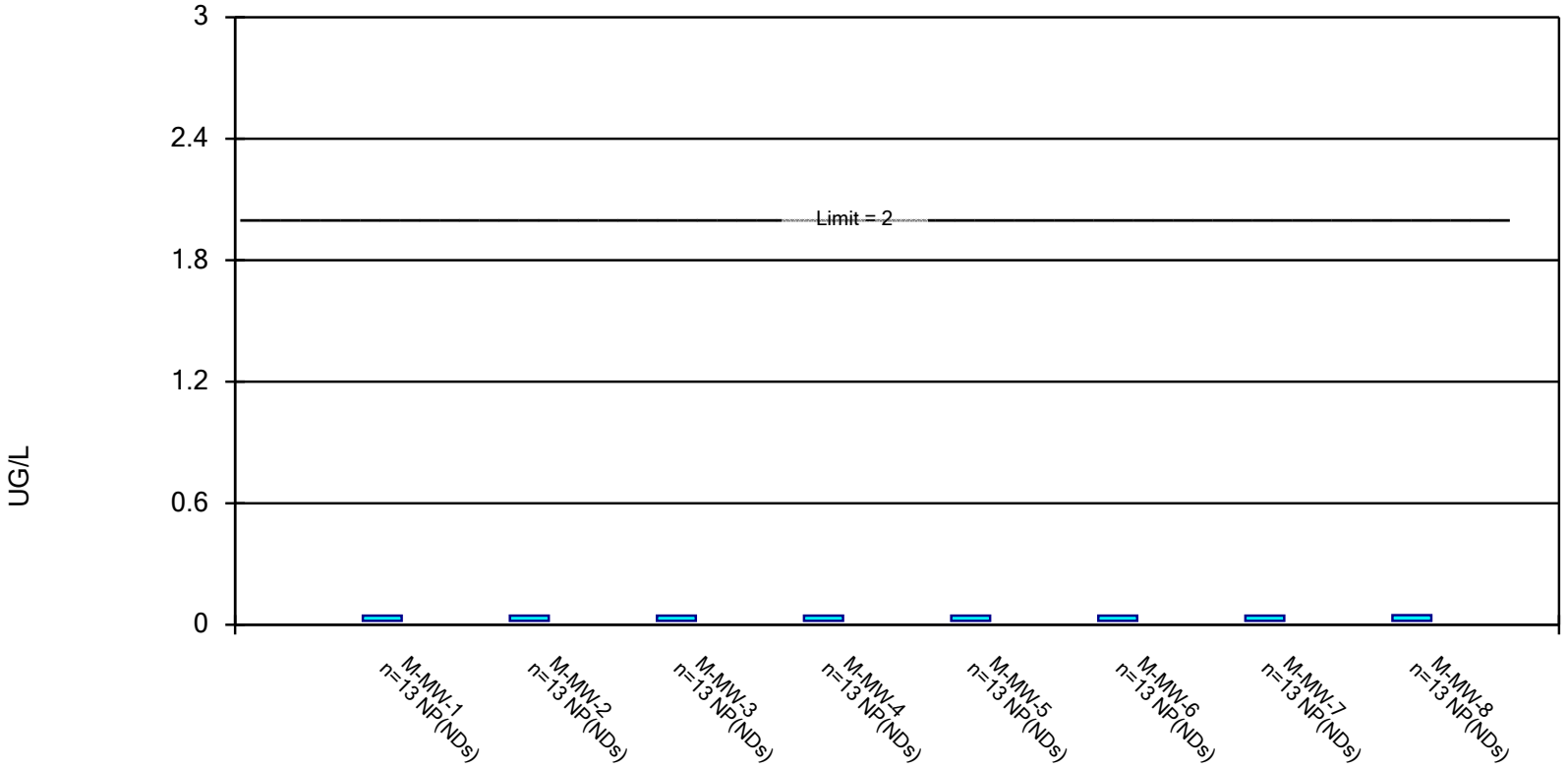


Constituent: LITHIUM, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

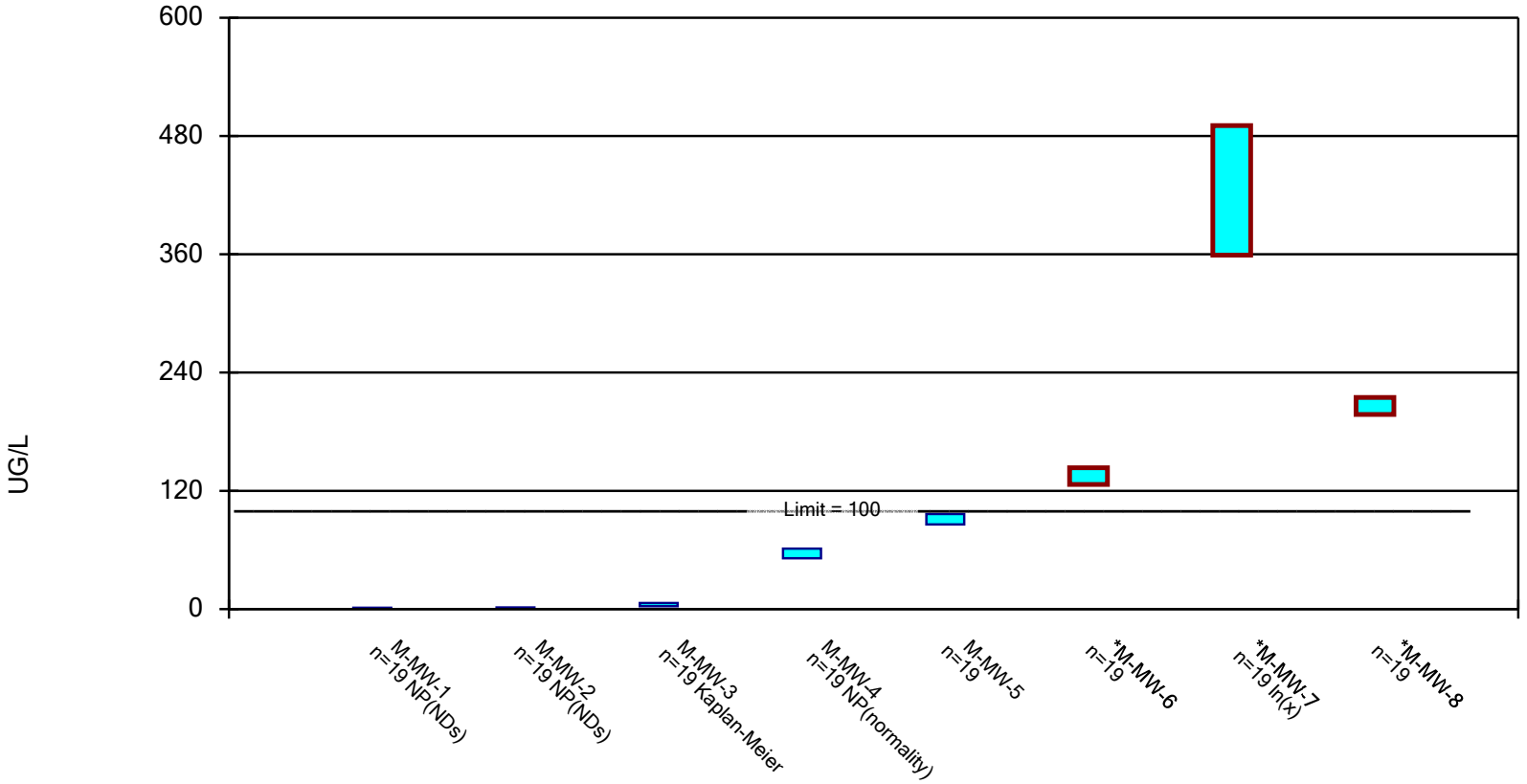


Constituent: MERCURY, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

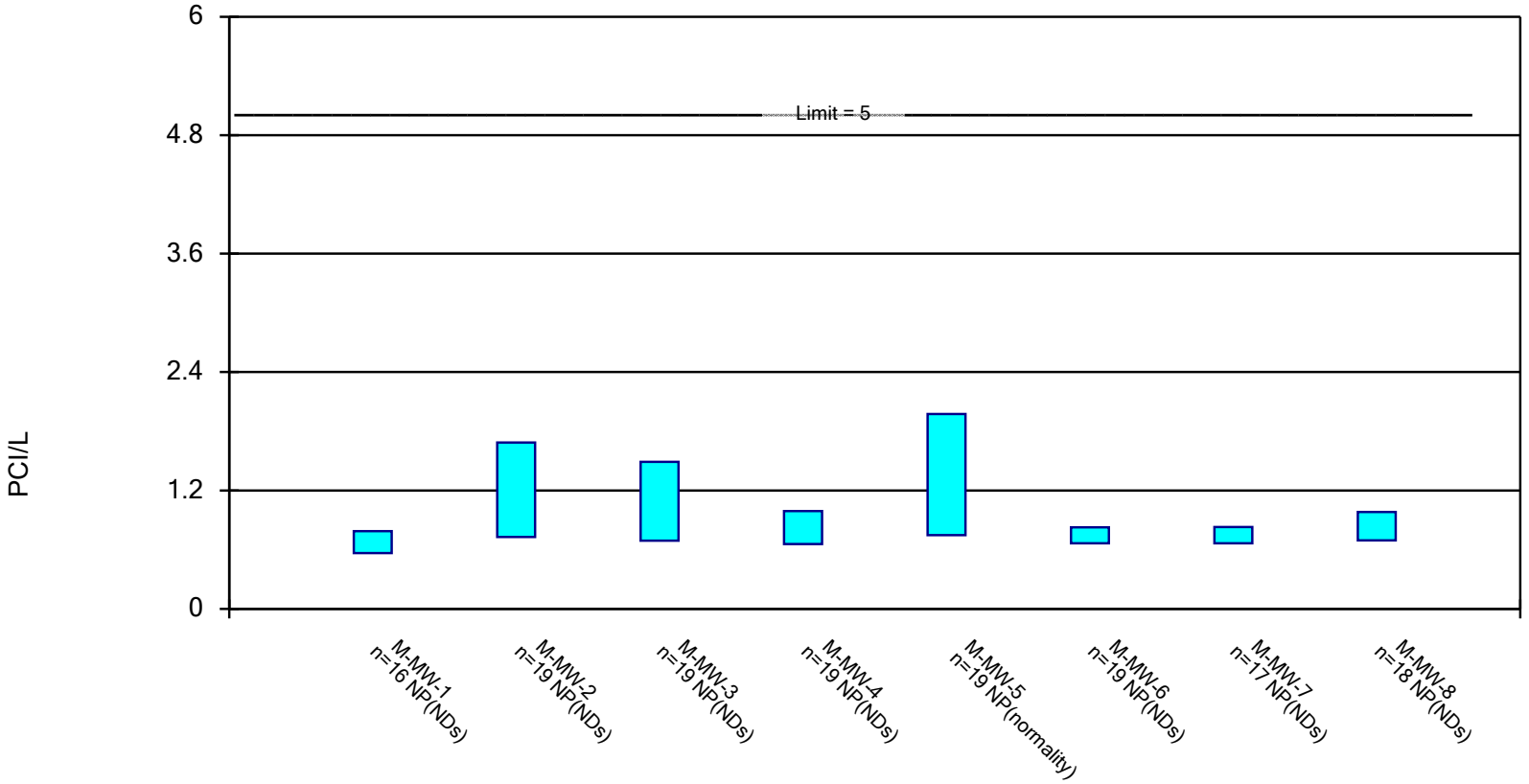


Constituent: MOLYBDENUM, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

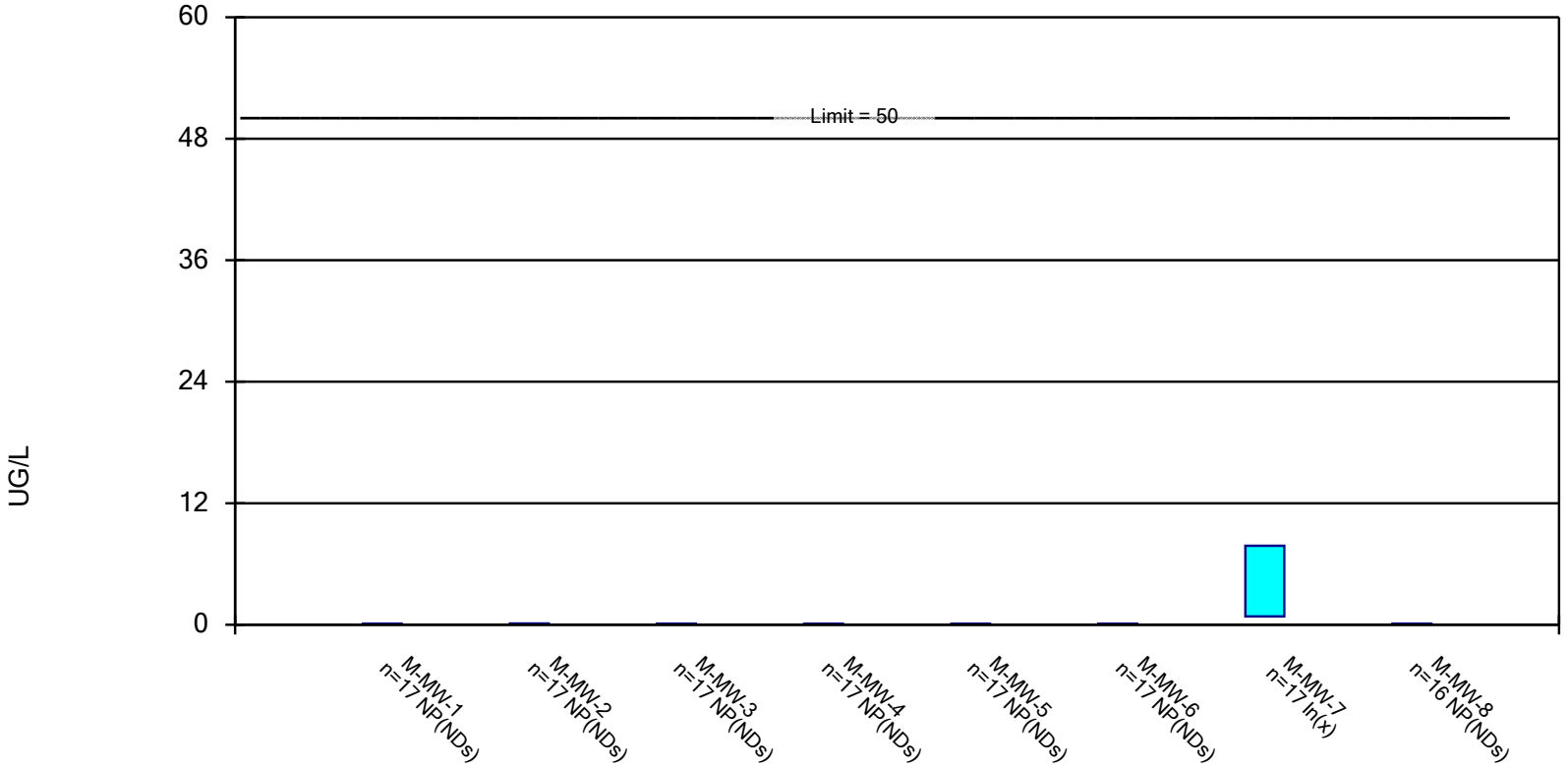


Constituent: Radium [226 + 228] Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

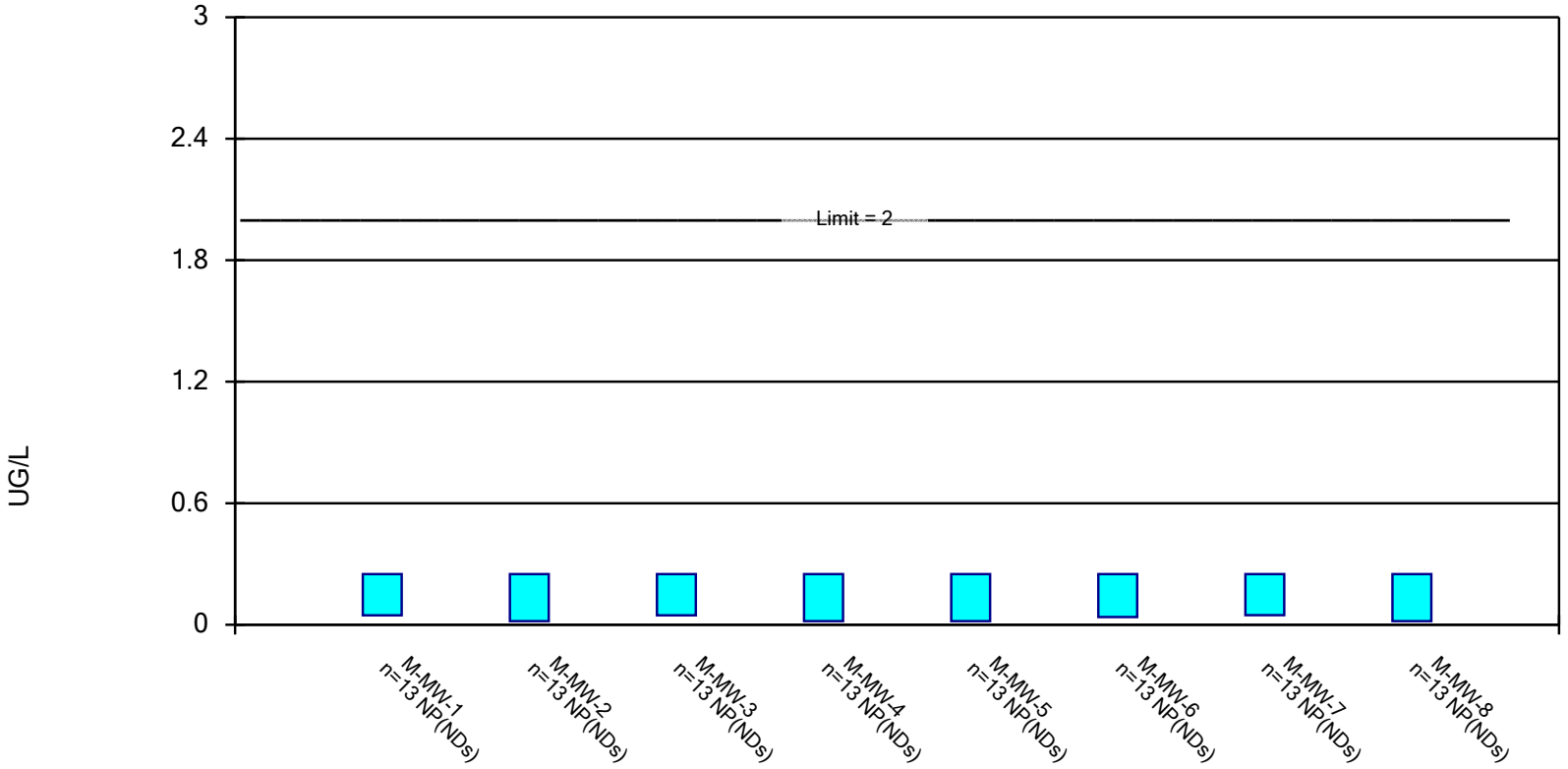


Constituent: SELENIUM, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: THALLIUM, TOTAL Analysis Run 2/14/2023 2:39 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.06	0.028	6	No	13	76.92	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.06	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.05	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.05	0.027	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.06	0.013	6	No	13	92.31	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.066	0.029	6	No	13	61.54	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4186	0.3796	6	No	11	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.37	0.013	6	No	13	76.92	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.6879	0.5577	10	No	18	5.556	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.94	1.585	10	No	19	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.1	6.1	10	No	19	5.263	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.27**	**13.96**	**10**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.27**	**20.19**	**10**	**Yes**	**17**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.843	2.701	10	No	18	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.195	2.487	10	No	19	0	ln(x)	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.476	5.613	10	No	18	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	372	360.4	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	417.4	300.3	2000	No	19	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-3	241.7	203.6	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	217	196.6	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	282.2	228.2	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	65.57	52.4	2000	No	19	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	51.5	38.7	2000	No	19	0	No	0.01	NP (normality)
BARIUM, TOTAL (UG/L)	M-MW-8	208.5	148.4	2000	No	19	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.23	0.125	4	No	13	84.62	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.245	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.28	0.125	4	No	13	76.92	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.245	0.08	4	No	12	91.67	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.195	0.08	4	No	12	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.071	0.009	5	No	13	76.92	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.028	0.009	5	No	12	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.048	0.009	5	No	13	84.62	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.08314	0.0229	5	No	13	46.15	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2854	0.1064	5	No	13	15.38	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.099	0.009	5	No	13	61.54	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.801	0.2685	100	No	16	31.25	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.6982	0.2925	100	No	15	20	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.3439	0.08177	100	No	16	50	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.6005	0.2045	100	No	16	37.5	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3479	0.1271	100	No	16	43.75	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.37	0.039	100	No	15	53.33	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4696	0.1141	100	No	16	43.75	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.5	0.039	100	No	16	62.5	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.475	0.36	6	No	14	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.75	0.36	6	No	17	94.12	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	1.5	0.365	6	No	17	64.71	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.475	0.36	6	No	15	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	17	94.12	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	7.072	4.785	6	No	14	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	1.2	0.36	6	No	17	88.24	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.75	0.36	6	No	15	93.33	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3118	0.2461	4	No	19	0	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1419	0.08195	4	No	21	28.57	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1286	0.08246	4	No	20	30	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.1872	0.107	4	No	20	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2502	0.1574	4	No	21	14.29	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2184	0.1198	4	No	20	20	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.4988	0.2945	4	No	23	13.04	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.2976	0.1765	4	No	20	15	No	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	2.3	1.2	15	No	11	100	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.8	1.25	15	No	13	69.23	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.5	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	3.6	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.3	1.2	15	No	13	69.23	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.7	1.2	15	No	13	92.31	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.8	1.2	15	No	13	84.62	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.8	1.2	15	No	13	76.92	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	2.95	2.3	40	No	15	100	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.34	3.645	40	No	19	47.37	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	8	2.45	40	No	19	52.63	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-4	23.5	18.6	40	No	18	5.556	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-5	21.34	16.33	40	No	19	10.53	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**137.9**	**117.4**	**40**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**56.24**	**42.15**	**40**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	34.32	29.56	40	No	18	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.045	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.045	0.0195	2	No	13	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.047	0.0195	2	No	13	92.31	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.3	0.26	100	No	19	89.47	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	1.7	0.45	100	No	19	78.95	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.212	2.849	100	No	19	21.05	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	61.3	51.5	100	No	19	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	96.54	85.89	100	No	19	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**143.3**	**126.5**	**100**	**Yes**	**19**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**490.5**	**359**	**100**	**Yes**	**19**	**0**	**ln(x)**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**214.7**	**197.5**	**100**	**Yes**	**19**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.788	0.565	5	No	16	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	1.686	0.728	5	No	19	78.95	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.49	0.6915	5	No	19	52.63	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-4	0.991	0.657	5	No	19	84.21	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:39 PM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.975	0.747	5	No	19	47.37	No	0.01	NP (normality)
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.664	5	No	19	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.83	0.6655	5	No	17	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	0.981	0.6935	5	No	18	83.33	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.089	50	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	17	88.24	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	17	94.12	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.043	50	No	17	94.12	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	7.792	0.8267	50	No	17	11.76	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.088	50	No	16	87.5	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.0465	2	No	13	84.62	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.038	2	No	13	92.31	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.047	2	No	13	76.92	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	13	100	No	0.01	NP (NDs)

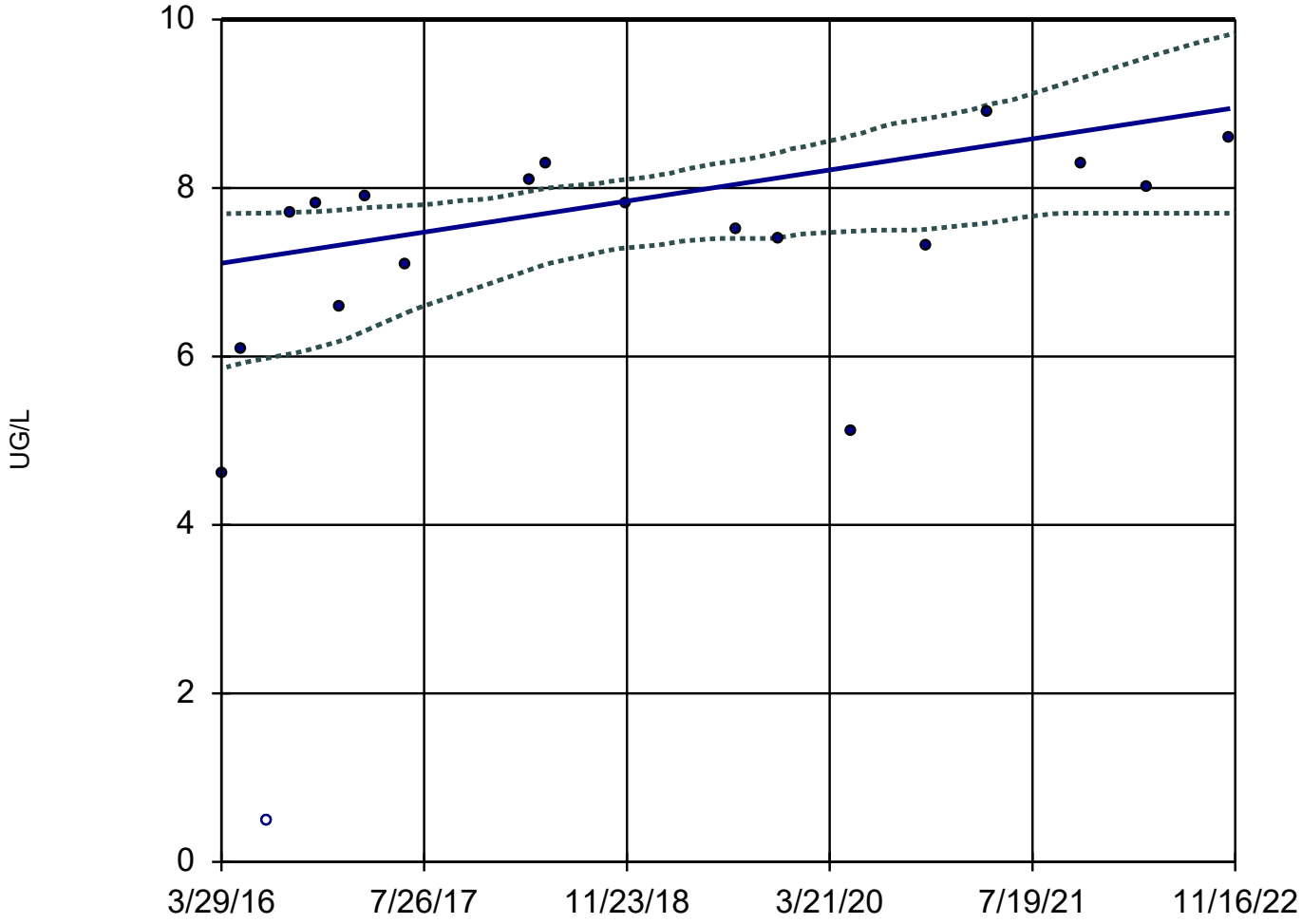
APPENDIX B

Sanitas Trending Confidence Bands Statistical Output

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 19

Slope = 0.2781 units per year.

Mann-Kendall statistic = 73
critical = 68

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

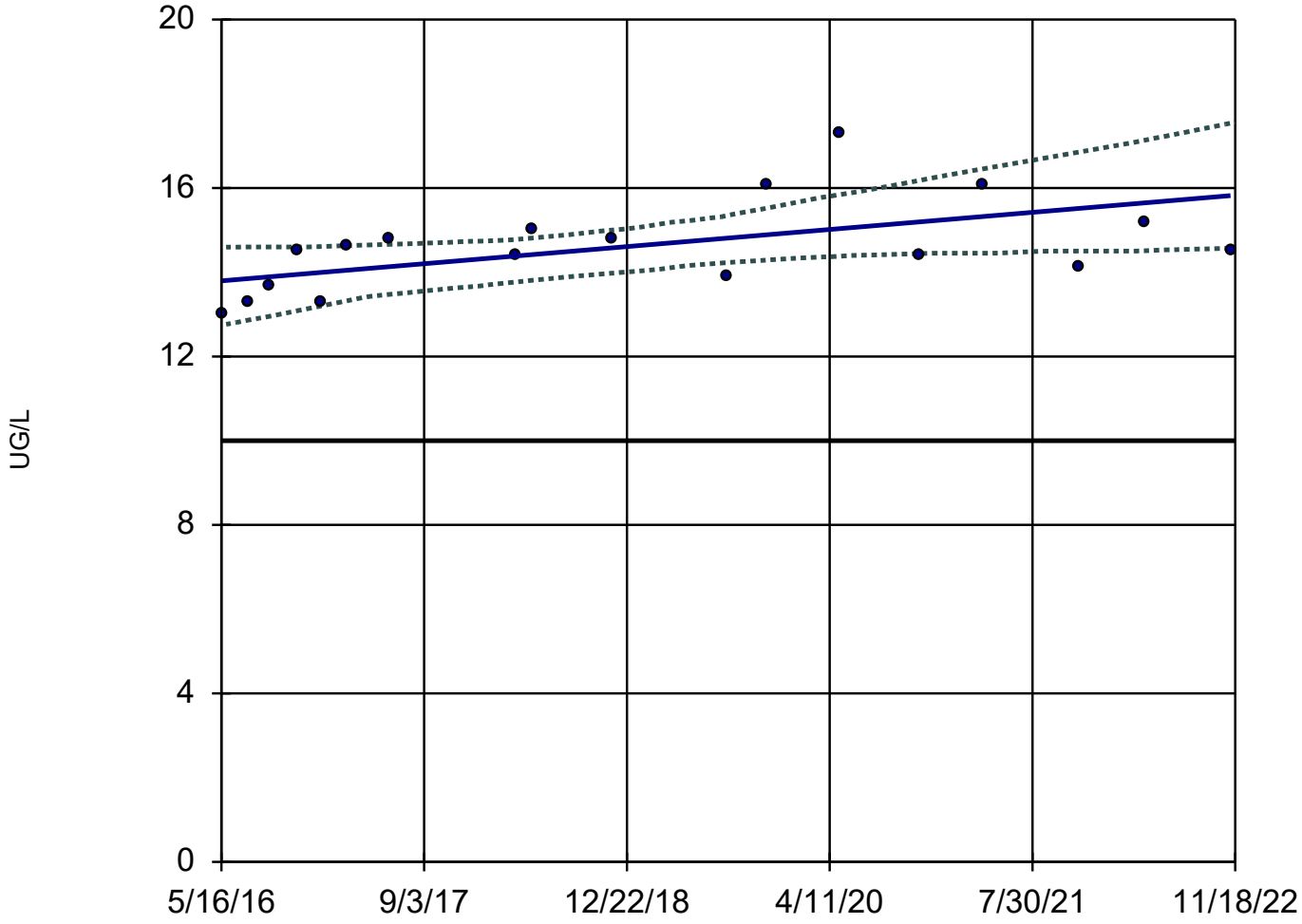
Confidence band is below GWPS (10).

Constituent: ARSENIC, TOTAL Analysis Run 2/14/2023 2:40 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 18

Slope = 0.312 units per year.

Mann-Kendall statistic = 66
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

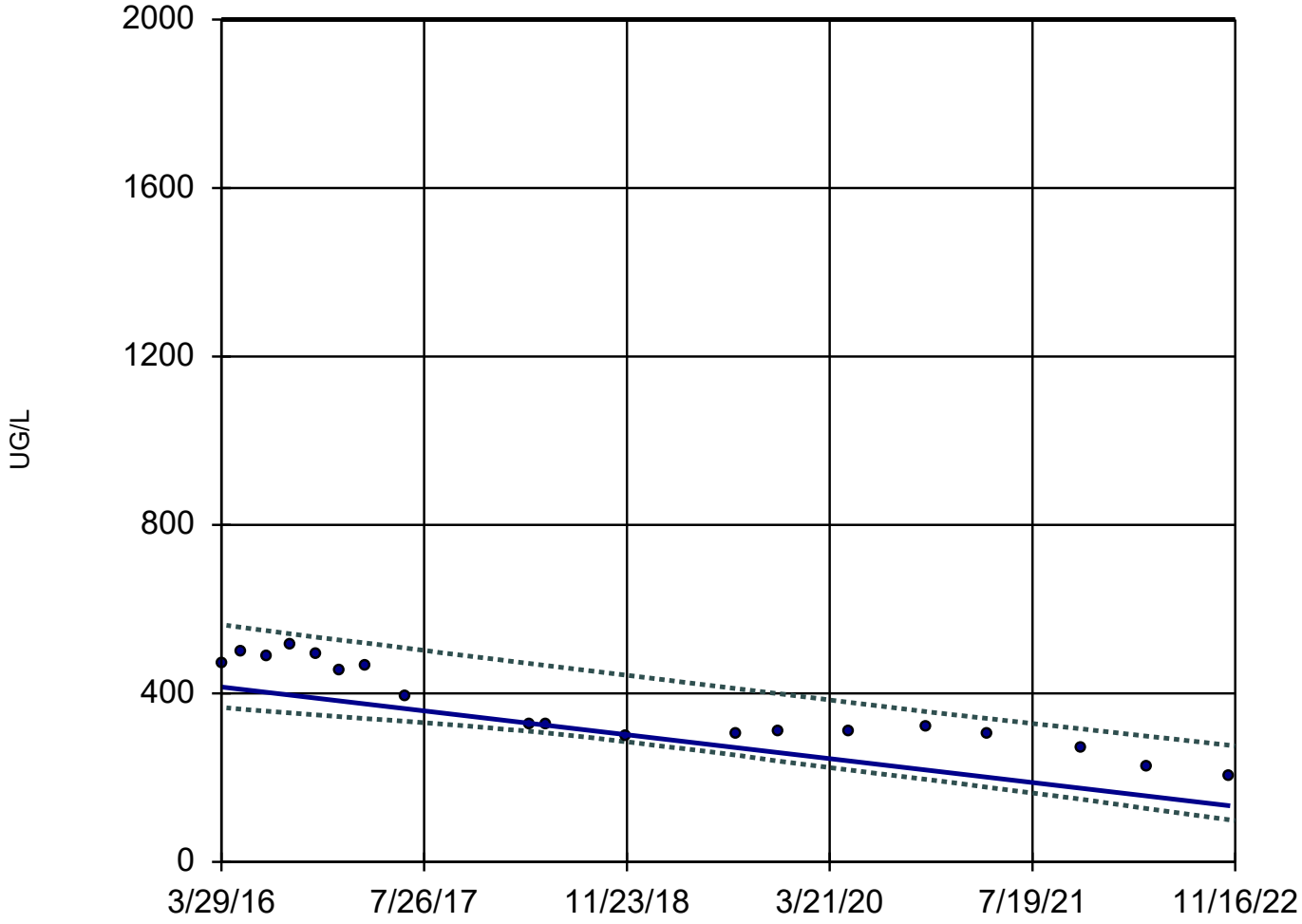
Confidence band is above GWPS (10).

Constituent: ARSENIC, TOTAL Analysis Run 2/14/2023 2:40 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



n = 19

Slope = -42.72 units per year.

Mann-Kendall statistic = -131 critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

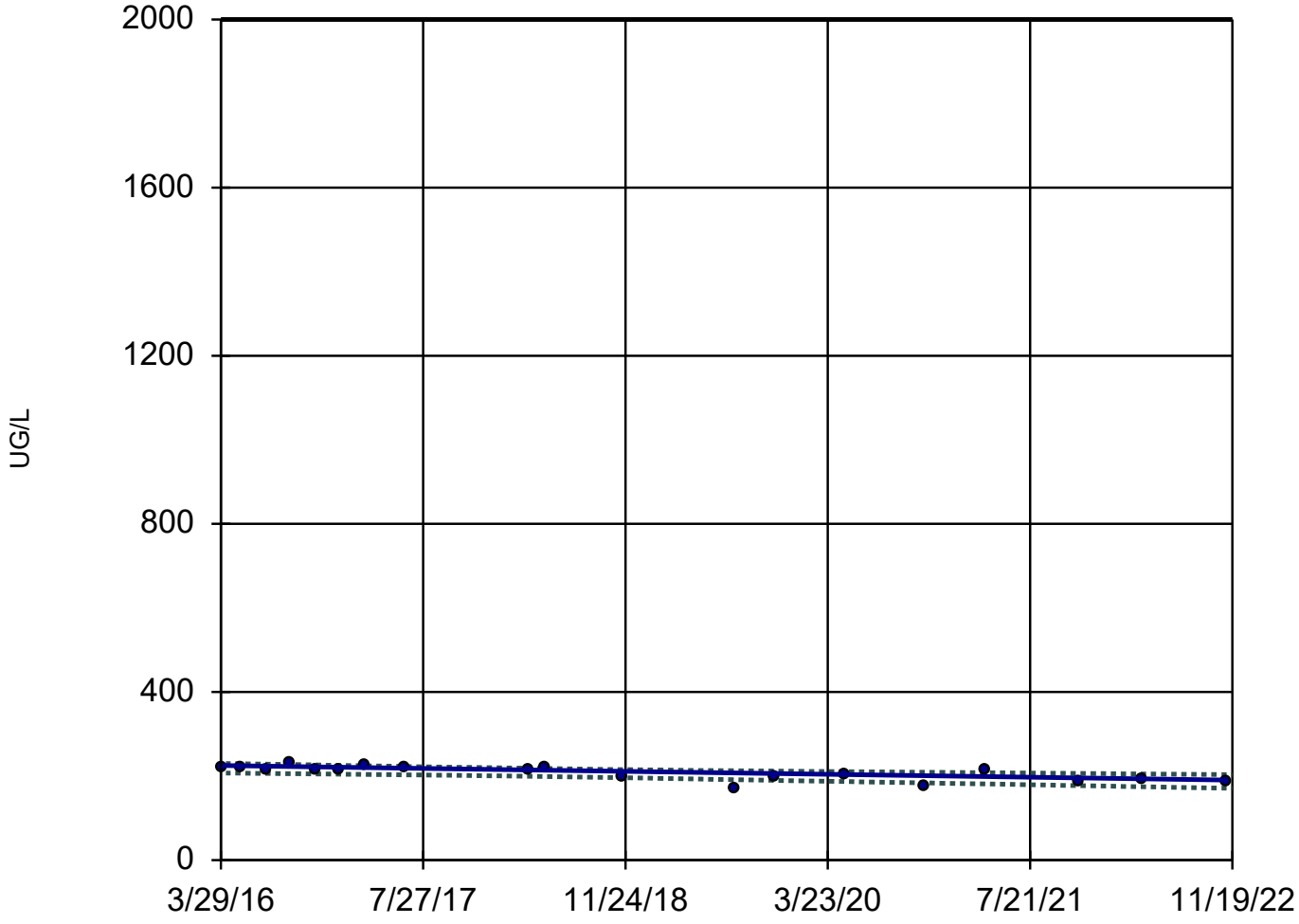
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 19

Slope = -5.245 units per year.

Mann-Kendall statistic = -93 critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

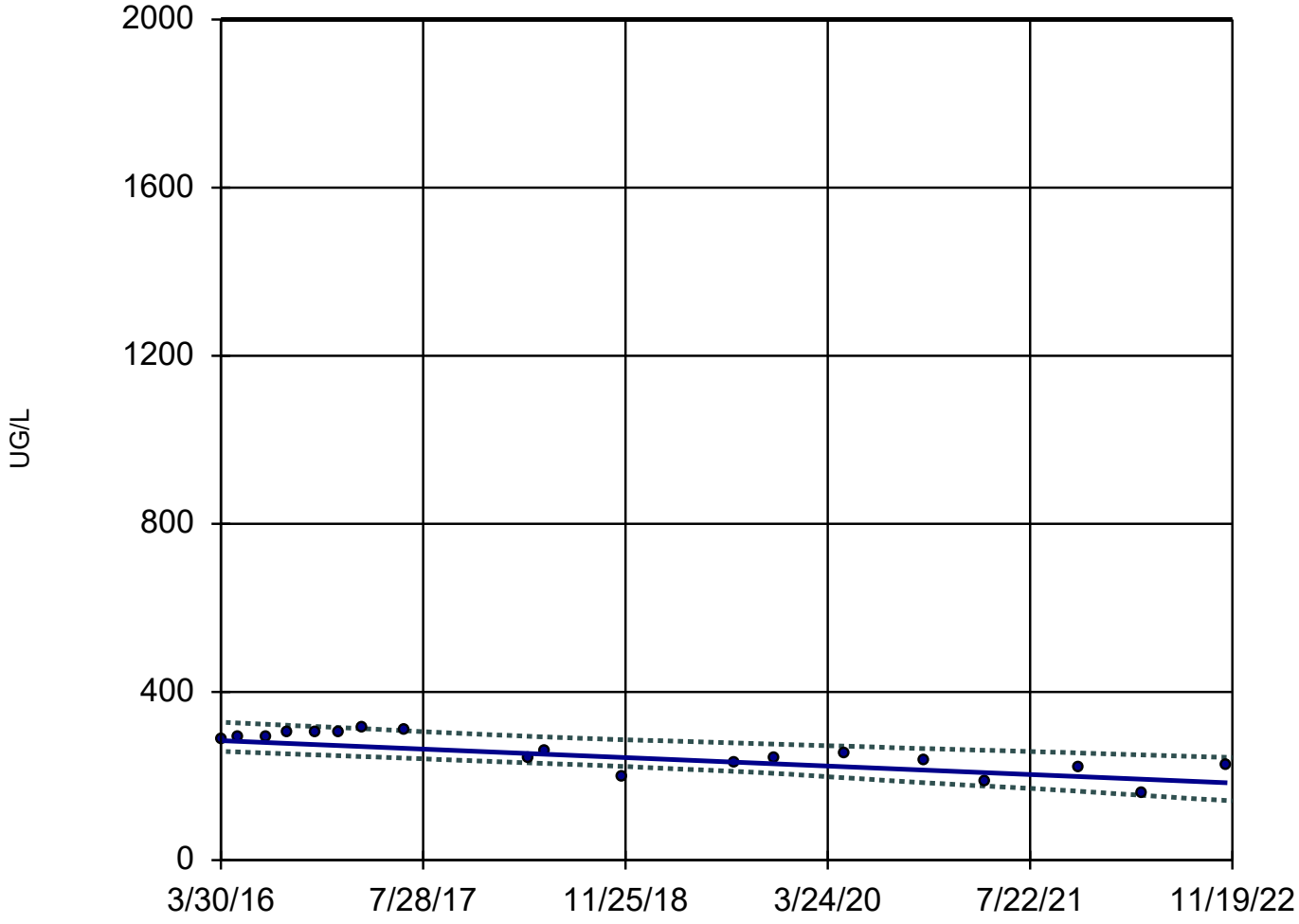
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 19

Slope = -15.2 units per year.

Mann-Kendall statistic = -87 critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

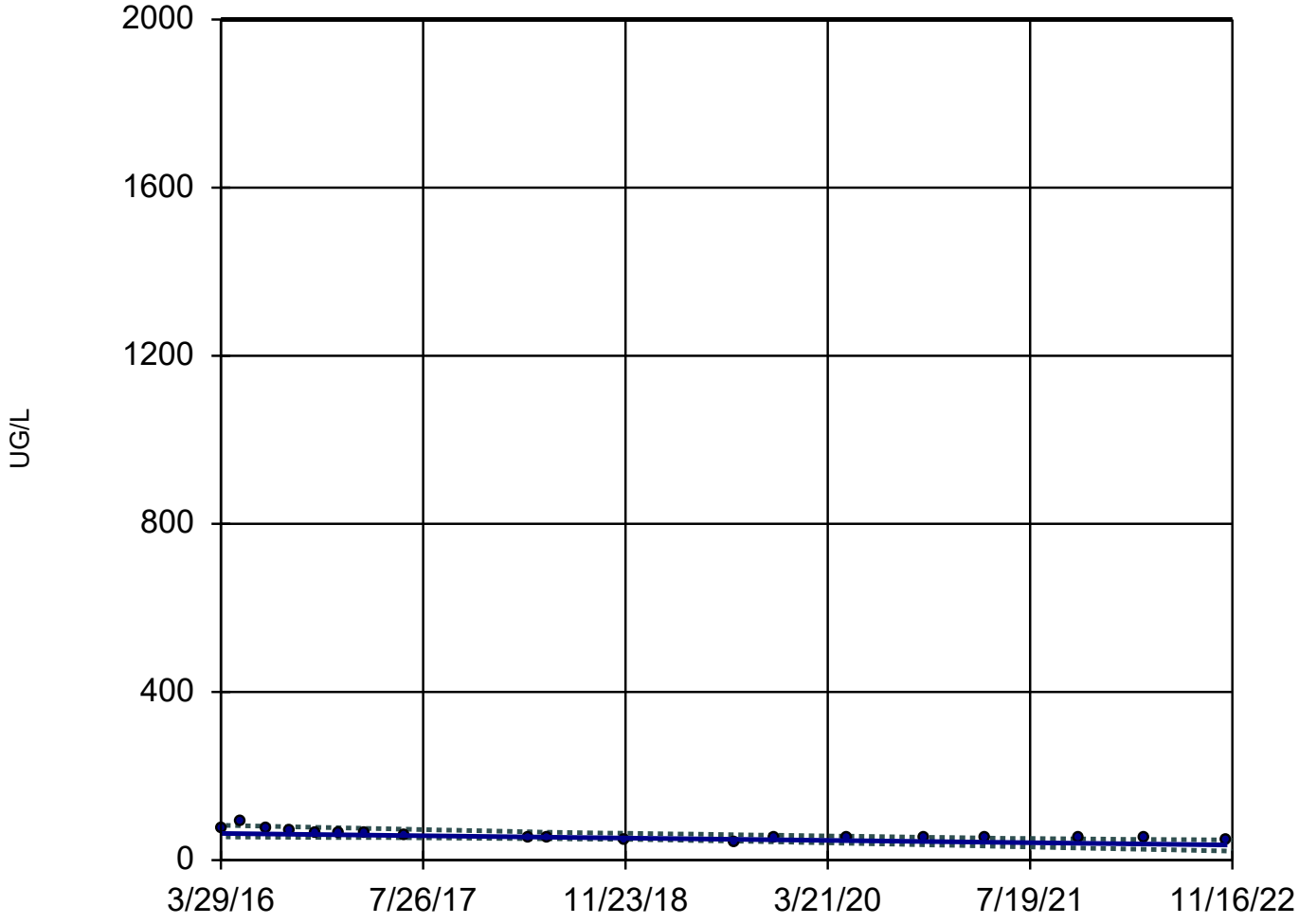
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 19

Slope = -4.136 units per year.

Mann-Kendall statistic = -120 critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

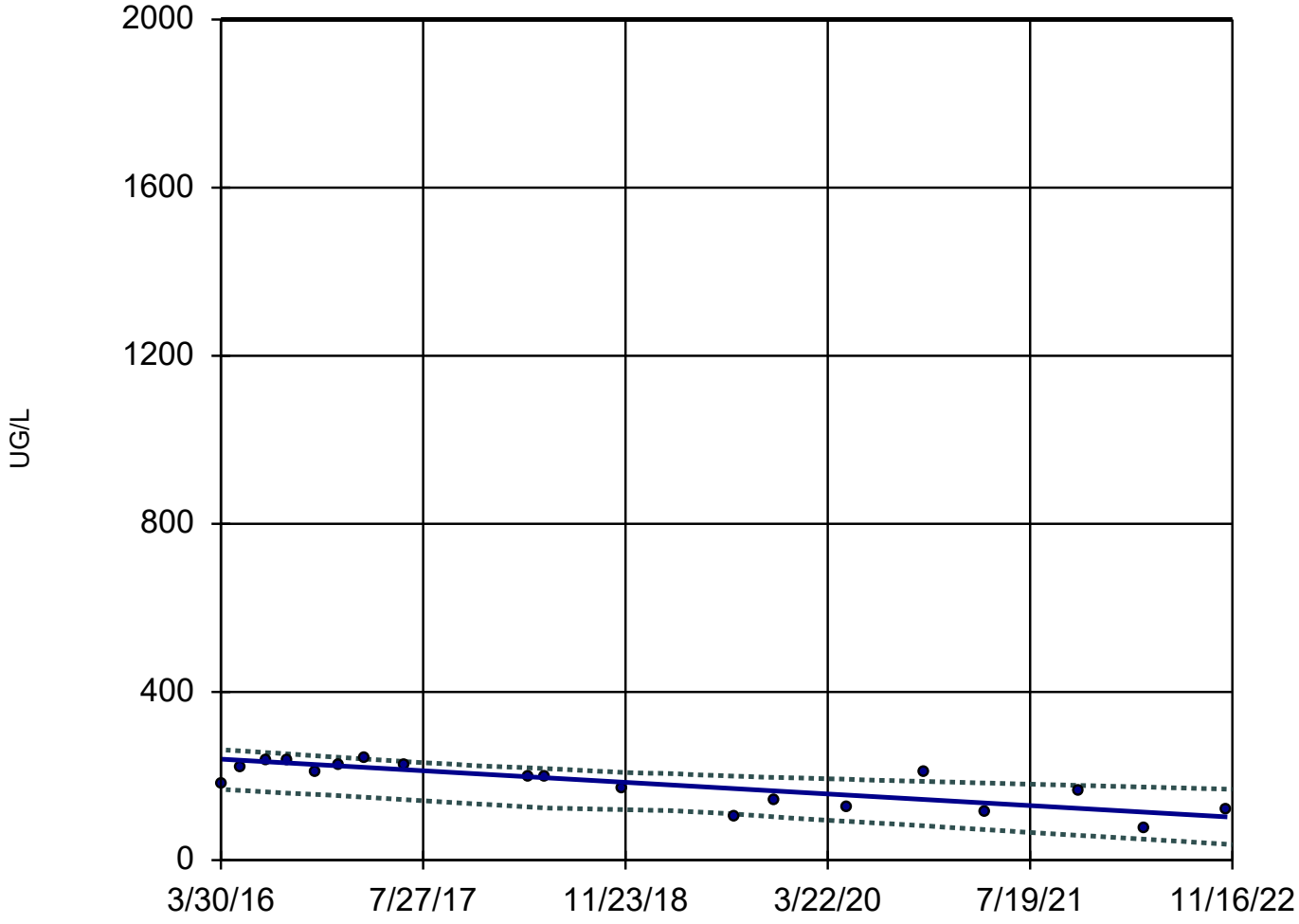
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 19

Slope = -20.86 units per year.

Mann-Kendall statistic = -95
critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2000).

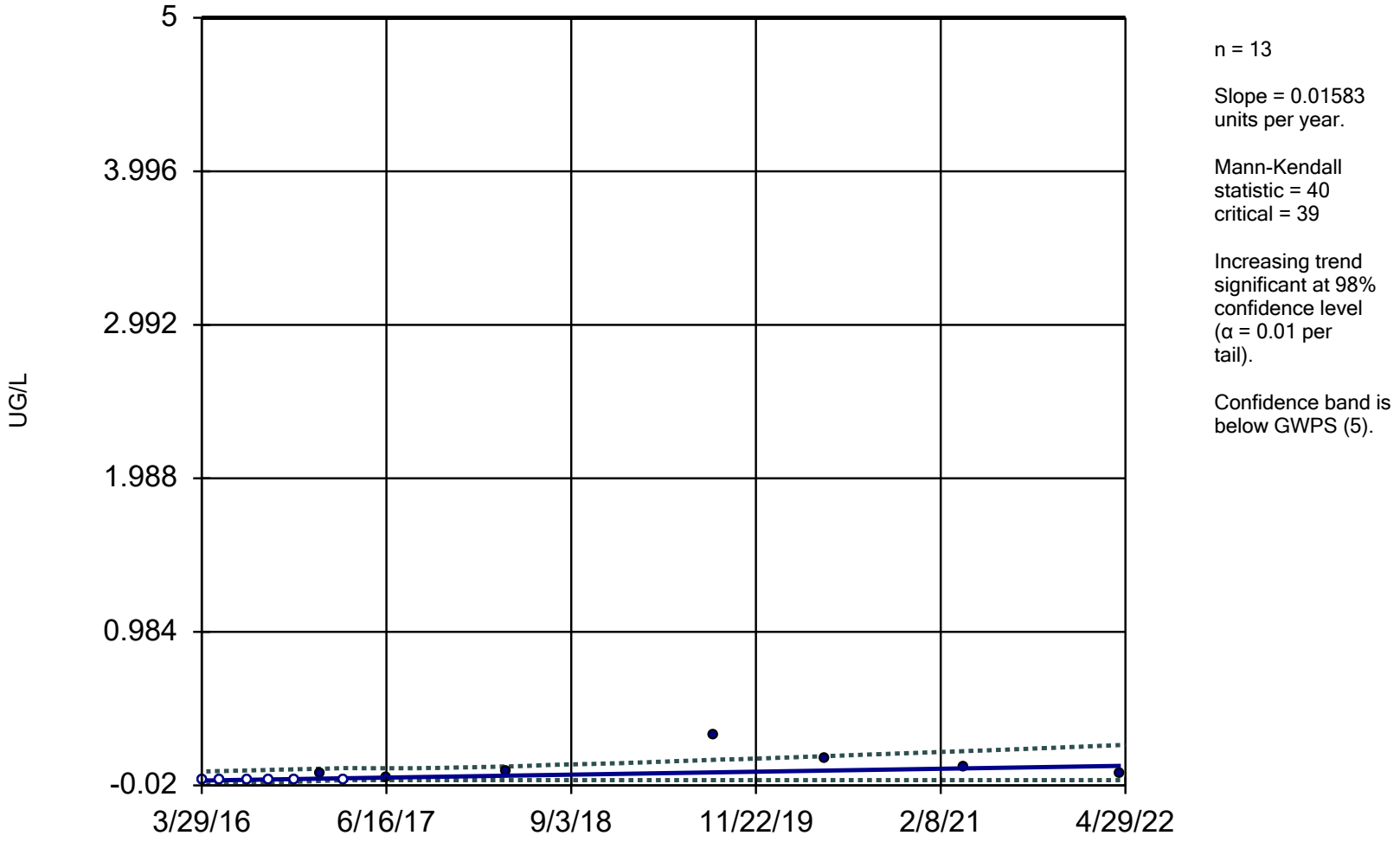
Constituent: BARIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 13

Slope = 0.01583 units per year.

Mann-Kendall statistic = 40
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (5).

Constituent: CADMIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

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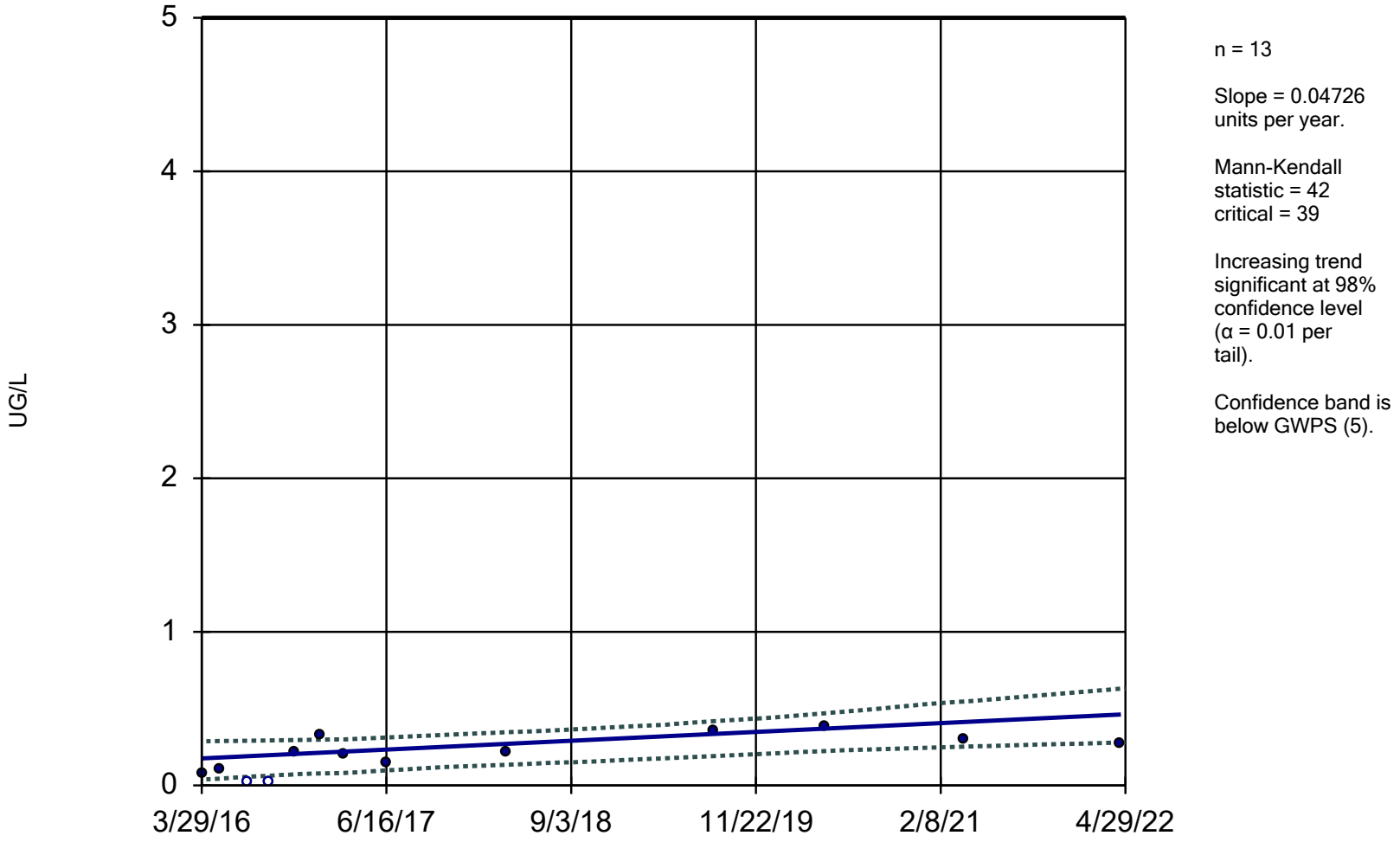
Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = 0.04726 units per year.

Mann-Kendall statistic = 42
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (5).

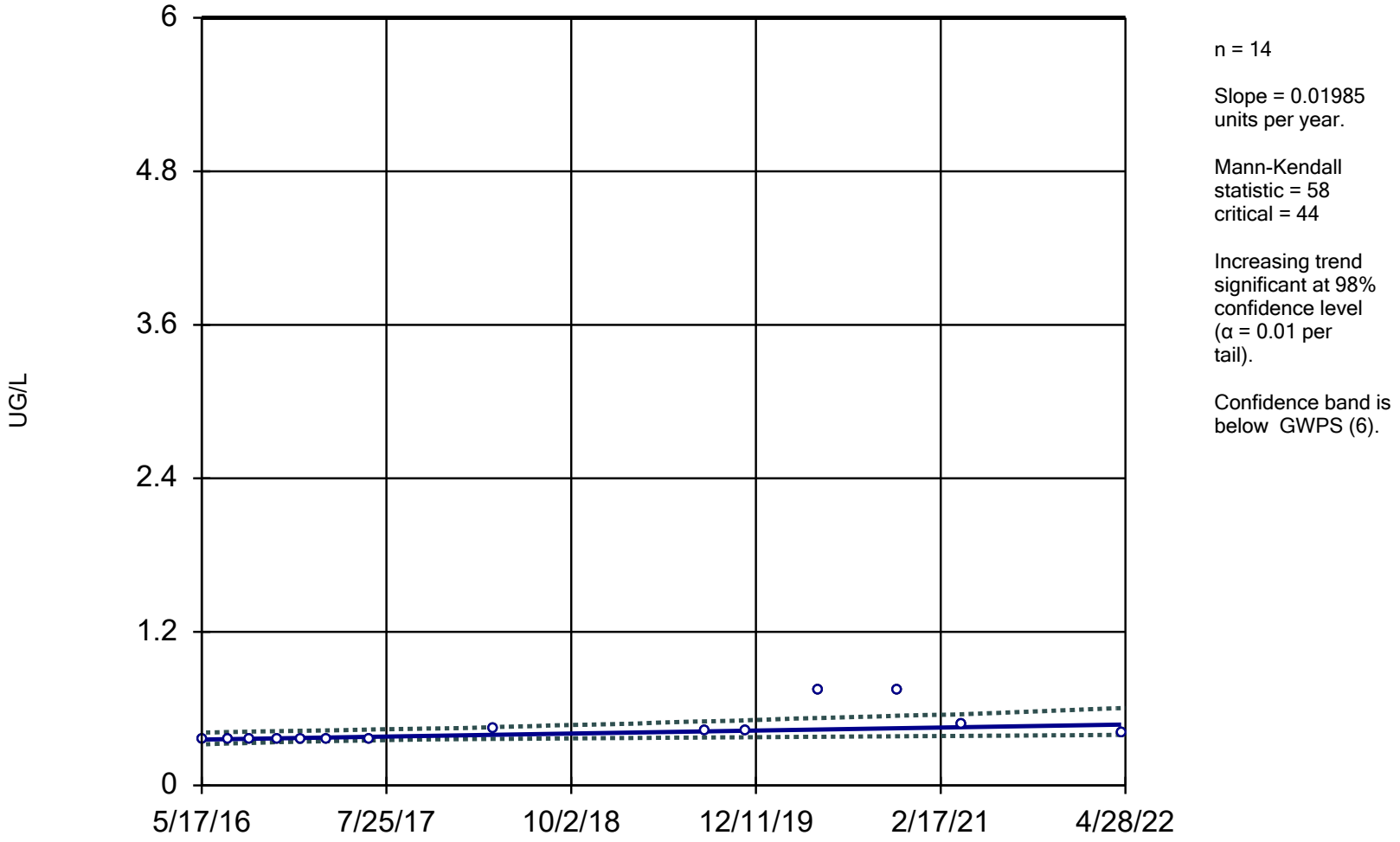
Constituent: CADMIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 14

Slope = 0.01985 units per year.

Mann-Kendall statistic = 58
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

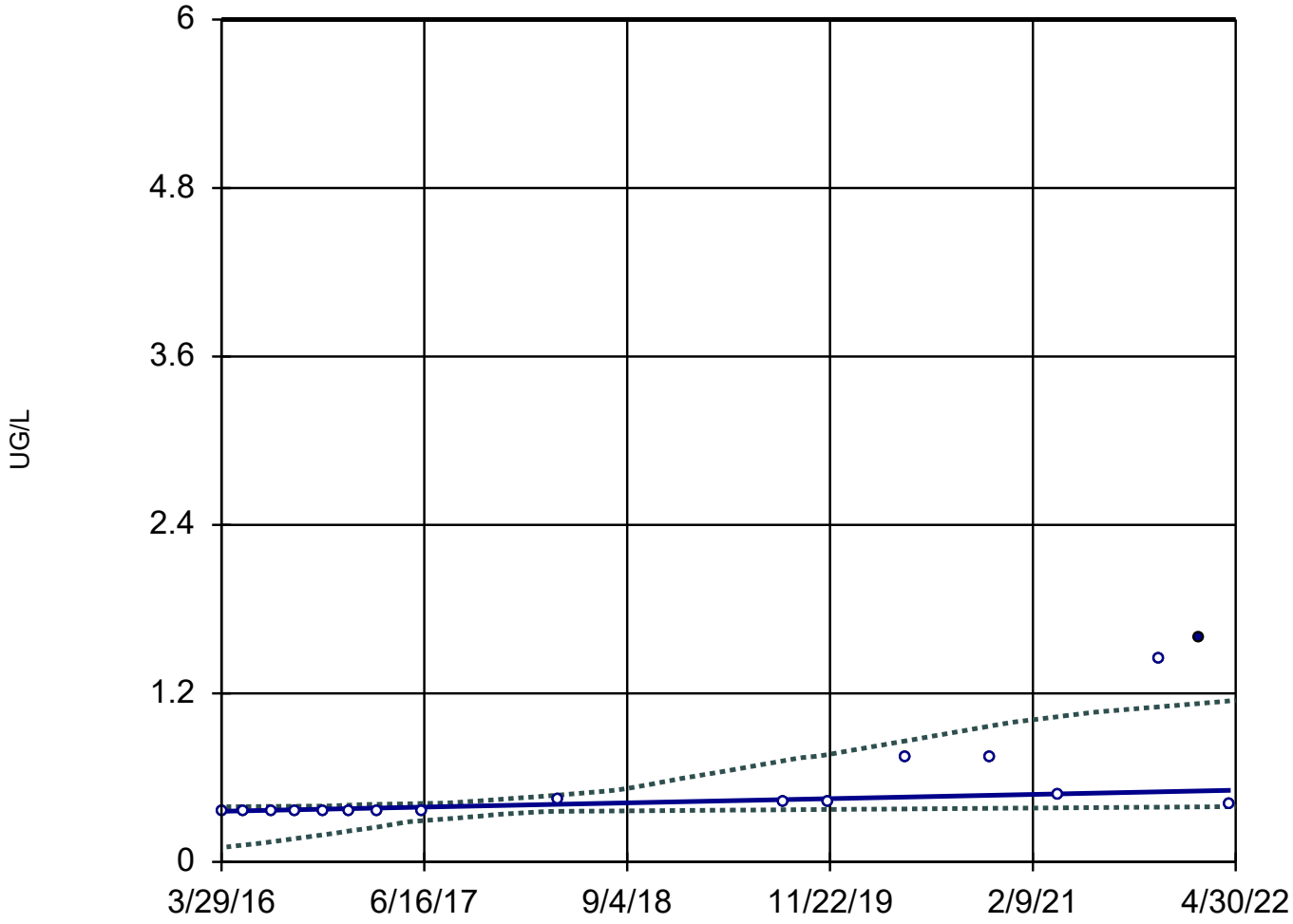
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 17

Slope = 0.02476 units per year.

Mann-Kendall statistic = 94
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

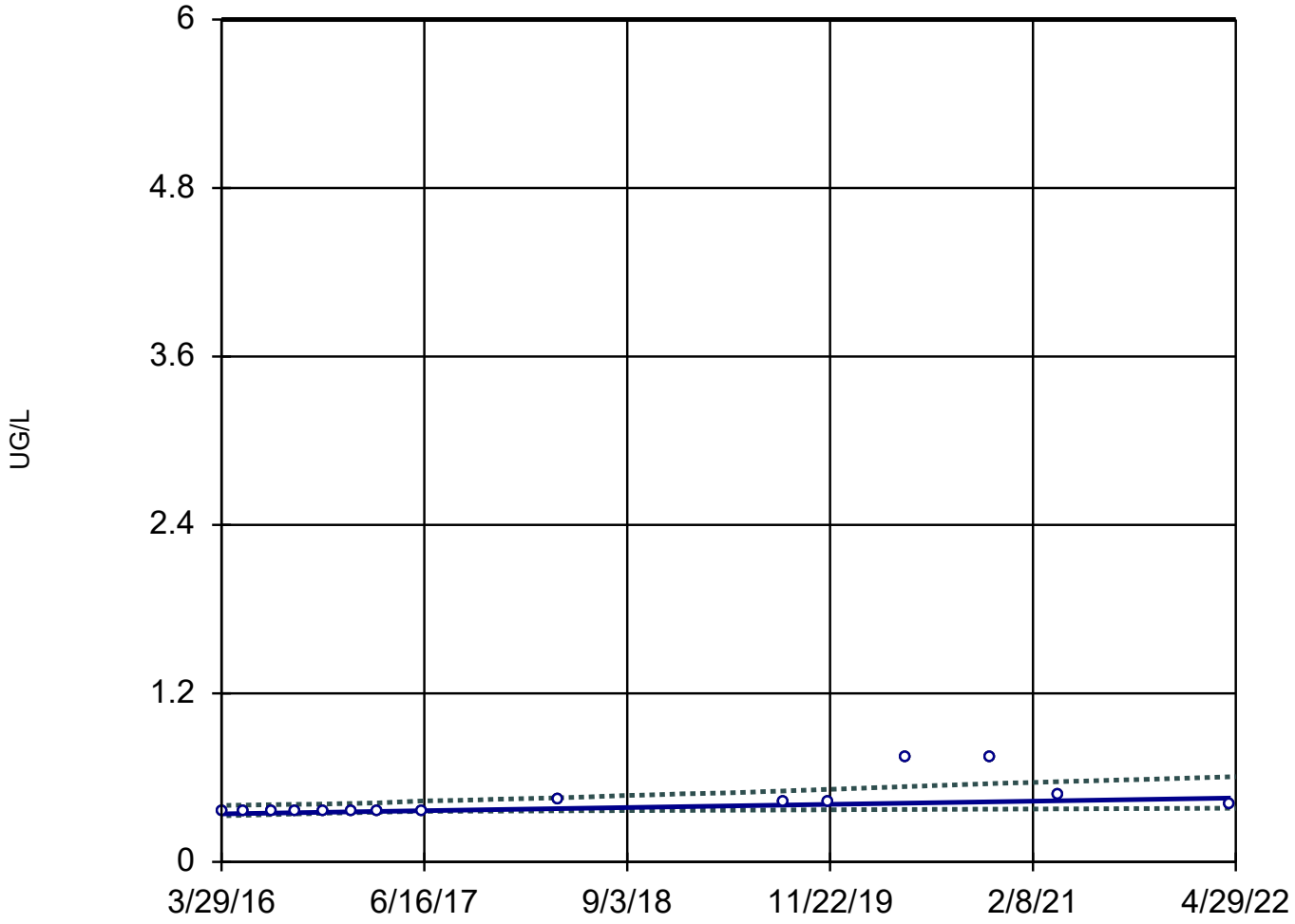
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 15

Slope = 0.01851 units per year.

Mann-Kendall statistic = 67
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

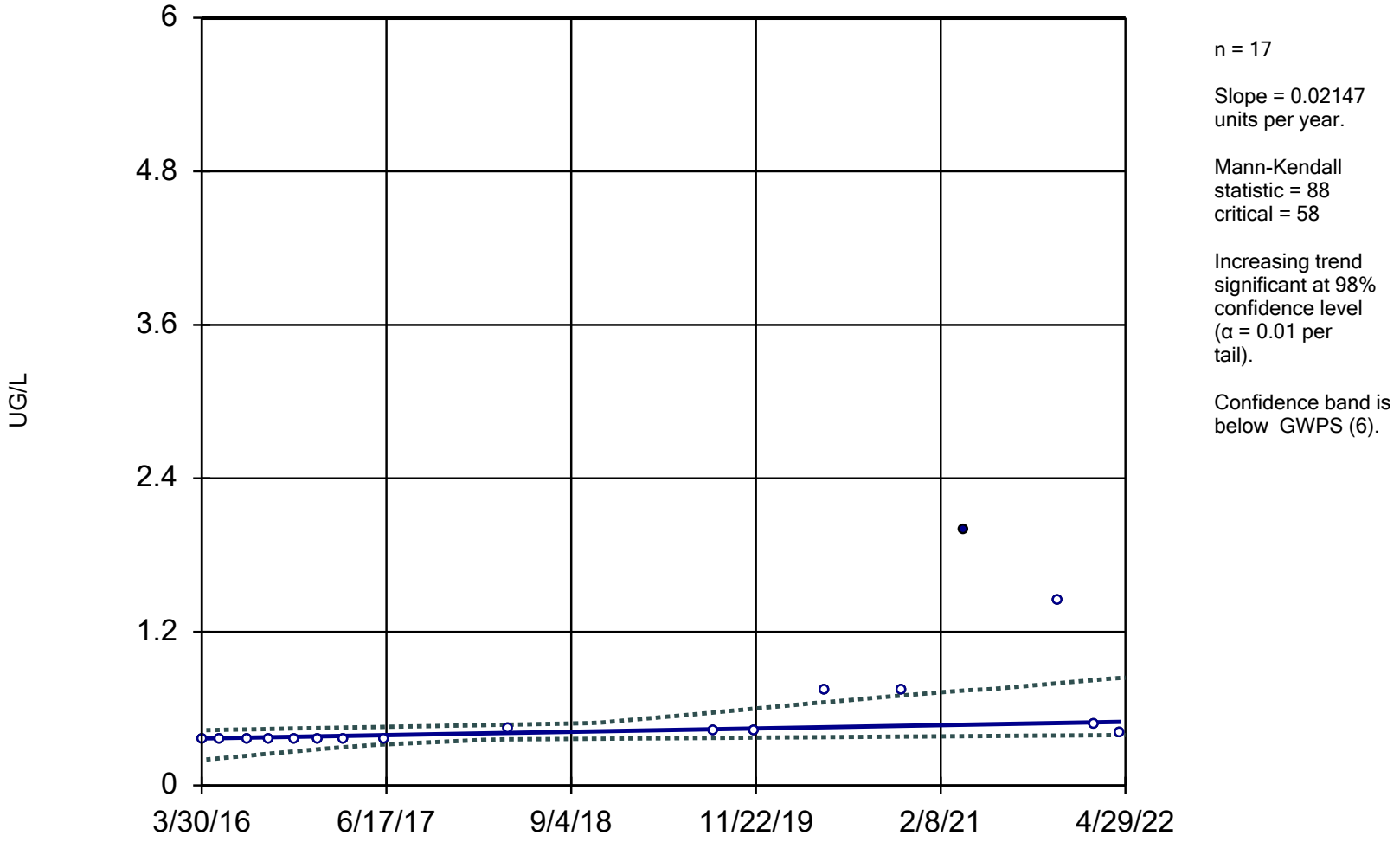
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 17

Slope = 0.02147 units per year.

Mann-Kendall statistic = 88
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

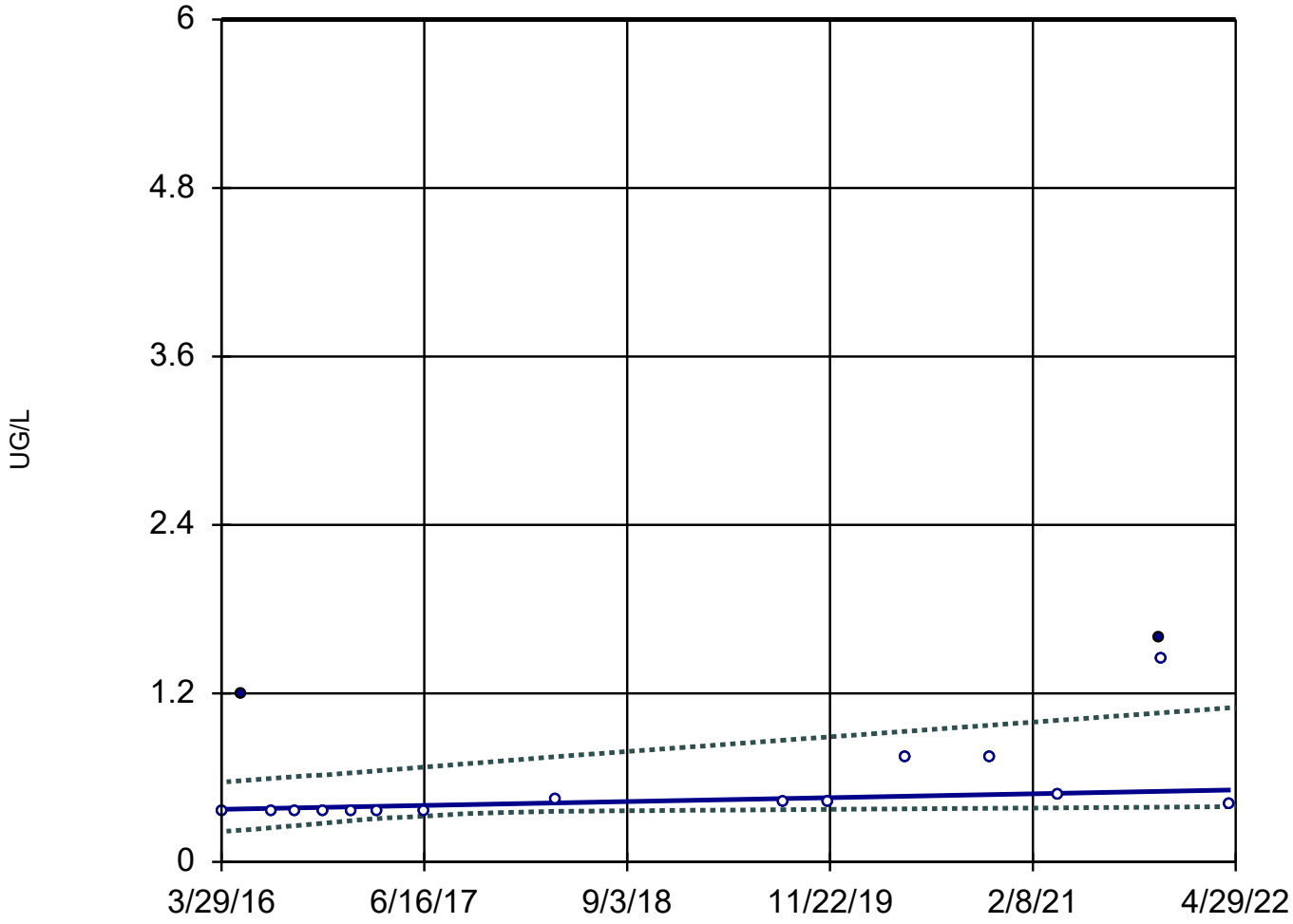
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 17

Slope = 0.02277 units per year.

Mann-Kendall statistic = 71
critical = 58

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

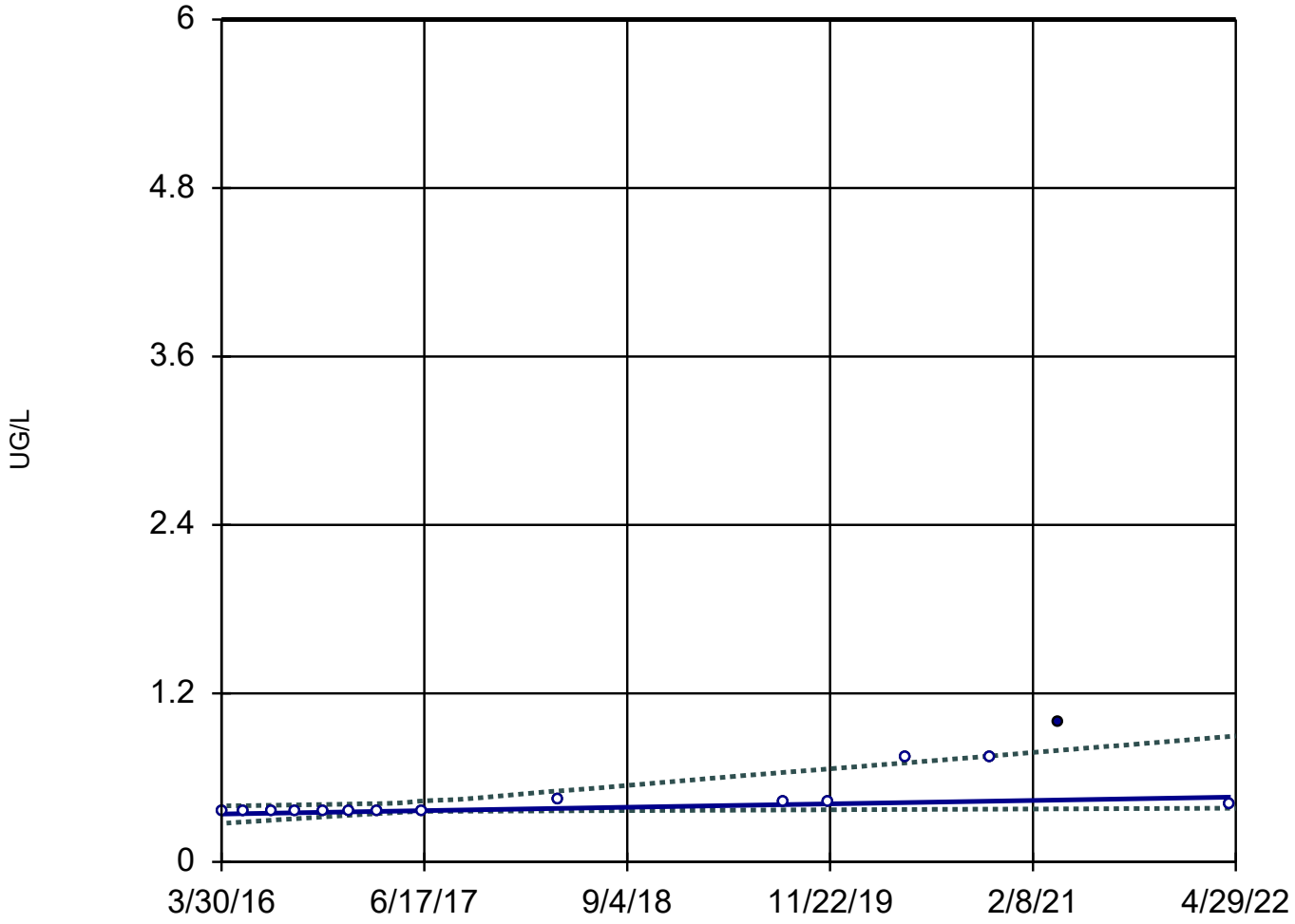
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-8



n = 15

Slope = 0.01985 units per year.

Mann-Kendall statistic = 71
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

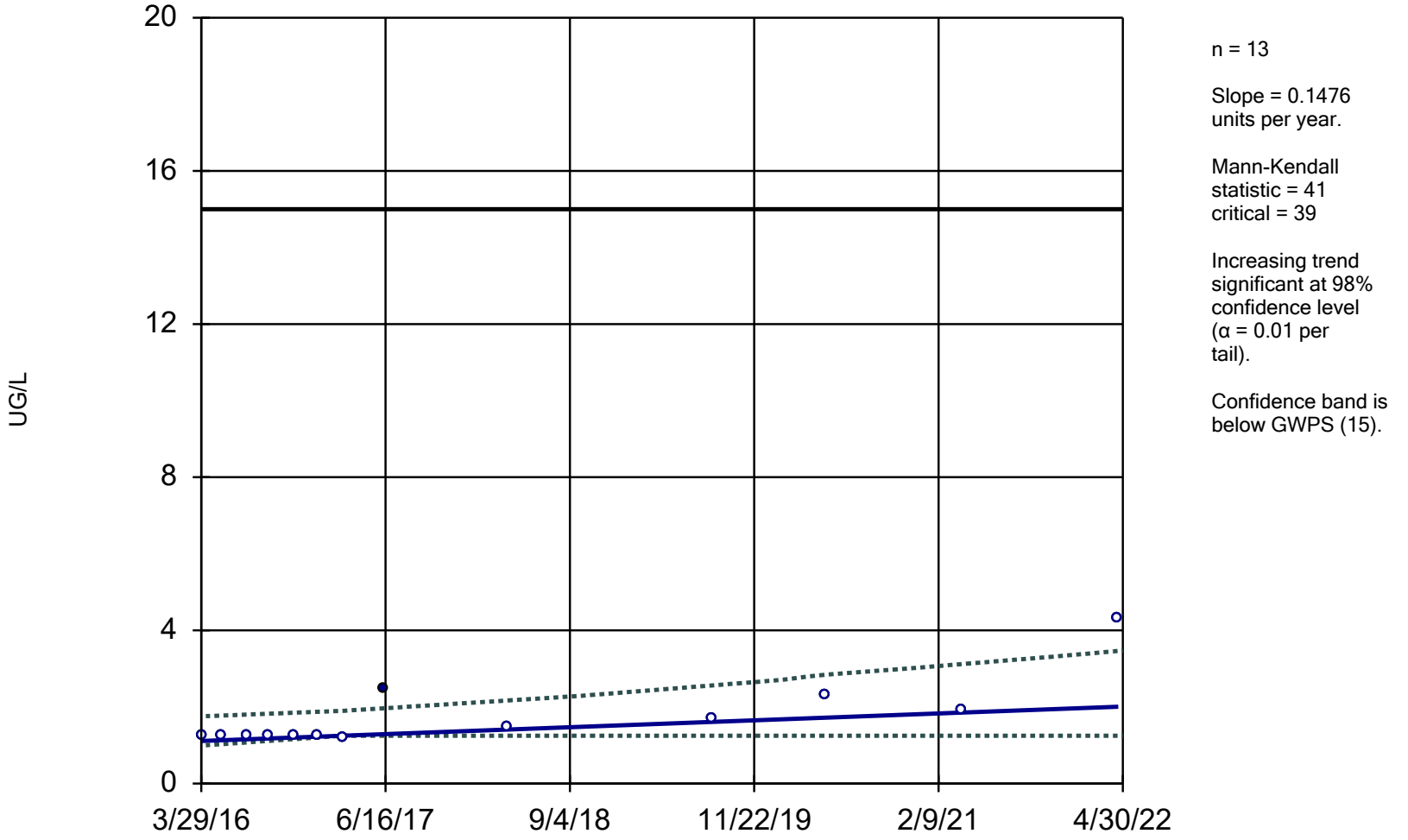
Constituent: COBALT, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 13

Slope = 0.1476 units per year.

Mann-Kendall statistic = 41
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (15).

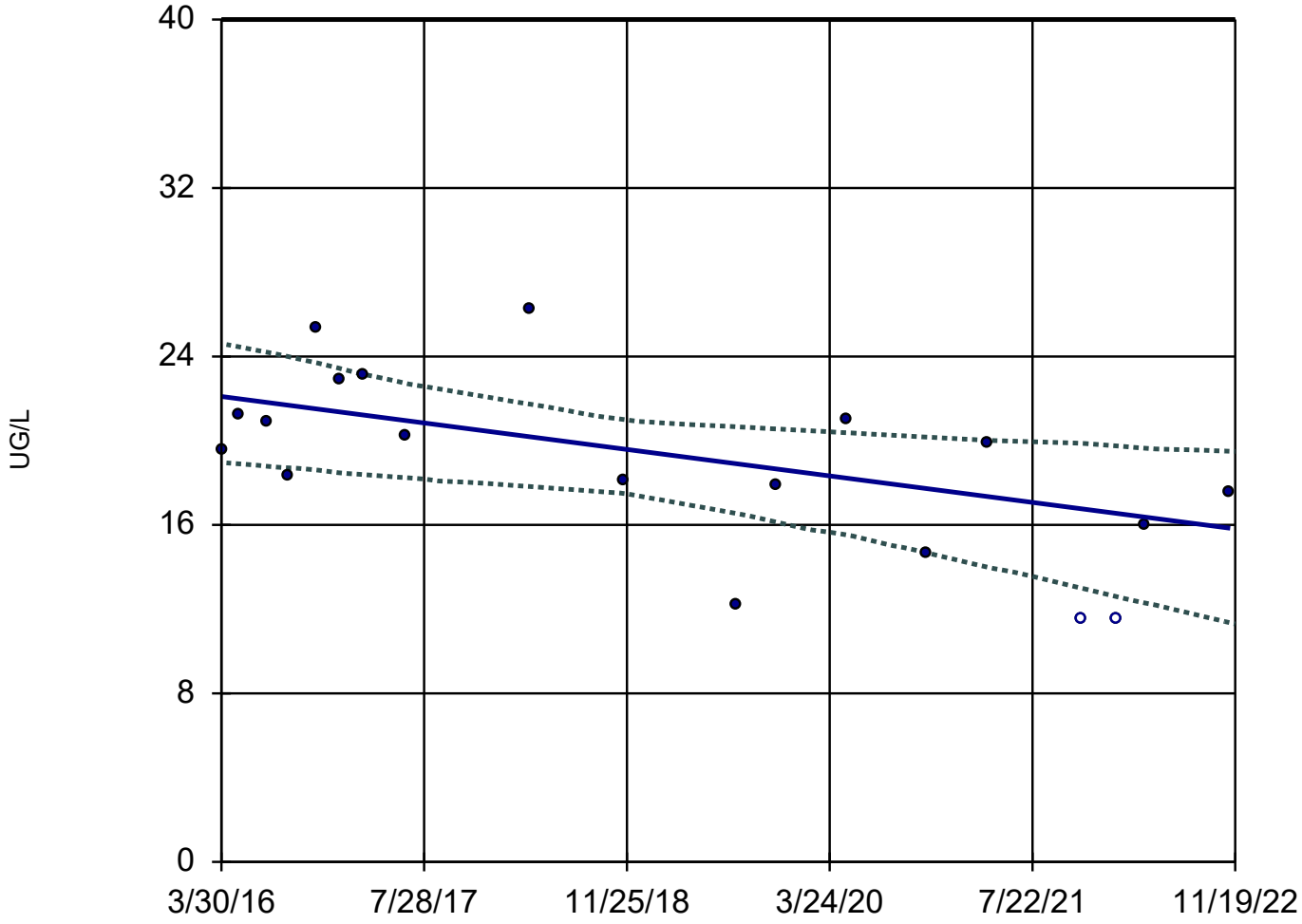
Constituent: LEAD, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 19

Slope = -0.9464 units per year.

Mann-Kendall statistic = -72
critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (40).

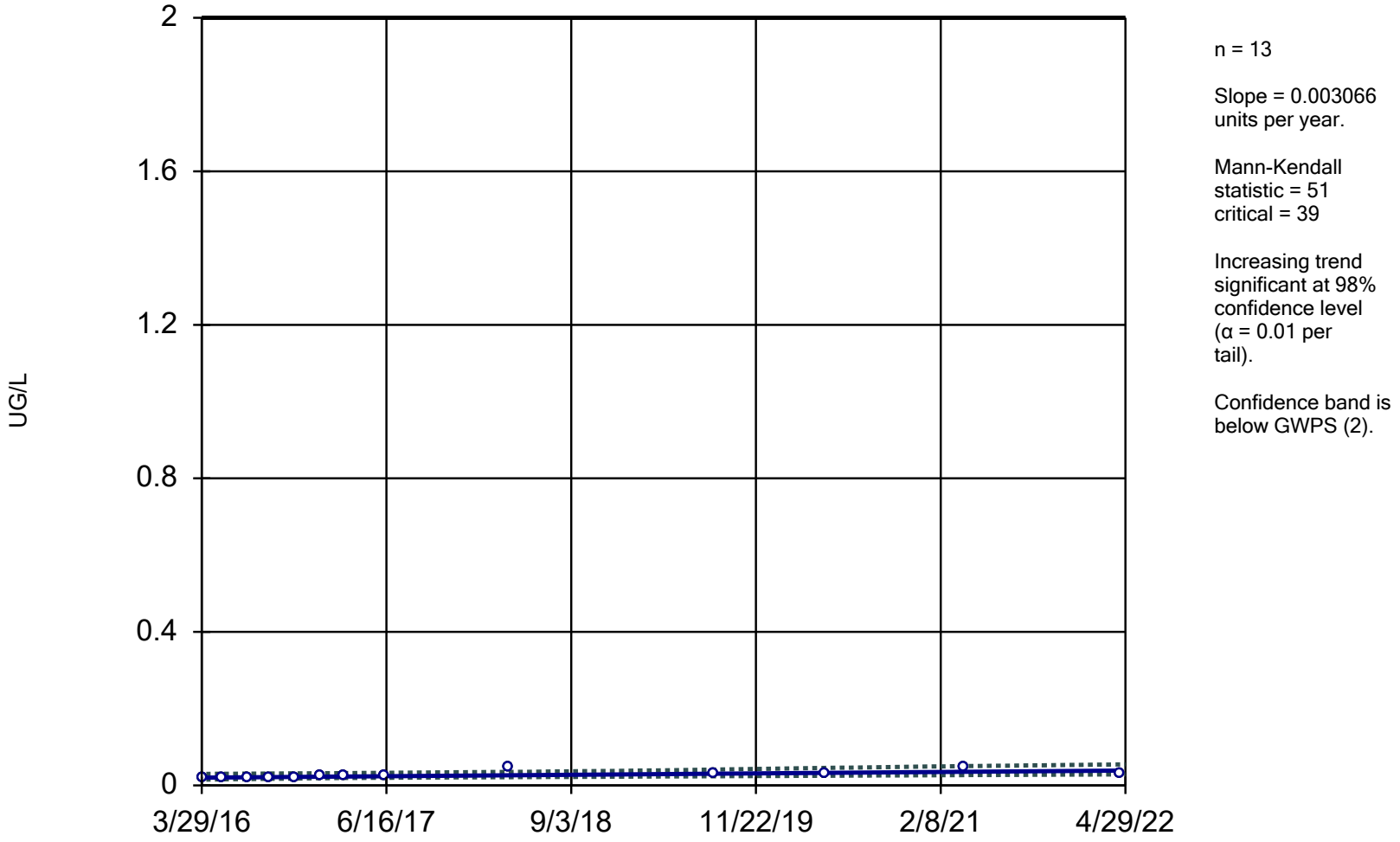
Constituent: LITHIUM, TOTAL Analysis Run 2/14/2023 2:41 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 13

Slope = 0.003066 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

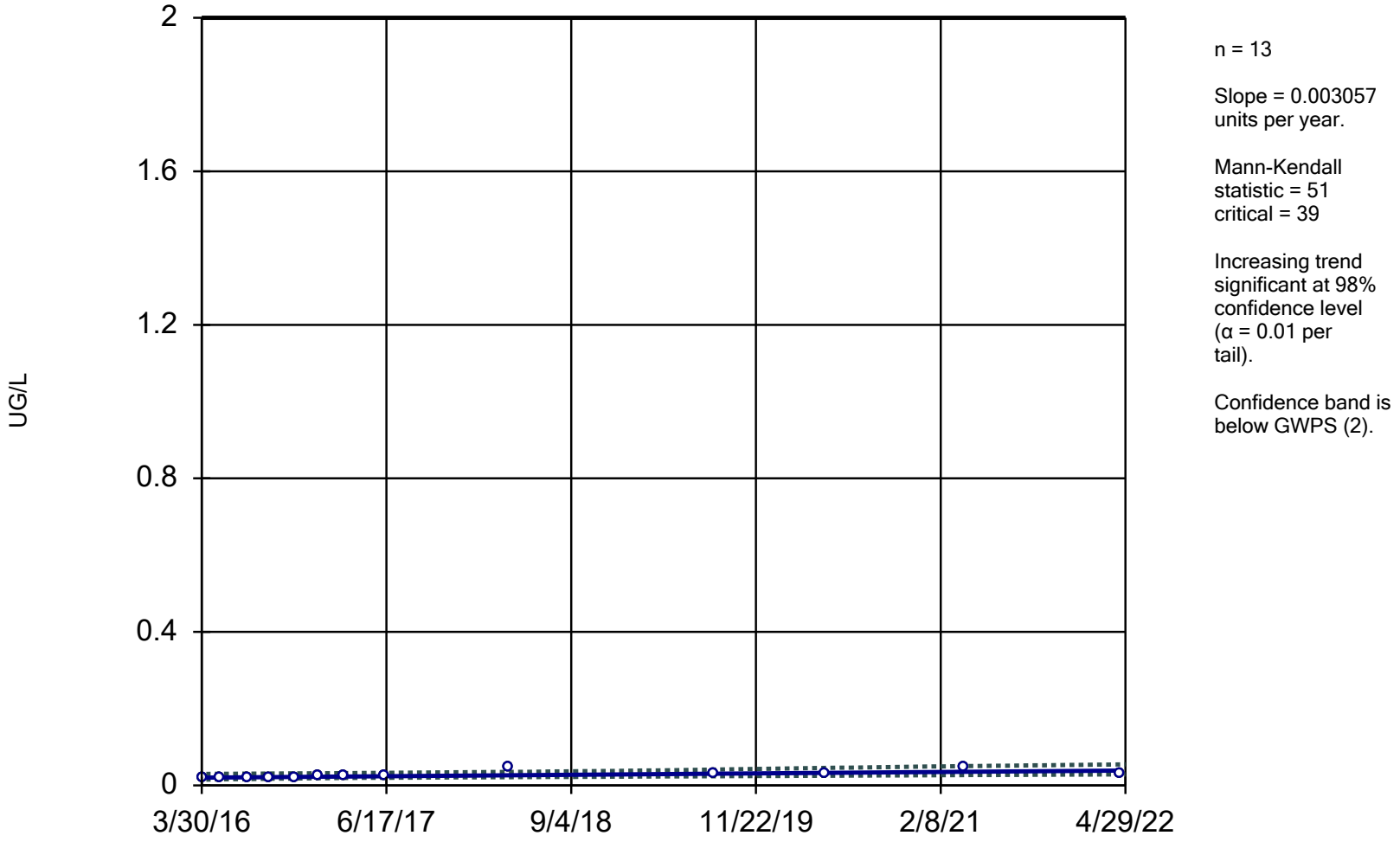
Constituent: MERCURY, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 13

Slope = 0.003057 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

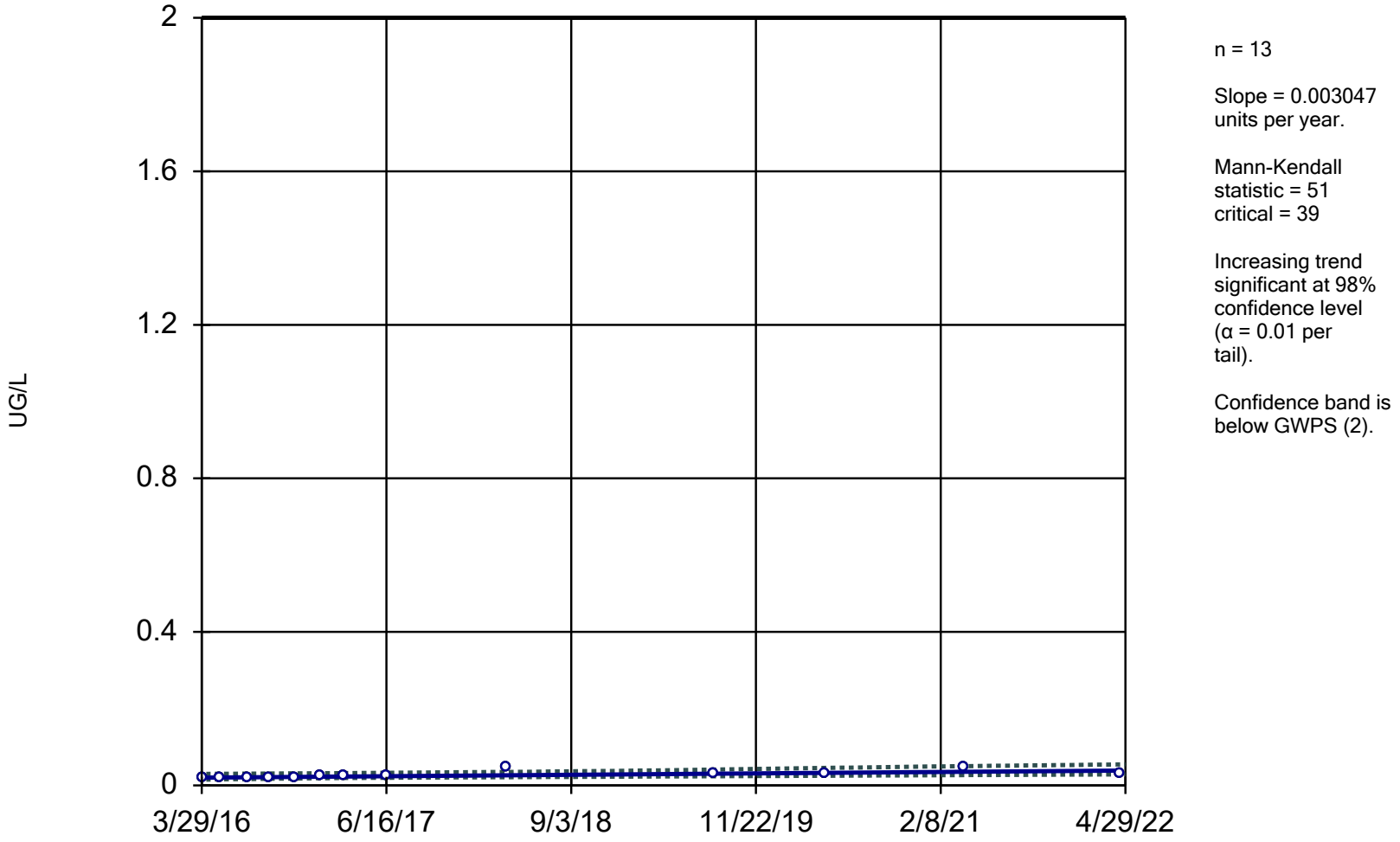
Constituent: MERCURY, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 13

Slope = 0.003047 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

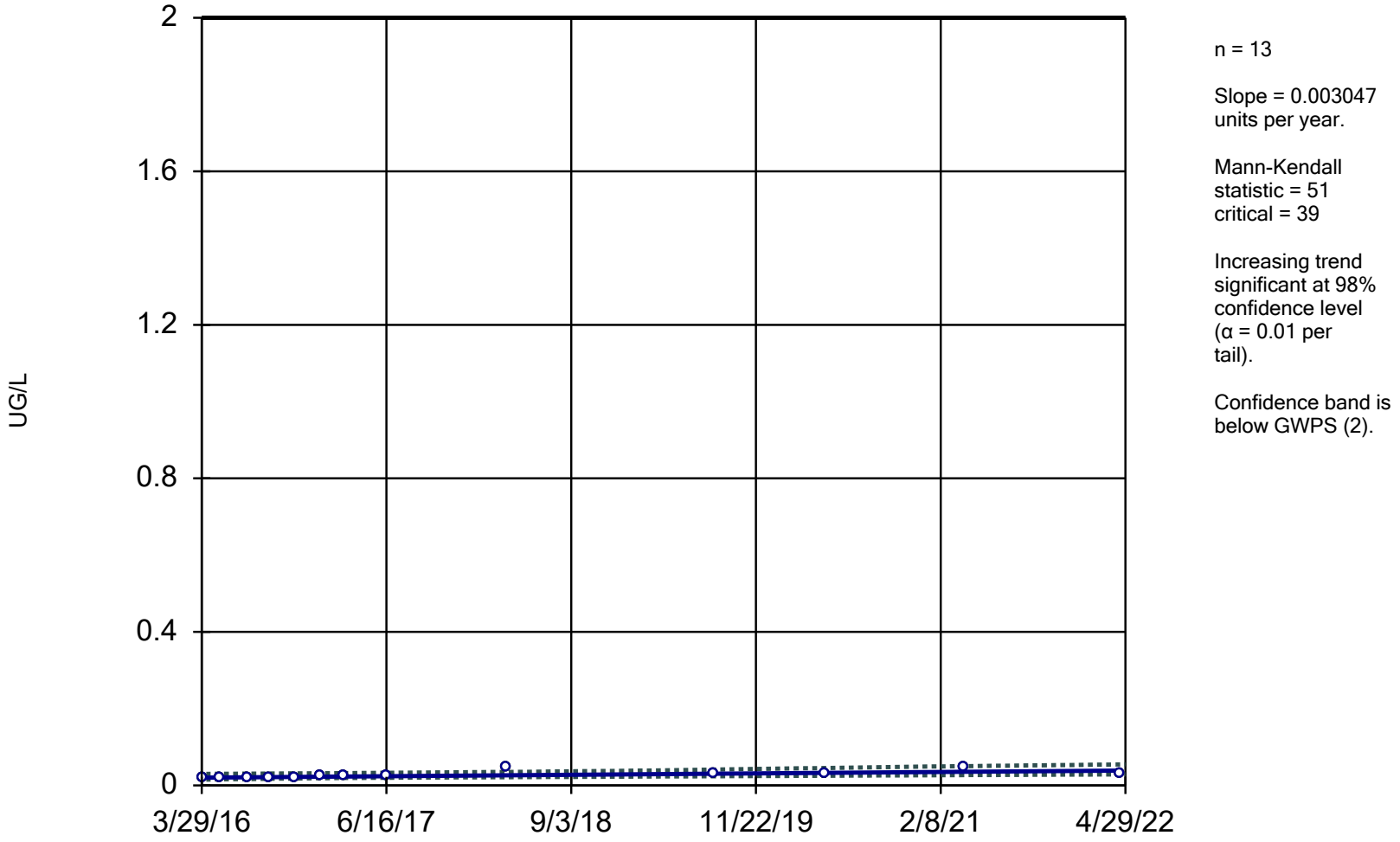
Constituent: MERCURY, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = 0.003047 units per year.

Mann-Kendall statistic = 51
critical = 39

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

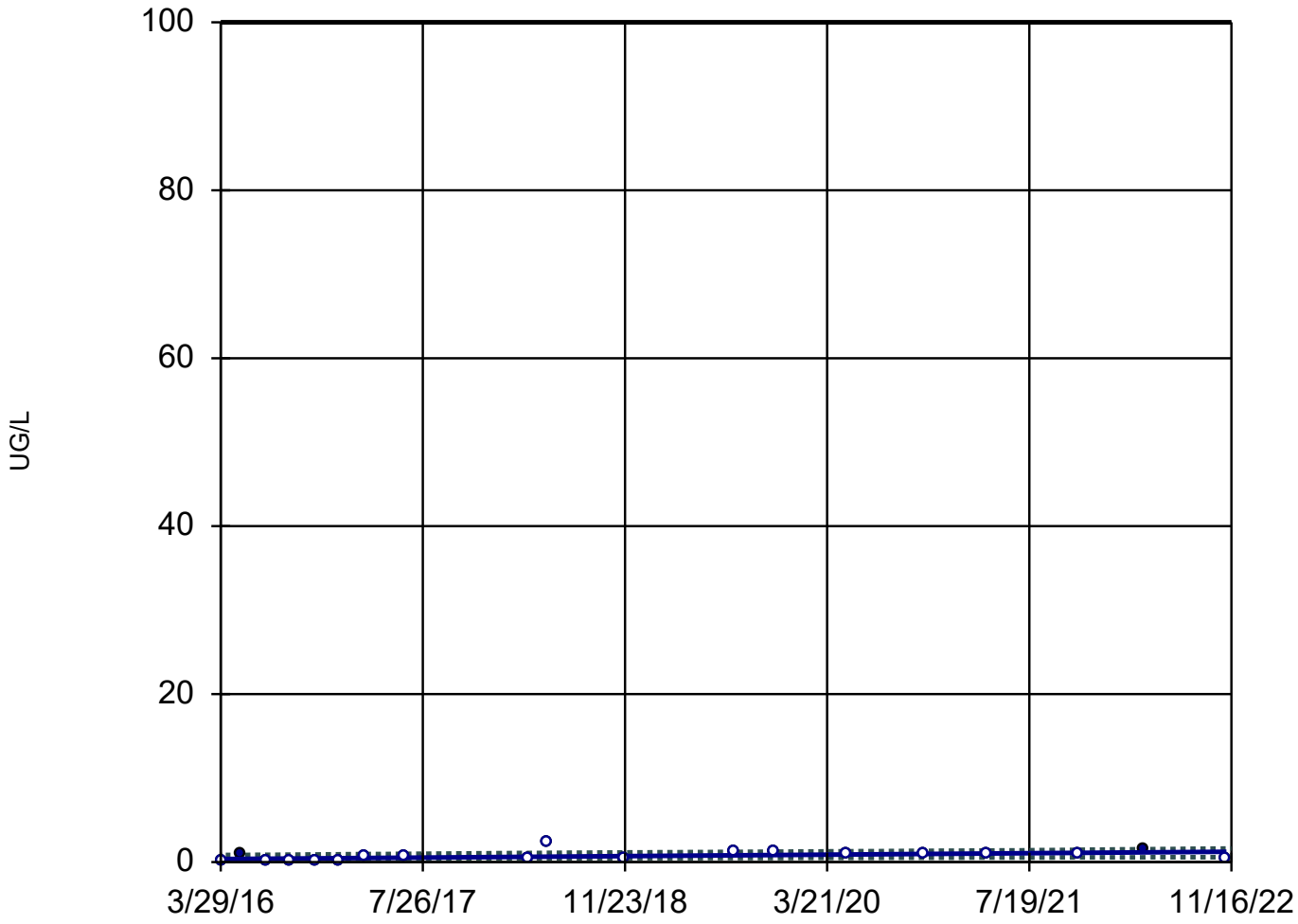
Constituent: MERCURY, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 19

Slope = 0.1312 units per year.

Mann-Kendall statistic = 76
critical = 68

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (100).

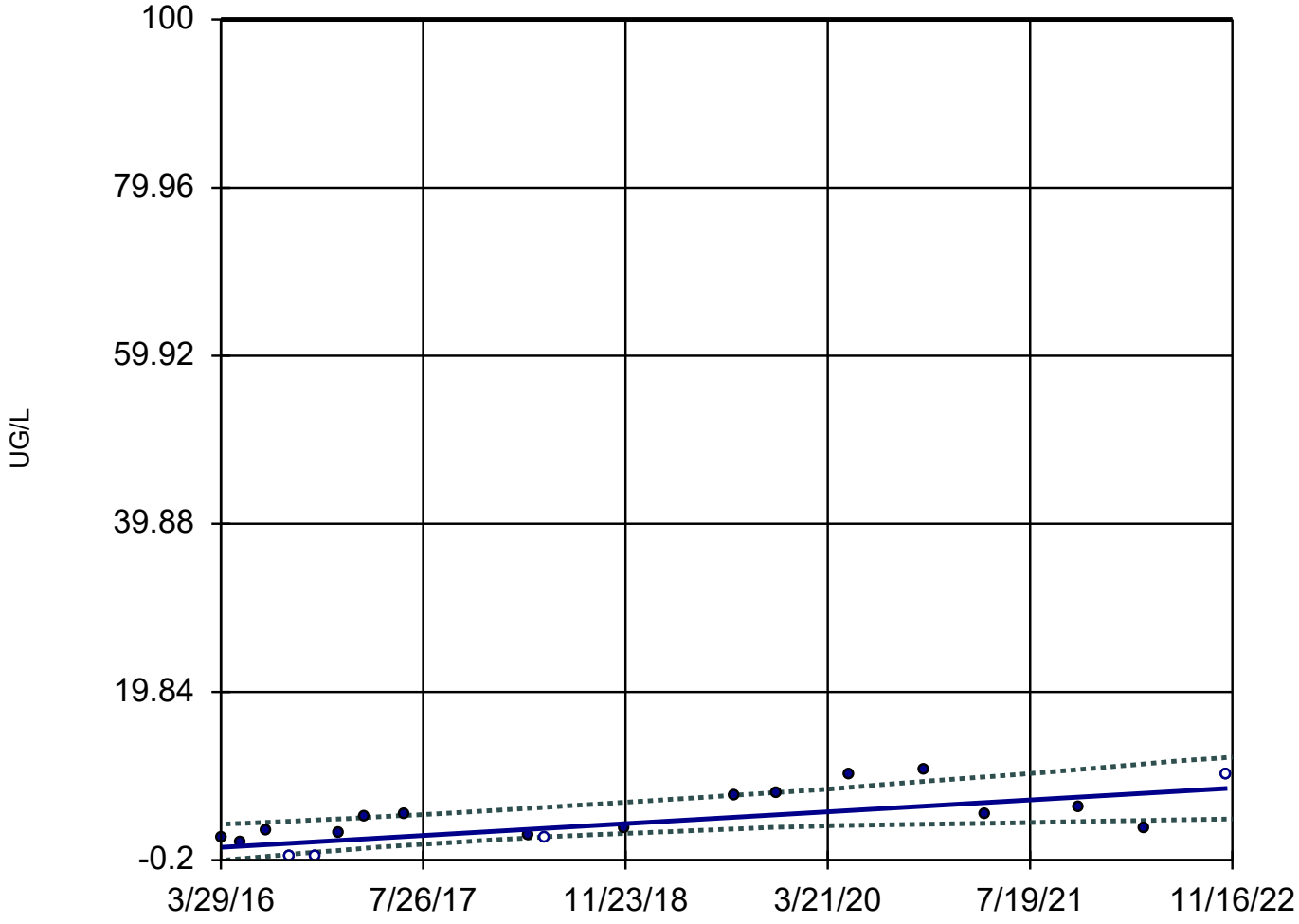
Constituent: MOLYBDENUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 19

Slope = 1.064 units per year.

Mann-Kendall statistic = 93
critical = 68

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

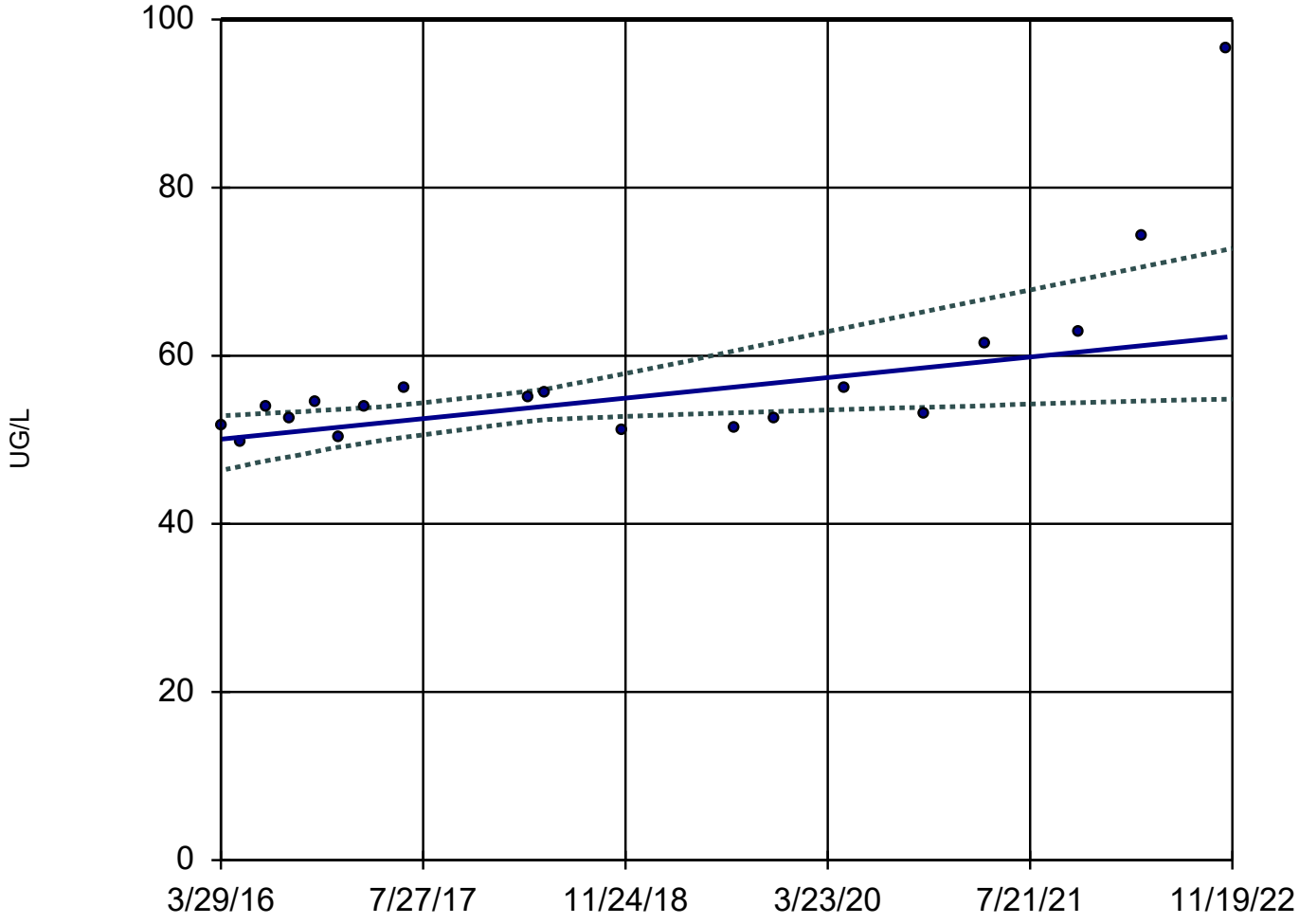
Confidence band is below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 19

Slope = 1.837 units per year.

Mann-Kendall statistic = 91
critical = 68

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (100).

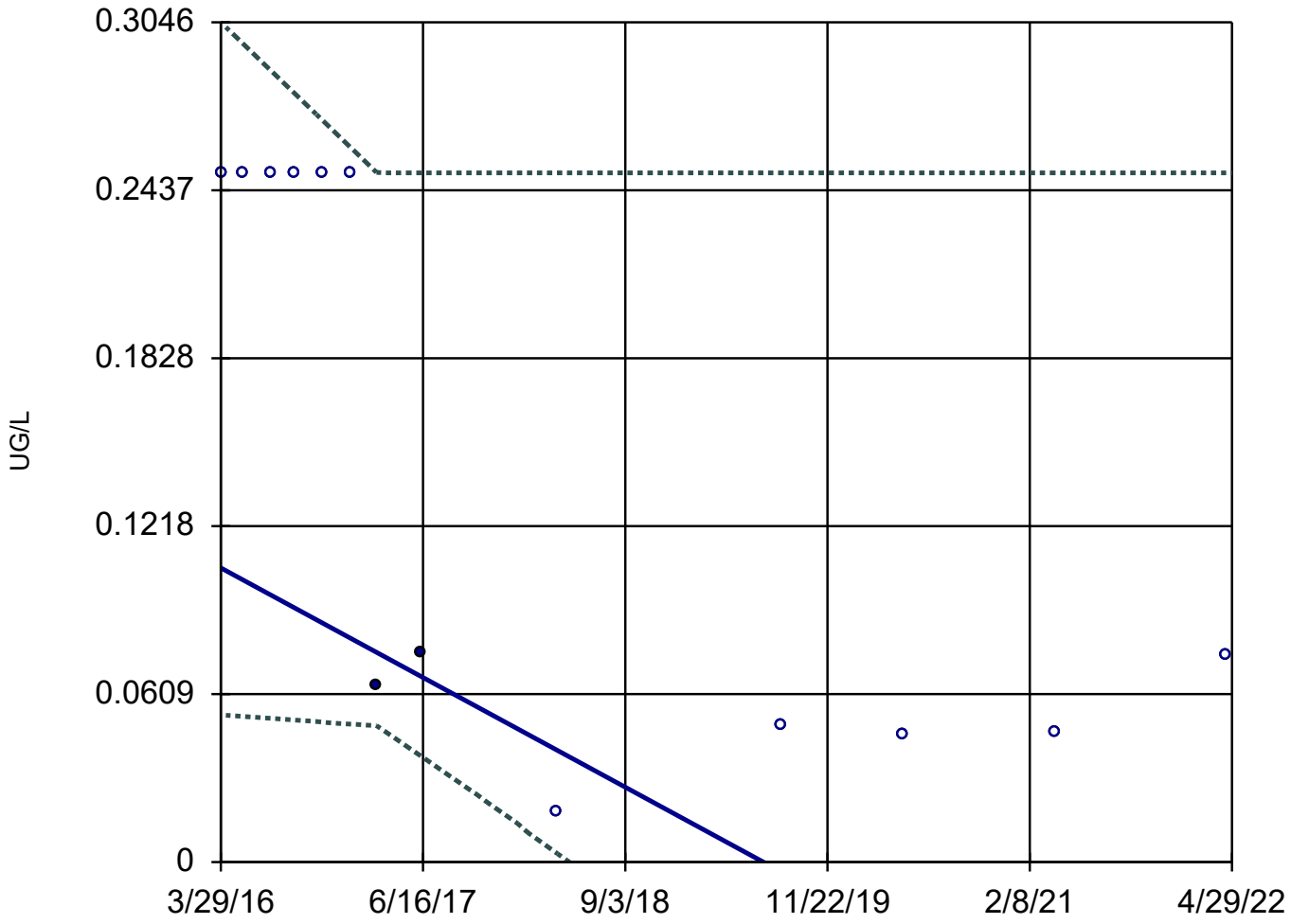
Constituent: MOLYBDENUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 13

Slope = -0.03265 units per year.

Mann-Kendall statistic = -43
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

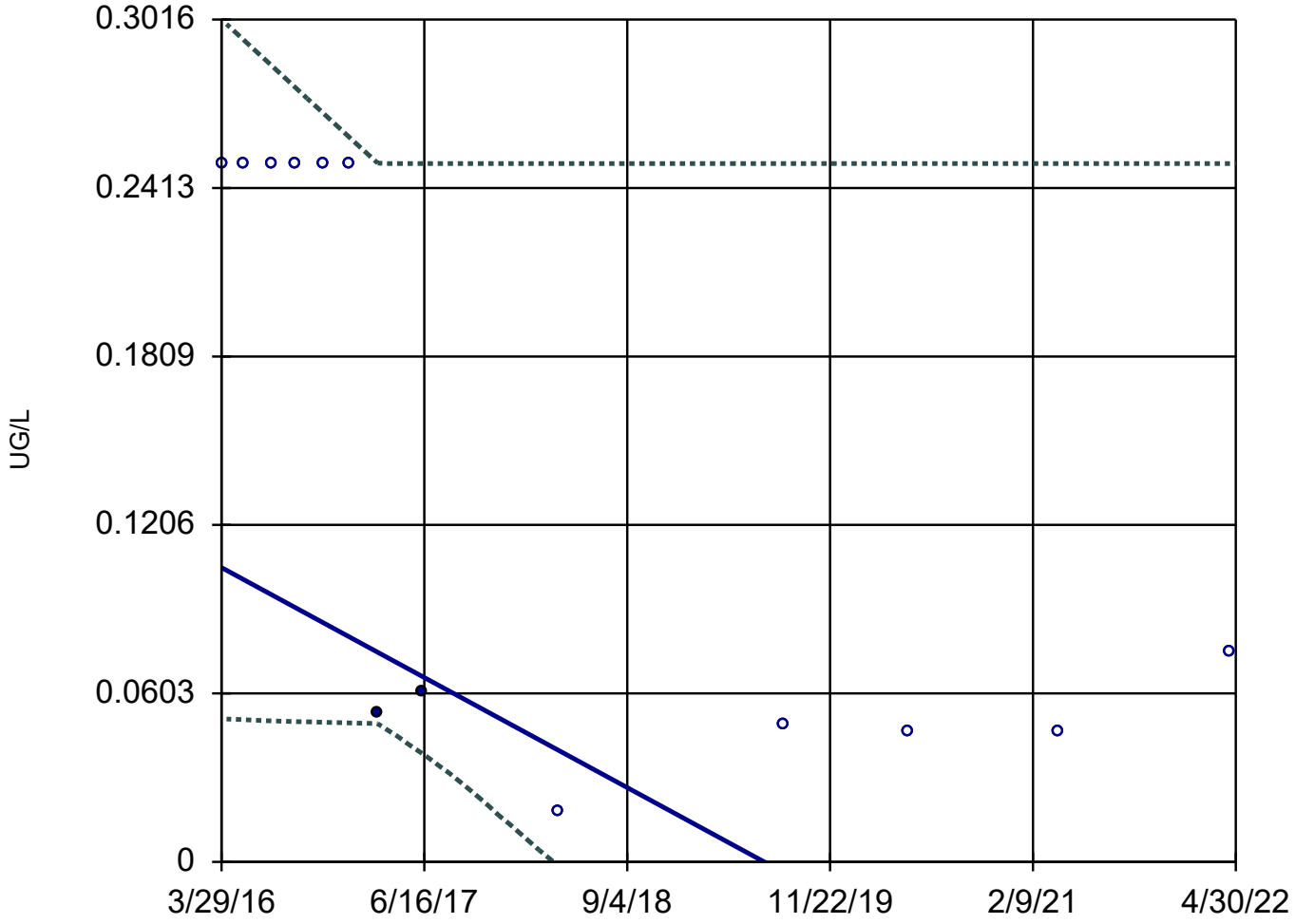
Constituent: THALLIUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 13

Slope = -0.03233 units per year.

Mann-Kendall statistic = -41
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

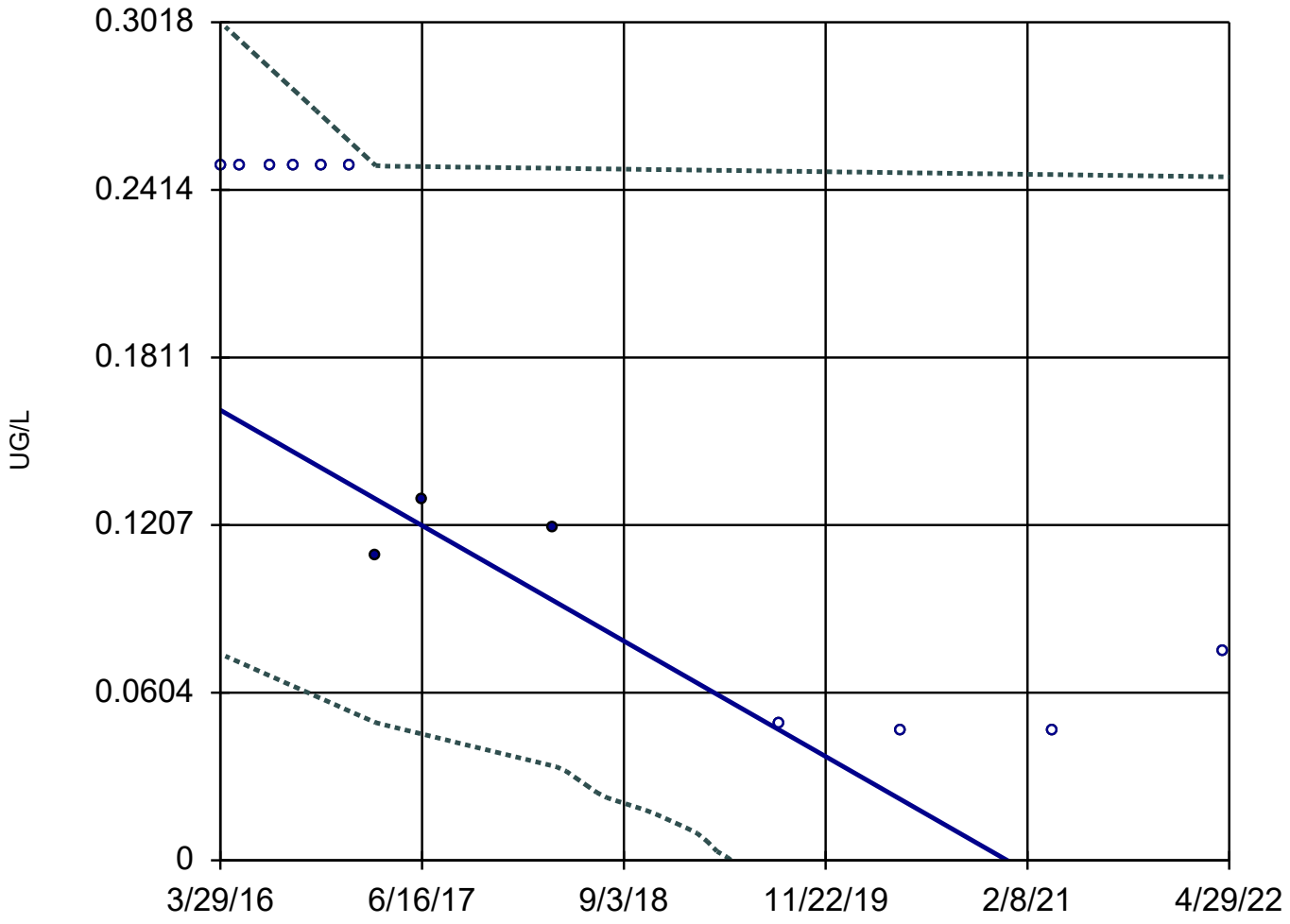
Constituent: THALLIUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 13

Slope = -0.03415 units per year.

Mann-Kendall statistic = -51
critical = -39

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

Constituent: THALLIUM, TOTAL Analysis Run 2/14/2023 2:42 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.00336	22	39	No	13	76.92	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.004016	30	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.003525	36	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.003525	26	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.000...	18	39	No	13	92.31	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003771	26	39	No	13	61.54	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	0	-3	-31	No	11	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	0	4	39	No	13	76.92	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0.009248	27	63	No	18	5.556	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0	17	68	No	19	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-3**	**0.2781**	**73**	**68**	**Yes**	**19**	**5.263**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.312**	**66**	**63**	**Yes**	**18**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-5	0.4268	53	58	No	17	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.337	-59	-63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	0.02473	12	68	No	19	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	-0.04259	-11	-63	No	18	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	-0.1624	-2	-68	No	19	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-42.72**	**-131**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-3	-8.648	-68	-68	No	19	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-4**	**-5.245**	**-93**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-5**	**-15.2**	**-87**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-4.136**	**-120**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-7	-1.569	-58	-68	No	19	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-8**	**-20.86**	**-95**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0	15	39	No	13	84.62	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0	0	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0	-8	-35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0	1	39	No	13	76.92	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0	0	39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0	0	35	No	12	91.67	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	2	35	No	12	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0	0	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0.000...	19	39	No	13	76.92	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0.000605	20	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0.000...	22	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0.000...	22	35	No	12	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0	11	39	No	13	84.62	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**M-MW-6**	**0.01583**	**40**	**39**	**Yes**	**13**	**46.15**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	**M-MW-7**	**0.04726**	**42**	**39**	**Yes**	**13**	**15.38**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	M-MW-8	0.002082	12	39	No	13	61.54	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.07452	-31	-53	No	16	31.25	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.008686	4	48	No	15	20	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.01388	-13	-53	No	16	50	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	0	-1	-53	No	16	37.5	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	0	3	53	No	16	43.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	0	-2	-48	No	15	53.33	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	-0.00...	-5	-53	No	16	43.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.01671	17	53	No	16	62.5	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.01985**	**58**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.02476**	**94**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.02833	37	58	No	17	64.71	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.01851**	**67**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02147**	**88**	**58**	**Yes**	**17**	**94.12**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	0.1852	13	44	No	14	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.02277**	**71**	**58**	**Yes**	**17**	**88.24**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.01985**	**71**	**48**	**Yes**	**15**	**93.33**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.01022	29	68	No	19	0	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	0	-4	-78	No	21	28.57	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.001988	12	73	No	20	30	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	-0.00...	-27	-73	No	20	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	-0.00...	-22	-78	No	21	14.29	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	-0.01049	-33	-73	No	20	20	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.01837	-28	-89	No	23	13.04	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	-0.00...	-10	-73	No	20	15	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0.1631	30	31	No	11	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	0.1272	5	39	No	13	69.23	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**M-MW-3**	**0.1476**	**41**	**39**	**Yes**	**13**	**92.31**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	M-MW-4	0.14	21	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0.1267	10	39	No	13	69.23	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-6	0.1468	39	39	No	13	92.31	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-7	0.1472	36	39	No	13	84.62	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0.14	18	39	No	13	76.92	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0	18	48	No	15	100	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.1592	28	68	No	19	47.37	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0	-3	-68	No	19	52.63	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	-0.1008	-14	-63	No	18	5.556	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**M-MW-5**	**-0.9464**	**-72**	**-68**	**Yes**	**19**	**10.53**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	M-MW-6	-4.011	-47	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-0.8521	-9	-63	No	18	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.8028	49	63	No	18	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-1	0.002307	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-2	0.002406	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	M-MW-3	0.002301	37	39	No	13	92.31	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**M-MW-4**	**0.003066**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-5**	**0.003057**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-6**	**0.003047**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-7**	**0.003047**	**51**	**39**	**Yes**	**13**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	M-MW-8	0.002307	35	39	No	13	92.31	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-1**	**0.1312**	**76**	**68**	**Yes**	**19**	**89.47**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.0825	32	68	No	19	78.95	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**1.064**	**93**	**68**	**Yes**	**19**	**21.05**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-4**	**1.837**	**91**	**68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	0.8089	25	68	No	19	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-1.49	-30	-68	No	19	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	9.595	18	68	No	19	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-1.504	-16	-68	No	19	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.01781	-38	-53	No	16	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	-0.00...	-17	-68	No	19	78.95	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.03633	-33	-68	No	19	52.63	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.01867	29	68	No	19	84.21	n/a	n/a	0.02	NP

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 2/14/2023, 2:43 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	-0.01341	-13	-68	No	19	47.37	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.008926	14	68	No	19	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	-0.00...	-4	-58	No	17	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	0.005781	7	63	No	18	83.33	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	1	58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	5	58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	5	58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	1	58	No	17	88.24	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	1	58	No	17	94.12	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	-1	-58	No	17	94.12	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	0.1947	11	58	No	17	11.76	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	8	53	No	16	87.5	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-1**	**-0.03265**	**-43**	**-39**	**Yes**	**13**	**84.62**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.03079	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-3**	**-0.03233**	**-41**	**-39**	**Yes**	**13**	**84.62**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.03168	-30	-39	No	13	92.31	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-7**	**-0.03415**	**-51**	**-39**	**Yes**	**13**	**76.92**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.03081	-28	-39	No	13	100	n/a	n/a	0.02	NP

Appendix C

April 2023 Assessment Monitoring Statistical Evaluation

Memorandum

August 10, 2023

To:	Bill Kutosky – Ameren Missouri	**Project Number:**	23010
CC:	Ameren Missouri - Susan Knowles, Craig Giesmann, Charlie Henderson		
From:	Rocksmith Geoengineering - Mark Haddock, P.E., Jeff Ingram, R.G., Grant Morey	**Email:**	Jeff.Ingram@Rocksmithgeo.com
RE:	**Assessment Monitoring Statistical Evaluation, Multi-Unit Surface Impoundment Network Meramec Energy Center, St. Louis County, Missouri**		

This Technical Memorandum provides the results of the Assessment Monitoring Statistical Evaluation for the April 2023 sampling event at the Multi-unit Surface Impoundment Network of the Meramec Energy Center located in St. Louis County, Missouri. Included in the memorandum is a brief summary of constituents that are present at a Statistically Significant Level (SSL), a list of site-specific Groundwater Protection Standards (**Table 1**), and the Sanitas Technologies™ (Sanitas) statistical software output for each of the Appendix IV parameters (**Appendix A and Appendix B**).

The Appendix IV constituents were evaluated for SSLs using the methods and procedures outlined in the Statistical Analysis Plan (SAP). In addition to outliers noted in previous statistical evaluations, the following outliers were removed prior to the calculation of confidence limits:

- Arsenic
    - MW-1 at 0.38 J micrograms per liter (µg/L) on 1/6/2017: Result is statistically lower than other results at the same well. The low result is not consistent with previous/subsequent arsenic results at the well and is an outlier.
- Barium
    - MW-6 at 94.4 µg/L on 5/13/2016: Result is statistically higher than other results at the same well. The high result is not consistent with previous/subsequent barium results at the well and is an outlier.
- Cadmium
    - MW-1 at 0.22 J µg/L on 4/4/2018: Result is statistically higher than other results at the same well. The high result is not consistent with previous/subsequent cadmium results at the well and is an outlier.

- Lead
    - MW-1 at Non-Detect with higher MDL (<8.6 µg/L) on 4/18/2022: Result is statistically higher than other results at the same well. The high result is not consistent with previous/subsequent lead results at the well and is an outlier, due to the higher reported Method Detection Limit (MDL) compared with other results.
- Lithium
    - MW-8 at 43 J µg/L on 4/5/2021: Result is statistically higher than other results at the same well. The high result is not consistent with previous/subsequent lithium results at the well and is an outlier.

An analysis of the outliers removed from the dataset to-date was completed. No previously identified outliers were added back into the dataset prior to the calculation of confidence limits in **Appendix A and Appendix B**.

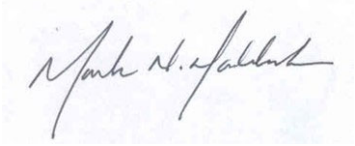
Based on the results from the confidence interval and trend analysis, no new SSLs were noted. SSLs at MEC as of April 2023 continue to be:

- Arsenic at MW-4 and MW-5
- Lithium at MW-6 and MW-7
- Molybdenum at MW-6, MW-7, and MW-8

Rocksmith appreciates this opportunity to provide hydrogeological and engineering support services to Ameren. If you have any questions or comments regarding the information provided, please contact the undersigned.

Sincerely,

Rocksmith Geoengineering, LLC



Jeff Ingram, R.G.
Senior Geologist, Partner

Mark Haddock, P.E., R.G.
Principal Engineer, Senior Partner

Attachments

Tables

Table 1 – MEC Groundwater Protection Standards

Appendices

Appendix A – Sanitas Confidence Interval Statistical Output

Appendix B – Sanitas Trending Confidence Bands Statistical Output

Tables

Table 1 - MEC Groundwater Protection Standards
MEC Surface Impoundments
Meramec Energy Center, St. Louis County, MO

Parameter	Units	MCL or Health Based GWPS	Site GWPS	Value to Return to Detection Monitoring[6]
Antimony	µg/L	6	6	DQR
Arsenic	µg/L	10	10	9.6
Barium	µg/L	2000	2000	630
Beryllium	µg/L	4	4	DQR
Cadmium	µg/L	5	5	DQR
Chromium	µg/L	100	100	2.261
Cobalt	µg/L	6	6	DQR
Fluoride	mg/L	4	4	0.48
Lead	µg/L	15	15	DQR
Lithium	µg/L	40	40	18.23
Mercury	µg/L	2	2	DQR
Molybdenum	µg/L	100	100	DQR
Radium 226 + 228	pCi/L	5	5	2.676
Selenium	µg/L	50	50	7.6
Thallium	µg/L	2	2	DQR

Notes:
1. µg/L - micrograms per liter
2. mg/L - milligrams per liter
3. pCi/L - picocuries per liter
4. MCL - Maximum Contaminant Level. MCLs from United States Environmental Protection Agency (USEPA) 2012 Edition of the Drinking Water Standards and Health Advisories. Updated January 9,2023 at https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations.
5. Health Based Groundwater Protection Standards (GWPS) were adoped for Appendix IV parameters without an MCL (i.e. cobalt, lithium, molybdenum, and lead). Information available at https://www.epa.gov/coalash/coal-ash-rule.
6. Values were calculated using statistical methods outlined for Detection Monitoring and are used for returning to Detection Monitoring based on available data to date.
7. DQR - Double Quantification Rule. If all baseline data are less than the Practical Quantitation Limit (PQL), then the DQR will be used. More information on the DQR is provided in the Statistical Analysis
8. Site GWPS is either the MCL/Health Based GWPS or based on background levels (calculated as described in the Statistical Analysis Plan for Assessment Monitoring), whichever is higher.
9. GWPS and background values calculated using results up through April 2023 from monitoring wells BMW-1 and BMW-2.

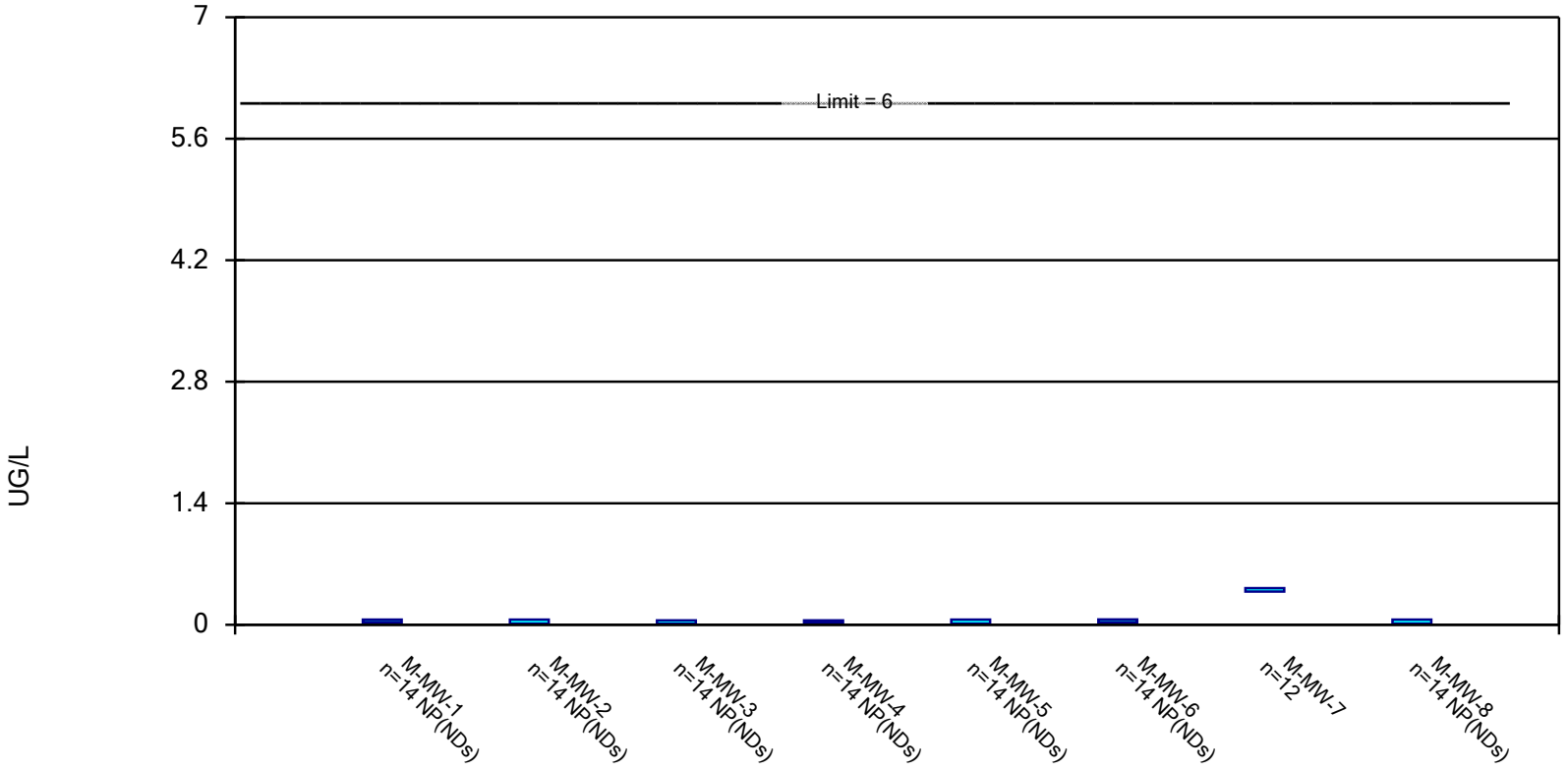
ROCKSMITH GEOENGINEERING

Prepared by: GTM
Checked by: JSI
Reviewed by: MNH

Appendix A
Sanitas Confidence Interval Statistical Output

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

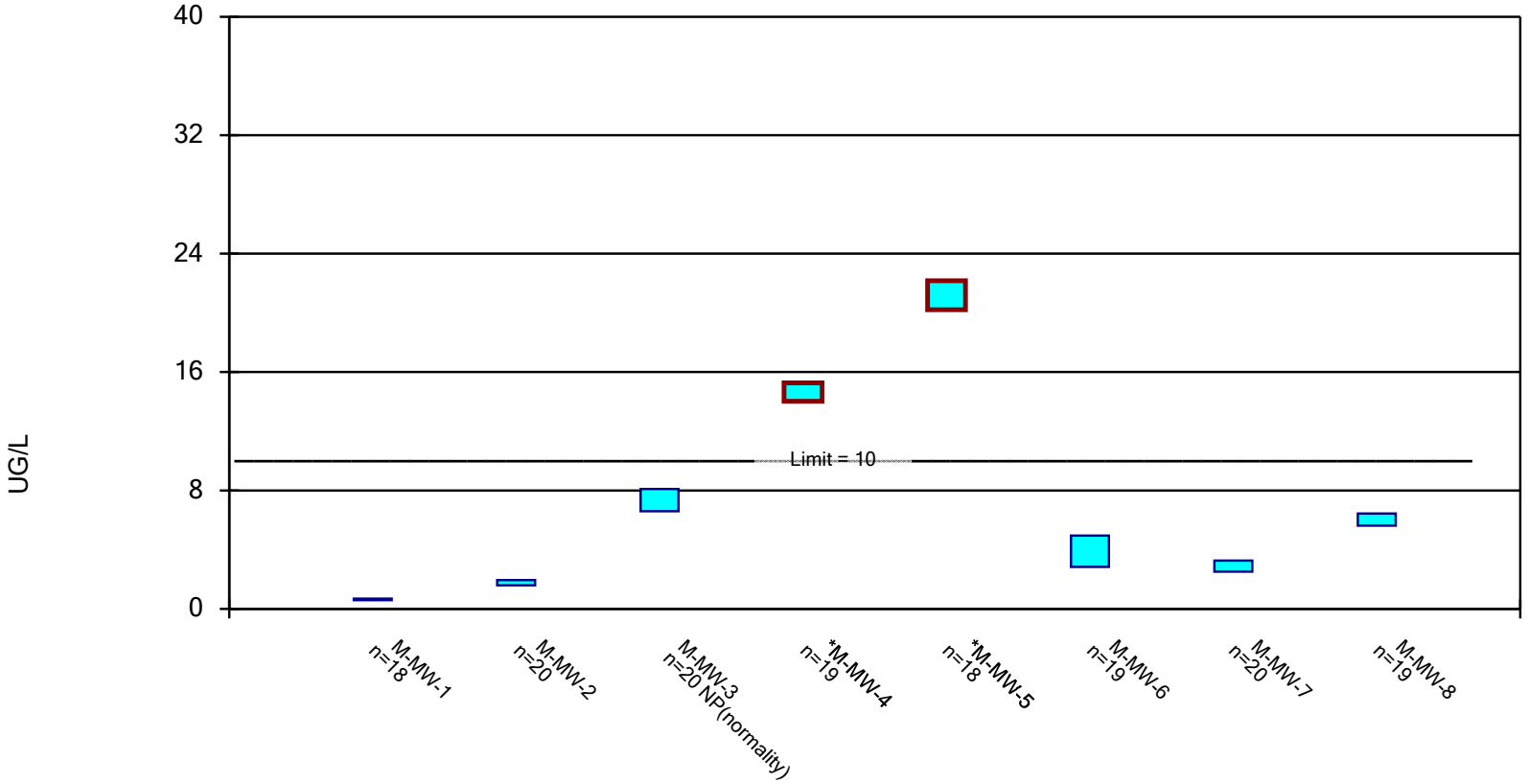


Constituent: ANTIMONY, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

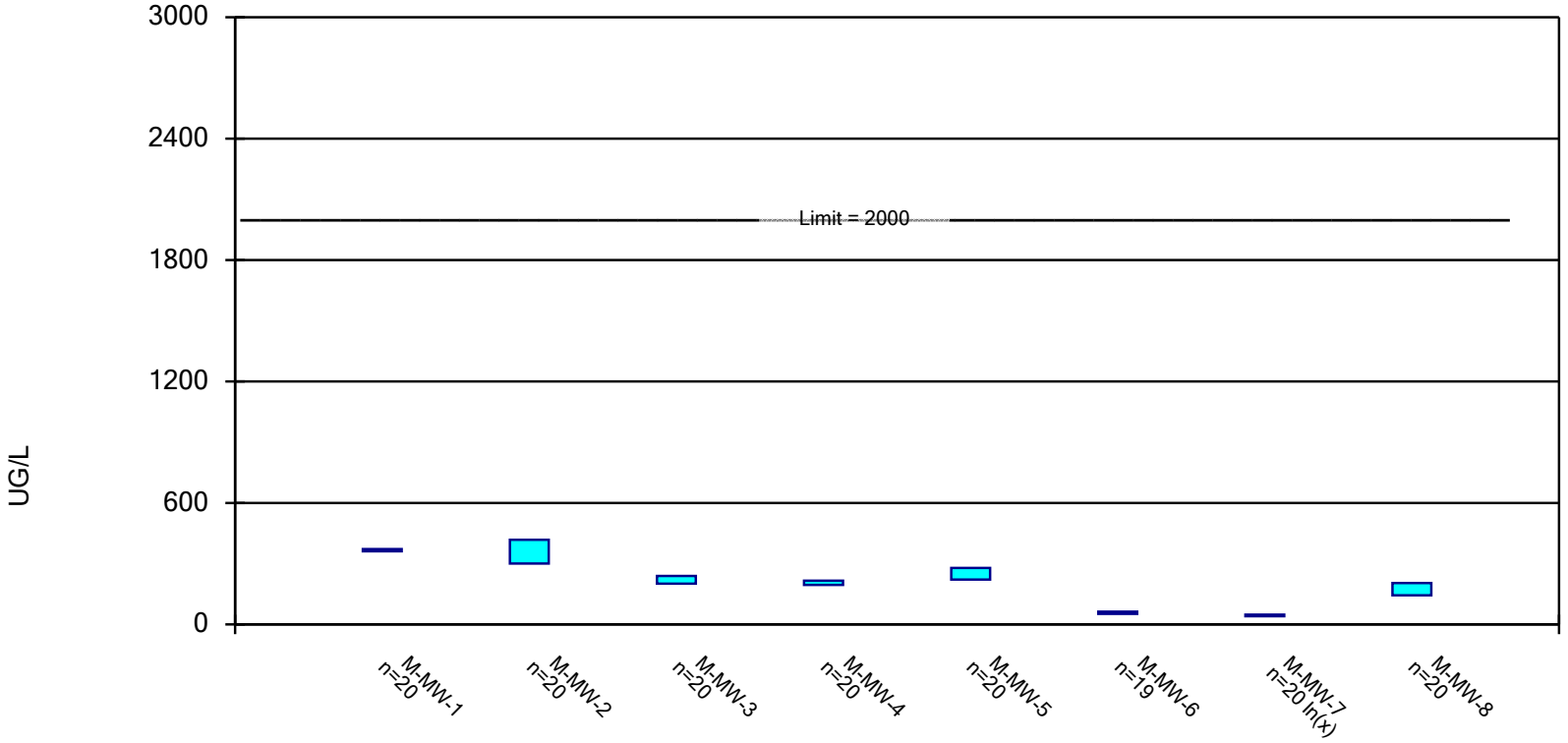


Constituent: ARSENIC, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

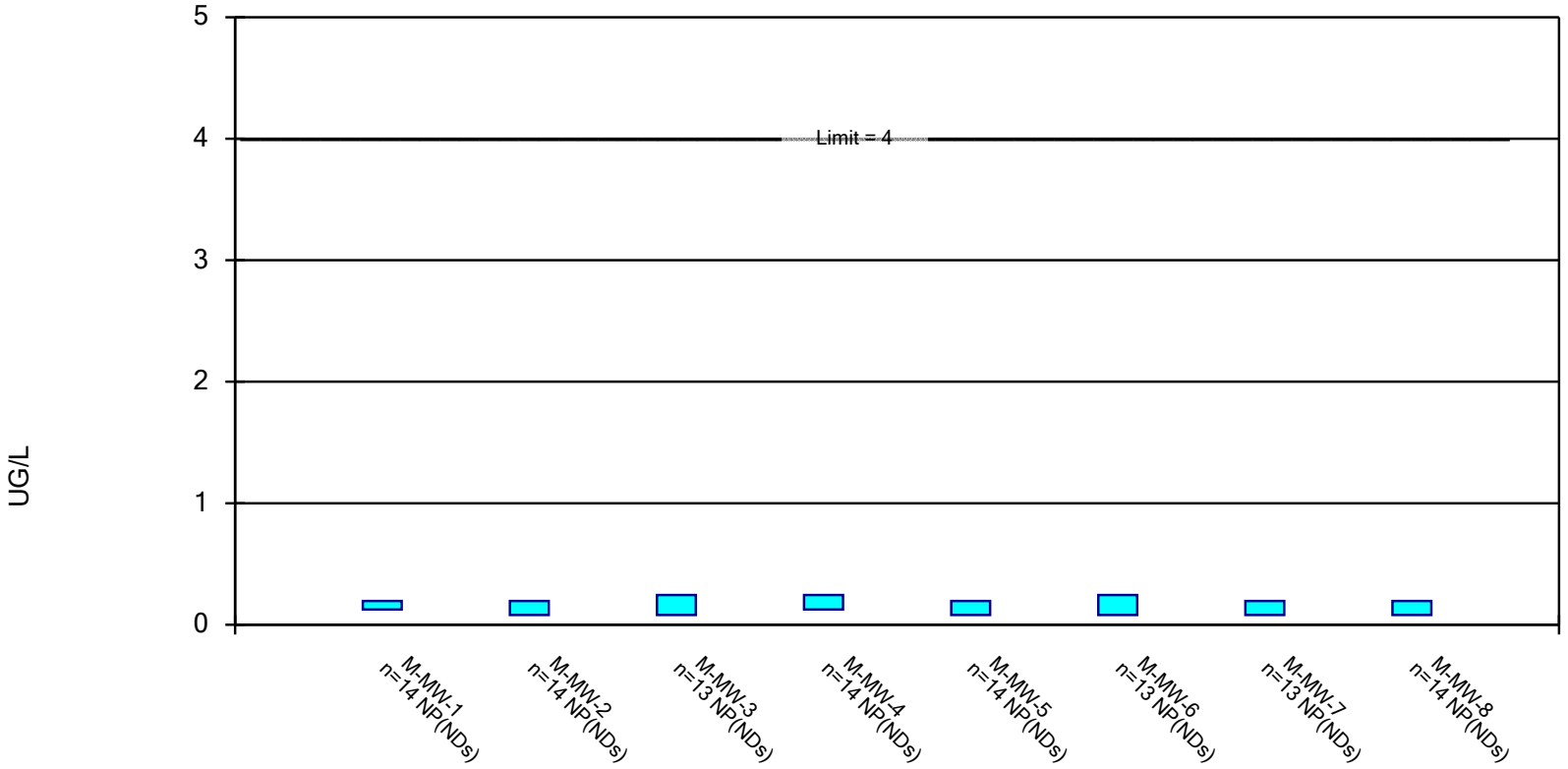


Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

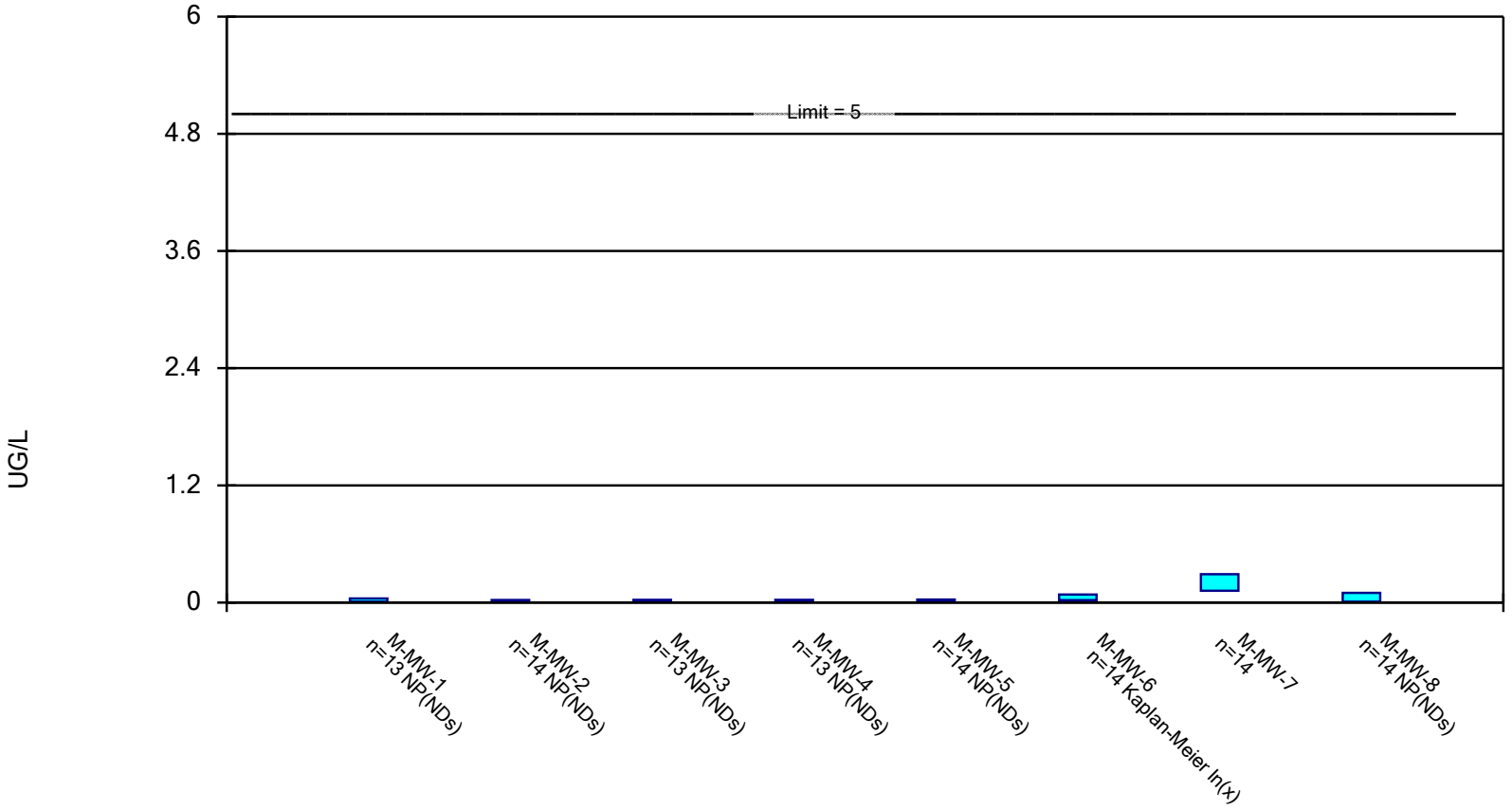


Constituent: BERYLLIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

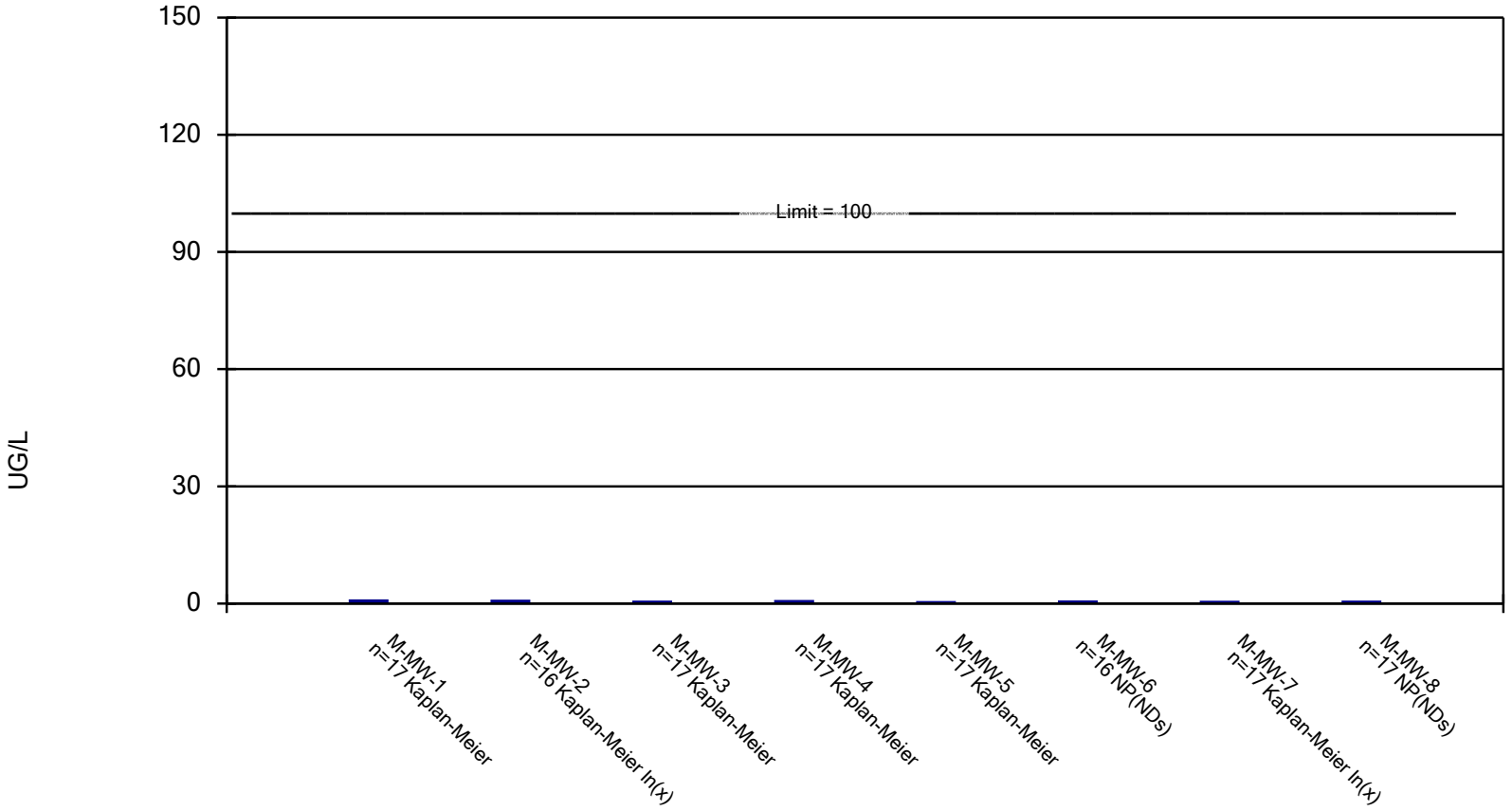


Constituent: CADMIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

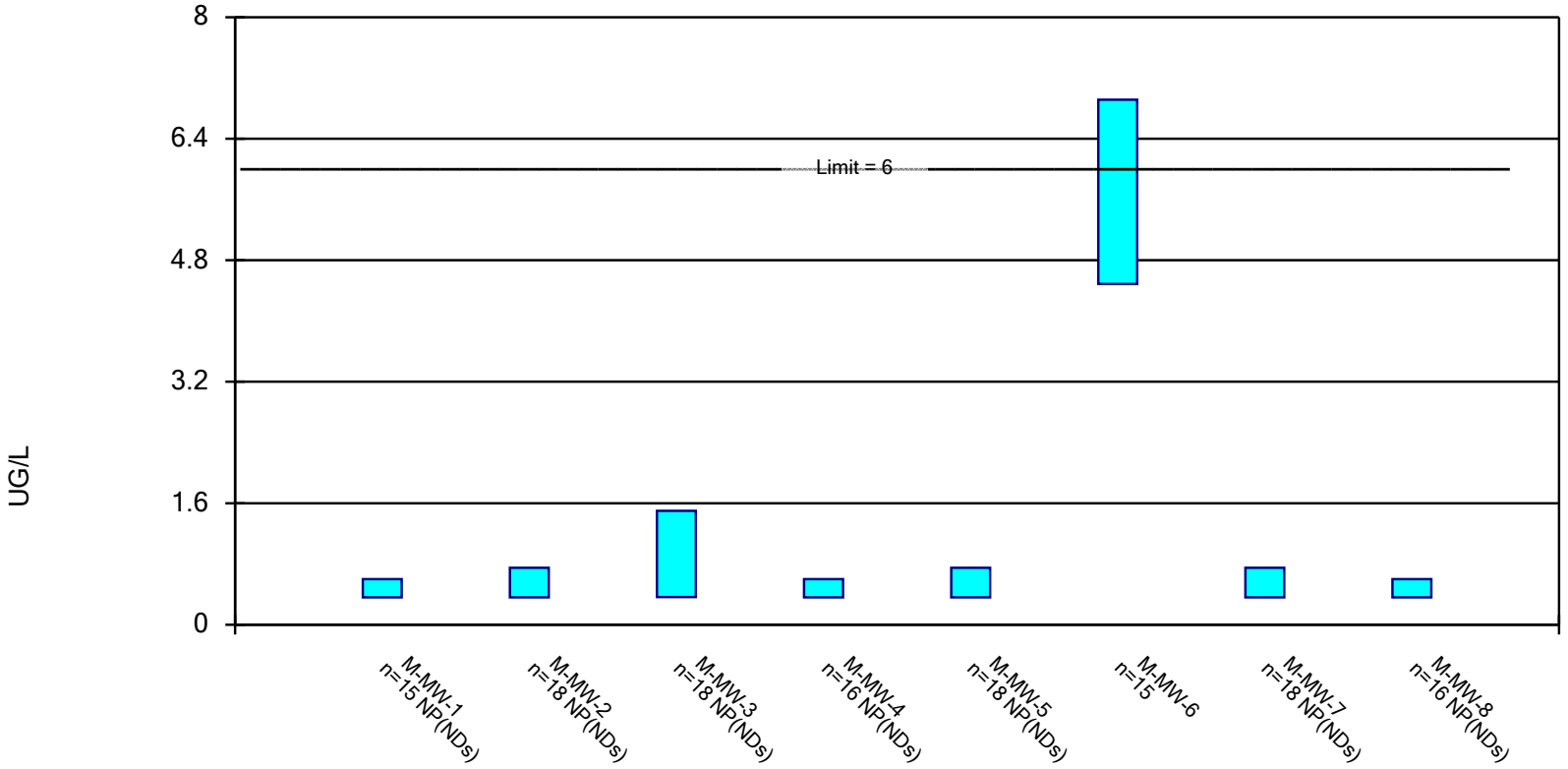


Constituent: CHROMIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

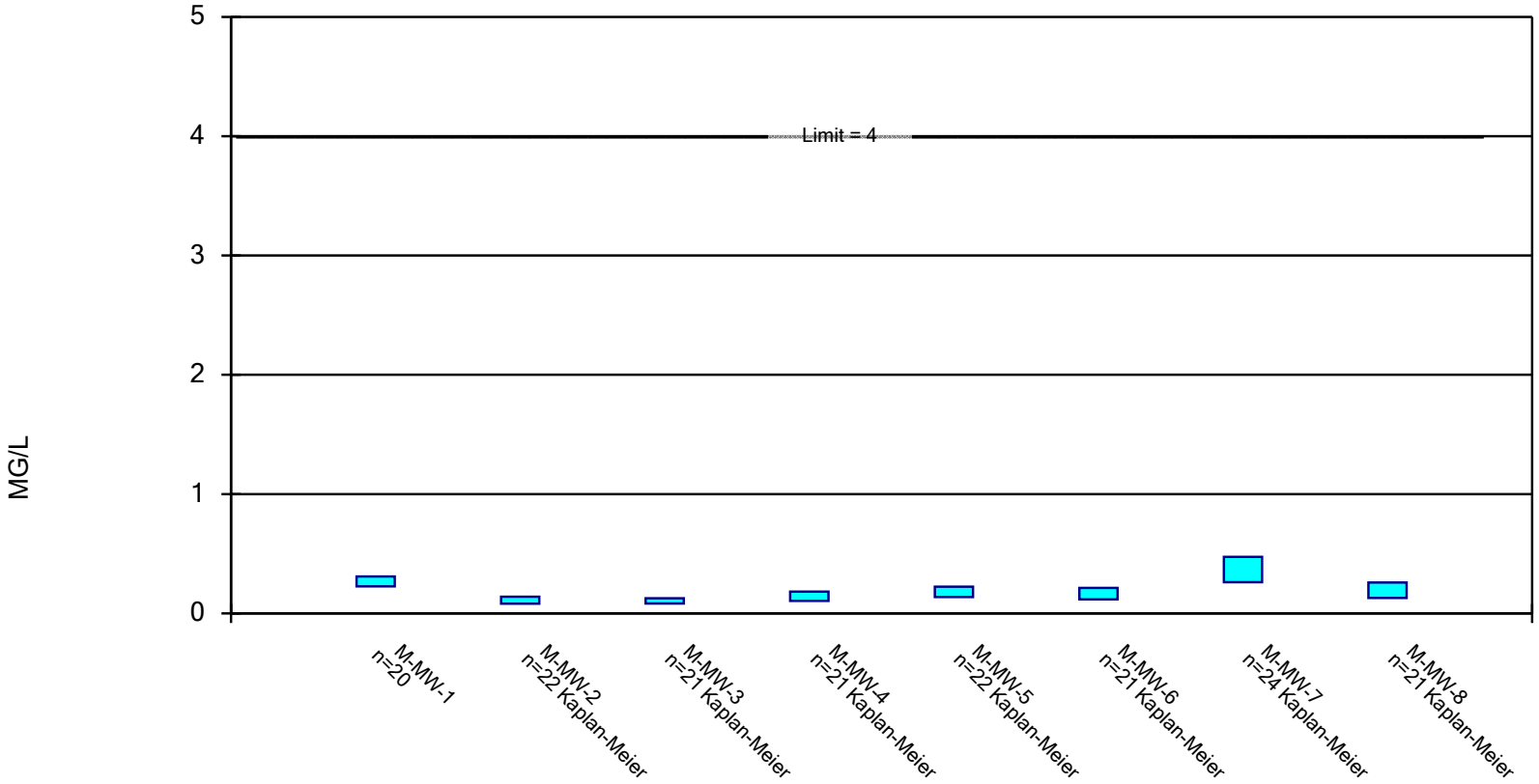


Constituent: COBALT, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

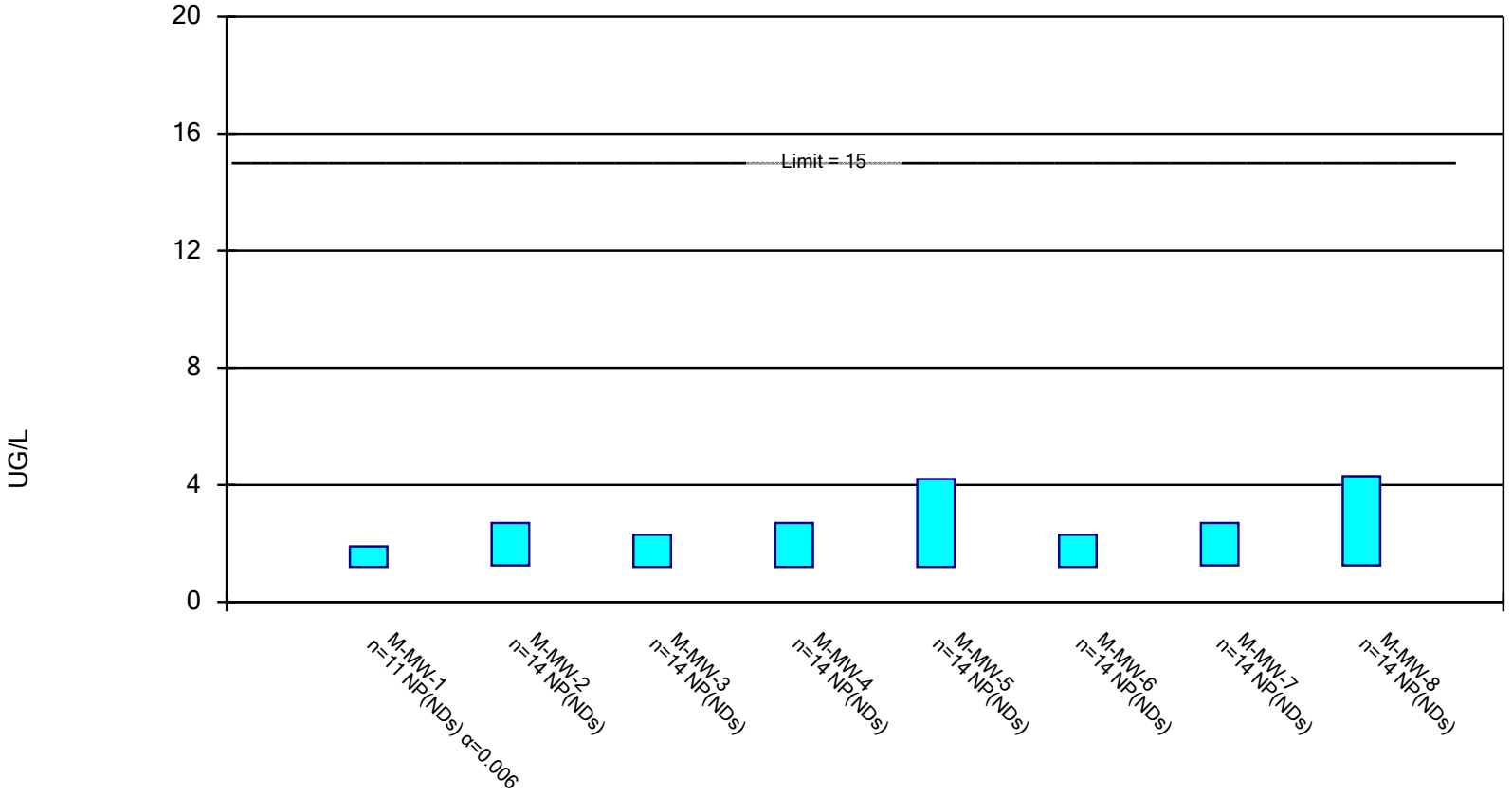


Constituent: FLUORIDE, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted.

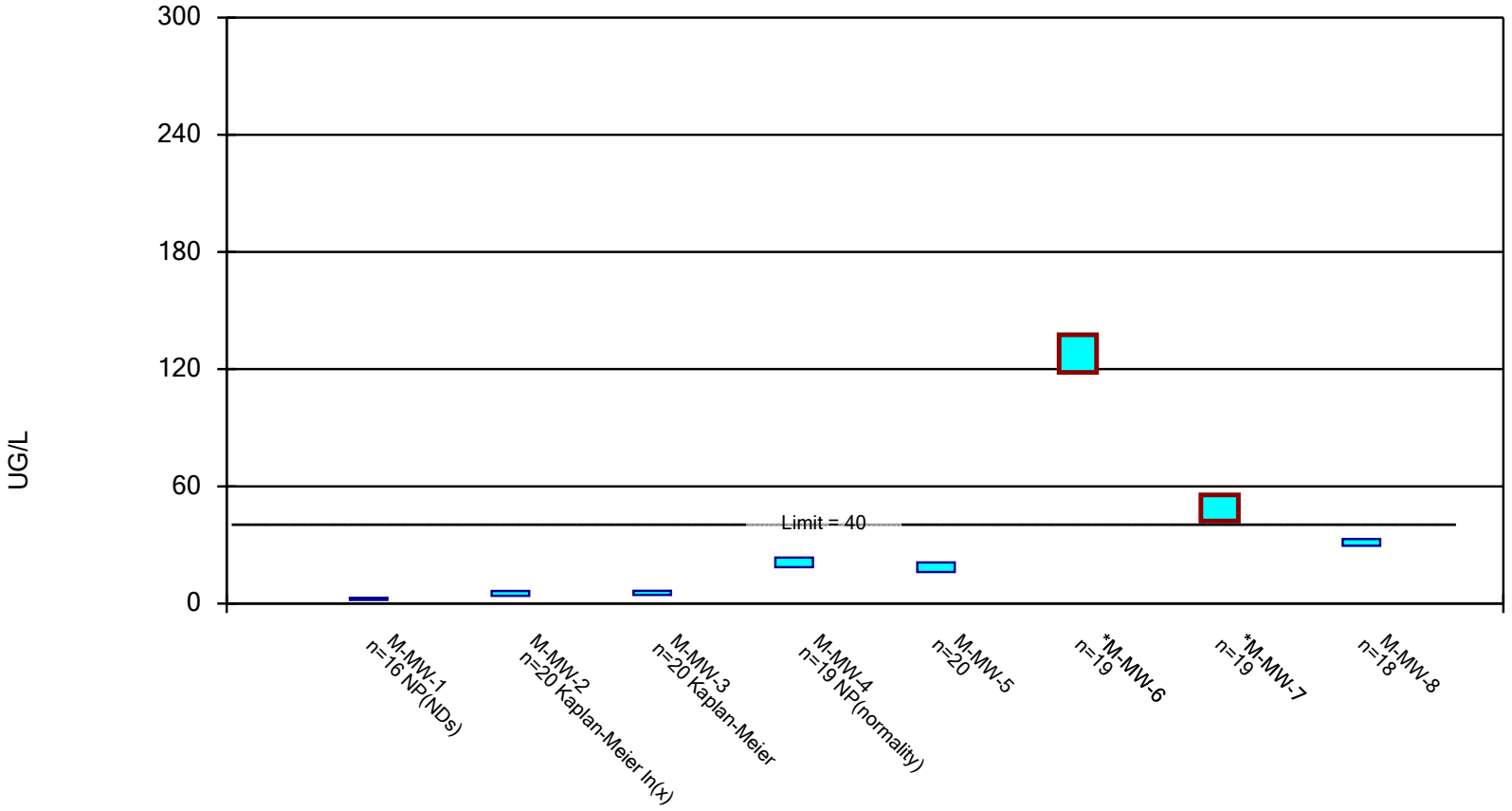


Constituent: LEAD, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

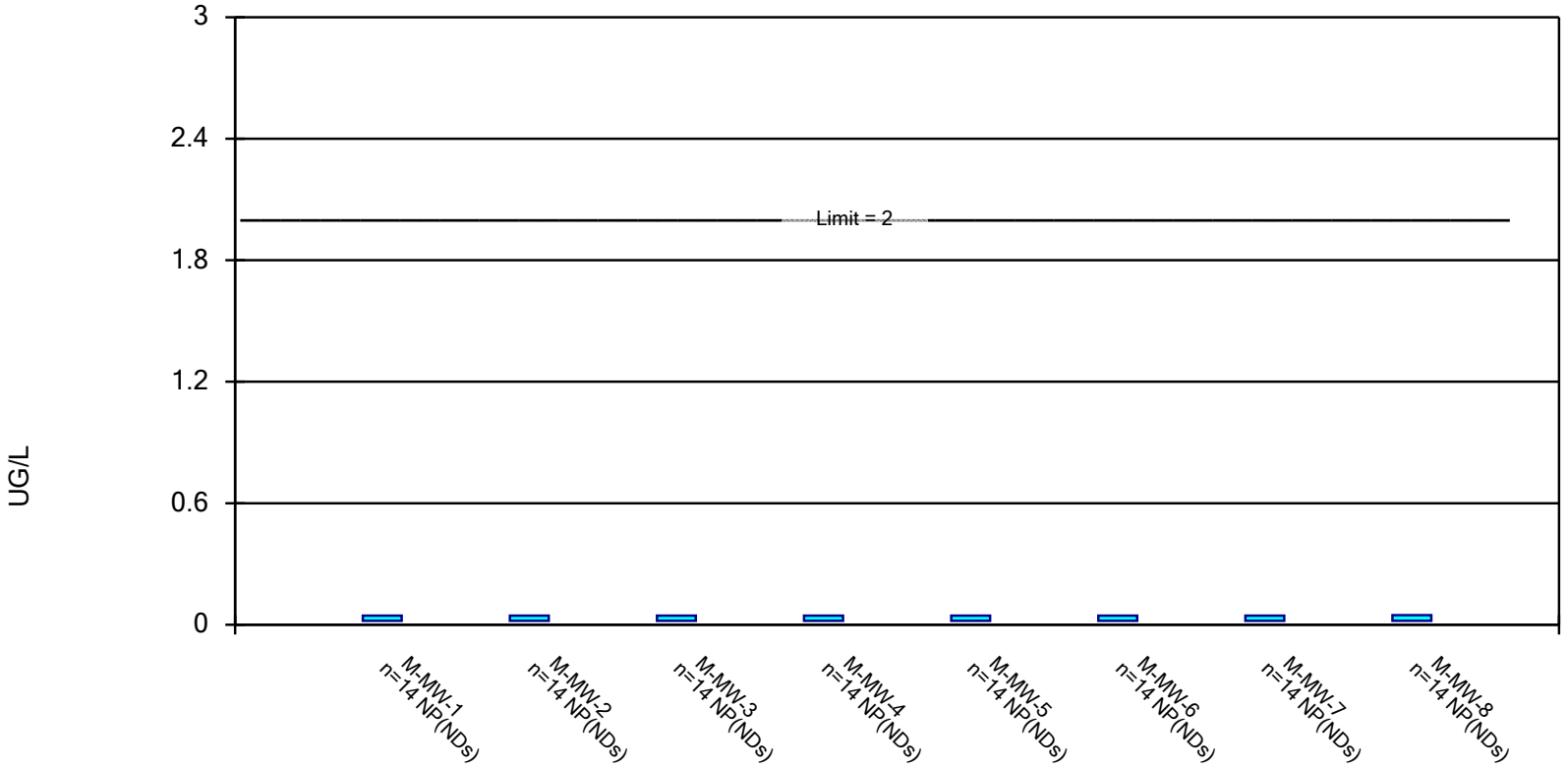


Constituent: LITHIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.

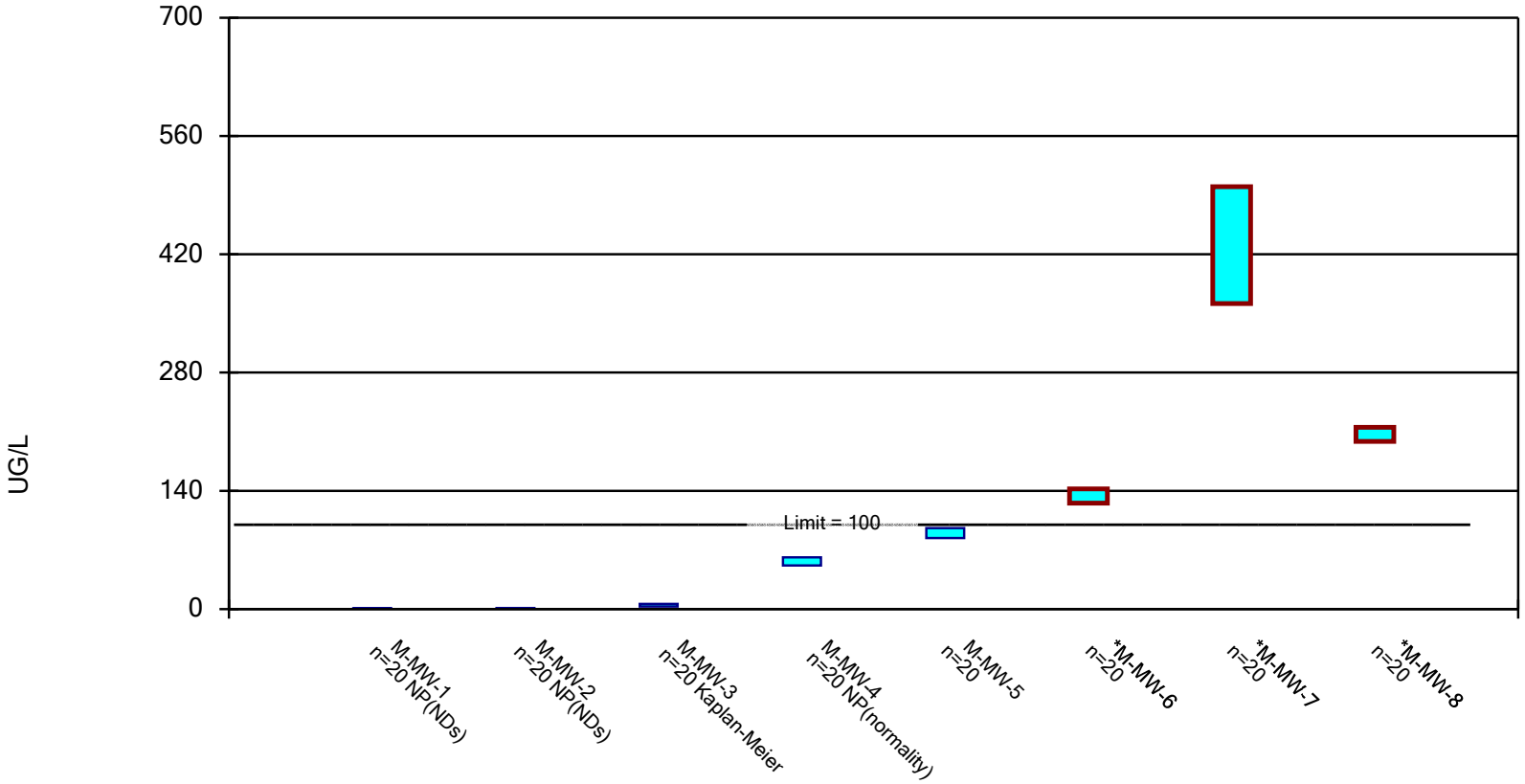


Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance limit is exceeded.* Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

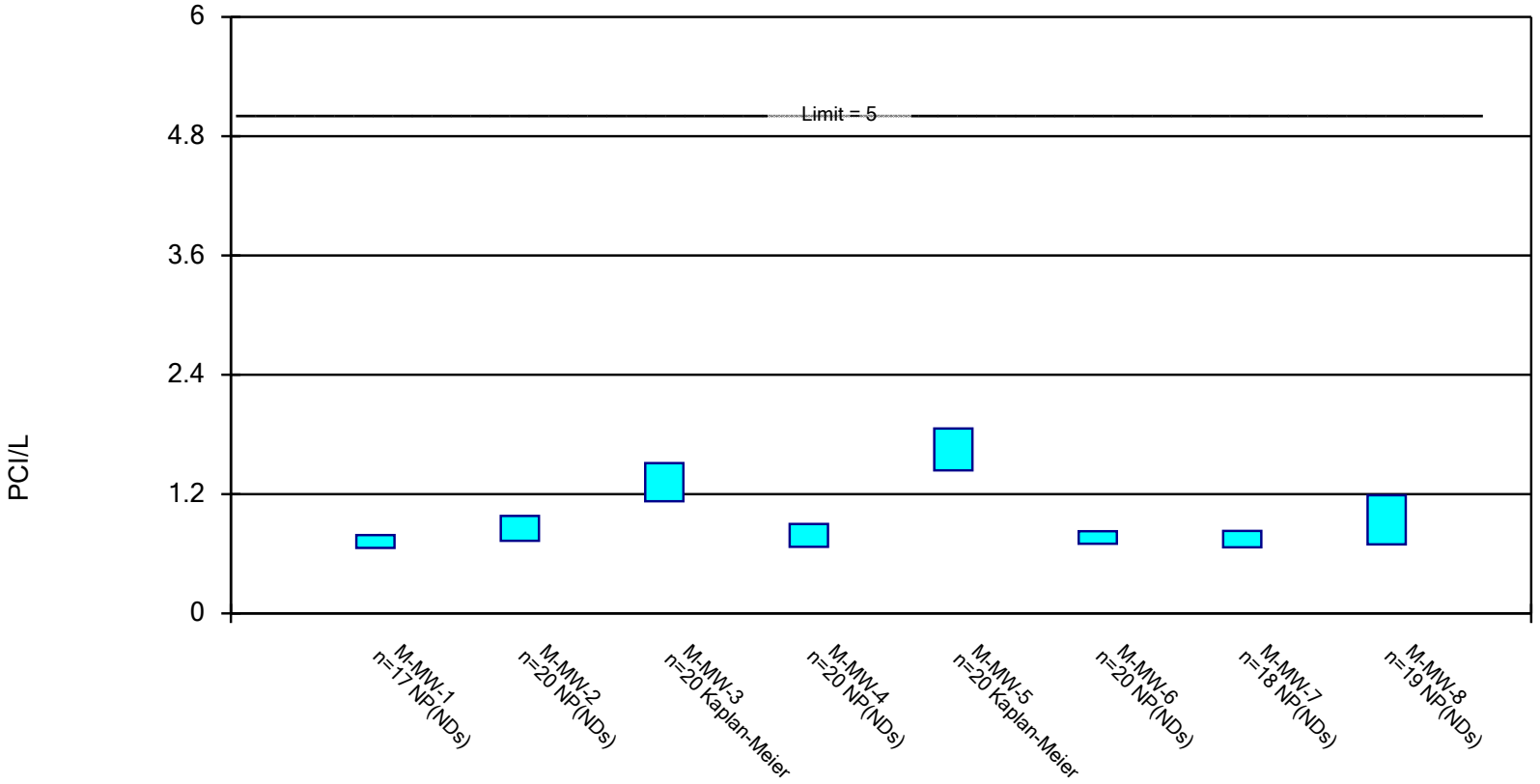


Constituent: MOLYBDENUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

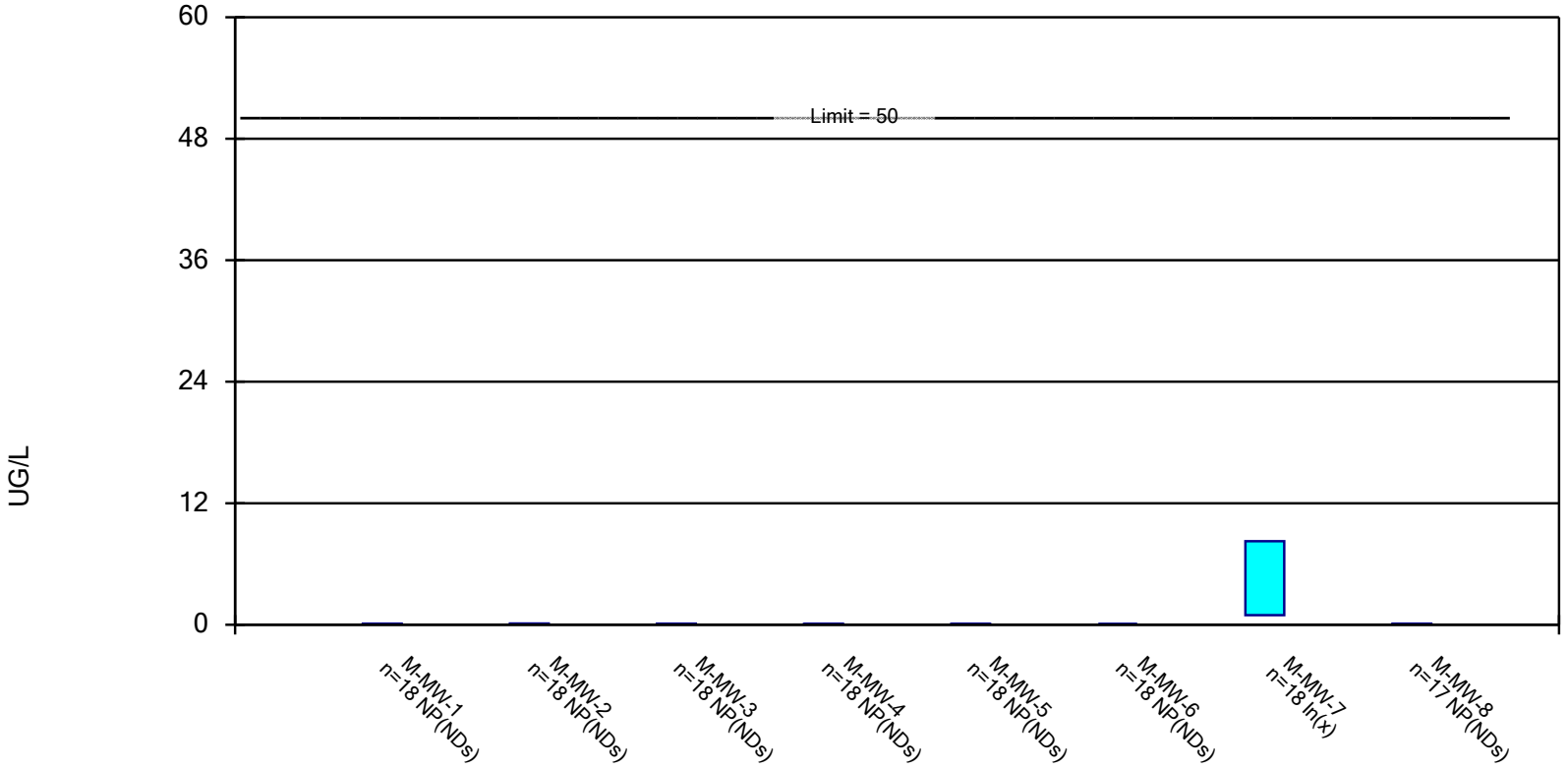


Constituent: Radium [226 + 228] Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Parametric and Non-Parametric (NP) Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk, alpha based on n.

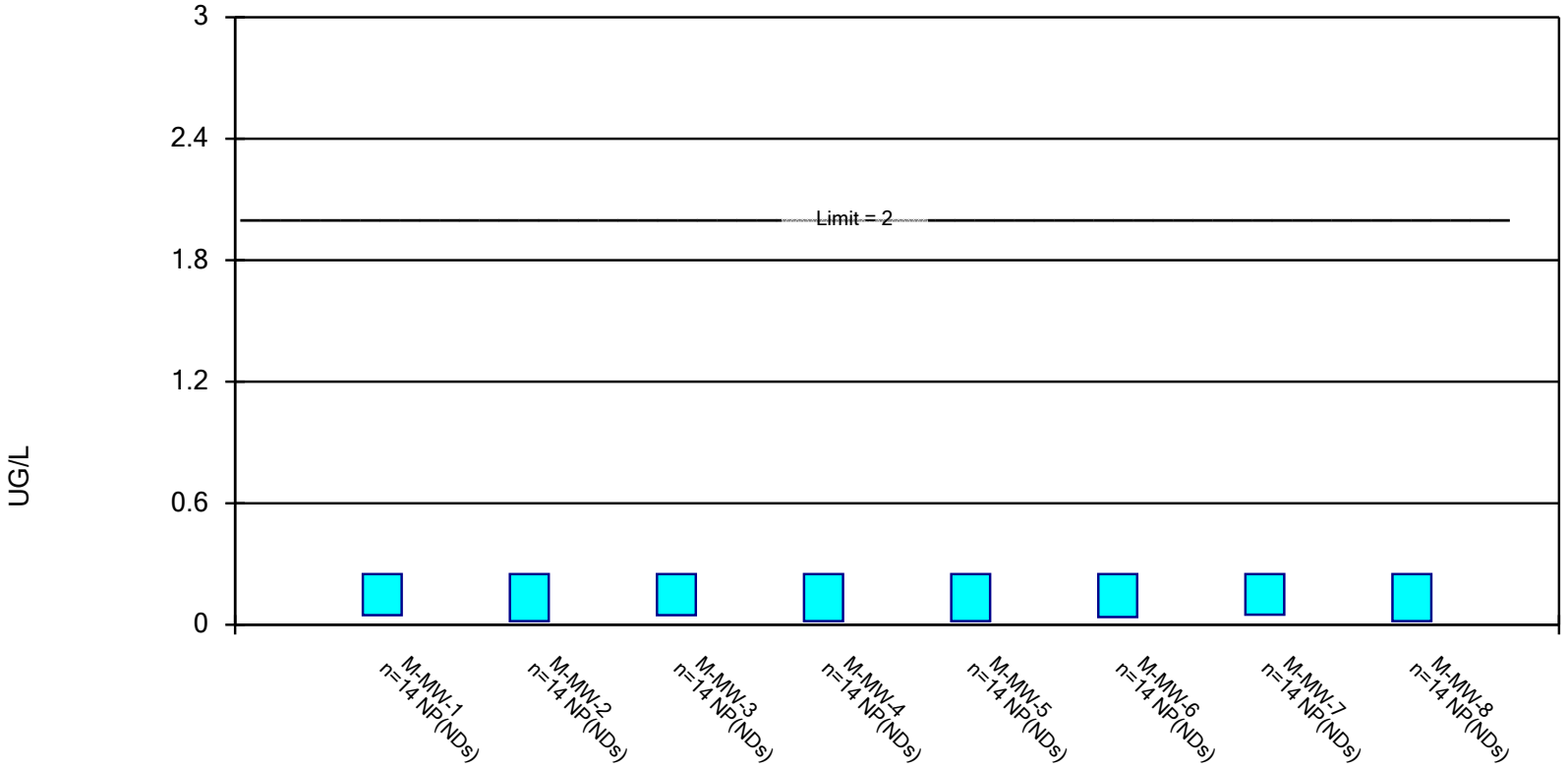


Constituent: SELENIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Non-Parametric Confidence Interval

Compliance Limit is not exceeded. Per-well alpha = 0.01.



Constituent: THALLIUM, TOTAL Analysis Run 7/18/2023 11:21 AM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 11:23 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.06	0.028	6	No	14	78.57	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.06	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-3	0.05	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.05	0.027	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.06	0.013	6	No	14	92.86	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.062	0.029	6	No	14	64.29	No	0.01	NP (NDs)
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.4223	0.3827	6	No	12	0	No	0.01	Param.
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.06	0.013	6	No	14	78.57	No	0.01	NP (NDs)
ARSENIC, TOTAL (UG/L)	M-MW-1	0.6911	0.5834	10	No	18	5.556	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-2	1.95	1.59	10	No	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-3	8.1	6.6	10	No	20	5	No	0.01	NP (normality)
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**15.27**	**14.02**	**10**	**Yes**	**19**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	**M-MW-5**	**22.17**	**20.21**	**10**	**Yes**	**18**	**0**	**No**	**0.01**	**Param.**
ARSENIC, TOTAL (UG/L)	M-MW-6	4.949	2.84	10	No	19	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-7	3.264	2.516	10	No	20	0	No	0.01	Param.
ARSENIC, TOTAL (UG/L)	M-MW-8	6.439	5.624	10	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-1	371.9	361	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-2	418.2	300.3	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-3	239.2	201.1	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-4	215.7	194.5	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-5	278.7	221.3	2000	No	20	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-6	62.86	52.21	2000	No	19	0	No	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-7	47.74	40.57	2000	No	20	0	ln(x)	0.01	Param.
BARIUM, TOTAL (UG/L)	M-MW-8	204.5	143.2	2000	No	20	0	No	0.01	Param.
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0.195	0.125	4	No	14	85.71	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0.195	0.08	4	No	14	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0.245	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0.245	0.125	4	No	14	71.43	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0.195	0.08	4	No	14	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0.245	0.08	4	No	13	92.31	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0.195	0.08	4	No	13	100	No	0.01	NP (NDs)
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0.195	0.08	4	No	14	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-1	0.042	0.009	5	No	13	84.62	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-2	0.0265	0.009	5	No	14	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-3	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-4	0.028	0.009	5	No	13	100	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-5	0.031	0.009	5	No	14	85.71	No	0.01	NP (NDs)
CADMIUM, TOTAL (UG/L)	M-MW-6	0.08126	0.02469	5	No	14	42.86	ln(x)	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-7	0.2905	0.1209	5	No	14	14.29	No	0.01	Param.
CADMIUM, TOTAL (UG/L)	M-MW-8	0.099	0.009	5	No	14	57.14	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-1	0.7838	0.2869	100	No	17	29.41	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.6835	0.3041	100	No	16	18.75	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-3	0.4608	0.1319	100	No	17	47.06	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.5945	0.2243	100	No	17	35.29	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.3478	0.1421	100	No	17	41.18	No	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.5	0.039	100	No	16	56.25	No	0.01	NP (NDs)
CHROMIUM, TOTAL (UG/L)	M-MW-7	0.4346	0.1115	100	No	17	41.18	ln(x)	0.01	Param.
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.45	0.039	100	No	17	58.82	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-1	0.6	0.36	6	No	15	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-2	0.75	0.36	6	No	18	94.44	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 11:23 AM

Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	1.5	0.365	6	No	18	66.67	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-4	0.6	0.36	6	No	16	100	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-5	0.75	0.36	6	No	18	94.44	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-6	6.913	4.487	6	No	15	0	No	0.01	Param.
COBALT, TOTAL (UG/L)	M-MW-7	0.75	0.36	6	No	18	88.89	No	0.01	NP (NDs)
COBALT, TOTAL (UG/L)	M-MW-8	0.6	0.36	6	No	16	93.75	No	0.01	NP (NDs)
FLUORIDE, TOTAL (MG/L)	M-MW-1	0.3096	0.2264	4	No	20	5	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-2	0.1391	0.08159	4	No	22	31.82	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-3	0.1263	0.08214	4	No	21	33.33	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-4	0.1825	0.1047	4	No	21	23.81	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-5	0.2239	0.137	4	No	22	18.18	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-6	0.2132	0.1181	4	No	21	23.81	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-7	0.4735	0.2614	4	No	24	16.67	No	0.01	Param.
FLUORIDE, TOTAL (MG/L)	M-MW-8	0.2581	0.1286	4	No	21	19.05	No	0.01	Param.
LEAD, TOTAL (UG/L)	M-MW-1	1.9	1.2	15	No	11	100	No	0.006	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-2	2.7	1.25	15	No	14	71.43	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-3	2.3	1.2	15	No	14	92.86	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-4	2.7	1.2	15	No	14	85.71	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-5	4.2	1.2	15	No	14	71.43	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-6	2.3	1.2	15	No	14	92.86	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-7	2.7	1.25	15	No	14	85.71	No	0.01	NP (NDs)
LEAD, TOTAL (UG/L)	M-MW-8	4.3	1.25	15	No	14	78.57	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-1	2.95	1.85	40	No	16	100	No	0.01	NP (NDs)
LITHIUM, TOTAL (UG/L)	M-MW-2	6.409	3.956	40	No	20	45	ln(x)	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-3	6.47	4.408	40	No	20	50	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	M-MW-4	23.5	18.6	40	No	19	5.263	No	0.01	NP (normality)
LITHIUM, TOTAL (UG/L)	M-MW-5	21.04	16.13	40	No	20	10	No	0.01	Param.
LITHIUM, TOTAL (UG/L)	**M-MW-6**	**137.6**	**118.3**	**40**	**Yes**	**19**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	**M-MW-7**	**55.58**	**42.25**	**40**	**Yes**	**19**	**0**	**No**	**0.01**	**Param.**
LITHIUM, TOTAL (UG/L)	M-MW-8	32.99	29.61	40	No	18	0	No	0.01	Param.
MERCURY, TOTAL (UG/L)	M-MW-1	0.045	0.0195	2	No	14	92.86	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-2	0.045	0.0195	2	No	14	92.86	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-3	0.045	0.0195	2	No	14	92.86	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-4	0.045	0.0195	2	No	14	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-5	0.045	0.0195	2	No	14	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-6	0.045	0.0195	2	No	14	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-7	0.045	0.0195	2	No	14	100	No	0.01	NP (NDs)
MERCURY, TOTAL (UG/L)	M-MW-8	0.047	0.0195	2	No	14	92.86	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	1.1	0.26	100	No	20	90	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	1.3	0.45	100	No	20	80	No	0.01	NP (NDs)
MOLYBDENUM, TOTAL (UG/L)	M-MW-3	6.156	2.992	100	No	20	20	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	M-MW-4	61.3	51.7	100	No	20	0	No	0.01	NP (normality)
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	95.89	84.14	100	No	20	0	No	0.01	Param.
MOLYBDENUM, TOTAL (UG/L)	**M-MW-6**	**142.2**	**125.4**	**100**	**Yes**	**20**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-7**	**500**	**361.6**	**100**	**Yes**	**20**	**0**	**No**	**0.01**	**Param.**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-8**	**215.1**	**198.5**	**100**	**Yes**	**20**	**0**	**No**	**0.01**	**Param.**
Radium [226 + 228] (PCI/L)	M-MW-1	0.788	0.6585	5	No	17	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-2	0.9805	0.7295	5	No	20	80	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-3	1.511	1.128	5	No	20	50	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-4	0.9	0.67	5	No	20	85	No	0.01	NP (NDs)

Confidence Interval

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 11:23 AM

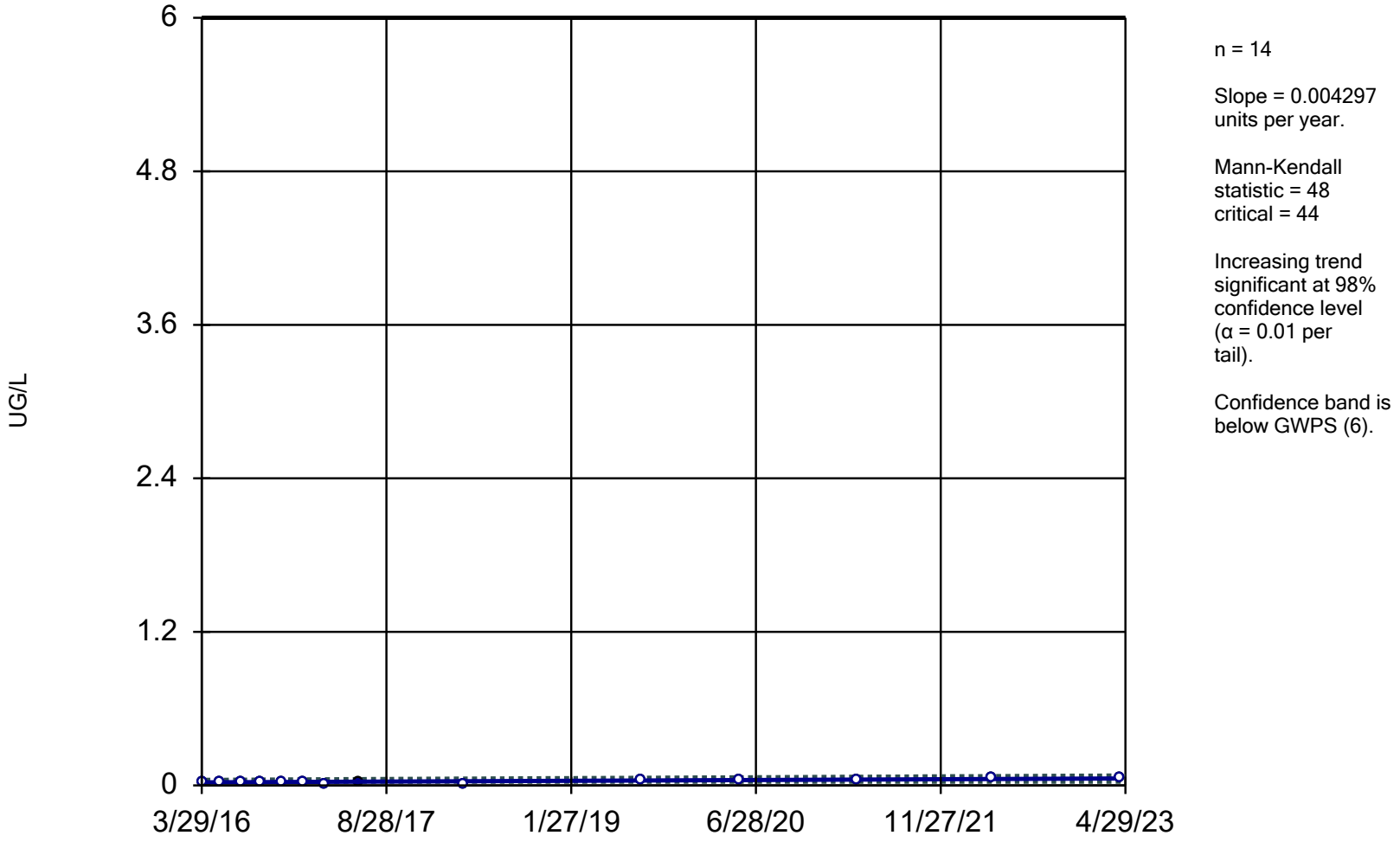
Constituent	Well	Upper Lim.	Lower Lim.	Compliance	Sig.	N	%NDs	Transform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	1.86	1.439	5	No	20	45	No	0.01	Param.
Radium [226 + 228] (PCI/L)	M-MW-6	0.827	0.7	5	No	20	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-7	0.83	0.6655	5	No	18	100	No	0.01	NP (NDs)
Radium [226 + 228] (PCI/L)	M-MW-8	1.188	0.6935	5	No	19	78.95	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-1	0.1	0.043	50	No	18	88.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-2	0.12	0.043	50	No	18	88.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-3	0.1	0.089	50	No	18	88.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-4	0.093	0.043	50	No	18	88.89	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-5	0.093	0.043	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-6	0.09	0.087	50	No	18	94.44	No	0.01	NP (NDs)
SELENIUM, TOTAL (UG/L)	M-MW-7	8.246	0.9502	50	No	18	11.11	ln(x)	0.01	Param.
SELENIUM, TOTAL (UG/L)	M-MW-8	0.11	0.088	50	No	17	88.24	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-1	0.25	0.047	2	No	14	85.71	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-2	0.25	0.018	2	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-3	0.25	0.047	2	No	14	85.71	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-4	0.25	0.018	2	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-5	0.25	0.018	2	No	14	100	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-6	0.25	0.038	2	No	14	92.86	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-7	0.25	0.0495	2	No	14	78.57	No	0.01	NP (NDs)
THALLIUM, TOTAL (UG/L)	M-MW-8	0.25	0.018	2	No	14	100	No	0.01	NP (NDs)

Appendix B
Sanitas Trending Confidence Bands Statistical Output

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 14

Slope = 0.004297 units per year.

Mann-Kendall statistic = 48
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

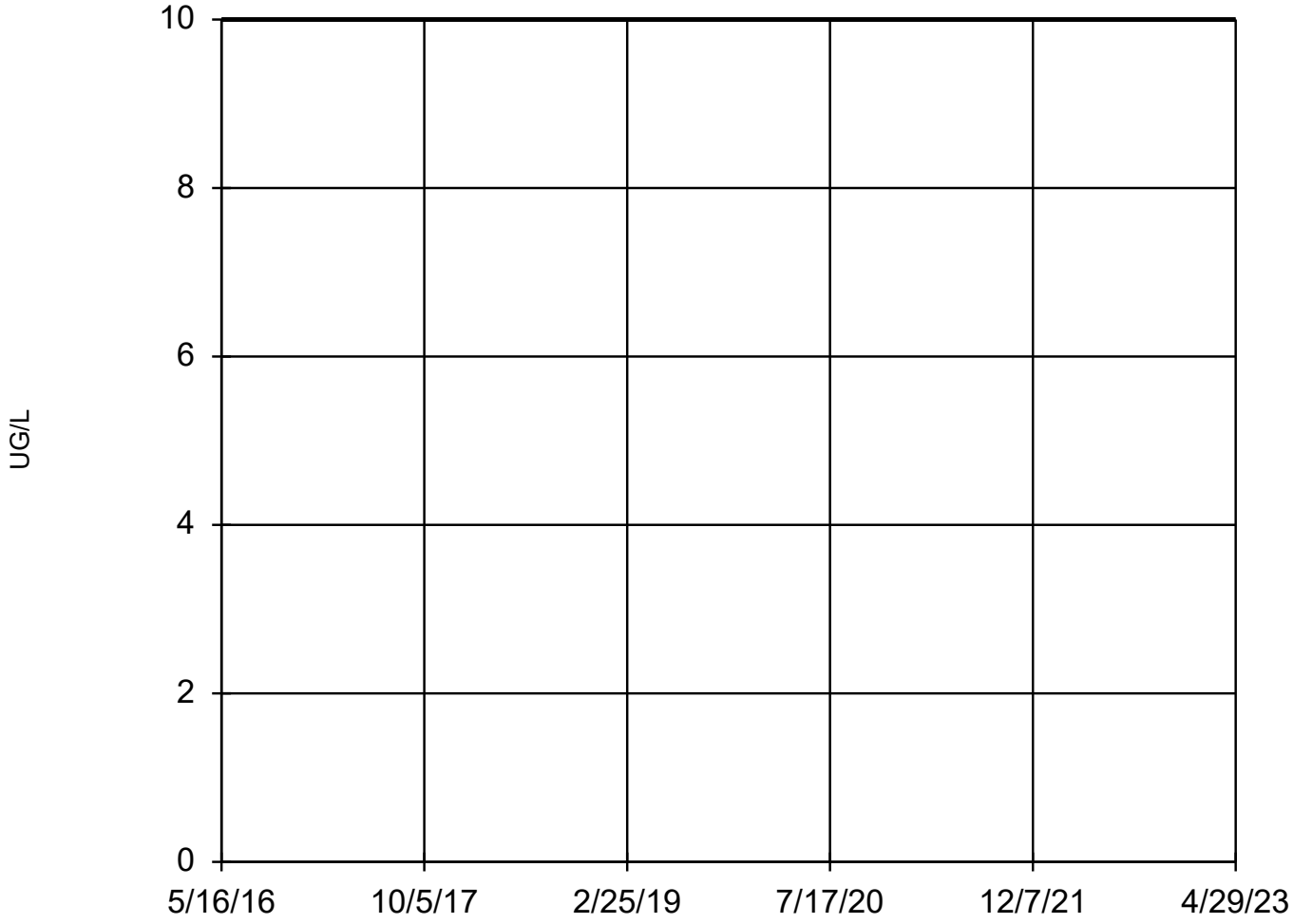
Confidence band is below GWPS (6).

Constituent: ANTIMONY, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 19

Slope = 0.286 units per year.

Mann-Kendall statistic = 78
critical = 68

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

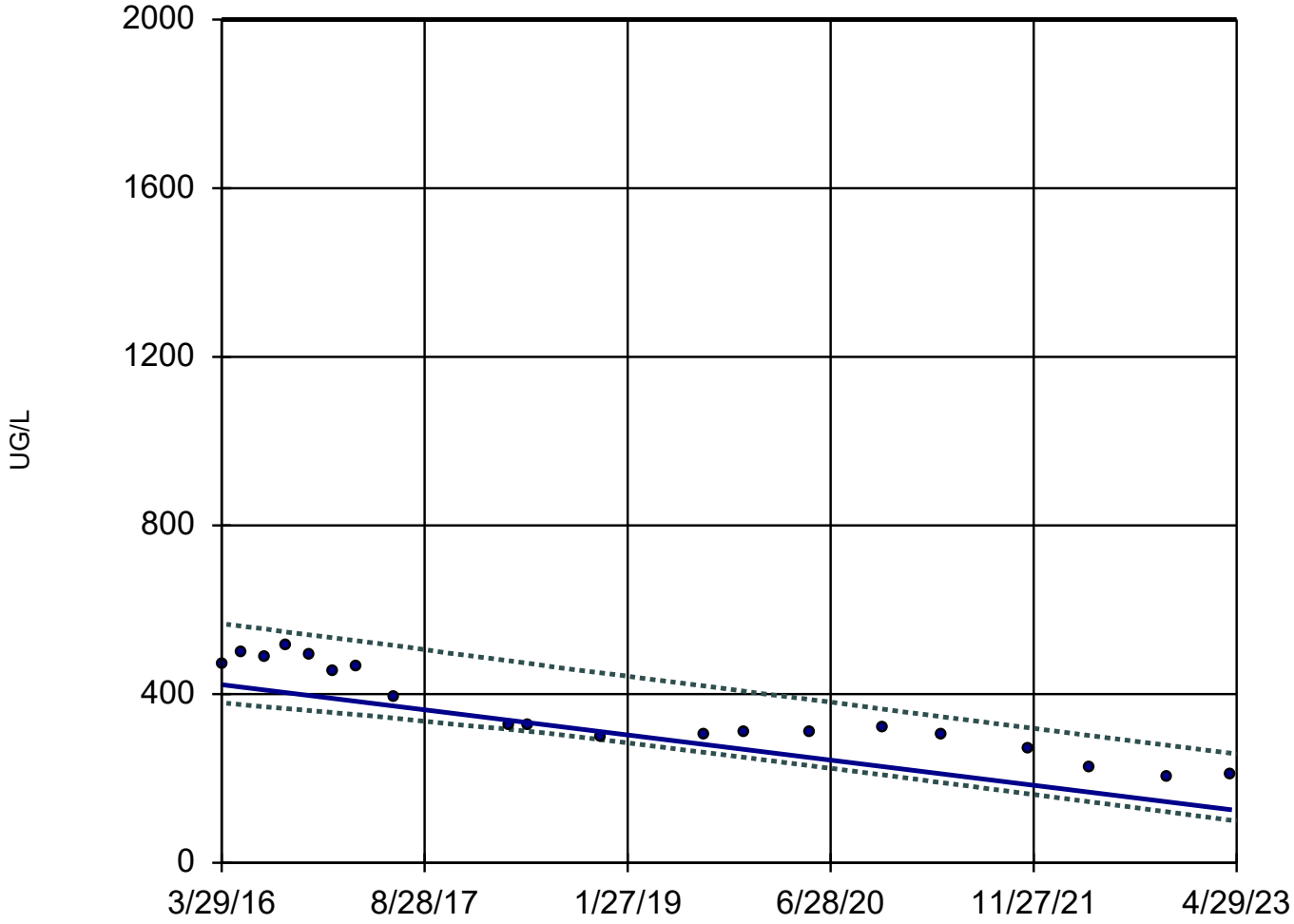
Confidence band is above GWPS (10).

Constituent: ARSENIC, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-2



n = 20

Slope = -42.12 units per year.

Mann-Kendall statistic = -148
critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

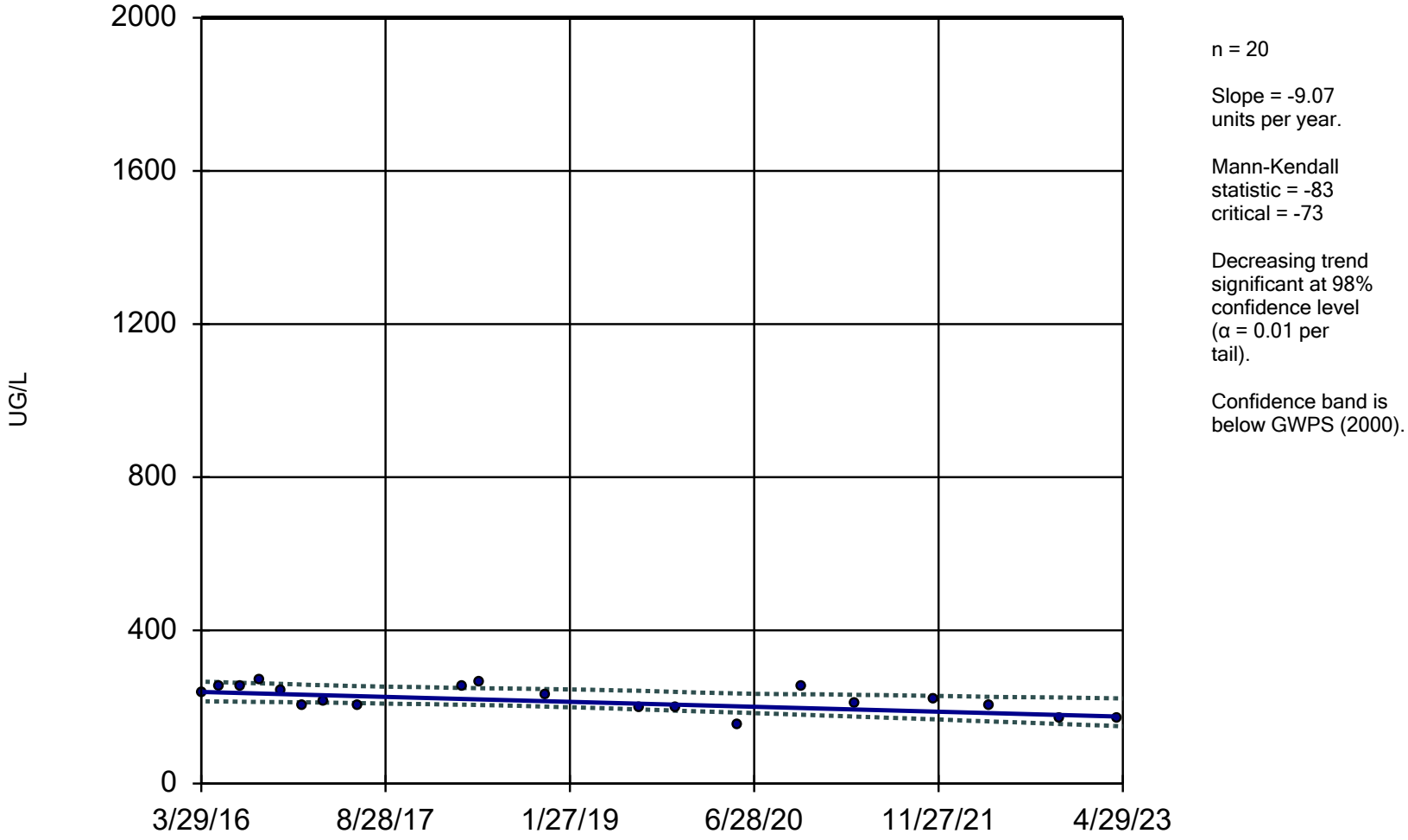
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-3



n = 20

Slope = -9.07 units per year.

Mann-Kendall statistic = -83
critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

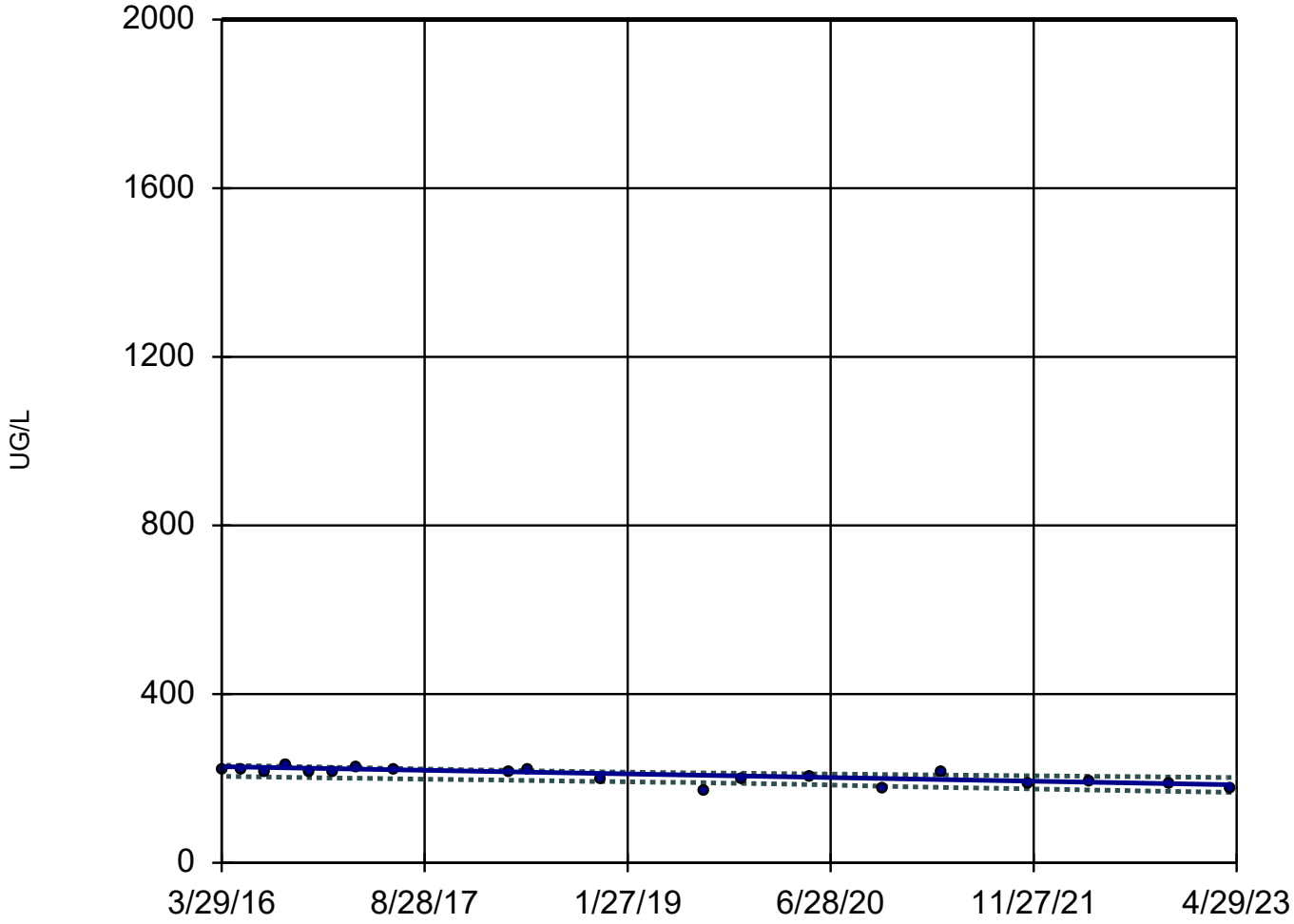
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 20

Slope = -6.1 units per year.

Mann-Kendall statistic = -110 critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

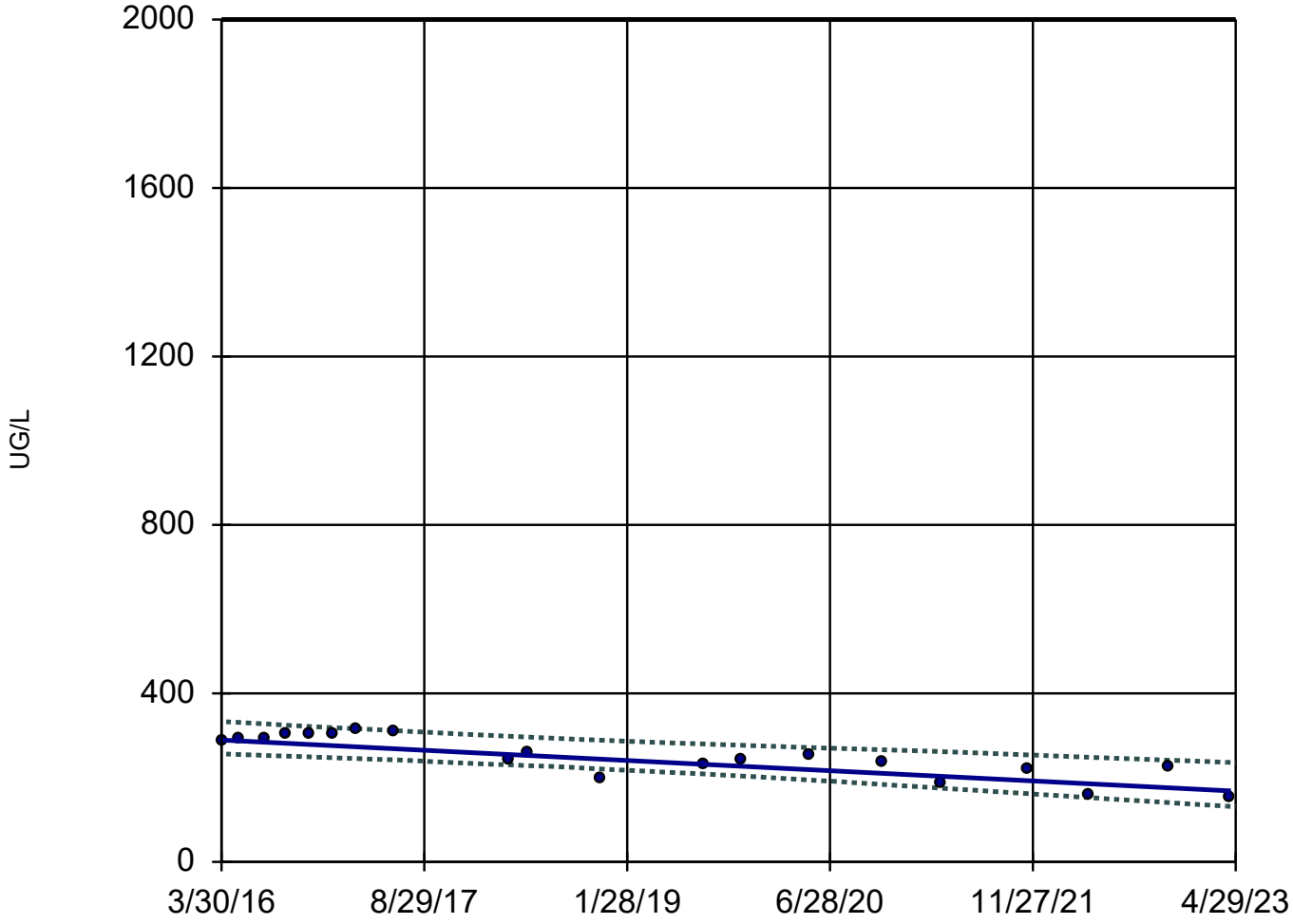
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-5



n = 20

Slope = -17.11 units per year.

Mann-Kendall statistic = -106 critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

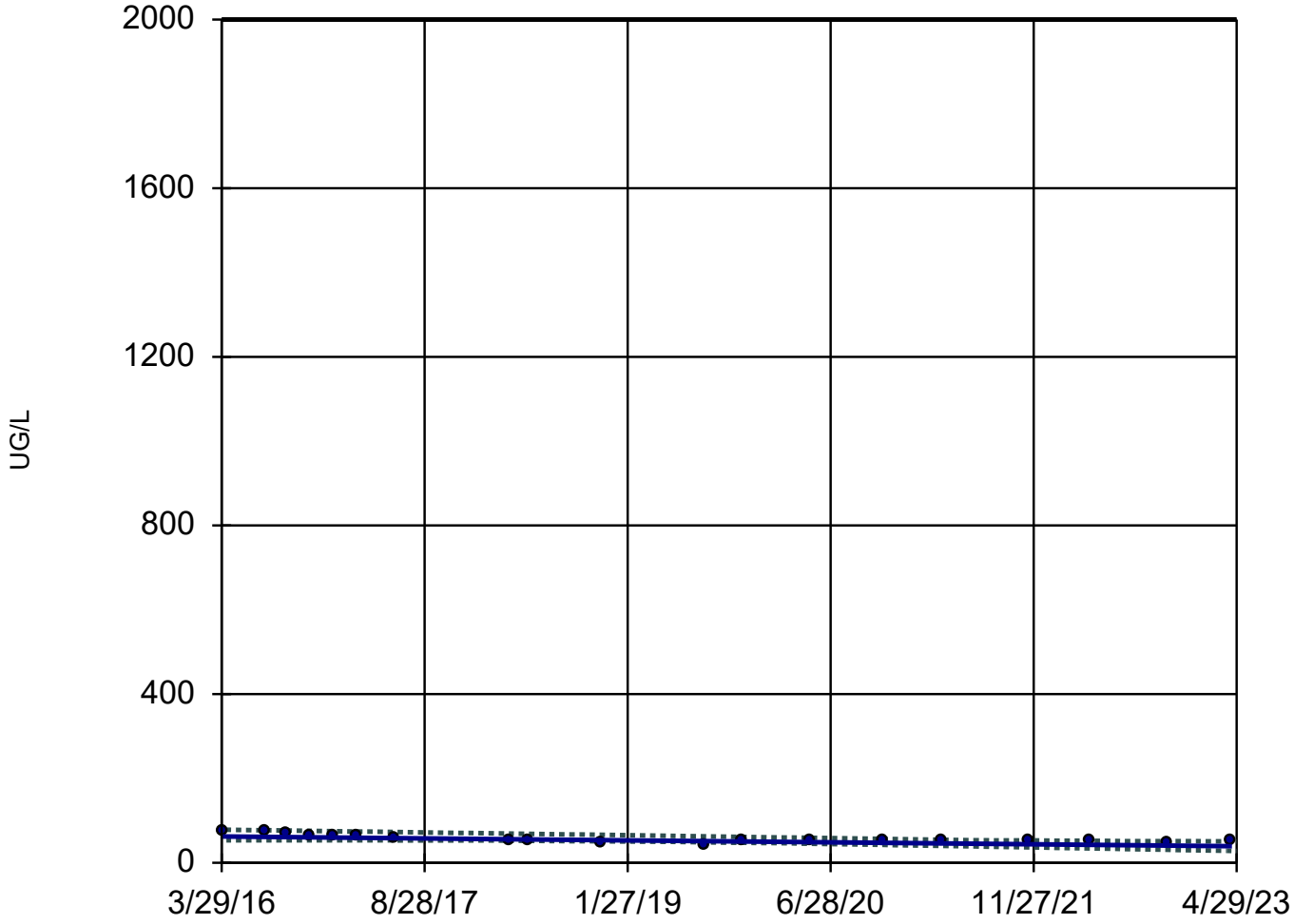
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-6



n = 19

Slope = -3.229 units per year.

Mann-Kendall statistic = -106
critical = -68

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

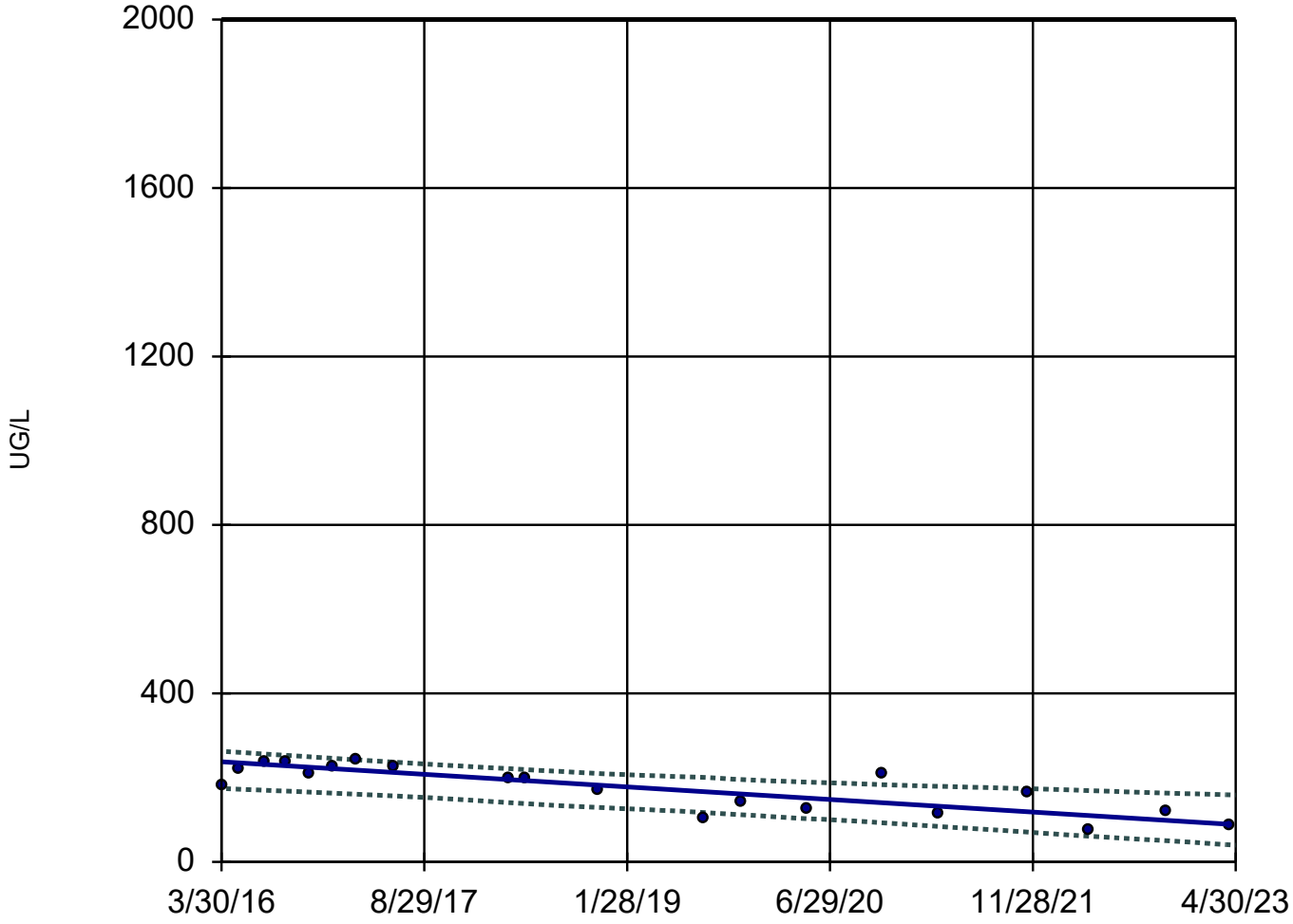
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-8



n = 20

Slope = -21.05 units per year.

Mann-Kendall statistic = -112 critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

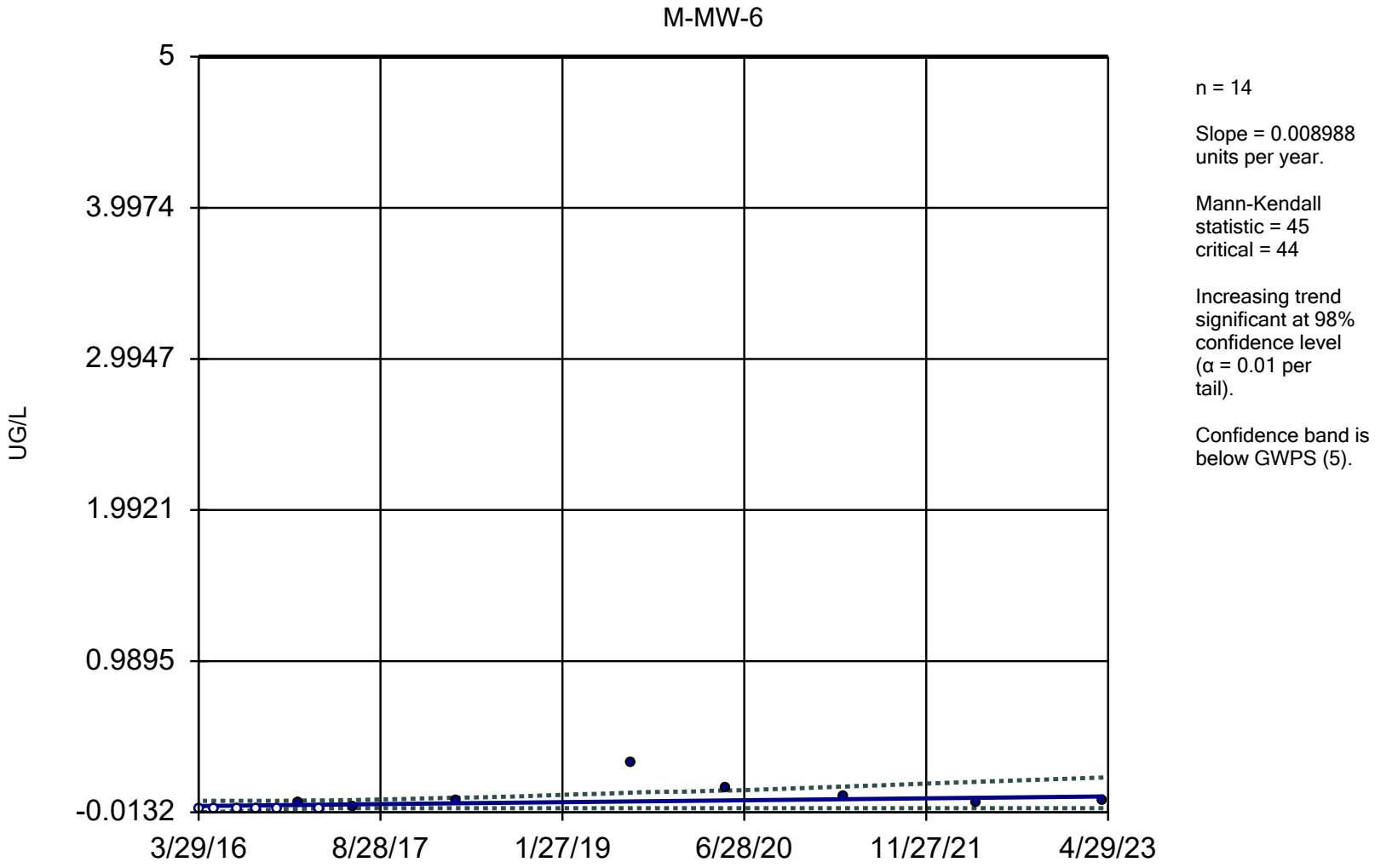
Confidence band is below GWPS (2000).

Constituent: BARIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



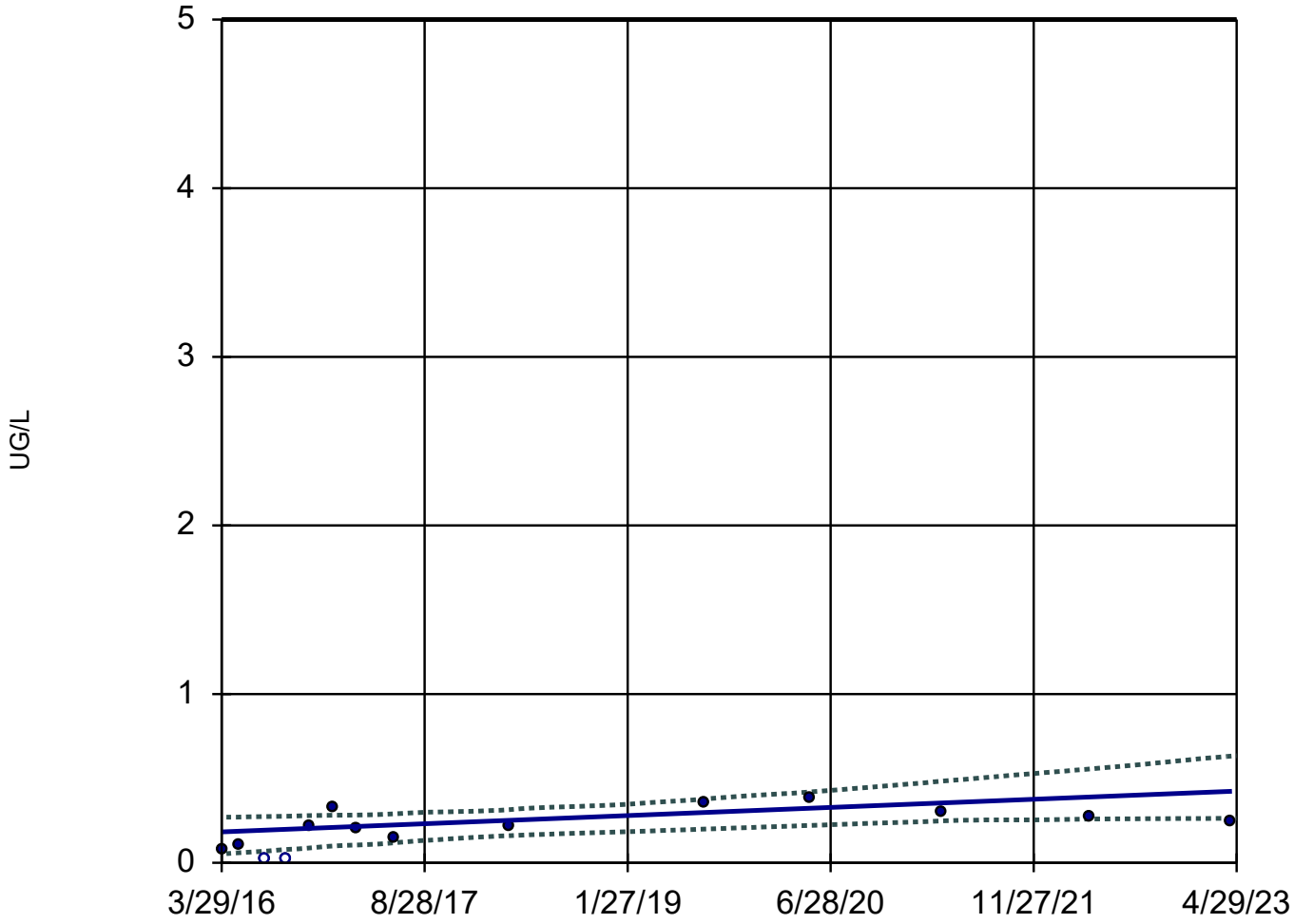
Constituent: CADMIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 14

Slope = 0.03411 units per year.

Mann-Kendall statistic = 45
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (5).

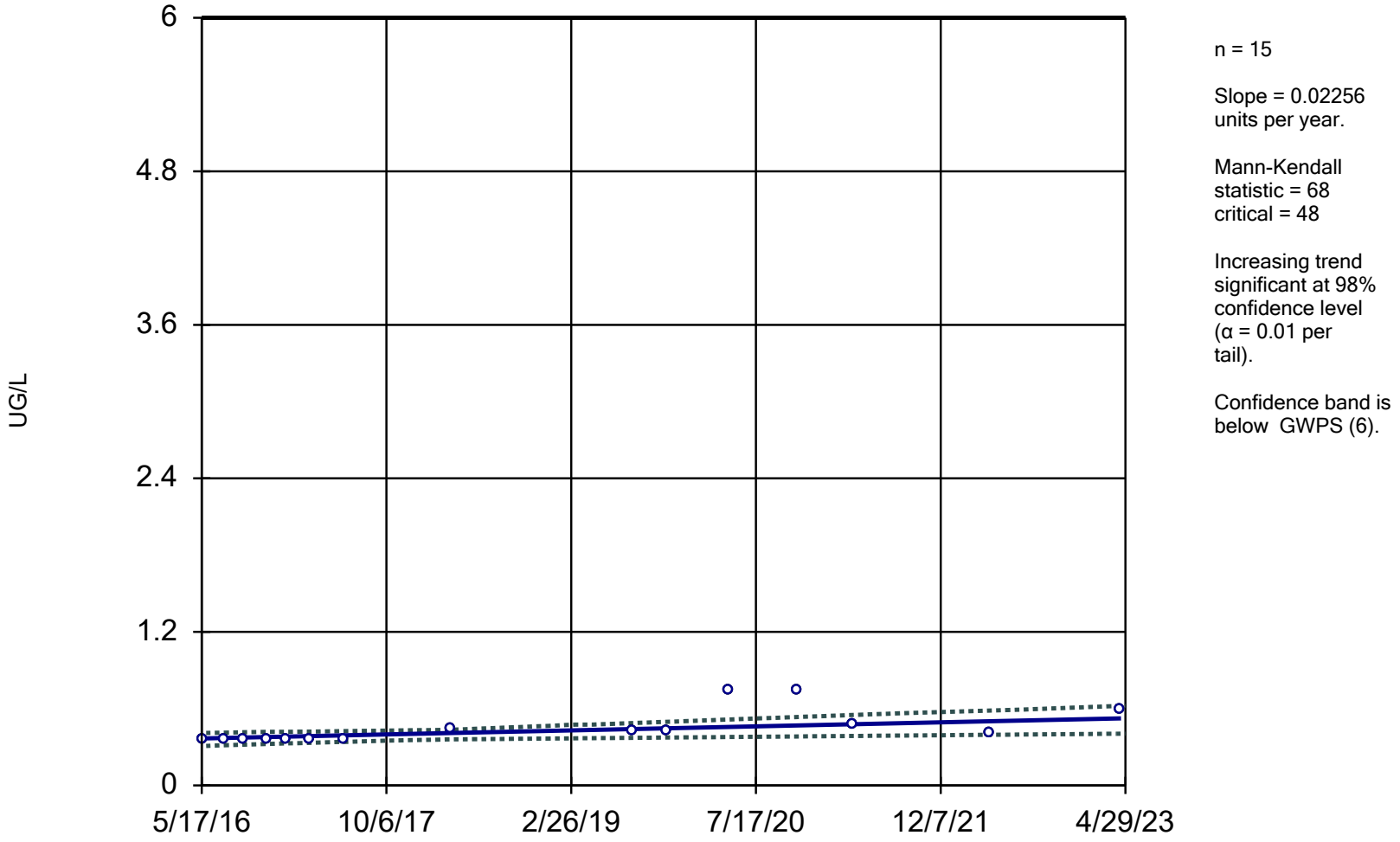
Constituent: CADMIUM, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 15

Slope = 0.02256 units per year.

Mann-Kendall statistic = 68
critical = 48

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

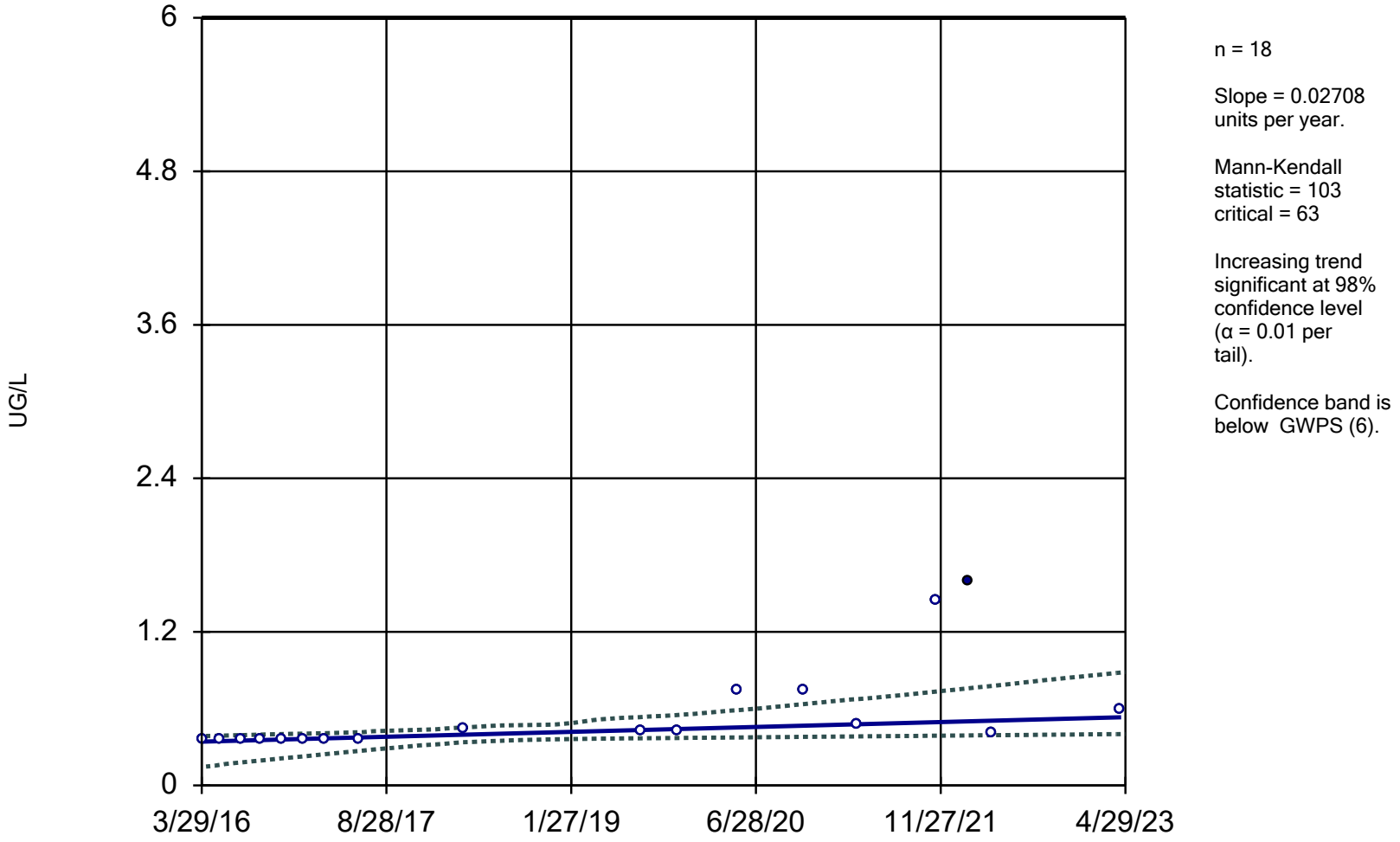
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 18

Slope = 0.02708 units per year.

Mann-Kendall statistic = 103
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

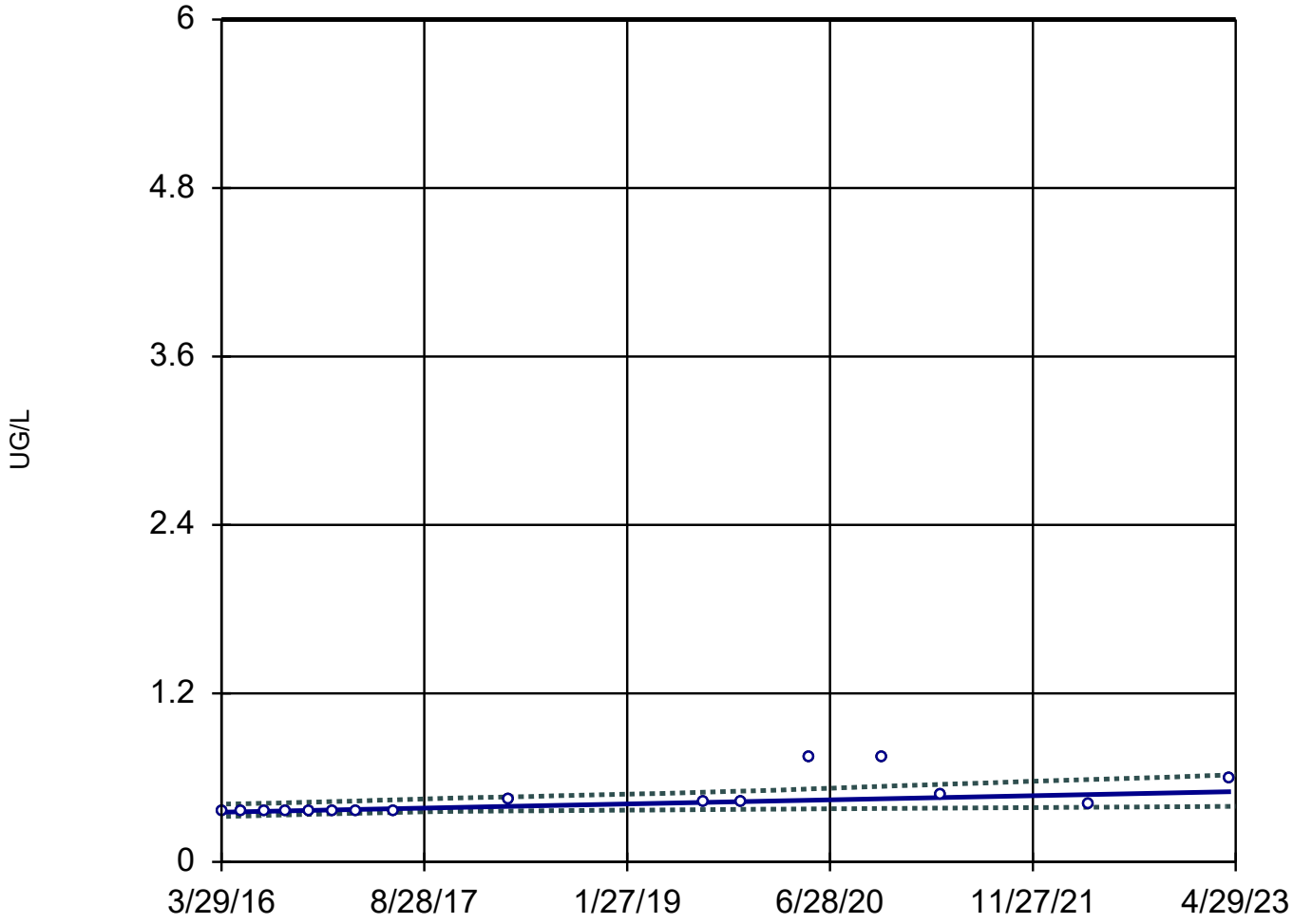
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 16

Slope = 0.02072 units per year.

Mann-Kendall statistic = 78
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

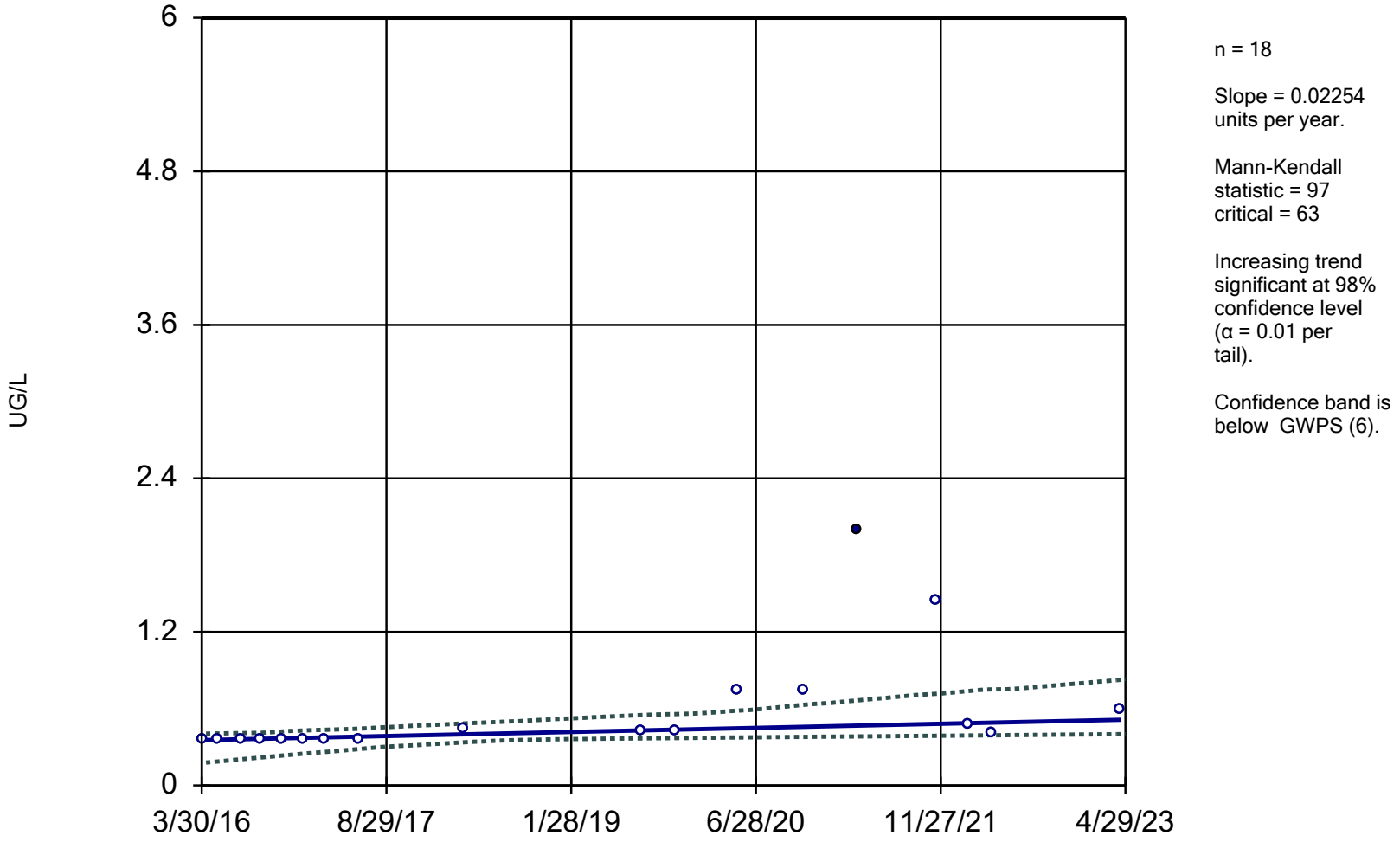
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 18

Slope = 0.02254 units per year.

Mann-Kendall statistic = 97
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

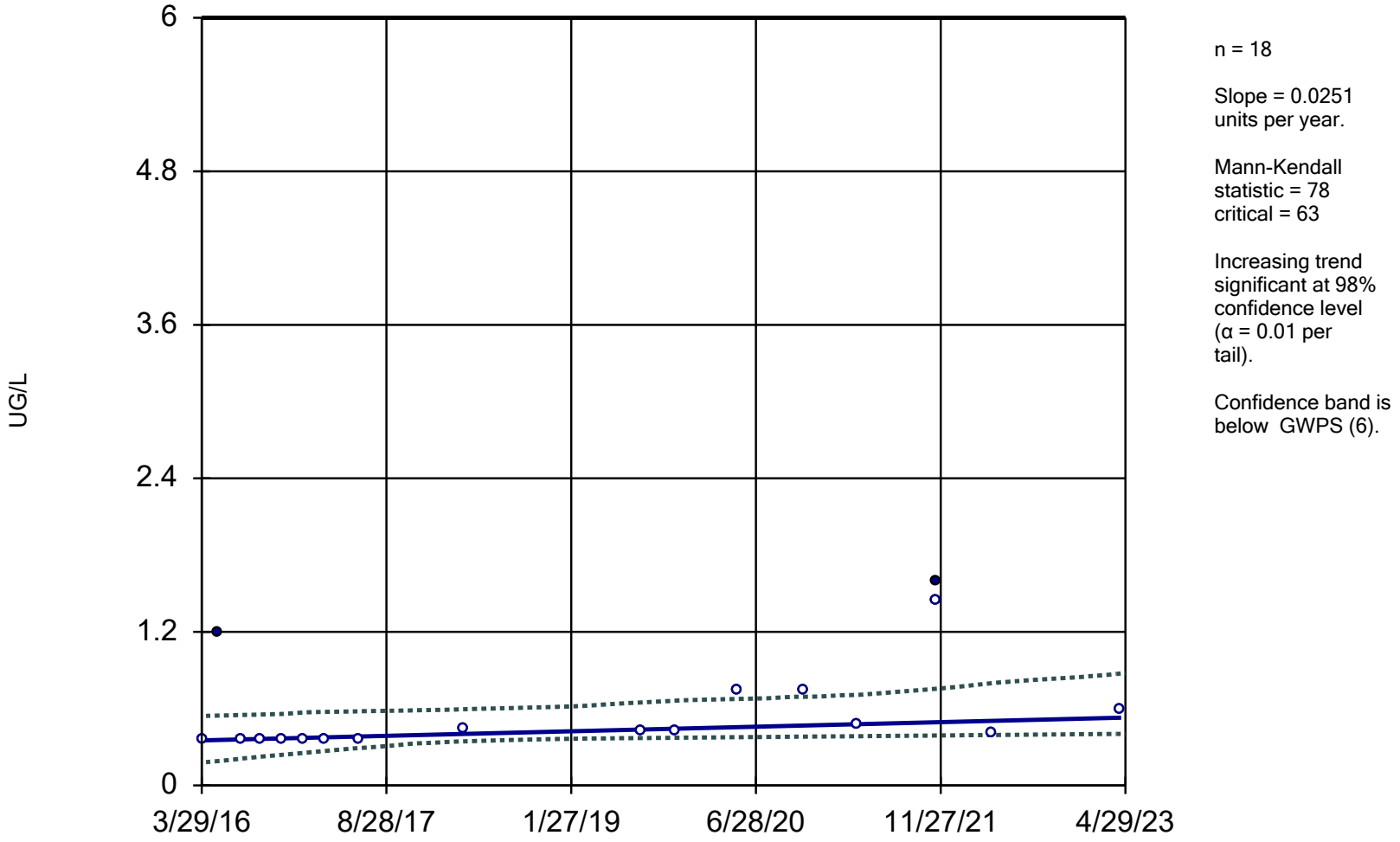
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 18

Slope = 0.0251 units per year.

Mann-Kendall statistic = 78
critical = 63

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

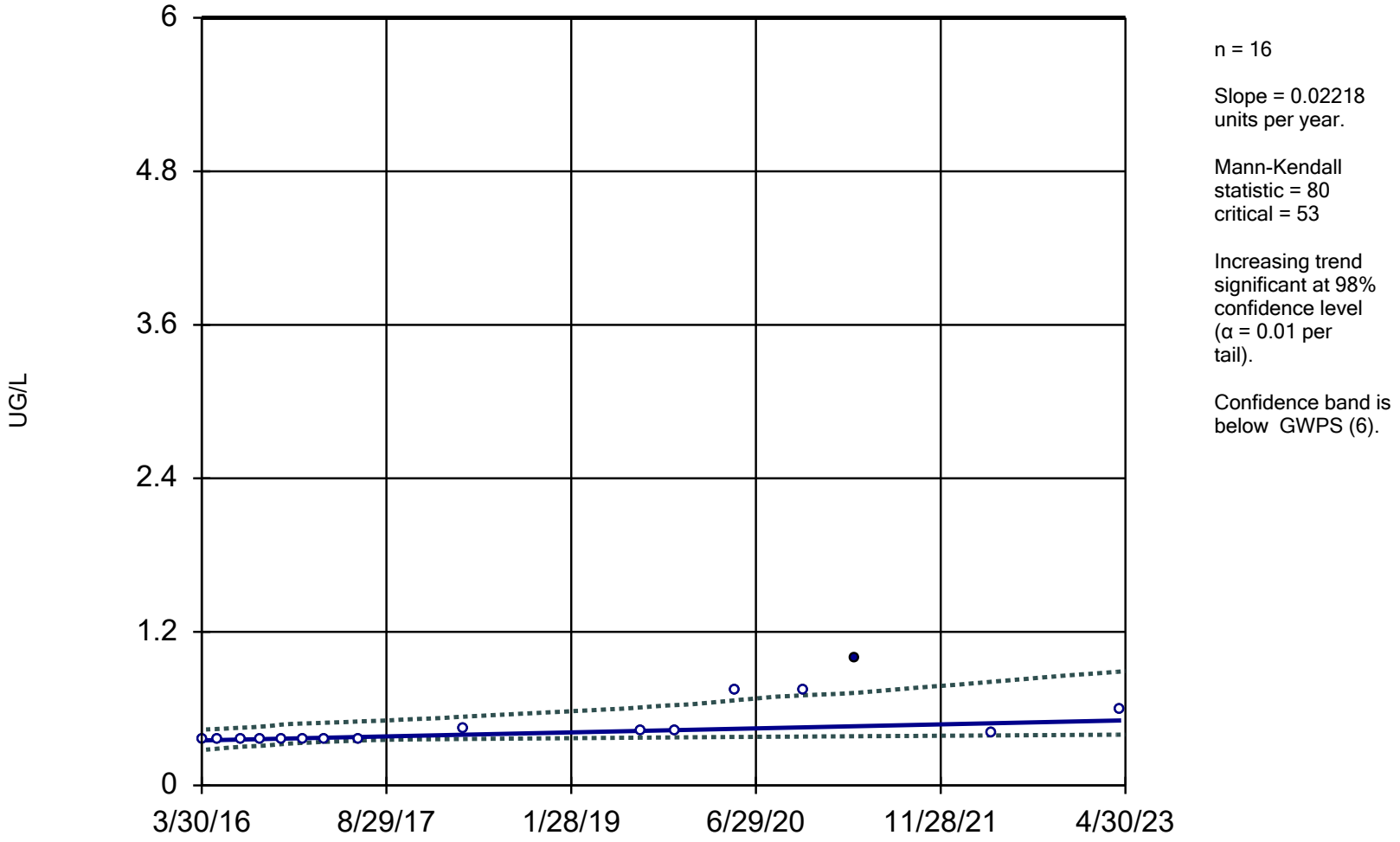
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-8



n = 16

Slope = 0.02218 units per year.

Mann-Kendall statistic = 80
critical = 53

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (6).

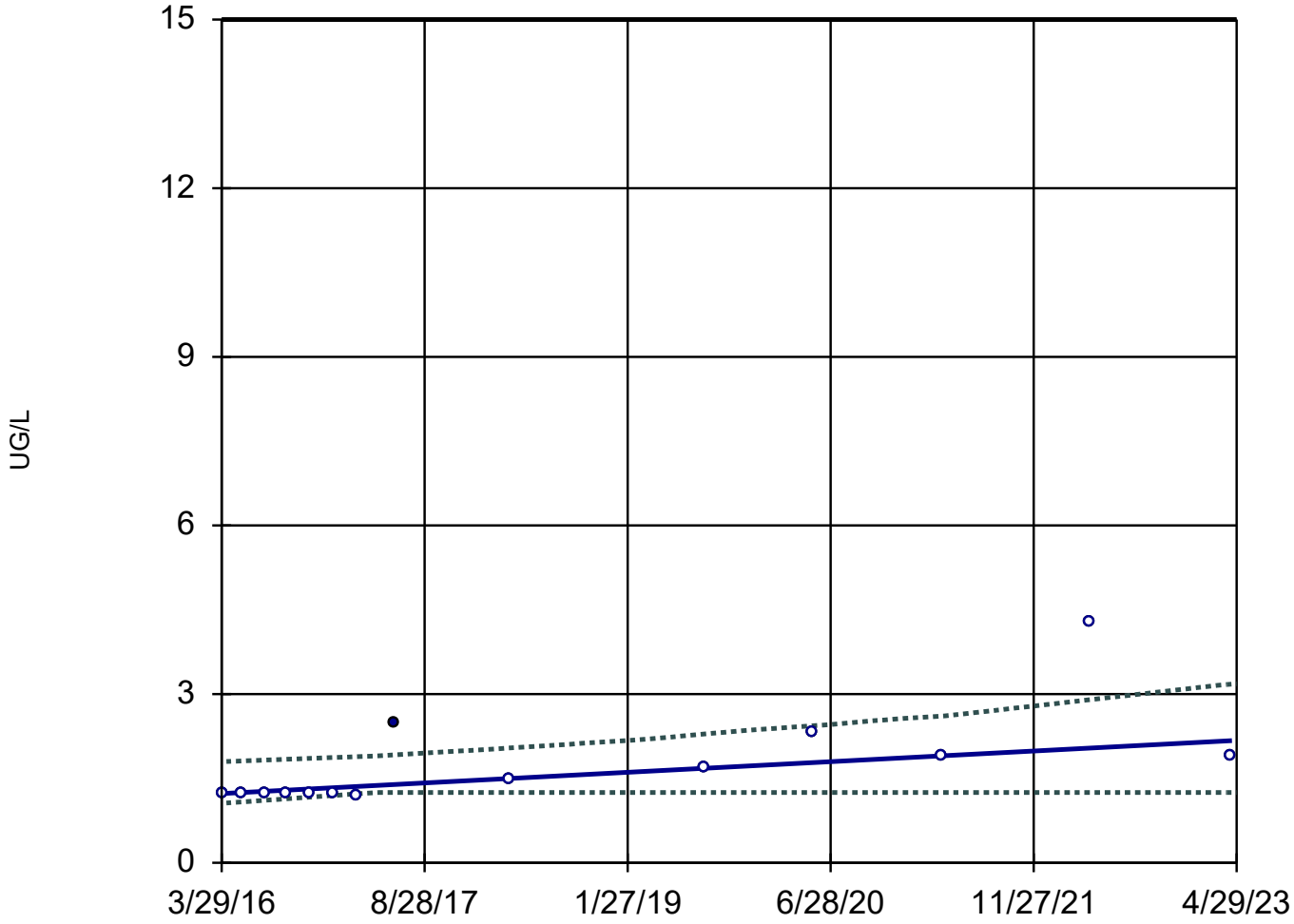
Constituent: COBALT, TOTAL Analysis Run 7/18/2023 1:15 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 14

Slope = 0.1334 units per year.

Mann-Kendall statistic = 47
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (15).

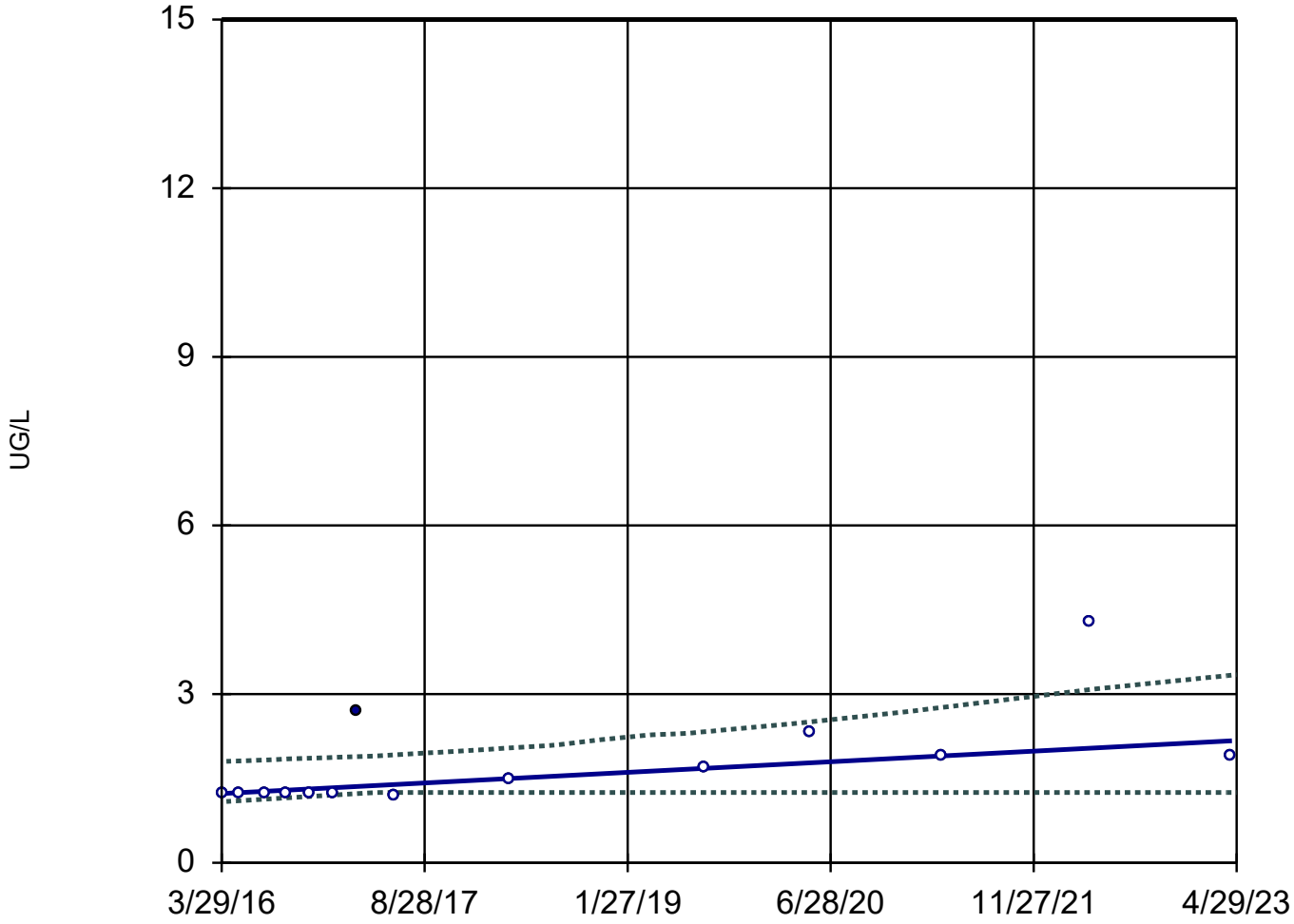
Constituent: LEAD, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 14

Slope = 0.133 units per year.

Mann-Kendall statistic = 45
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (15).

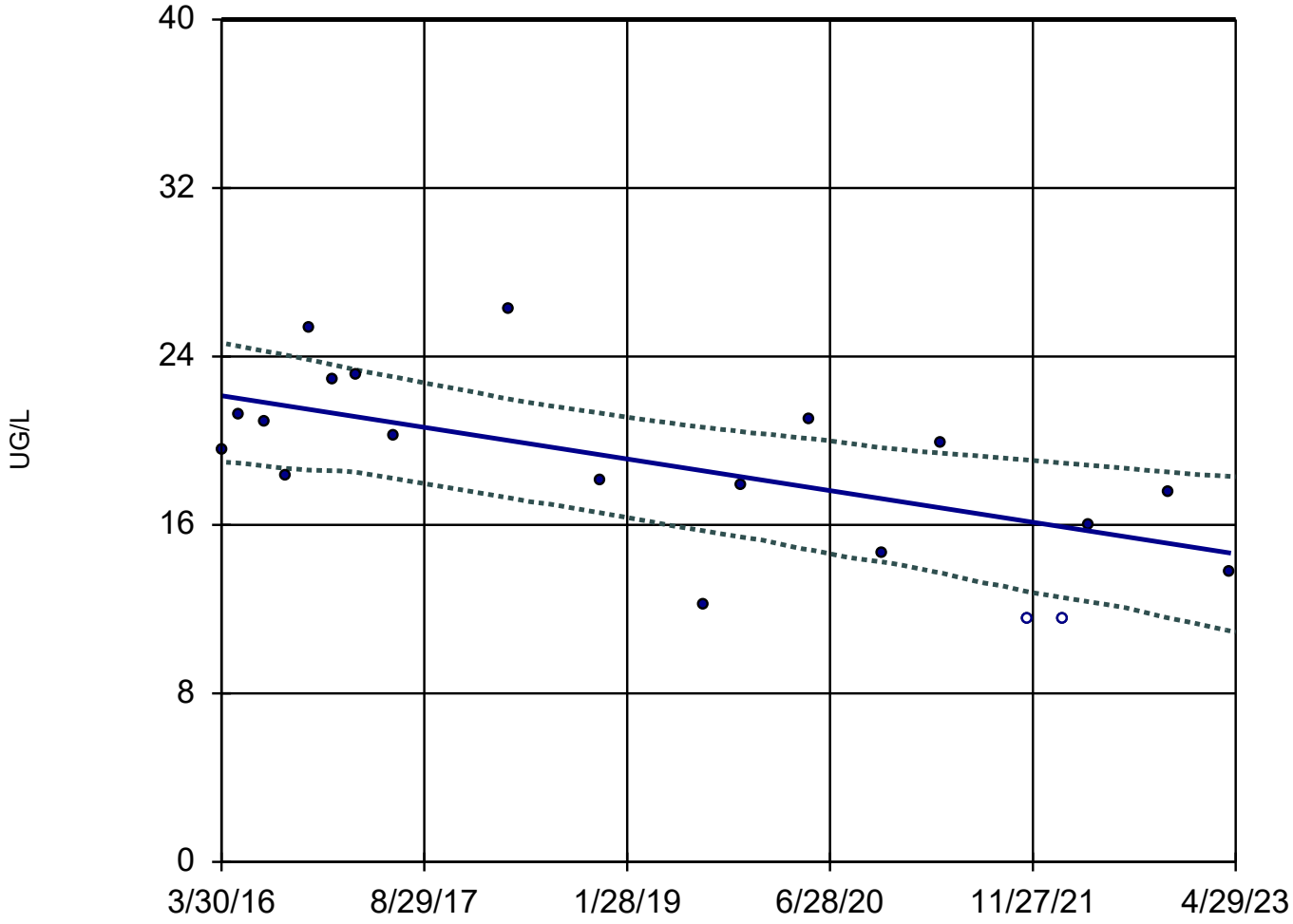
Constituent: LEAD, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 20

Slope = -1.06 units per year.

Mann-Kendall statistic = -85
critical = -73

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

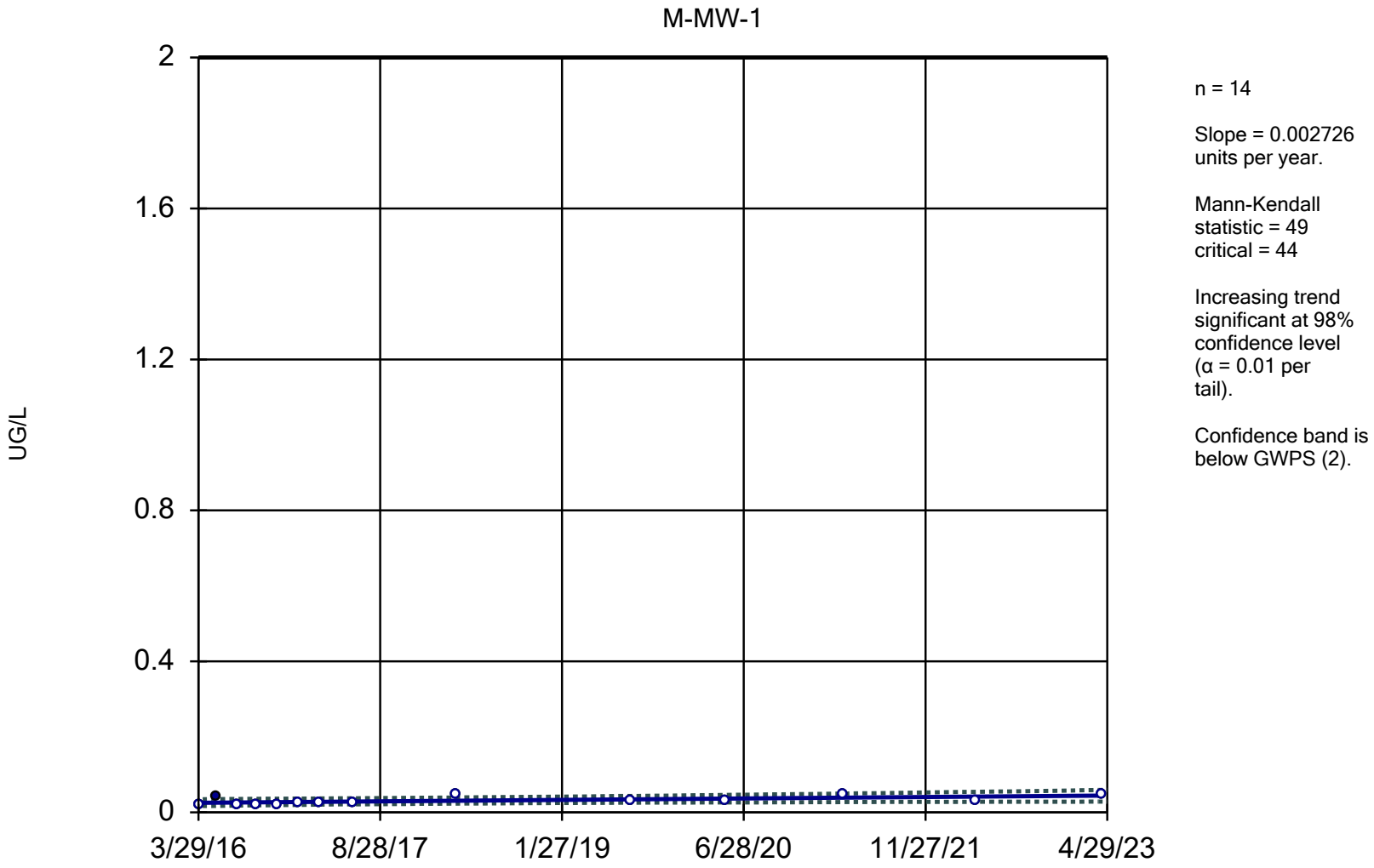
Confidence band is below GWPS (40).

Constituent: LITHIUM, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



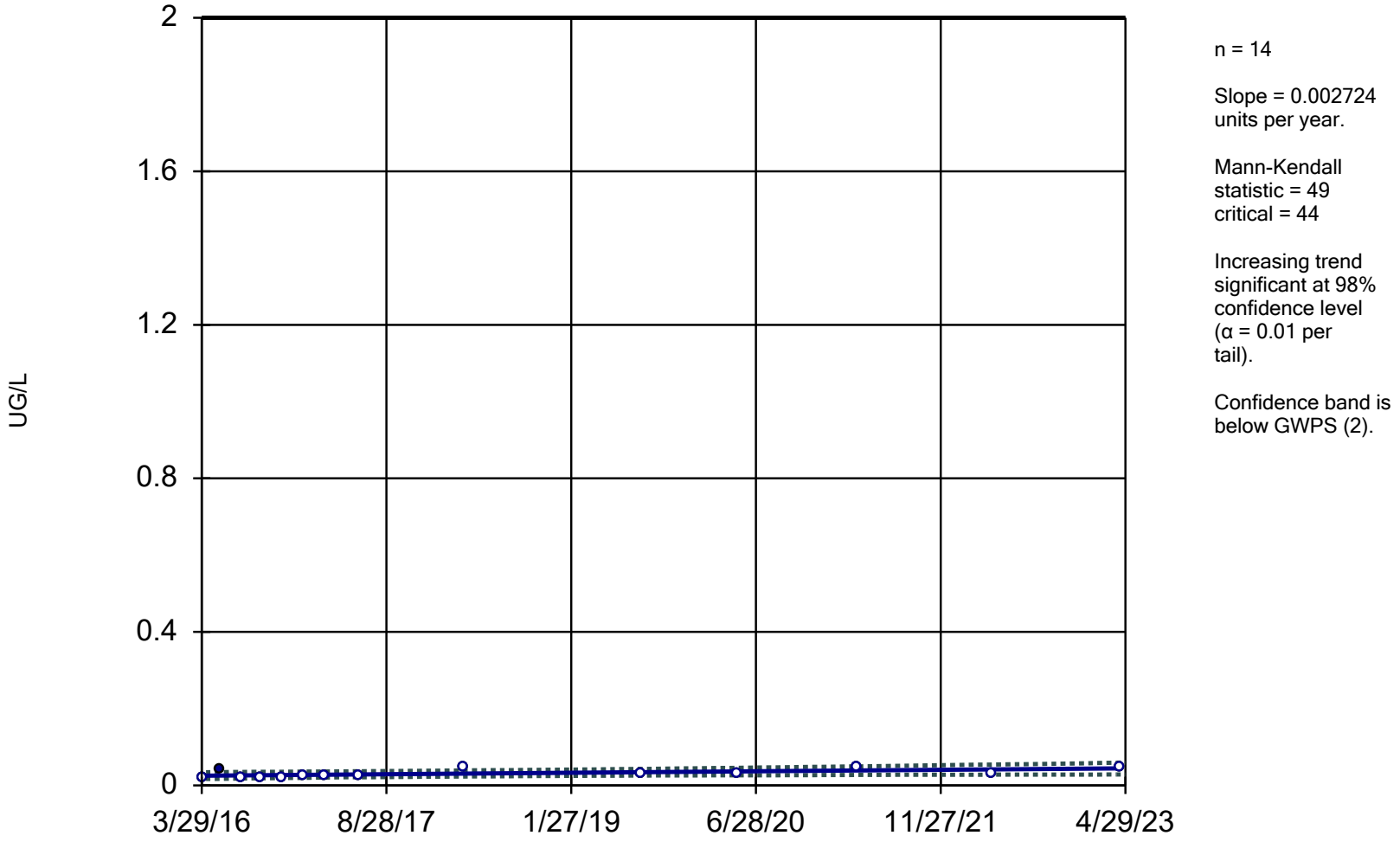
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-2



n = 14

Slope = 0.002724 units per year.

Mann-Kendall statistic = 49
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

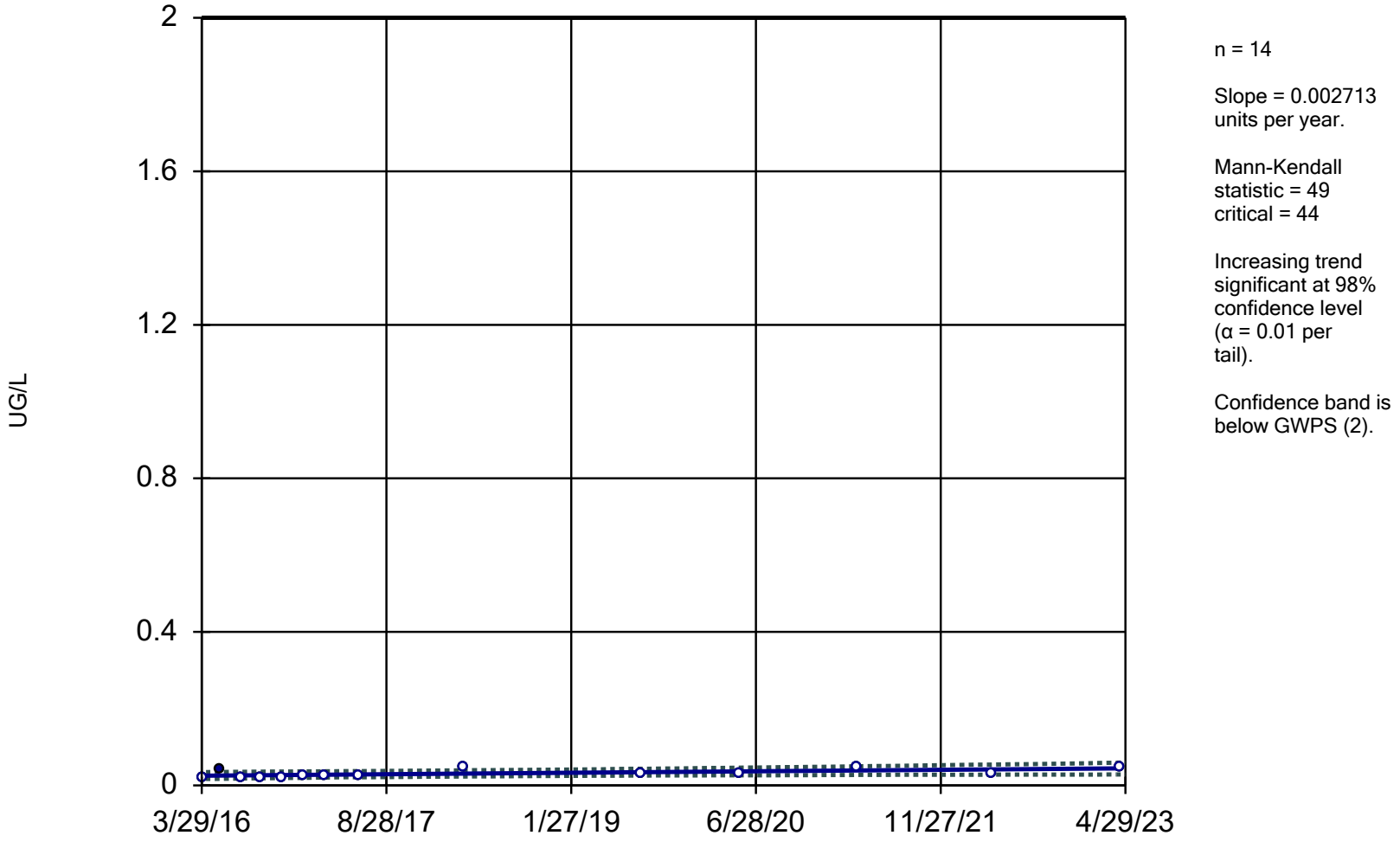
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 14

Slope = 0.002713 units per year.

Mann-Kendall statistic = 49
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

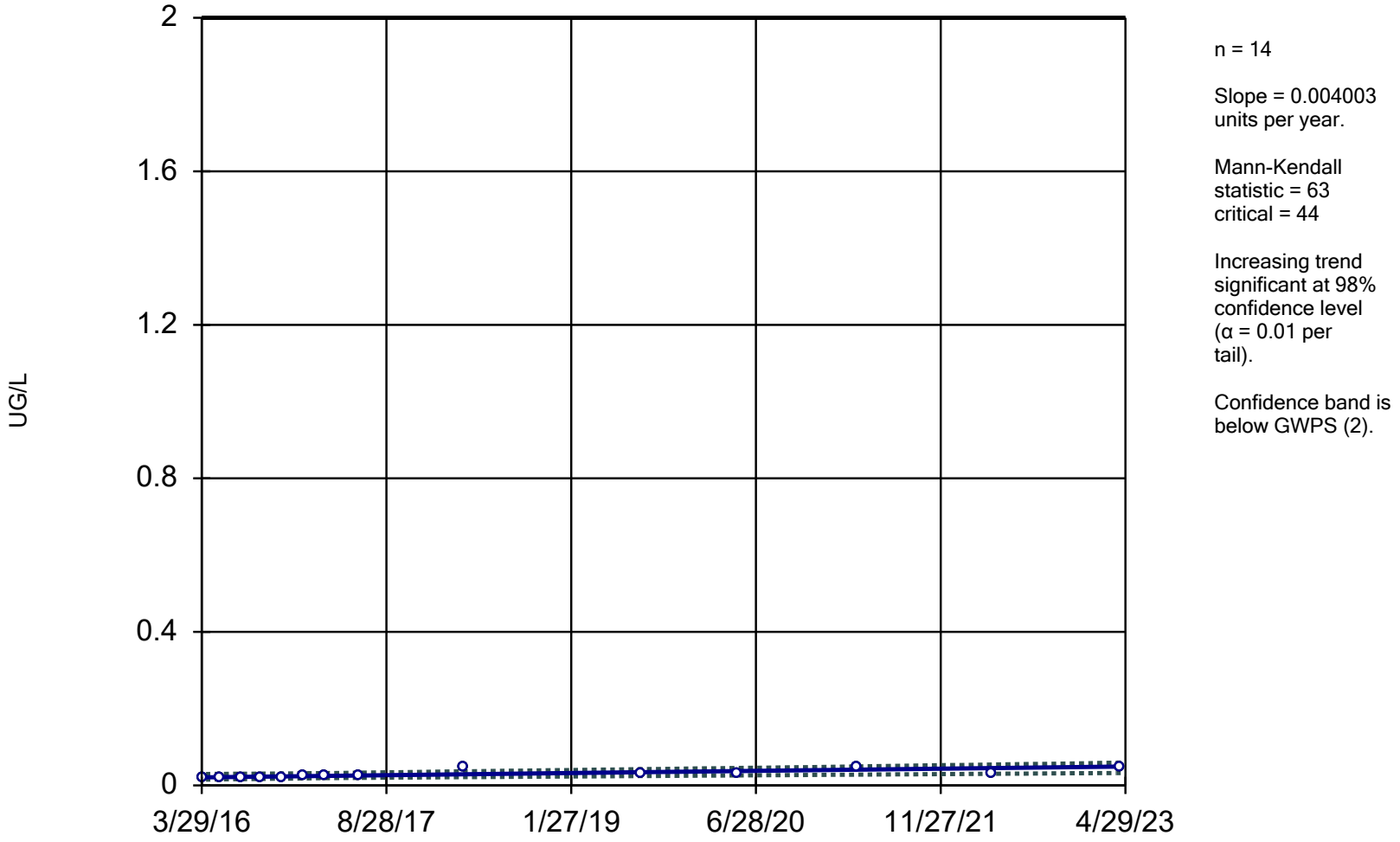
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-4



n = 14

Slope = 0.004003 units per year.

Mann-Kendall statistic = 63
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

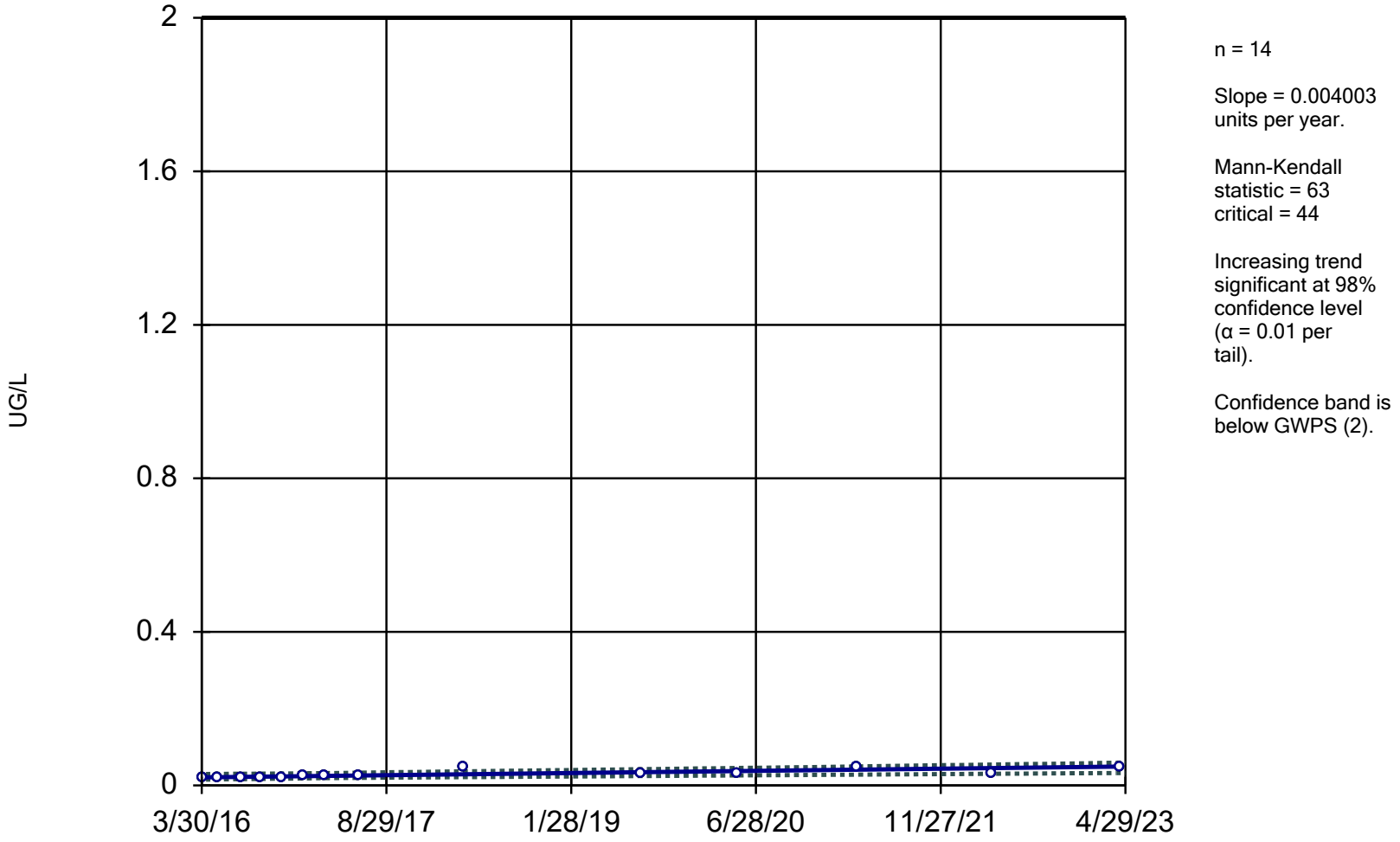
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-5



n = 14

Slope = 0.004003 units per year.

Mann-Kendall statistic = 63
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

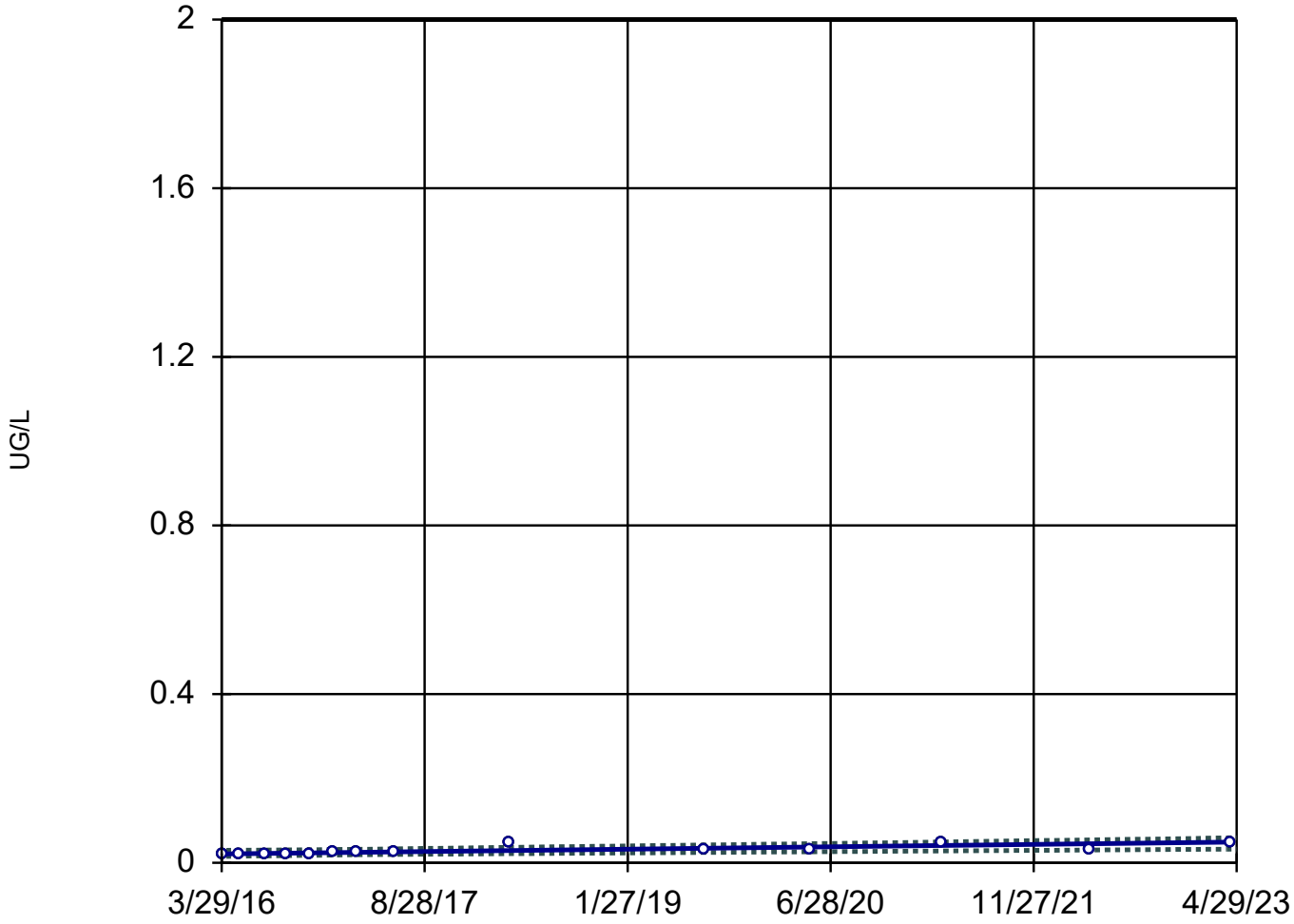
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-6



n = 14

Slope = 0.004 units per year.

Mann-Kendall statistic = 63
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

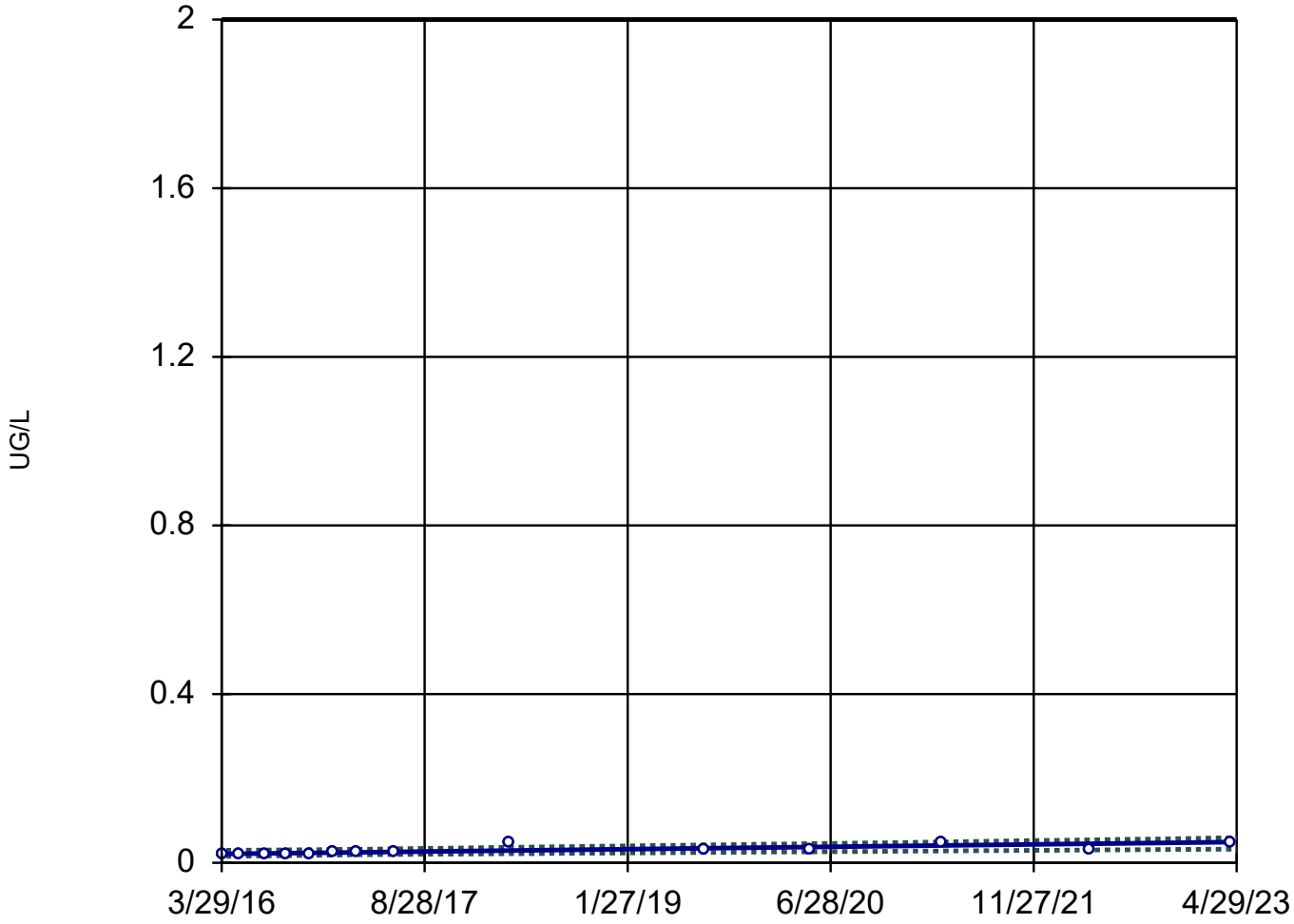
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-7



n = 14

Slope = 0.004 units per year.

Mann-Kendall statistic = 63
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

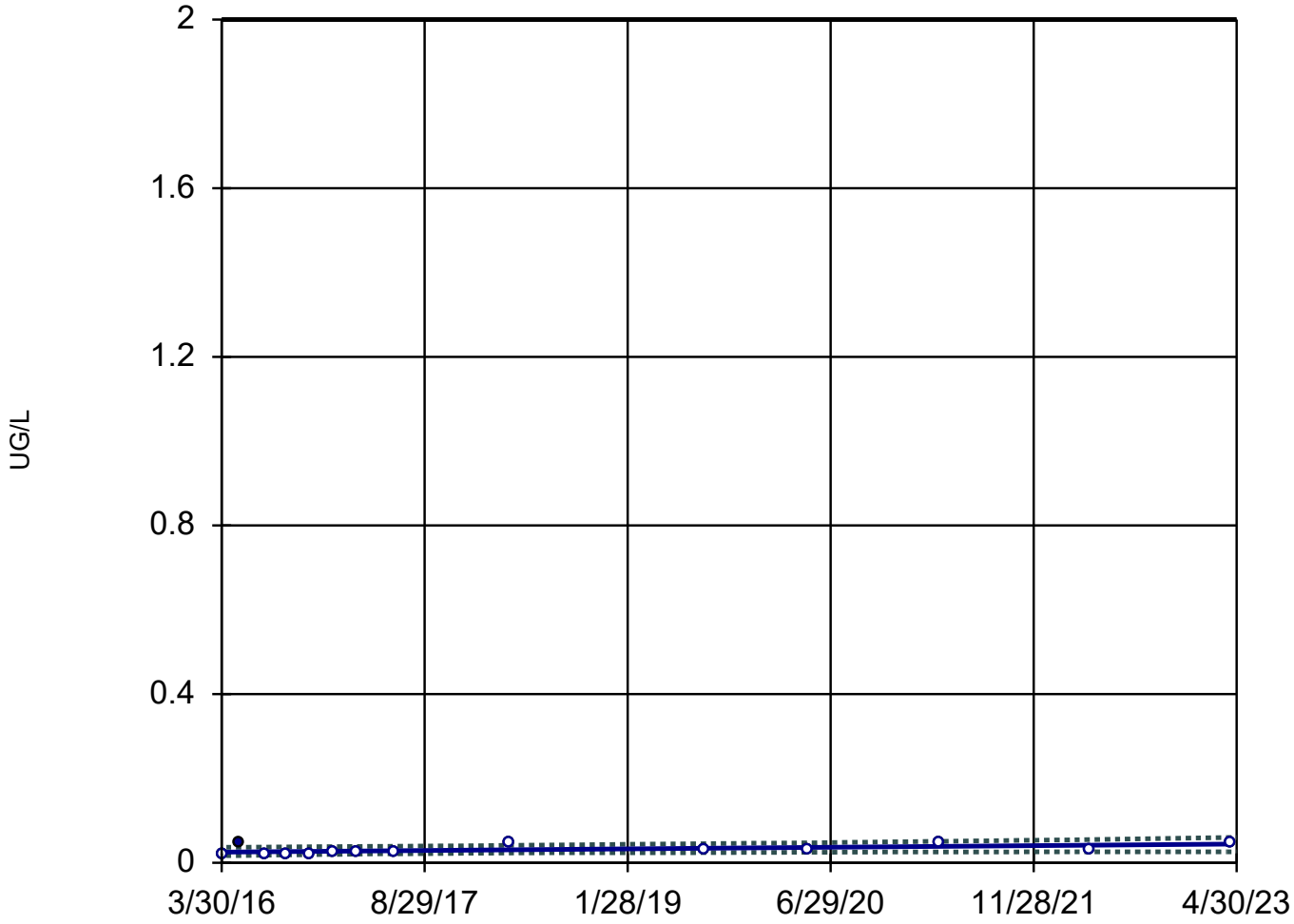
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-8



n = 14

Slope = 0.002726 units per year.

Mann-Kendall statistic = 47
critical = 44

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (2).

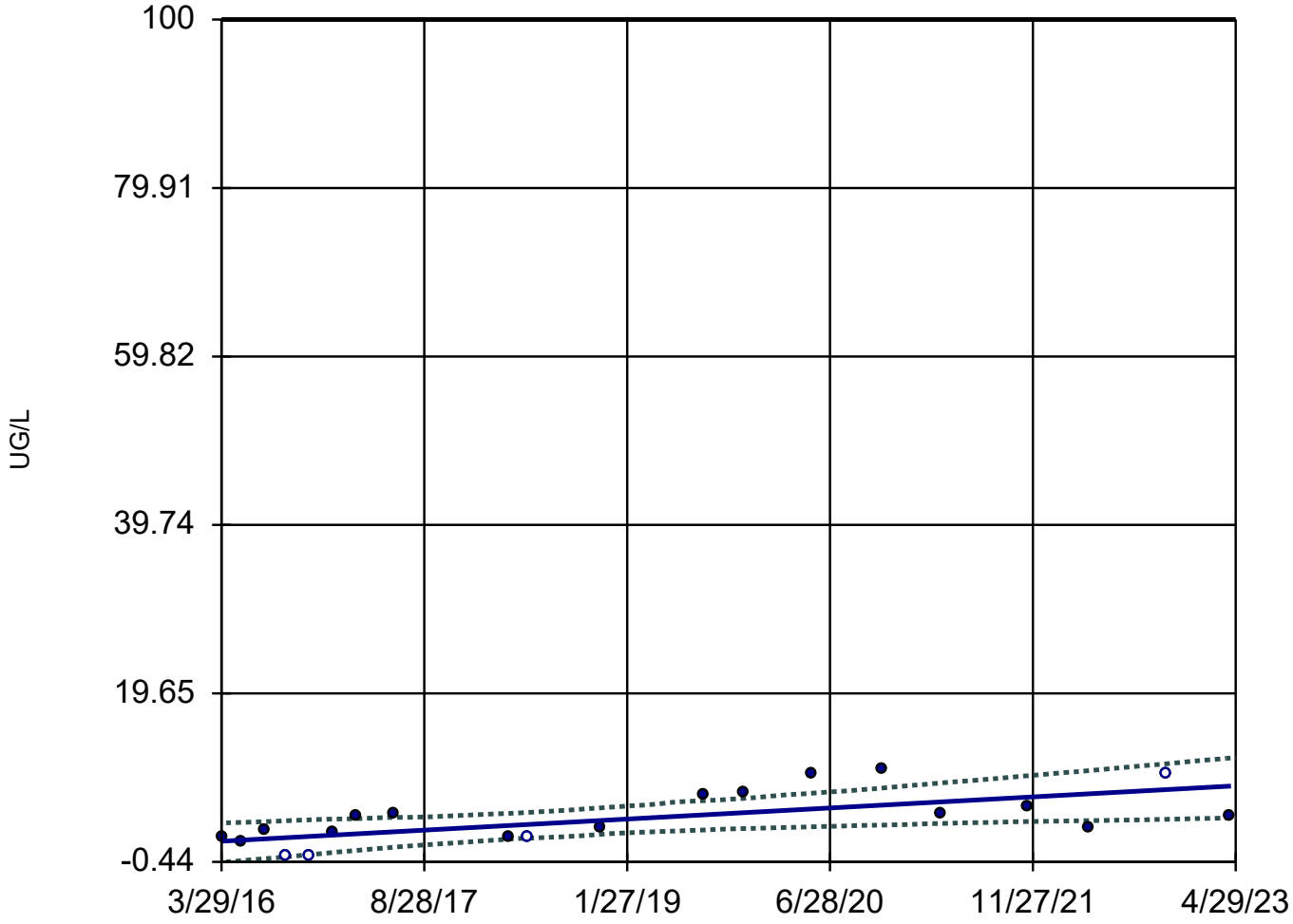
Constituent: MERCURY, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-3



n = 20

Slope = 0.9327 units per year.

Mann-Kendall statistic = 94
critical = 73

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

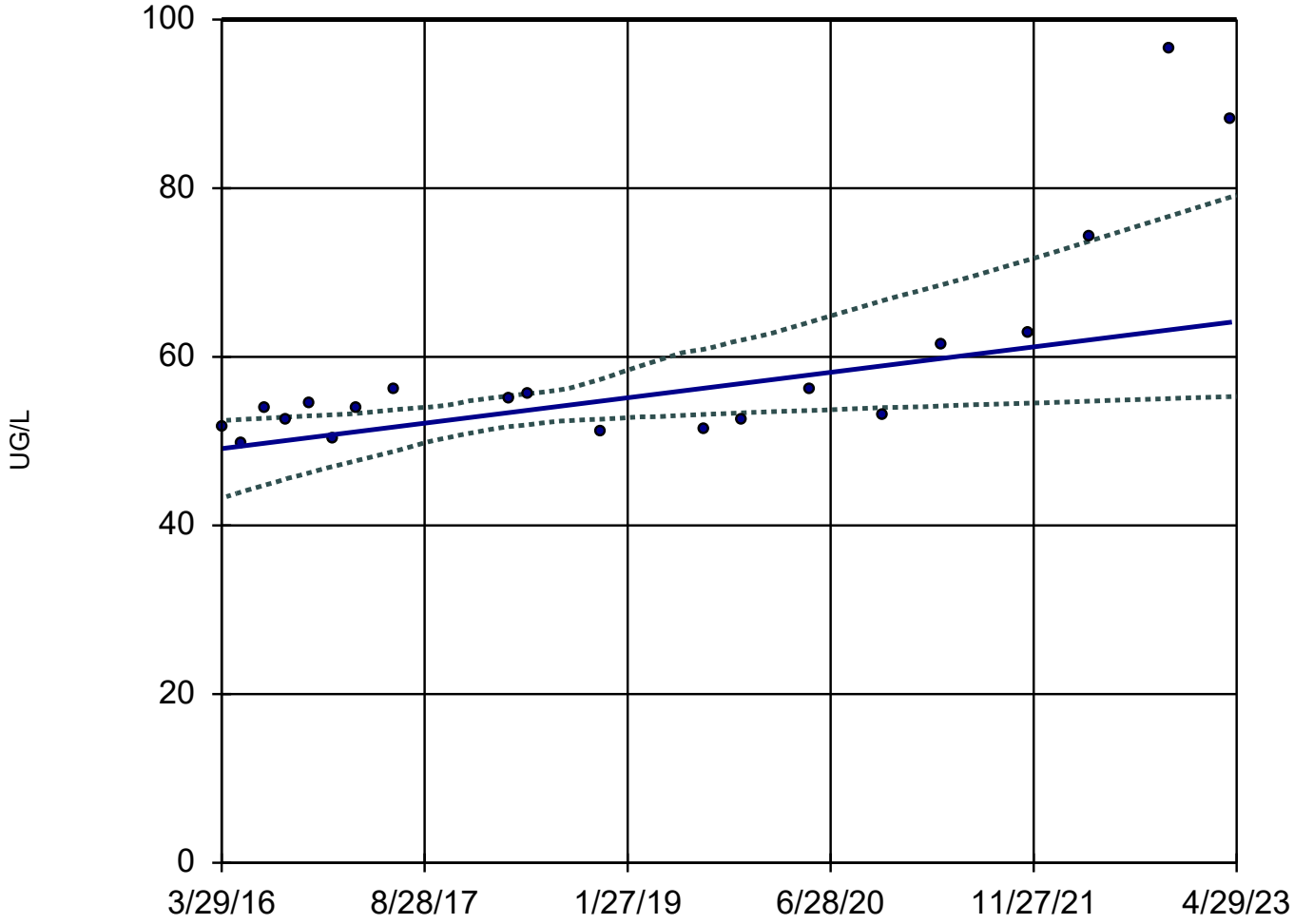
Confidence band is below GWPS (100).

Constituent: MOLYBDENUM, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Sen's Slope and 95% Confidence Band

M-MW-4



n = 20

Slope = 2.126 units per year.

Mann-Kendall statistic = 108
critical = 73

Increasing trend significant at 98% confidence level (α = 0.01 per tail).

Confidence band is below GWPS (100).

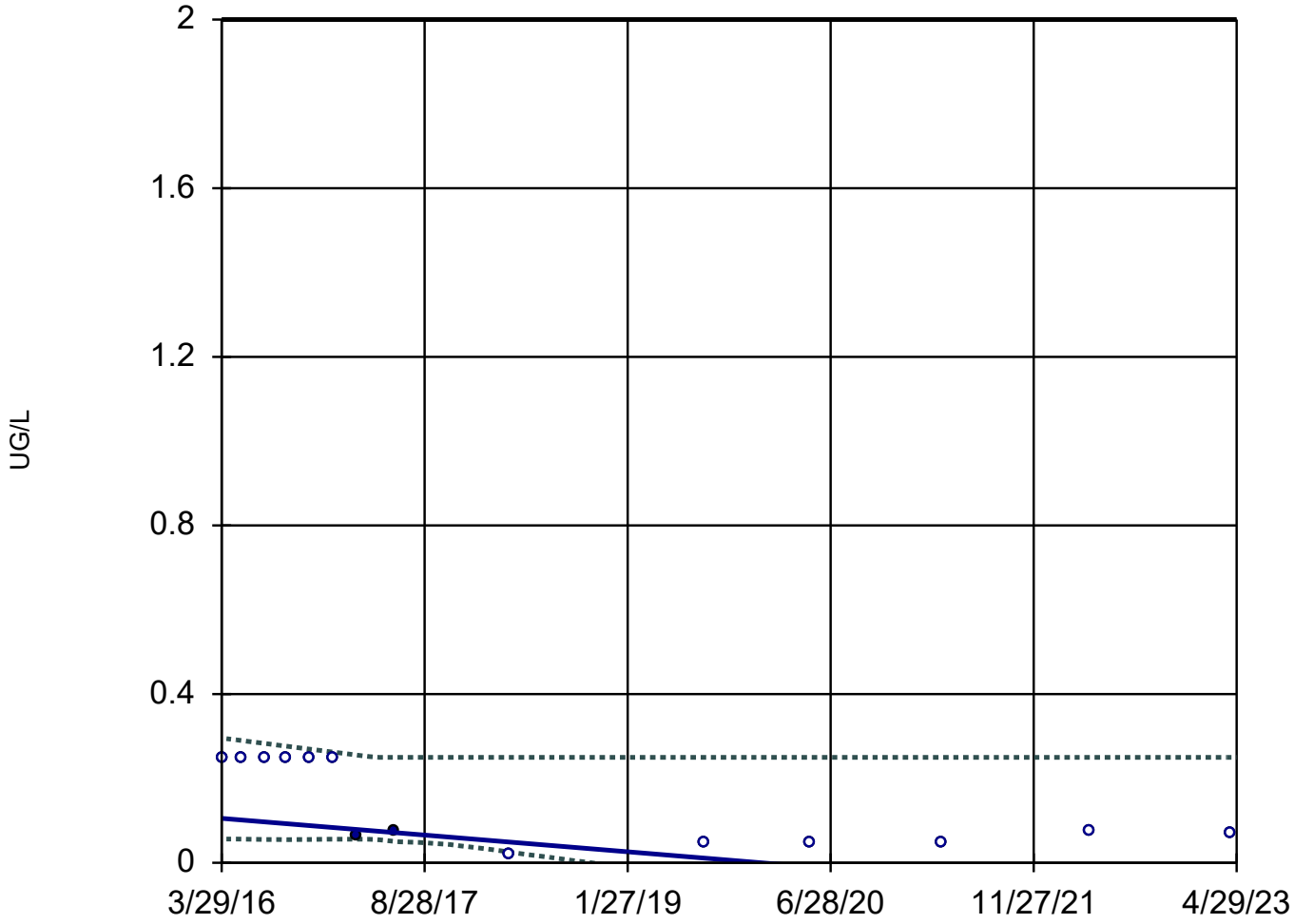
Constituent: MOLYBDENUM, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band

M-MW-1



n = 14

Slope = -0.02797 units per year.

Mann-Kendall statistic = -46
critical = -44

Decreasing trend significant at 98% confidence level (α = 0.01 per tail).

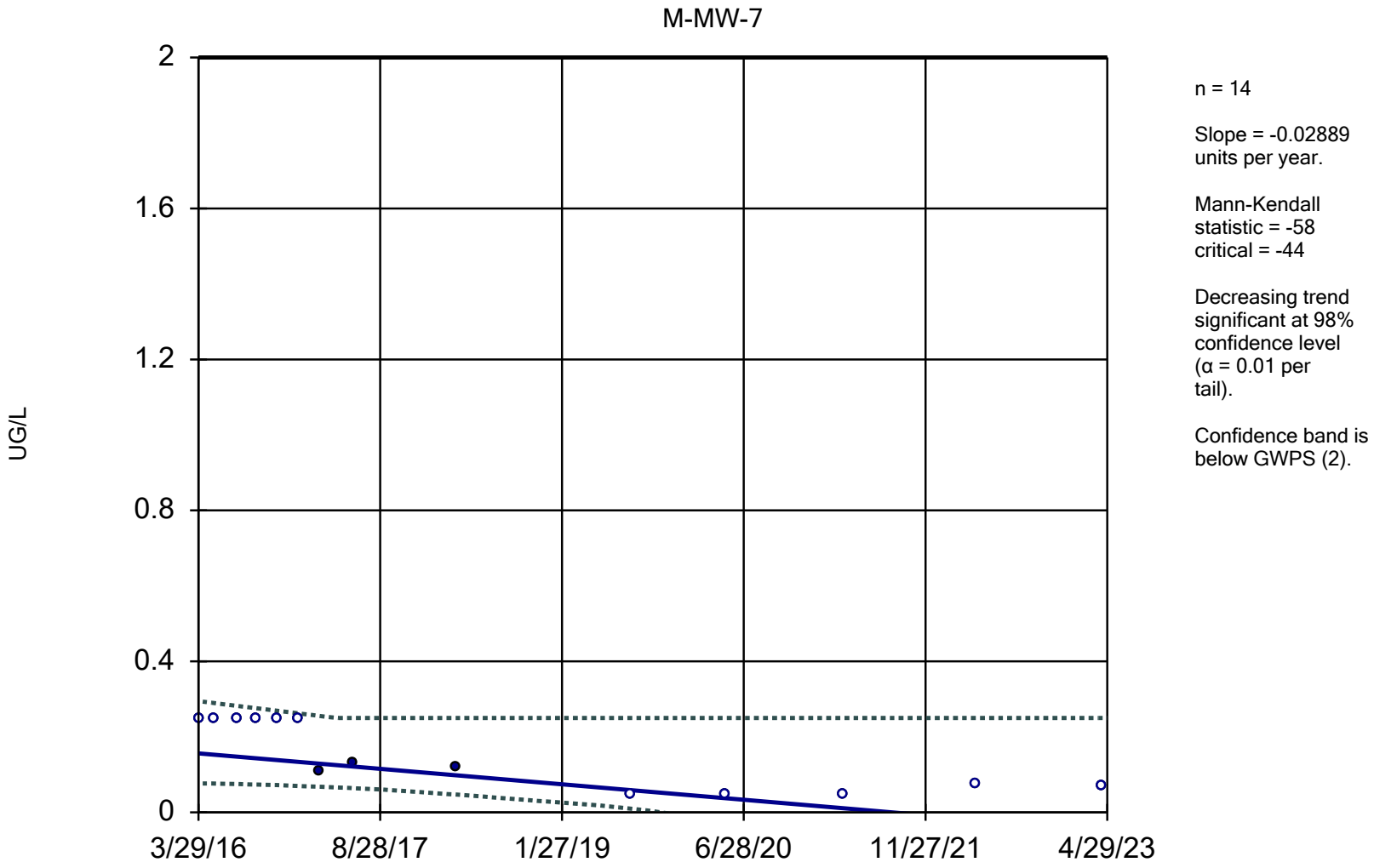
Confidence band is below GWPS (2).

Constituent: THALLIUM, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Hollow symbols indicate censored values.

Sen's Slope and 95% Confidence Band



Constituent: THALLIUM, TOTAL Analysis Run 7/18/2023 1:16 PM View: Assessment Monitoring

Meramec E.C. Client: Ameren Data: MEC Data

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 1:18 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
ANTIMONY, TOTAL (UG/L)	M-MW-1	0.003925	32	44	No	14	78.57	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-2	0.004451	40	44	No	14	92.86	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	**M-MW-3**	**0.004297**	**48**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
ANTIMONY, TOTAL (UG/L)	M-MW-4	0.004394	38	44	No	14	92.86	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-5	0.004396	28	44	No	14	92.86	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-6	0.003901	32	44	No	14	64.29	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-7	0.002257	7	35	No	12	0	n/a	n/a	0.02	NP
ANTIMONY, TOTAL (UG/L)	M-MW-8	0.001634	11	44	No	14	78.57	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-1	0.00353	18	63	No	18	5.556	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-2	0	10	73	No	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-3	0.2523	72	73	No	20	5	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	**M-MW-4**	**0.286**	**78**	**68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
ARSENIC, TOTAL (UG/L)	M-MW-5	0.2824	44	63	No	18	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-6	-0.2506	-45	-68	No	19	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-7	0.03522	17	73	No	20	0	n/a	n/a	0.02	NP
ARSENIC, TOTAL (UG/L)	M-MW-8	-0.04259	-17	-68	No	19	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	M-MW-1	0.2226	3	73	No	20	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-2**	**-42.12**	**-148**	**-73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-3**	**-9.07**	**-83**	**-73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-4**	**-6.1**	**-110**	**-73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-5**	**-17.11**	**-106**	**-73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	**M-MW-6**	**-3.229**	**-106**	**-68**	**Yes**	**19**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BARIUM, TOTAL (UG/L)	M-MW-7	-1.206	-54	-73	No	20	0	n/a	n/a	0.02	NP
BARIUM, TOTAL (UG/L)	**M-MW-8**	**-21.05**	**-112**	**-73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
BERYLLIUM, TOTAL (UG/L)	M-MW-1	0	2	44	No	14	85.71	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-2	0	-13	-44	No	14	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-3	0	-20	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-4	0	-10	-44	No	14	71.43	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-5	0	-13	-44	No	14	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-6	0	-12	-39	No	13	92.31	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-7	0	-10	-39	No	13	100	n/a	n/a	0.02	NP
BERYLLIUM, TOTAL (UG/L)	M-MW-8	0	-13	-44	No	14	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-1	0.000...	19	39	No	13	84.62	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-2	0.000...	27	44	No	14	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-3	0.001129	28	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-4	0.001129	28	39	No	13	100	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	M-MW-5	0.001489	14	44	No	14	85.71	n/a	n/a	0.02	NP
CADMIUM, TOTAL (UG/L)	**M-MW-6**	**0.008988**	**45**	**44**	**Yes**	**14**	**42.86**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	**M-MW-7**	**0.03411**	**45**	**44**	**Yes**	**14**	**14.29**	**n/a**	**n/a**	**0.02**	**NP**
CADMIUM, TOTAL (UG/L)	M-MW-8	0.003374	19	44	No	14	57.14	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-1	-0.05513	-29	-58	No	17	29.41	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-2	0.01522	9	53	No	16	18.75	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-3	-0.00...	-9	-58	No	17	47.06	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-4	0.001382	3	58	No	17	35.29	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-5	0.003553	9	58	No	17	41.18	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-6	0.005239	9	53	No	16	56.25	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-7	0	-2	-58	No	17	41.18	n/a	n/a	0.02	NP
CHROMIUM, TOTAL (UG/L)	M-MW-8	0.02277	25	58	No	17	58.82	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-1**	**0.02256**	**68**	**48**	**Yes**	**15**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-2**	**0.02708**	**103**	**63**	**Yes**	**18**	**94.44**	**n/a**	**n/a**	**0.02**	**NP**

Trend Test

Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 1:18 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
COBALT, TOTAL (UG/L)	M-MW-3	0.02624	36	63	No	18	66.67	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-4**	**0.02072**	**78**	**53**	**Yes**	**16**	**100**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-5**	**0.02254**	**97**	**63**	**Yes**	**18**	**94.44**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	M-MW-6	0	-1	-48	No	15	0	n/a	n/a	0.02	NP
COBALT, TOTAL (UG/L)	**M-MW-7**	**0.0251**	**78**	**63**	**Yes**	**18**	**88.89**	**n/a**	**n/a**	**0.02**	**NP**
COBALT, TOTAL (UG/L)	**M-MW-8**	**0.02218**	**80**	**53**	**Yes**	**16**	**93.75**	**n/a**	**n/a**	**0.02**	**NP**
FLUORIDE, TOTAL (MG/L)	M-MW-1	0	10	73	No	20	5	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-2	-0.00...	-17	-84	No	22	31.82	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-3	0	0	78	No	21	33.33	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-4	-0.01085	-43	-78	No	21	23.81	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-5	-0.00...	-40	-84	No	22	18.18	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-6	-0.01083	-49	-78	No	21	23.81	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-7	-0.03046	-47	-95	No	24	16.67	n/a	n/a	0.02	NP
FLUORIDE, TOTAL (MG/L)	M-MW-8	-0.01541	-26	-78	No	21	19.05	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-1	0.124	27	31	No	11	100	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-2	0.05432	5	44	No	14	71.43	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**M-MW-3**	**0.1334**	**47**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	M-MW-4	0.1198	25	44	No	14	85.71	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-5	0.09217	12	44	No	14	71.43	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	**M-MW-6**	**0.133**	**45**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
LEAD, TOTAL (UG/L)	M-MW-7	0.1333	40	44	No	14	85.71	n/a	n/a	0.02	NP
LEAD, TOTAL (UG/L)	M-MW-8	0.101	20	44	No	14	78.57	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-1	0	7	53	No	16	100	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-2	0.1382	25	73	No	20	45	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-3	0	-2	-73	No	20	50	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-4	0	0	68	No	19	5.263	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	**M-MW-5**	**-1.06**	**-85**	**-73**	**Yes**	**20**	**10**	**n/a**	**n/a**	**0.02**	**NP**
LITHIUM, TOTAL (UG/L)	M-MW-6	-3.021	-41	-68	No	19	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-7	-0.9182	-13	-68	No	19	0	n/a	n/a	0.02	NP
LITHIUM, TOTAL (UG/L)	M-MW-8	0.5417	37	63	No	18	0	n/a	n/a	0.02	NP
MERCURY, TOTAL (UG/L)	**M-MW-1**	**0.002726**	**49**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-2**	**0.002724**	**49**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-3**	**0.002713**	**49**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-4**	**0.004003**	**63**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-5**	**0.004003**	**63**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-6**	**0.004**	**63**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-7**	**0.004**	**63**	**44**	**Yes**	**14**	**100**	**n/a**	**n/a**	**0.02**	**NP**
MERCURY, TOTAL (UG/L)	**M-MW-8**	**0.002726**	**47**	**44**	**Yes**	**14**	**92.86**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-1	0.09868	73	73	No	20	90	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-2	0.03216	27	73	No	20	80	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	**M-MW-3**	**0.9327**	**94**	**73**	**Yes**	**20**	**20**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	**M-MW-4**	**2.126**	**108**	**73**	**Yes**	**20**	**0**	**n/a**	**n/a**	**0.02**	**NP**
MOLYBDENUM, TOTAL (UG/L)	M-MW-5	0.1904	6	73	No	20	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-6	-1.987	-49	-73	No	20	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-7	3.41	13	73	No	20	0	n/a	n/a	0.02	NP
MOLYBDENUM, TOTAL (UG/L)	M-MW-8	-0.1464	-2	-73	No	20	0	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-1	-0.00...	-24	-58	No	17	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-2	-0.00...	-6	-73	No	20	80	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-3	-0.02702	-28	-73	No	20	50	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-4	0.01277	26	73	No	20	85	n/a	n/a	0.02	NP

Trend Test

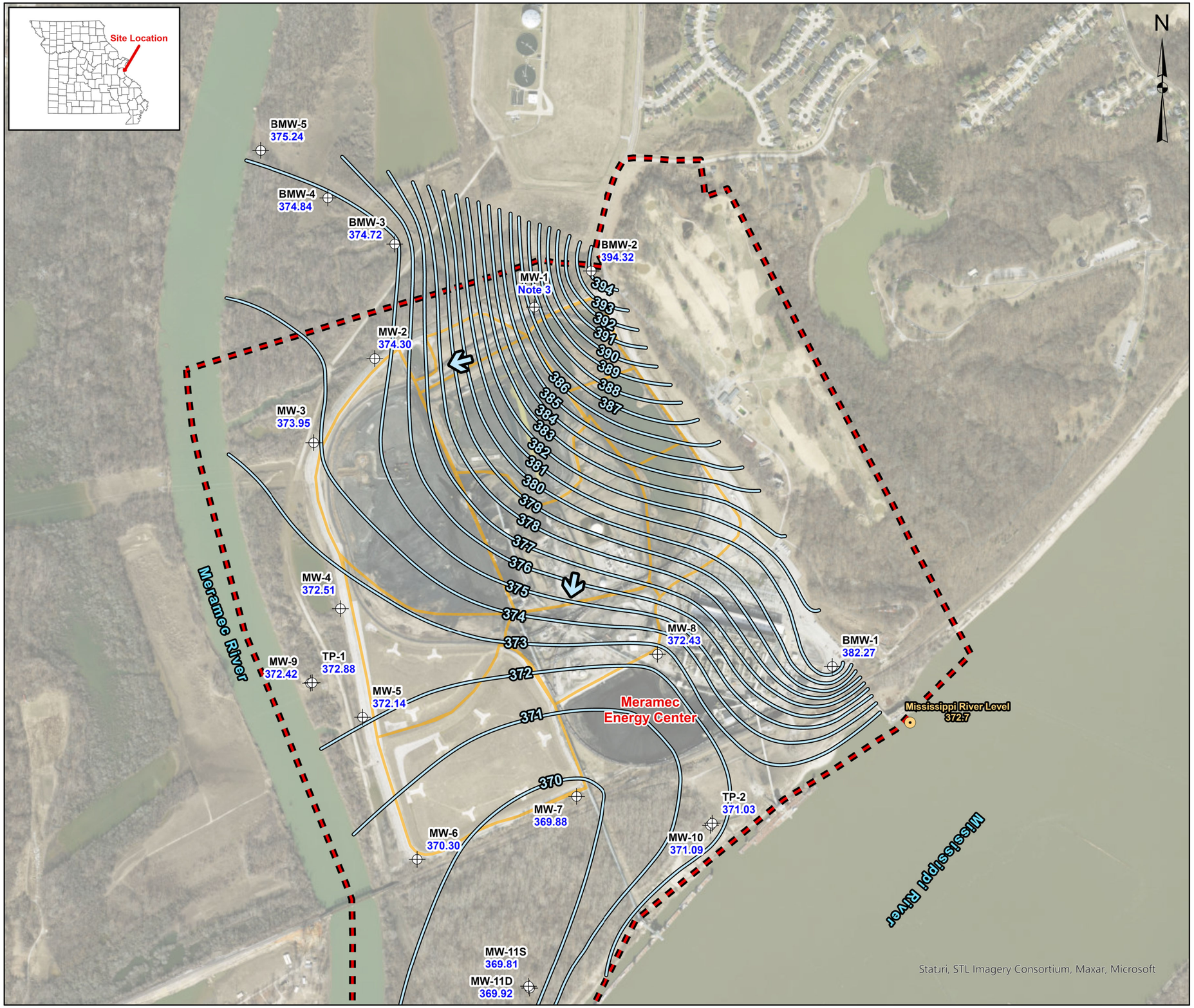
Meramec E.C. Client: Ameren Data: MEC Data Printed 7/18/2023, 1:18 PM

Constituent	Well	Slope	Calc.	Critical	Sig.	N	%NDs	Normality	Xform	Alpha	Method
Radium [226 + 228] (PCI/L)	M-MW-5	0.004765	2	73	No	20	45	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-6	0.01374	31	73	No	20	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-7	-0.00...	-1	-63	No	18	100	n/a	n/a	0.02	NP
Radium [226 + 228] (PCI/L)	M-MW-8	0.01527	19	68	No	19	78.95	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-1	0	2	63	No	18	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-2	0	6	63	No	18	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-3	0	8	63	No	18	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-4	0	2	63	No	18	88.89	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-5	0	4	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-6	0	4	63	No	18	94.44	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-7	0.2981	24	63	No	18	11.11	n/a	n/a	0.02	NP
SELENIUM, TOTAL (UG/L)	M-MW-8	0	11	58	No	17	88.24	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-1**	**-0.02797**	**-46**	**-44**	**Yes**	**14**	**85.71**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-2	-0.02666	-29	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-3	-0.02797	-42	-44	No	14	85.71	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-4	-0.02667	-29	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-5	-0.02667	-29	-44	No	14	100	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	M-MW-6	-0.02724	-31	-44	No	14	92.86	n/a	n/a	0.02	NP
THALLIUM, TOTAL (UG/L)	**M-MW-7**	**-0.02889**	**-58**	**-44**	**Yes**	**14**	**78.57**	**n/a**	**n/a**	**0.02**	**NP**
THALLIUM, TOTAL (UG/L)	M-MW-8	-0.02666	-29	-44	No	14	100	n/a	n/a	0.02	NP

Appendix D

2023 Potentiometric Surface Maps

JANUARY 5, 2023 POTENTIOMETRIC SURFACE MAP



LEGEND

- Meramec Energy Center Property Boundary
- All Surface Impoundments

Ground/Surface Water Measurement Locations

- Groundwater Monitoring Well
- Mississippi River Gauge

Groundwater Elevation Contours

- Groundwater Elevation Contours (FT MSL)
- Inferred Groundwater Elevation Contours (FT MSL)
- Groundwater Flow Direction

NOTES

1.) ALL LOCATIONS AND BOUNDARIES ARE APPROXIMATE.
2.) GROUNDWATER ELEVATION MEASUREMENTS OBTAINED BY WSP.
3.) WELL MW-1 NOT USED FOR POTENTIOMETRIC SURFACE MAP CONTOURING BECAUSE IT IS ARTIFICIALLY HIGH DUE TO LOCALIZED NATURAL SPRING CONDITIONS.
4.) GROUNDWATER ELEVATIONS DISPLAYED IN FT MSL (FEET ABOVE MEAN SEA LEVEL).
5.) MISSISSIPPI RIVER LEVEL PROVIDED BY AMEREN.

REFERENCES

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.

0 500 1,000 1,500 2,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

ROCKSMITH GEOENGINEERING

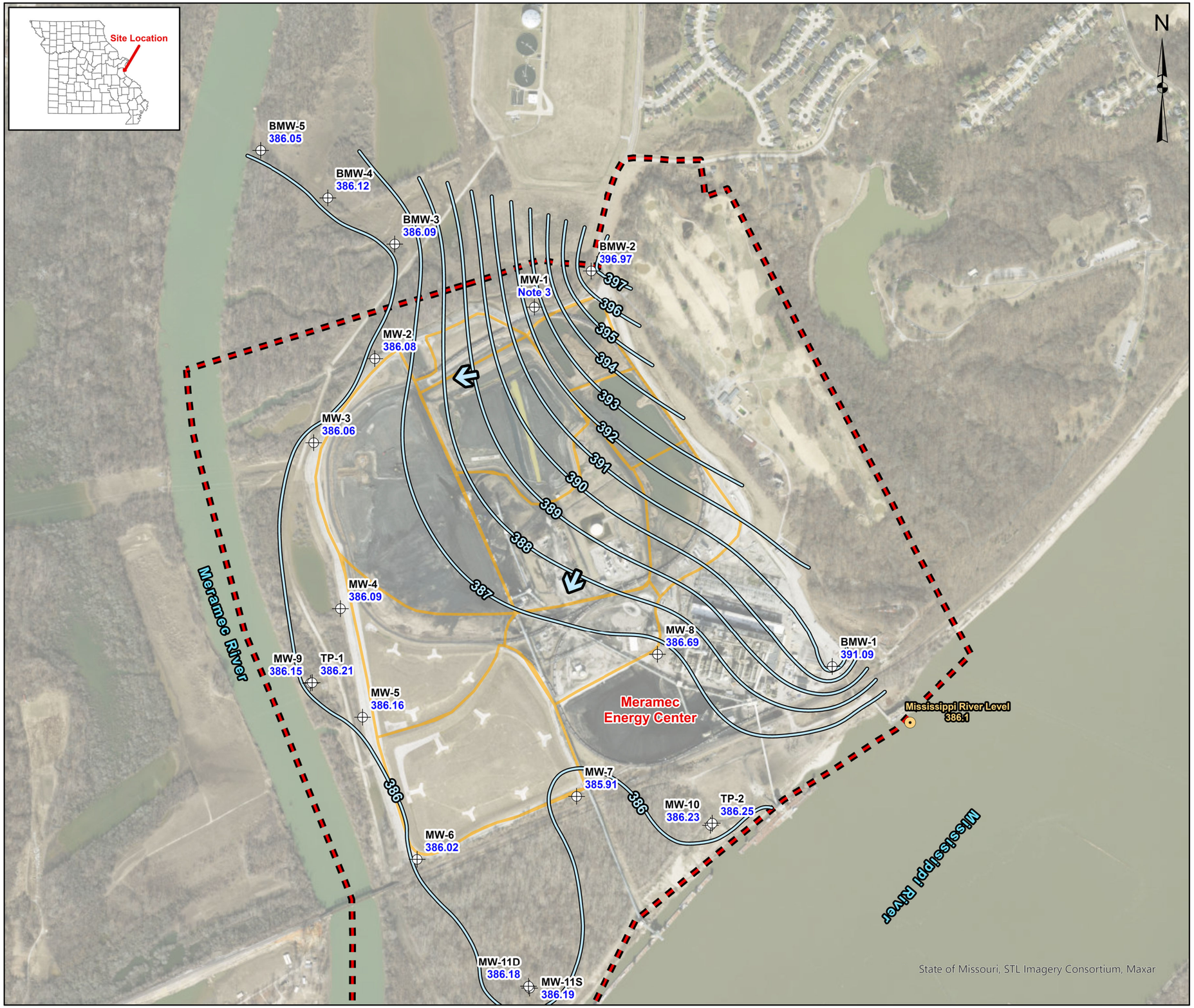
DESIGN	JSI	YYYY-MM-DD	2023-08-18
PREPARED	GTM	PROJECT No.	23010
REVIEW	JSI		
APPROVED	MNH		

FIGURE D1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 1 in 0

Path: C:\Users\GrantMoney\Rocksmith Geoengineering LLC\23007 - Ameren GW - Documents\400 - Drawings, Figures\4.4-MEC\4.4.2 - Production\POT MAPS\2023 Annual Report\MEC_Jan05202023_PM.aprx

APRIL 17, 2023 POTENTIOMETRIC SURFACE MAP



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5.) MISSISSIPPI RIVER LEVEL CALCULATED USING USGS GAUGES AT ST. LOUIS, MO (07010000) AND CHESTER, IL (07020500).

REFERENCES

1.) AMEREN MISSOURI MERAMEC ENERGY CENTER, MERAMEC PROPERTY CONTROL MAP, FEBRUARY 2011.
2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.

0 500 1,000 1,500 2,000 Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2023-08-18
PREPARED	GTM	PROJECT No.	23010
REVIEW	JSI		
APPROVED	MNH		

FIGURE D2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:

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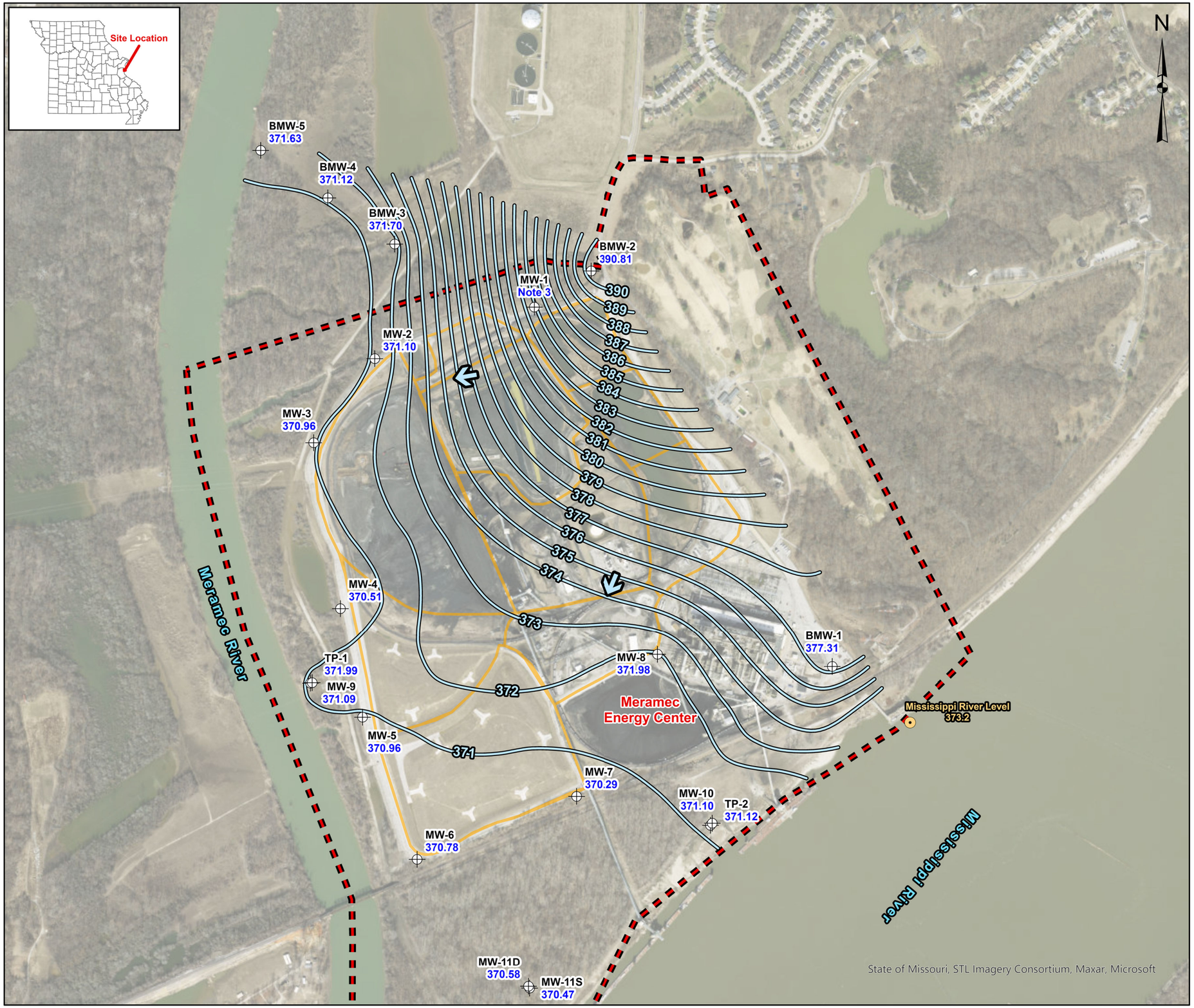
OCTOBER 30, 2023 POTENTIOMETRIC SURFACE MAP



LEGEND

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REFERENCES

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2.) COORDINATE SYSTEM: NAD 1983 STATE PLANE MISSOURI EAST FIPS 2401 FEET.

0 500 1,000 1,500 2,000
Feet

PROJECT
CCR RULE GROUNDWATER MONITORING PROGRAM

CLIENT
AMEREN MISSOURI
MERAMEC ENERGY CENTER

ROCKSMITH GEOENGINEERING

DESIGN	JSI	YYYY-MM-DD	2023-12-22
PREPARED	GTM	PROJECT No.	23010
REVIEW	JSI		
APPROVED	MNH		

FIGURE D3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:

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